ENVIRONMENTAL ASSESSMENT (EA)
FOR
LEASING CERTAIN PARCELS WITHIN THE BAKERSFIELD FIELD OFFICE
FOR THE
JUNE 14, 2006, OIL AND GAS LEASE SALE

EA NO. CA-160-06-057

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
BAKERSFIELD, CA
Dated: April 28, 2006

Environmental Assessment (EA) for Leasing Certain Parcels within the Bakersfield Field Office for the June 14, 2006, Oil and Gas Lease Sale

Table of Contents Page

INTRODUCTION

The proposed action is intended to meet Bureau of Land Management (BLM) responsibilities under the Mineral Leasing Act of 1920, as amended, Mining and Minerals Policy Act of 1980, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act), to conduct competitive oil and gas lease sales within the state.

BLM has the responsibility to conduct competitive lease sales on a regular basis in accordance with Section 5102(2) (1) (A) of the Reform Act. The Reform Act directs BLM to conduct quarterly oil and gas lease sales within each state whenever eligible tracts are available for leasing. BLM policy is to offer, as expeditiously as possible, those lands available for oil and gas exploration and possible development, consistent with the Federal Land Policy and Management Act (FLPMA) 1976, National Environmental Policy Act (NEPA) 1969, and other applicable laws, regulations, and policies.

The BLM proposes to lease 32 selected parcels for possible oil and gas development. Many of these parcels were nominated by industry, and therefore represent areas of high interest (see Appendix A – description of lands). Approximately 19,619.87 acres of Federal mineral estate land are considered for leasing. Approximately 2,869.33 acres are public surface with Federal mineral rights and approximately 16,750.54 acres are split estate (private surface with Federal subsurface minerals). All parcels would be subject to special leasing stipulations that would protect both endangered species and sensitive species and their habitat.

Some parcels identified for leasing are near (but not within) environmentally sensitive areas such as the Los Padres National Forest, the Carrizo Plain National Monument, and several Areas of Critical Environmental Concern (ACEC's). All of those parcels will have leasing stipulations that will adequately protect the resources of concern. In addition, subsequent NEPA analysis would be conducted and appropriate mitigation measures would be implemented at the site specific project stage.

This Environmental Analysis (EA) is tiered to the Caliente Resource Management Plan/Environmental Impact Statement (RMP/EIS) dated May 5, 1997. A more complete description of activities and impacts related to oil and gas leasing, development, production, etc. can be found in that document. Whether specifically mentioned or not, standard operating practices in the oilfield include measures to protect the environment and resources such as groundwater, air, wildlife, historical and prehistoric concerns, and others.

I. Background on BLM Oil and Gas Leasing and Lease Management

1. Federal Lands

BLM administers public land in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976 and other laws. Sometimes public land includes the surface estate and the subsurface mineral estate, and sometimes it involves a split estate where BLM controls either the surface or subsurface mineral estate but not both. BLM can lease public land including split estate lands where the surface estate is owned by another party. For parcels considered in this EA that are split estate, the lessee would be responsible not only for adhering to BLM requirements, but also for reaching an agreement with the surface owner regarding surface disturbance and reclamation.

2. Review process

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

The review process required before oil and gas drilling can occur is described in detail in Title 43 Code of Federal Regulations Part 3100 and BLM Manual 3100. In summary, BLM offers lands for lease to the highest qualified bidder in a competitive sale. The lease term is 10 years, and maximum lease size offered by BLM is 2,560 acres. BLM conducts and documents an environmental analysis at the lease stage, unless an adequate analysis was included in an existing environmental document. Although most of the issues regarding oil and gas leasing on the lands covered by this document were addressed in a previous document, there are a few areas where either conditions have changed or else BLM policy has been modified, or both. Hence, this EA is tiered to the existing document discussed previously.

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

3. Directional drilling from adjacent land to a federal lease

BLM has the authority to regulate drilling from adjacent, non-Federal land if Federal minerals are involved by requiring a drilling application. Such directional drilling is subject to applicable environmental laws, including National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA) of 1973 as amended. BLM will process this type of application in the same manner as for an application on leased lands.

4. Lease terms and stipulations

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

Any surface disturbing activity requires prior approval of the BLM. Such approval would include a site-specific evaluation and compliance with NEPA requirements. Routine activities, including but not limited to cleaning out wells, well tests, monitoring activities, repairing and maintenance of equipment, and routine workovers do not require BLM approval, but would require adherence to all applicable laws and regulations.

On average, fewer than 5 percent of federal leases are ever drilled; even fewer leases result in producing wells. Land considered in this EA may have a higher potential for development, since some parcels are in or near existing developed fields with actively producing wells and many have been specifically nominated for leasing by the public.

II. Purpose and Need for the Action

The Reform Act of 1987 directs the BLM to conduct quarterly oil and gas lease sales with each state whenever eligible tracts are available for leasing. This action is to conduct a competitive oil and gas lease sale.

III. Description of the Proposed Action and Alternatives

To facilitate discussion, the parcel groups have been numbered (see Appendix A). Map 1 in Appendix 1 shows the general location of each parcel, and more details can be found on the following website: http:\\www.blm.gov/ca/bakersfield . For the actual lease sale, new lease parcel numbers will be generated that are different from those shown in this EA.

Proposed Action

The proposed action is to offer the lands identified in Appendix A for lease for oil and gas development. All parcels would have both LSU – Protected Species and LSU – Sensitive Species Stipulations attached at the leasing stage. See Appendix B for the text of these stipulations.

All of the subject parcels will be open to leasing for oil and gas with Special Stipulations consistent with the existing Caliente RMP. Under this alternative, existing management prescriptions in the current Caliente RMP for all oil and gas related activities will be applied to these parcels. These are described as follows.

Approximately 19, 619.87 acres of Federal mineral estate land will be offered for competitive oil and gas for leasing. Approximately 2,869.33 acres are public surface with Federal mineral rights and approximately 16,750.54 acres are split estate (private surface with Federal subsurface minerals). In order to protect both endangered species and sensitive species and their habitat, **all 19,619.87 acres of unleased land acres would be subject to both the LSU-Protected Species and LSU – Sensitive Species stipulations (see Appendix B).** Please see Appendix B for details about those stipulations and others that would be attached to each parcel.

No parcels would be open to oil and gas leasing under the less restrictive "Standard Terms and Conditions" because every one of the parcels is within the historic range of at least one protected species. No parcels would be subject to the LSU-Critical Habitat stipulation because the values that comprise critical habitat are not present on any of the subject parcels. Finally, no parcels would receive the most restrictive "No Surface Use (NSU)" stipulation because none of the parcels meet those criteria. However, there may be small areas on some of the parcels where surface use for oil and gas operations is prohibited if resources or other existing uses are present that cannot be protected with any less restrictive measures. It is highly likely, but not guaranteed, that all parcels will have adequate surface area to develop the mineral estate leased in this sale. For the specific language of all LSU stipulations that were considered for use in this EA, please see Appendix D.

No Action

Under this Alternative, the parcels, the parcels would not be offered for lease. In this option, BLM would not meet the requirement to offer oil and gas lease under the Federal Onshore Oil and Gas Leasing Reform Act of 1987 (Reform Act).

IV. Conformance with the Existing Land Use Plans

The 1997 Caliente Resource Management Plan (RMP) identifies all of these lands as open to oil and gas leasing, subject to certain environmental controls indicated in the plan. Consequently, this action is in

conformance with the Plan. Most importantly, because every parcel is within potential Threatened and Endangered Species and sensitive species habitat, all parcels would contain both LSU – Protected Species and LSU – Sensitive Species stipulations. These stipulations would ensure through a site specific biota survey and NEPA analysis that all protected or sensitive species issues were addressed prior to any surface disturbance. This would ensure protection of the resources and also provide notification to the lessee that further consultation and mitigation/compensation might be necessary prior to authorization of Surface disturbance. No new surface disturbance in those areas is authorized in this proposed action – this EA is for leasing only. Further analysis and approval would be required prior to actual surface disturbance.

Management Area General Objectives

The following objectives from the Caliente RMP will apply to all oil and gas related activities within the subject parcels:

- manage public lands to provide healthy, sustainable, biologically diverse ecosystems contributing goods, services and other social and cultural needs for local communities, the region and nation,
- manage public lands to meet the following minimum Standards of Ecosystem Health (see Chapter 6 of the Caliente RMP for further explanation and indicators used to determine whether or not these standards are being met):
  - Soils exhibit functional biological and physical characteristics that are appropriate to soil type, climate, and land form.
  - Healthy, productive and diverse populations of native species, including special status species (Federal T&E, Federal proposed, BLM sensitive, or Calif. State T&E) are maintained or enhanced where appropriate.
  - Riparian/wetland vegetation, structure and diversity and stream channels and floodplains are functioning properly and achieving advanced ecological status.
  - Surface and groundwater quality complies with California or other appropriate water quality standards.
- provide a leadership role in developing and implementing regional conservation strategies,
- dedicate public lands to meet San Joaquin Valley conservation goals,
- integrate management objectives with and assist local county governments, private organizations, and state agencies in the development and implementation of local management plans (e.g. Habitat Conservation Plans, mitigation banks, county general plans, air and water quality plans), and
- collaborate with the oil and gas industry in meeting mutually beneficial management objectives.

Oil and gas leasing and development have been previously addressed in more detail in the **1997 Caliente EIS**. All future oil and gas related activities contemplated on lands offered in the proposed action are within the scope of those actions previously analyzed in that document, and no decisions made as a result of this EA will change or modify the decisions of the existing document. Therefore, this EA is tiered to the following existing BLM document, which is available for review at the Bakersfield Field Office.:

Final Caliente RMP/EIS dated May 5, 1997.

This action is also within the scope of the Caliente RMP Biological Opinion dated March 31, 1997 (1-1-97-F-64).

V. Affected Environment

Air, Soil, and Water

Air Quality

The project area is located in Kern, Kings, San Luis Obispo, Santa Barbara, and Ventura Counties. These counties are located in 2 air basins - the San Joaquin Valley and South Central Coast. Regulatory oversight authority for air quality matters rests at the county levels with the San Joaquin Valley Air Pollution Control District (SJVAPCD), the San Luis Obispo Air Pollution Control District, the Santa Barbara Air Pollution Control District, and the Ventura Air Pollution Control District. At the state level, regulatory duties lie with the California Air Resources Board (CARB) and at the federal level with the U.S. Environmental Protection Agency (EPA), Region IX. The Bureau of Land Management has air program responsibilities through its permitting programs and Clean Air Act requirements to analyze all actions for conformity to air quality plans.

All four air districts have prepared air quality plans for both PM10 and ozone for inclusion in the State Implementation Plan. The San Joaquin Valley has the following plans in place to address air quality: "Best Available Control Measures/Technology and Reasonable Available Control Measures/Technology Demonstration for Sources of PM10 and PM10 precursors in the San Joaquin Valley Air Basin" and "Extreme Ozone Attainment Demonstration Plan, San Joaquin Valley Air Basin Plan Demonstrating Attainment of Federal 1-hour Ozone Standards." These plans include sections on emissions inventory and control strategies. These sections include discussions on oil and gas development. The attainment status of the San Joaquin Valley Air Basin is as follows:

Standard	*State Ambient Air Quality Standard*	*Federal Ambient Air Quality Standard*
PM_{10}	Non-attainment	Non-attainment
$PM_{2.5}$	Non-attainment	Non-attainment
Ozone 8-hour	Non-attainment	Non-attainment

The San Luis Obispo County Air Pollution Control District has had a Clean Air Plan (CAP) in place since 2002. The CAP outlines the District's strategies to reduce ozone precursor emissions from a wide variety of stationary and mobile sources. The 2001 CAP was adopted by the Air Pollution Control Board at their hearing on March 26, 2002. The attainment status of the San Luis Obispo County Air Pollution Control District is as follows:

Standard	*State Ambient Air Quality Standard*	*Federal Ambient Air Quality Standard*
PM_{10}	Non-attainment	Unclassifiable/attainment
$PM_{2.5}$	Unclassified	Unclassifiable/attainment
Ozone 8-hour	Attainment	Unclassifiable/attainment

The Santa Barbara County Air Pollution Control District has had a Clean Air Plan in place since 2001.This plan was updated in 2004 and now encompasses plans towards attainment of both federal and state ambient air quality standards. The attainment status of the Santa Barbara County Air Pollution Control District is as follows:

Standard	*State Ambient Air Quality Standard*	*Federal Ambient Air Quality Standard*
PM_{10}	Non-attainment	Unclassifiable/attainment
$PM_{2.5}$	Unclassified	Unclassifiable/attainment

Ozone 8-hour	Non-attainment	Unclassifiable/attainment

The Ventura County Air Pollution Control District has had various Air Quality Management Plans since 1979. The last official revision was in 1997 and a 2004 revision to provide a process to achieve both federal and state ambient air standards is under review. The attainment status of the Ventura County Air Pollution Control District is as follows:

Standard	*State Ambient Air Quality Standard*	*Federal Ambient Air Quality Standard*
PM_{10}	Non-attainment	Unclassifiable/attainment
$PM_{2.5}$	Non-attainment	Unclassifiable/attainment
Ozone 8-hour	Non-attainment	Unclassifiable/attainment

The USEPA designated the nonattainment areas for the new 8-hour ozone standard in April 2004 and the new PM2.5 standard in 2005. The air plans for these new designations have not been prepared yet. Due to the nature of these two pollutants, many of the provisions from the existing plans would be in the new plans. The Oil and Gas industry is highly regulated by all five districts. The air plans are implemented through rule making which include a number of categories including permitting, equipment requirements and performance standards, dust and precursor emissions (NOx and SOx) and others. Any oil and gas and lands activities authorized through by BLM, including leasing and Rights of Ways would also have to comply with all of the applicable rules and permitting requirements.

Currently there are a number of emission sources in the air basin which affect pollution levels. The SJVAPCD has documented these in their air plan inventories. They show the baseline (1990) emissions for NOx at 787 tons per day in the summer time. Of that total, 165.1 tons (21%) were from oil and gas production. Kern County oil and gas activities accounted for approximately 15% of the NOx emissions (117.3 tons per day). Kern County has 1000-2500 new oil and gas wells drilled every year. In addition, emissions from hundreds of thousands of automobiles and trucks and significant other industrial and agricultural sources accounted for another 147 tons of NOx per day in Kern County in 1990

References

http://www.arb.ca.gov/desig/desig.htm (accessed 3/9/06)
http://www.epa.gov/region09/air/sips/index.html (accessed 3/9/06)

Soils

Soils on these properties are typical of those developed from relatively fine-grained residual or alluvial materials under semi-arid to arid conditions. A characteristic soil tends to be very deep, well-drained, light colored, and loamy in texture with some rock fragments. Some parcels may contain soils with an abundance of alkaline salts and carbonates. These soils are also characterized by moderately slow permeability, slow surface runoff and slight erosion hazards on slopes. In areas of slightly greater slope (9-15%), runoff and erosion are moderate. Where slopes are greater than 30%, surface runoff is rapid and erosion hazard is moderate to severe. In some areas, especially where Torriorthents soils occur, plant growth may be naturally reduced because the potential rooting depth of plants is restricted by excess salts that have not leached from the soil.

Water Quality

Many of the parcels are in areas where there are or may be fresh water aquifers. In addition, portions of Parcels 25, 28, and 36 are within the 100-year floodplains of Santa Barbara Canyon Creek or the Cuyama River, both of which are ephemeral in nature. Other than those, there are few or no other surface waters that are fresh.

All parcels are within watersheds governed by basin plans subject to federal and state Clean Water Acts. BLM will require full compliance with all applicable federal, State, and local laws, regulations, and policies to protect both surface and groundwater.

Biological Resources

To facilitate discussion, the properties included in this action have been divided into sixteen Biological Units, i.e., groupings of adjacent parcels with similar ecological values. Unit names reflect some aspect of local geography. Information presented for each Biological Unit includes general topography, notable disturbance, vegetation, common animals, and potential sensitive species. For some units, particular characteristics of individual parcels are also noted.

Ballinger Canyon Unit (21, 22, 27)

The general area was field surveyed by consulting biologist Diane Mitchell from May through August, 1999. A copy of her August, 1999 report "Biological Resource Evaluation, Bureau of Land Management (BLM) Land Exchange Parcels Numbers 1, 2, 4, 5A, 7, 11, 12, 14, 15, 17, 18, 20, 22, 23, Cuyama Valley (Santa Barbara, San Luis Obispo, and Ventura Counties), California" is on file at the BLM Bakersfield Office. The following section is based in part on her findings and field visits by BLM staff.

The Ballenger Canyon unit is located on west- and north-facing slopes on the east side of the upper Cuyama Valley. The parcels range from 2550 to 3500 feet in elevation and have several drainages trending to the west and northwest. Topography is quite steep and hilly, with a broad valley running through the block of parcels.

There are several roads running through the parcels, with a greater number of roads in the eastern half of the block.

Vegetation in this unit is a mixture of juniper woodland, arid scrub, and non-native grassland, with species composition dependent on aspect and elevation (i.e., water). Commonly encountered plants include California juniper (*Juniperus californicus*), California buckwheat (*Eriogonum fasciculatum*), linear-leaved golden bush (*Ericameria linearifolia*), snakeweed (*Gutierrezia californica*), eastwoodia (*Eastwoodia elegans*) and Yucca (*Yucca whippei*). Annual grasses such as red brome (*Bromus madritensis* ssp. *rubens*) and ripgut grass (*Bromus diandrus*) are common, but native one-sided bluegrass (*Poa secunda* ssp. *secunda*) is also present. Lower slopes and canyon bottoms contain elements of the alluvial scrub vegetation that dominates the nearby Cuyama River floodplain; species such as scalebroom (*Lepidospartum squamatum*), rabbitbrush (*Chrysothamnus nauseosus*), and California ephedra (*Ephedra californica*).

Wildlife species expected in the Ballanger Canyon unit can be divided into two series: an upland, hilly portion similar to that of the Santa Barbara Canyon Unit and a lower elevation series similar to the Cuyama River Unit. Animals to be expected in both series include Yuma myotis, California myotis, small-footed myotis, western pipistrelle, big brown bat, Brazilian free-tailed bat, desert cottontail,

California ground squirrel, California pocket mouse, Heermann's kangaroo rat, deer mouse, pinyon mouse, coyote, badger, turkey vulture, red-tailed hawk, California quail, mourning dove, greater roadrunner, common raven, loggerhead shrike, California thrasher, house finch, western meadowlark, desert night lizard, western whiptail, coast horned lizard, side-blotched lizard, California legless lizard, coachwhip, gopher snake, common kingsnake, and western rattlesnake. Additional animals to be expected in the upland series include Botta's pocket gopher, desert woodrat, bobcat, mule deer, western screech owl, Anna's hummingbird, northern flicker, western kingbird, black phoebe, scrub jay, bushtit, house wren, Bewick's wren, canyon wren, yellow-rumped warbler, spotted towhee, California towhee, and dark-eyed junco. Additional animals to be expected in the lower elevation series include black-tailed jackrabbit and horned lark.

Special status animal species which may be present include San Joaquin kit fox, San Joaquin antelope squirrel, giant kangaroo rat and blunt-nosed leopard lizard. The eastern edge of this unit is adjacent to the Bittercreek National Wildlife refuge and is within habitat for California condor.

Special status plant species which may be present include California jewelflower and Munz's tidy-tips.

Chico Martinez Unit (6)

The parcel in this unit is located in the hills of the inner Coast Ranges. Topography ranges from relatively flat to hilly.

Vegetation appears to be relatively sparse on the dry shale ridges and is most likely a combination of introduced grasses and various native forbs adapted to the xeric conditions of the site. Likely to be encountered are species such as bromes (*Bromus* spp.), small buckwheats (*Eriogonum* spp.), and peppergrass (native *Lepidium* spp.), as well as occasional shrubs including common saltbush (*Atriplex polycarpa*), bladderpod (*Isomeris arborea*), and snakeweed (*Gutierrezia californica*).

Animals likely to be present include coyote, California ground squirrel, black-tailed jackrabbit, common raven, mourning dove, side-blotched lizard, and western rattlesnake.

Special status animal species which may be present include kit fox, San Joaquin antelope squirrel, prairie falcon, Bendire's thrasher, and blunt-nosed leopard lizard.

Special status plant species which may be present include recurved larkspur, San Joaquin woolythreads, diamond-petaled California poppy, pale yellow layia, Temblor buckwheat, and Kern mallow.

Cuyama River Unit (28, 36 east, 37)

This unit is located within the floodplain of the upper Cuyama River. Topography is flat, with an elevation of 2375 feet in parcels 28 and 37 and 2650 feet in parcel 36 east.

Over 90 percent of parcels 28 and 37 are under current or recent agricultural cultivation. Parcel 36 east is located at an existing sand and gravel mining operation that includes the active Cuyama River channel and adjacent terrace. Farm buildings and associated structures occur on some parcels. Most of the unit is crossed by roads in the farm fields and along the river.

Vegetation for this unit is defined by its location in the floodplain. The active river channel is mostly bare, but supports disturbance-adapted broomscale (*Lepidospartum squamatum*) and annual forbs such as sun cups (*Camissonia* spp.) and blazing star (*Mentzelia* sp.). The surrounding floodplain supports alluvial scrub vegetation dominated by broomscale and including shrubs such as desert tea (*Ephedra californica*),

common saltbush (*Atriplex polycarpa*), cheesebush (*Hymenoclea salsola*), and yucca (*Yucca whipplei*). Between the shrubs are introduced grasses such as red brome (*Bromus madritensis* ssp. *rubens*) and annual fescue (*Vulpia* spp), as well as native wildflowers such as many-flowered eriastrum (*Eriasrtrum plurflorum*), perennial eriastrum (*Eriastrum densifolium*), yellow pincushion (*Chaenactis glabriuscula*), and lessingia (*Lessingia lemmonii*). Biological crusts may also be present. Some previously cultivated fields support mostly introduced weedy grasses and forbs, but may also contain shrub elements from adjacent alluvial scrub communities.

Wildlife on the native portions of these parcels is representative of the San Joaquin Valley saltbush scrub communities. Typical species include Yuma myotis, California myotis, small-footed myotis, western pipistrelle, big brown bat, Brazilian free-tailed bat, desert cottontail, black-tailed jackrabbit, California ground squirrel, California pocket mouse, Heermann's kangaroo rat, deer mouse, pinyon mouse, coyote, badger, turkey vulture, red-tailed hawk, California quail, mourning dove, greater roadrunner, horned lark, common raven, loggerhead shrike, California thrasher, house finch, western meadowlark, western whiptail, coast horned lizard, side-blotched lizard, California legless lizard, coachwhip, gopher snake, common kingsnake, and western rattlesnake.

Special status animal species that are likely to occur on native lands within this area include San Joaquin kit fox, blunt-nosed leopard lizard, and San Joaquin antelope squirrel. San Joaquin kit fox are likely to use the farm fields, and tricolored blackbirds have been documented in adjacent farm fields. Giant kangaroo rat has been documented in nearby uplands, but has not been observed on these or adjacent BLM parcels. The Kern primrose sphinx moth has been observed along active alluvial fans located on the east side of Highway 33 and at the confluence of Santa Barbara Canyon and the Cuyama River. Moth habitat appears to occur where the natural disturbance associated with the east to west flowing drainages has not been suppressed by agriculture or other barriers. Although two parcels in this unit occur along the Cuyama River bottom and have an appropriate substrate to support the moth's host plant, neither of these sites occurs at the mouth of an active alluvial fan. It is unlikely that Kern primrose sphinx moths occur on these parcels.

Special status plant species that may occur in suitable habitat includes Hoover's wooly-star (*Eriastrum hooveri*), San Joaquin woolly-threads (*Monolopia congdonii*), showy madia (*Madia radiata*), and Munz's tidy-tips (*Layia munzii*). California jewelflower (*Caulanthus californicus*) has been documented in nearby uplands, but is unlikely to occur on these floodplain parcels. Hoover's wooly-star has been documented from floodplain habitat upstream from this unit.

Derby Acres Unit (29)

Topography on this parcel is flat to moderately hilly.

Evidence of existing disturbance includes several dirt roads. These roads are accessible to the public from State Highway 33.

Vegetation on this parcel is predominately common saltbush (*Atriplex polycarpa*) with snakeweed (*Guiterrezia californica*) and an occasional bladderpod (*Isomeris arborea*). Herbaceous species include brome (*Bromus* sp.), Mediterranean grass (*Schismus* sp.), filaree (*Erodium cicutatium*) and one-sided bluegrass (*Poa secunda* spp. *secunda*).

Wildlife typical of saltbush scrub includes coyote, California ground squirrel, black-tailed jackrabbit, Heerman's kangaroo rat, short-nosed kangaroo rat, southern grasshopper mouse, San Joaquin pocket-mouse, deer mouse, common raven, mourning dove, mockingbird, white-crowned sparrow, sage sparrow,

savannah sparrow, horned lark, western meadow lark, side-blotched lizard, western whiptail, western rattlesnake, gopher snake and California whipsnake.

Special status animal species which may occur on the parcel include San Joaquin kit fox, San Joaquin antelope squirrel, American badger, burrowing owl, giant-kangaroo rat and blunt-nosed leopard lizard.

Special status plant species known from nearby include Tejon poppy, heartscale, and Lost Hills crownscale. The site was surveyed for Hoover's woolystar in the 1990's without locating any populations.

Kings County Unit (35)

The general area, including the 160 acres of BLM land in section 20, was field surveyed by consulting biologists Barbara Leitner and David Laabs in 1999. Botanical field surveys were conducted on May 19, 20 and 21, 1999. Reconnaissance-level wildlife surveys were performed on June 3, 1999 September 1999. A copy of their September 1, 1999 report "Assessment of Biological Resources Western /Kings County Land Exchange, Tracts 1-7, Bureau of Land Management Exchange CACA-38626 Kings County California" is on file at the BLM Bakersfield Office. The following section is based in part on their findings and field visits by BLM staff.

Topography in this unit is moderately steep, with most of the unit a large north-facing slope. Flat areas are limited to the tops of slopes.

Evidence of existing disturbance includes several roads and mining activity. These parcels are not accessible to the general public as access crosses private land

Vegetation is primarily serpentine chaparral, and to a lesser extent, juniper oak woodland with a grassy understory. Characteristic plant species of the serpentine chaparral includes leather oak (*Quercus durata*), buckbrush (*Ceanothus cuneatus*), Hoary manzanita (*Arctostaphylous glauca*), gray pine (*Pinus sabiniana*), blue elderberry (*Sambucus mexicana*) chemise (*Adenostoma fasciculatum*) and yerba santa (*Eriodictyon califonicum*). The juniper oak woodland is dominated by blue oak (*Quercus douglasii*) and California juniper (*Juniperus californicus*) in various proportions, with grey pine.

Wildlife species of the unit probably includes deer, coyote, woodrat, California ground squirrel, desert cottontail, California towhee, California thrasher, wrentit, common raven, western scrub jay, California quail, American kestral, red-tailed hawk, turkey vulture, side-blotched lizard and western fence lizard.

This unit includes the Kings mercury mine which was active in the earlier part of the 1900's. The old buildings and excavations (such as explosives bunkers) may be suitable habitat for some bats, but there did not appear to be extensive mine shafts in this area. The quality of mine habitat was considered limited by the consulting biologists. One mining pond shows as intermittent pond on older and newer topographic maps, but does not show on the 1994 aerial photographs. The mining pond is located in a blue oak woodland/shrubland matrix. Based on vegetation, it is unlikely these ponds are suitable for tiger salamander use as tiger salamanders prefer open grasslands or oak savannah adjacent to breeding ponds. The pond is probably too ephemeral for use by red-legged frogs.

Special status animal species with potential to occur on this unit include badger, prairie falcon, San Joaquin whip snake, Cooper's hawk, golden eagle, loggerhead shrike, pallid bat, Townsend's big-eared bat, small-footed myotis, long-eared myotis, fringed myotis, Yuma myotis, western mastiff bat, and valley elderberry longhorn beetle. The critical habitat boundary for the South-Central California Coast

Steelhead ESU includes the southernmost portion of Section 19, however, the parcel does not contain any of the constituent elements, and thus is not critical habitat.

Special status plant species with potential to occur include recurved larkspur, showy madia, Lemmon's jewelflower, and pale-yellow layia.

Lakebed Unit (7)

The parcel in this unit occurs on the floor of the Central Valley. Topography is generally flat, with minor relief generated by the shallow drainages crossing the landscape. Past cultivation has obscured the original drainage patterns. This parcel is within an area previously (and possibly now) under cultivation.

Vegetation appears to be weedy grassland, a reflection of past cultivation. Original vegetation was probably valley sink scrub.

Animals likely to be present include California ground squirrel, coyote, cottontail, black-tail jack rabbit, horned lark, common raven, red-tailed hawk, turkey vulture, and side-blotched lizard.

Special status animal species which may be present include San Joaquin kit fox, San Joaquin antelope squirrel, Tipton kangaroo rat, San Joaquin pocket mouse, burrowing owl, and blunt-nosed leopard lizard.

Special status plant species which may be present include brittlescale, San Joaquin woolythreads, and King's gold.

McKittrick Summit Unit (8)

This parcel is located near the crest of the Temblor Range. Topography is mostly hilly, with ridges running east-west.

Vegetation is largely determined by slope aspect. The drier, south-facing slopes support grassland with occasional shrubs. Representative species include bromes (*Bromus* spp.), wild oats (*Avena* sp.), filaree (*Erodium cicutarium*), one-sided bluegrass (*Poa secunda* spp. *secunda*), interior goldenbush (*Ericameria linearifolia*), desert tea (*Ephedra californica*), and California buckwheat (*Eriogonum fasciculatum* var. *polifolium*). Typical grassland wildflower species are also to be expected. Blue oak woodland can be found on the more mesic, north-facing slopes, where, besides blue oak (*Quercus douglasii*), there is scrub oak (*Q. john-tuckeri*), California juniper (*Juniperus californica*), and components of the adjacent grassland.

Animals likely to be present include coyote, California ground squirrel, cottontail, common raven, mourning dove, western meadow lark, side-blotched lizard, western fence lizard, gopher snake and western rattlesnake.

Special status animal species which may be present include kit fox (although the elevation is a bit too high), giant kangaroo rat, and Zavortink's protodufourea bee.

Special status plant species have not been reported in the vicinity of this parcel.

North Bittercreek Unit (20)

Topography in this unit ranges from gently rolling grasslands to steep canyons.

Disturbance is limited to State Highway 166 and several dirt roads. The three public land parcels in sections 11 and 12 are not accessible to the general public and are part of a grazing allotment.

The predominant vegetation is nonnative annual grassland. Areas of sparse brush and California juniper occur on north-facing slopes. Shrub species probably include common saltbush (*Atriplex polycarpa*), rabbitbrush (*Chrysothamnus viscidiflorus*), and eastwoodia (*Eastwoodia elegans*). Herbaceous species would include wild oats (*Avena* sp.), brome (*Bromus* sp.), one-sided bluegrass (*Poa secunda* ssp. *secunda*), fiddleneck (*Amsinkia* sp.), and filaree (*Erodium cicutarium*).

Wildlife of the area includes mule deer, mountain lion, coyote, bobcat, badger, striped skunk, California ground squirrel, pocket gopher, desert cottontail, black-tailed jackrabbit, red-tailed hawk, California quail, mourning dove, Say's phoebe, western kingbird, horned lark, northern mockingbird, loggerhead shrike, western fence lizard, side-blotched lizard, western whiptail, gopher snake and rattlesnake.

Special status animal species which may occur in the unit include San Joaquin kit fox, San Joaquin antelope squirrel, giant kangaroo rat, blunt-nosed leopard lizard and California condor. These parcels are adjacent to Bittercreek National Wildlife Refuge.

Special status plant species are not expected on this unit.

North Kern Unit (1, 2, 3, 4, 5).

The parcels in this unit lie on the western edge of the Central Valley. Most of the parcels occur in flat regions of the valley floor, but a few (primarily parcel 2) are located on the elevated ridges associated with the eastern slopes of the Coast Range.

Parcels 1, 2 (section 7), 3, 4, 5: These parcels are currently or previously in cultivation. Some parts of parcels 4 and 5 appear to be reverting to native habitat with drainage patterns and native vegetation evident from aerial photos. In these areas, vegetation appears to be a mosaic of saltbush scrub and valley grassland. Shrubs likely to be present include common saltbush (*Atriplex polycarpa*), pale-leaf goldenbush (*Isocoma acradenia* var. *bracteosa*), and snakeweed (*Gutierrezia californica*). Grassland species include the introduced bromes and Mediterranean grass (*Bromus* and *Schismus* spp.), as well as the typical grassland wildflower species such as gold fields (*Lasthenia* sp.).

Parcel 2 (sections 5, 9): These sites are located on the western ridges of South Dome, a geologic feature stradling the border of Kings and Kern counties. Vegetation appears to be sparse on the shale ridges and is most likely a combination of introduced grasses and various native forbs adapted to the xeric conditions of the site. Likely to be encountered are species such as bromes (*Bromus* spp.), buckwheats (*Eriogonum* spp.), and peppergrass (native *Lepidium* spp.), as well as occasional shrubs including common saltbush (*Atriplex polycarpa*), bladderpod (*Isomeris arborea*), and snakeweed (*Gutierrezia californica*).

Animals likely to be present include coyote, California ground squirrel, black-tailed jackrabbit, Heerman's kangaroo rat, short-nosed kangaroo rat, southern grasshopper mouse, San Joaquin pocket-mouse, deer mouse, common raven, mourning dove, mockingbird, white-crowned sparrow, sage sparrow, savannah sparrow, horned lark, western meadow lark, side-blotched lizard, western whiptail, western rattlesnake, gopher snake and California whipsnake.

Special status animal species which may be present include San Joaquin kit fox, San Joaquin antelope squirrel, short-nosed kangaroo rat, San Joaquin pocket mouse, Tulare grasshopper mouse, burrowing owl, blunt-nosed leopard lizard, and Hopping's blister beetle. The California Natural Diversity Database includes records for blunt-nosed leopard lizards on these parcels.

Special status plant species which may be present include San Joaquin wooly threads, recurved larkspur, California jewelflower, and Temblor buckwheat.

North Lokern Unit (32)

This parcel is under active cultivation with row crops. Native lands from nearby support saltbush scrub with kangaroo rats (giant, Heerman's and short-nosed), grasshopper mouse, California pocket-mouse, San Joaquin antelope squirrel, San Joaquin kit fox, California ground squirrel, desert cottontail, black-tailed jackrabbit, burrowing owl, short-eared owl, horned lark, meadowlark, loggerhead shrike, and side-blotched lizard. Some of the more mobile species may wander onto the edges of the cultivated fields. Kern mallow is also known from the nearby native parcel, but is not likely to occur on the subject parcel.

North of Bakersfield Unit (11, 12, 13, 14, 15, 30, 31)

The parcels in this unit occur on the lower slopes of the Sierra Nevada foothills. Topography ranges from relatively flat in the cultivated parcels on the west (parts of 11 and 13) to the steeper slopes encountered to the east in parcels 14, 15, and 34.

Parcel 14 in section 8 includes about six houses, as well as either unoccupied building or old well pads.

Parcels 11 (in part) and 13 (in part): The westernmost (valley edge) sites within these parcels are either currently in cultivation are bear evidence of recent cultivation, where vegetation is predominantly non-native weedy species.

Parcels 11 (in part), 12, 13 (in part), 14, 15, and 34: The vegetation in these eastern (foothills) sites is essentially native, albeit influenced by the past history of grazing and the impact of introduced weedy species. The current vegetation can be characterized as non-native grassland with occasional shrubs, and is dominated by introduced grasses such as bromes and wild oats (*Bromus* and *Avena* spp.). Some native perennial bunchgrass may also be present (one-sided bluegrass, *Poa secunda* spp. *secunda*). Shrubs likely to be present include species such as bladder pod (*Isomeris arborea*), common saltbush (*Atriplex polycarpa*), interior goldenbush (*Ericameria linearifolia*), pale-leaf goldenbush (*Isocoma acradenia* var. *bracteosa*), and snakeweed (*Gutierrezia californica*). Typical grassland wildflower species are also to be expected.

Animals likely to be present include deer, coyote, woodrat, California ground squirrel, cottontail, California towhee, California thrasher, wrentit, common raven, western scrub jay, California quail, American kestrel, red-tailed hawk, turkey vulture, side-blotched lizard, and western fence lizard

Special status animal species which may be present include badger, San Joaquin kit fox, San Joaquin pocket mouse, tricolored blackbird, blunt-nosed leopard lizard, western spadefoot toad.

Special status plant species which may be present include Bakersfield cactus, striped adobe lily, Piute Mountains navaretia, San Joaquin wooly threads, recurved larkspur, San Joaquin adobe sunburst, and California jewelflower.

Pentland Unit (19)

Topography in this area is flat, without any drainages.

Evidence of existing disturbance includes several buildings within a large bare area, two tanks, a large road, and what appears to be buried utility routes. The old RR grade also crosses the parcel. Although the parcel is adjacent State Highway 166, there is no public access as it is private land.

Vegetation on the parcel is likely to be saltbush scrub. Plant species typical of this community include common saltbush (*Atriplex polycarpa*), pale-leaf goldenbush (*Isocoma acradenia* var. *bracteosa*), snakeweed (*Guiterrezia californica*), as well as native wildflowers. Non-native species, such as brome (*Bromus* sp.), Mediterranean grass (*Schismus* sp.) and filaree (*Erodium cicutatium*) probably also occur on the parcel.

Wildlife typical of saltbush scrub includes coyote, California ground squirrel, black-tailed jackrabbit, Heerman's kangaroo rat, short-nosed kangaroo rat, southern grasshopper mouse, San Joaquin pocket-mouse, deer mouse, common raven, mourning dove, mockingbird, white-crowned sparrow, sage sparrow, savannah sparrow, horned lark, western meadow lark, side-blotched lizard, western whiptail, western rattlesnake, gopher snake and California whipsnake.

Special Status Species which may occur on the parcel includes San Joaquin kit fox, San Joaquin antelope squirrel, American badger, burrowing owl, LeConte's thrasher, and blunt-nosed leopard lizard. Special status plant species known from nearby include Lemmon's poppy and heartscale.

Santa Barbara Canyon Unit (24, 25, 26, 36 west)

Parcel 24 is located on the southern edge of the Cuyama Valley in the foothills of the Sierra Madre Range. Overall, the parcel is generally north-facing, but is bisected by Olive, Goode, and Tennison Canyons. The topography ranges from gentle slopes at the north to steep canyons and mesas as the elevation increases to the south. Parcels 25, 26 and 36 west are located in the Santa Barbara Canyon watershed, generally facing the northeast into the Cuyama River drainage. The topography is similar to that of parcel 24 and includes the steep side canyons of Santa Barbara Canyon, numerous steep cliffs and slopes, and occasional plateaus. Elevations range from 2650 to 3500 feet.

There are several roads bisecting parcel 24 in Olive, Goode, and Tennison canyons. Roads also occur on several ridgelines, in the flat areas and at the base of the foothills. Over 95 percent of the parcel is in native vegetation. There are several roads and jeep trails that occur in parcels 25, 26, and 36, but they are limited to Santa Barbara Canyon, a few parcels on the north side of the Canyon, and parcel 26.

Vegetation in the unit grades from arid subshrub scrub to juniper woodland/arid scrub at the mid and higher elevations. The lower elevations of arid subshrub scrub include non-native annual grasses (mostly bromes) with California buckwheat (*Eriogonum fasciculatum*), interior goldenbush (*Ericameria linearifolia*), snakeweed (*Gutierrezia sarothrae*), yucca (*Yucca whipplei*), desert tea (*Ephedra californica*), Acton's encelia (*Encelia actoni*), winter fat (*Krascheninnikovia lanata*), and eastwoodia (*Eastwoodia elegans*). The ridgelines and south slopes are mostly annual grasses such as red brome (*Bromus madritensis* ssp. *rubens*), ripgut grass (*Bromus diandrus*), and fescue (*Vulpia* spp.), with occasional shrub elements from the arid subshrub scrub community. With increasing elevation, the density of California juniper (*Juniperus californicus*) increases, with denser stands of trees located on north-facing slopes. The flat plateaus are also occupied by dense stands of juniper, but may open into non-native annual grasslands with goldfields (*Lasthenia* spp.) and California plantain (*Plantago erecta*). In the higher elevation, more mesic sites, stands of pinyon pine (*Pinus monophylla*) and Tucker's oak (*Quercus john-tuckeri*) may be encountered. All of the drainages are ephemeral, running water in response to rainfall events, with no riparian communities known. Santa Barbara Canyon exhibits a very diverse assemblage of plant species washed down from higher elevations. Elements of the Cuyama River

floodplain such as scalebroom (*Lepidospartum squamatum*) and rabbitbrush (*Chrysothamnus nauseosus*) may also occur in the Canyon bottom.

Wildlife typical of the Santa Barbara Canyon unit habitats includes Yuma myotis, California myotis, small-footed myotis, western pipistrelle, big brown bat, Brazilian free-tailed bat, desert cottontail, California ground squirrel, Botta's pocket gopher, California pocket mouse, Heermann's kangaroo rat, deer mouse, pinyon mouse, desert woodrat, coyote, badger, bobcat , mule deer, turkey vulture, red-tailed hawk, California quail, mourning dove, greater roadrunner, western screech owl, Anna's hummingbird, northern flicker, western kingbird, black phoebe, scrub jay, common raven, bushtit, house wren, Bewick's wren, canyon wren, loggerhead shrike, yellow-rumped warbler, California thrasher, spotted towhee, California towhee, dark-eyed junco, house finch, western meadowlark, desert night lizard, western whiptail, coast horned lizard, side-blotched lizard, California legless lizard, coachwhip, gopher snake, common kingsnake, and western rattlesnake.

Special status animal species which may be present in a few areas of the unit include San Joaquin kit fox and blunt-nosed leopard lizard. Most of the unit is higher in elevation than the San Joaquin Valley ecotype which supports the state and federally listed plant and animal species, however, the northern part of parcel 25 (section 10) may overlap the fringe of San Joaquin kit fox habitat. Suitable habitat for blunt-nosed leopard lizards and San Joaquin kit fox may also occur within the floodplain of Santa Barbara Canyon. Blunt-nosed leopard lizards have been observed nearby in the Cuyama River floodplain.

Special status plant species which may be present include California jewelflower, Hoover's woolystar, and pale-yellow layia. Populations of jewelflower are known from the sparse juniper woodlands to the east of these parcels, at a lower elevation near the Cuyama River, and at two sites within Santa Barbara Canyon on Forest Service lands. Hoover's woolystar populations occur at numerous sites along the Cuyama River. None of the above sensitive plants have been located within the Santa Barbara Canyon Unit, but suitable habitat is present and unknown populations may exist.

Temblor South Unit (23, 33)

These parcels consist of moderately steep slopes and rounded hill tops.

Disturbance on the parcels is limited to several dirt roads.

Vegetation includes nonnative annual grassland, and an open shrubland of upper Sonoran subshrub scrub and saltbush scrub. Nonnative annual grassland is dominated by herbaceous species such as brome (*Bromus* sp.), Mediterranean grass (*Schismus* sp.), filaree (*Erodium cicutatium*), native bunchgrass (*Poa* sp., *Nasella* sp.), and a variety of native forbs. Characteristic plant species of the upper Sonoran subshrub scrub includes interior goldenbush (*Ericameria linearifolia*), ephedra (*Ephedra californica*), California buckwheat (*Eriogonum fasciculatum*), alkali goldenbush (*Isocoma acradenia* var. *bracteosa*), bladderpod (*Isomeris arborea*) and snakeweed (*Gutierrezia californica*). The saltbush scrub shares many species with upper Sonoran subshrub scrub, the main difference being the dominance of common saltbush (*Atriplex polycarpa*). Herbaceous species include brome (*Bromus* sp.), Mediterranean grass (*Schismus* sp.), filaree (*Erodium cicutatium*), native bunchgrass (*Poa secunda* ssp *secunda*, , *Nasella* sp.), and a variety of native forbs.

Wildlife species likely to be present includes coyote, deer mouse, dusky-footed woodrat, Heerman's kangaroo rat, California pocket mouse, pocket gopher, California ground squirrel, desert cottontail, black-tailed jackrabbit, California quail, mourning dove, greater roadrunner, burrowing owl, western kingbird, common raven, northern shrike, western meadowlark, side-blotched lizard, western whiptail, and western rattlesnake.

Special status animal species which may occur on the parcel include San Joaquin kit fox, San Joaquin antelope squirrel, and giant kangaroo rat. The blunt-nosed leopard lizard is generally not found in the upper elevation of the Temblor Range and would not be expected on this parcel.

Special status plant species are not to be expected on this unit.

Valley Floor Unit (9, 10)

The parcels in this unit are located on the floor of the Central Valley. Topography is generally flat, with minor relief generated by the shallow drainages crossing the landscape. The drainage pattern is still evident in parcel 9. The entire surface of parcel 10 shows evidence of cultivation and prior disturbance; approximately 45% has had recent cultivation (2003 air photo) and the remaining 55% is highly disturbed with roads, cleared areas, and buildings. Vegetation on parcel 10 is predominantly non-native weedy species.

Although all of parcel 9 bears evidence of having been cultivated at one time, the current appearance indicates that cultivation was of relatively short duration so that significant native vegetation remains. Natural drainage patterns and alkali scalds are still apparent throughout, and what looks like k-rat precincts are especially noticeable on the NE portion. An ancient shoreline of Lake Tulare or an associated smaller lake lies about 1½ miles to the northwest. Vegetation on the parcel appears to be valley sink scrub on the west, grading into grassland on the more impacted area on the eastern half of the parcel. Patches of valley saltbush scrub (i.e., perennial *Atriplex* spp.) may also be present. Alkali scalds are found within the valley sink community and probably support biological crusts. The valley sink community is dominated by bush seepweed (*Sueda moquinii*) and probably includes shrubs such as pale-leaf goldenbush (*Isocoma acradenia* var. *bracteosa*) and valley lessingia (*Lessingia glandulifera* var. *glandulifera*), as well as native wildflowers such as goldfields (*Lasthenia* sp.), peppergrass (*Lepidium* spp.), gilias (*Gilia* sp.), and common spikeweed (*Hemizonia pungens*). The grassland on the eastern half is most likely dominated by non-native species such as brome (*Bromus* sp.), Mediterranean grass (*Schismus* sp.), and filaree (*Erodium cicutarium*), however, native valley wildflowers are also to be expected.

Animals likely to be present include California ground squirrel, coyote, cottontail, black-tail jack rabbit, horned lark, common raven, red-tailed hawk, turkey vulture, and side-blotched lizard.

Special status animal species which may be present include San Joaquin kit fox, San Joaquin antelope squirrel, Tipton kangaroo rat, burrowing owl, blunt-nosed leopard lizard, California horned lizard, and Hopping's blister beetle.

Special status plant species which may be present include recurved larkspur, heartscale, brittlescale, and Earlimart orache.

Ventura County Unit (16)

This parcel is located on a relatively steep, southeast-facing slope.

Evidence of existing disturbance includes a road and structure (perhaps a water tank).

Vegetation for this unit is chaparral. Dominant plant species probably include chemise (*Adenostoma fasciculata*), manzanita (*Arctostaphylos* sp.), ceanothus (*Ceanothus* sp.), and scrub oak (*Quercus john-tuckeri*).

Wildlife species likely to occur in the area includes deer, coyote, dusky-footed woodrat, deer mouse, brush rabbit, California towhee, spotted towhee, California thrasher, wrentit, scrub jay, mountain quail, turkey vulture, southern alligator lizard, Gilbert's skink and western fence lizard.

Several special status species occur in the general region, but most are unlikely to be affected by activity on this unit. It is within the range of the California condor and the Sespe-Piru Condor Area and Hopper Mountain National Wildlife Refuge are located 6 miles to the west. Species associated with the Santa Clara River also occur in the area (Least bell's vireo, two striped garter snake, western yellow-billed cuckoo, unarmored three-spined stickleback) but are not likely to make use of the subject parcel. The parcel is located within the boundaries of critical habitat for the Southern California Steelhead ESU, however, the parcel does not contain any of the constituent elements, and thus, is not critical habitat. Critical habitat for two other species (Least Bell's vireo and unarmored threespine stickleback) is located along the Santa Clara River approximately 1.5 miles south and east.

One federal candidate plant species, San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) occurs 1.5 miles southeast of the parcel in an open coastal scrub community.

Cultural Resources

The majority of the lands identified in this environmental document are located in the southern San Joaquin Valley which corresponds to Southern Valley Yokut Indian Territory. Yokut Indians once populated the entire San Joaquin Valley as well as the Sierra foothills on the eastern edge and portions of the Coast Ranges along the western boundary of the valley. The Yokuts were divided into distinct tribelets with varied dialects, practices, and tribe areas. The lease sale parcels proposed in this document fall within the prehistoric territories of four Yokut tribelets; the Yowlumne, Paleumne, Tuhoumne, and Tulumne.

According to ethnographic references the Yowlumne were often called the Wolf people, since the name Yowlumne meant people of the place where the howlers live. The Yowlumne Yokuts had one of the largest territories among the Yokuts, which was centered near Bakersfield at the village site of Woilu, but extended north toward Poso Creek, east to the Kern Canyon, south near Tejon, and west to Kern Lake. Historic accounts from early inhabitants of this area such as Father Francisco Garces and Colonel Thomas Baker indicate that the Yowlumne often interacted with European inhabitants.

The Tulumne were concentrated around portions of Buena Vista Lake, but their range extended northwest to McKittrick, west to Bitter Water Creek near Taft, and south to San Emigdio. Tulumne territory is well known due to several prominent archaeological investigations conducted in the vicinity of Buena Vista Lake prior to the 1960s.

The Tuhoumne Yokuts could be found near several waterways in the southern valley, such as the Kern River, Goose Lake, Bull slough, and a portion of Buena Vista Lake. Consequently, the subsistence practices of the Tuhoumne were tied to the plants and animals found along these riverine and lacustrine environments. Unlike other Yokut groups whose animal diet was dominated by rabbit, the Tuhoumne diet had a high number of waterfowl.

Paleumne Yokuts territory traced the path of Poso Creek north of Bakersfield. Ethnographic accounts indicate that the Paleumne had multiple village sites along this waterway. Overall, the subsistence

practices of the Southern Valley Yokuts consisted of hunting, gathering, and fishing. The bulk of the plant foods in the Yokuts diet were acorns, chia seeds, manzanita berries, and wild oats; while hunted animals consisted of deer, quail, rabbits, squirrels, waterfowl, and fish. Tule found along many waterways in the valley played an important role in the Yokut lifeway as a material used in the construction of structures, clothing, and boats. Other examples of goods manufactured and utilized among the Yokuts included flaked stone tools, intricate basketry, tanned animal hides, and the bow and arrow. Prehistoric sites common to this region include pictograph rock art, bedrock mortar and millingstone food processing stations, lithic scatters, and village or hamlet sites.

In addition to the Yokuts, their neighbors to the west the Chumash Indians have prehistoric territorial areas that include the proposed lease sale lands. Chumash Indians are often separated into two groups; the Coastal Chumash and the Interior Chumash who lived and traded further inland as far as the western edge of the San Joaquin Valley. The interior Chumash were concentrated in the Cuyama Valley, just to the southwest over the Caliente Mountain Range. In general the Chumash, were hunters and gatherers who spoke a Hokan language and were known for their large populations, craft specialization, and elaborate polychrome rock art. Ironically, for such a large group, limited ethnographic information is available for the Chumash, in part due to their friendliest to the Spanish, much of the old lifeways were lost to the process of missionization. Mission records, diaries of the Spanish, and other explorers have therefore become a vital source of information about Chumash practices and village locations.

The Kings County parcels proposed for lease sale are near the boundary between the Tachi Yokuts and the Salinan native peoples of this region. Evidence of the Salinan in the region is recognized by the village site at the modern day location of Cholame to the south of the study area. The Tachi Yokuts are recorded to the east in the Kettleman Hills vicinity and the Wowol Yokuts lived further to the southeast but were known to travel to Cholame to trade for sea shells with the Salinan. The Salinan language is included in the Hokan language family, as is the dialects of their neighbors the Chumash and Esselen. Apparently the Salinan made use of many edible plants, such as six varieties of acorn, berries, pine nuts, wild oats, sunflower, chia, sage, yucca, prickly pear, and bulbs. Otherwise the Salinan material culture is typical of California groups; they manufactured basketry, flaked stone tools, and shell beads for trade and decoration among other goods.

In historic times, the region was subject to Spanish exploration without permanent settlements, Mexican land grant ranchos and a steady stream of settlers and pioneers after the early 1840's. Oil exploration in the area began in the 1860s and the discovery of large oil deposits in McKittrick, Midway Sunset, Kern River and Elk Hills oil fields in the early 1900s ignited a boom in the petroleum extraction and production industry. From historic to modern times, the project area has been part of large-scale oil drilling operations, as well as livestock and agricultural operations.

A very limited amount of cultural resource surveys have been conducted on the lands identified for lease sale. Therefore, as realty or oil and gas projects are proposed on these lands, Native American consultation and archaeological surveys will be conducted to identify national register eligible properties. These archaeological surveys will be conducted to fulfill our legal obligations under Section 106 of the National Historic Preservation Act.

Lands

The great majority of the subject parcels are interspersed with many private lands. Most of the subject parcels have physical access (a dirt road crosses the parcel). However, only about six of the parcels have legal access via a public road. BLM has not secured any legal easements to any of the parcels. BLM oil and gas leases do not include the right of access across adjacent private or BLM lands, nor is such access guaranteed by any existing statute.

Oil and Gas Resource

The parcels are discontinuous and are scattered from Township 23 S, Range 16 E to Township 26 S, Range 28 E of the Mount Diablo Baseline and Meridian and south to Township 4 North 17 West of the San Bernardino Base Meridian. All parcels (about 19,620 acres) are classified as having high potential for occurrence of hydrocarbons, with many of them being nominated for leasing by members of the oil and gas industry. This is one of the oldest oil districts in the United States, and has been extensively developed in the anticlinal trends along the east and west sides of the Valley since the 1870's.

Most reservoirs in the area are sandstones which have adequate porosity and permeability for the migration of oil and gas. Some reservoirs in the area are fractured siliceous organic shales of the Monterey formation. The Monterey formation is both source and reservoir rock. Compression and diagenesis severely degrade reservoir quality at depths exceeding 12,000 feet to the extent that only dry gas is produced from greater depths.

There are over 75 oil and gas fields in the Valley, including several giant fields (more than 100 million barrels of oil each). As of 2006, cumulative production in the area was about 12 billion barrels of oil equivalent. In recent years, the Valley has accounted for 90% of California's development completions. Over 90% of the wells are on private leases.

The San Joaquin Valley is expected to continue as the primary source of oil in California's oil and gas development. Additional information such as the number of existing wells and expected drilling, completion and abandonment rates is in the section on Environmental Consequences.

VI. Environmental Consequences

Analysis Assumptions

Reasonable Foreseeable Oil and Gas Development (RFD) Scenario

(1) General Discussion

Exploration activities within the area will generally focus on oil and not natural gas. The mid to southern San Joaquin Basin is primarily an oil province with natural gas commonly as an associated product. Less commonly, non-associated gas is also found. Exploration will use such tools as geophysical surveys (usually this means running seismic lines), and drilling exploration wells. A brief summary of these activities follows. In all cases, a site specific EA would be prepared prior to approval of any application to conduct surface disturbing activities. Detailed descriptions of typical oil and gas activities may be found in the Caliente Resource Management Plan.

Exploration Activities

After seismic and/or detailed stratigraphic basin studies are made, an APD may be submitted. Because of the location of most of the lands within this EA, many of the APDs would be for exploration drilling, which includes drilling to discover entirely new fields, or discovery of previously untapped reservoirs within existing fields. Drilling to discover new fields is of greatest concern in this EA because in most cases it would involve disturbances of previously undisturbed lands. Historically in the San Joaquin Valley, only about 10-15% of wildcat wells were successfully completed as producers. The remaining 85-90% of the wells are non-producers which are immediately plugged and abandoned (P&A'd), so any disturbance associated with the drilling of these P&A'd wells would be temporary.

Production Drilling

Development wells include step-out or field extension wells, enhanced oil recovery wells, or other infield wells. Even though the drilling of development wells will be adjacent to or actually within areas of current production, it still may require some disturbance on previously undisturbed lands.

Based on the data for the past 10 years, up to 25,000 wells are projected to be drilled on Federal, state and private lands in the San Joaquin Valley in the next 10 years. About 5-10% of those, or 1,250-2,500, will be on federal mineral estate, assuming present economic and political conditions. Nearly all of these will be within the same general area of the state as the lands covered by this EA. The vast majority (over 90%) of these wells will be on private land.

Approximately 95-97% of the wells projected to be drilled during the next ten years will be development wells (as opposed to exploratory wells). An estimated 90-95% of the development wells will be successful, while the remainder will be unsuccessful and will be plugged and abandoned upon completion of drilling. Although new wells continue to cause surface disturbance, the number of wells being plugged and abandoned after reaching their economic limit is increasing. Recent trends have shown that the total acres of newly disturbed land from wells being drilled are being significantly offset by rehabilitation of land associated with wells being abandoned. In 2004, e.g., there were 2178 wells drilled and 1400 wells abandoned in the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources District 4 (CDOGGR), which contains the subject lands being offered for lease. What that means is that for every 3 wells drilled, 2 wells were abandoned, and the surface disturbance associated with the abandoned wells will in most cases be reclaimed within a few years (Data from CDOGGR). Consequently, the net disturbance is much less when reclaimed land is considered. During the last several years, abandonments of federal wells have ranged from less than 50% to 200+% of the number of wells drilled.

The total number of acres of Federal mineral estate in the San Joaquin Valley is about 440,000 acres. The total number of acres in the parcels to be offered in this lease sale is about 19,620 acres, or 5% of the total.

Based on historical records and proximity of leases to existing fields, it is projected that no more than 20 new wells will be drilled during the next ten years on public lands offered in this lease sale. Some of the leases may have more than one well, some only one well and some no wells. Any future development on parcels in this lease sale would therefore represent only a very small portion of the total wells drilled on Federal mineral estate, and is well within the scope of activities which have been previously analyzed in the Caliente Resource Management Plan and the Reasonable Foreseeable Oil and Gas Development. The total number of wells expected on these parcels, 20, is insignificant in comparison to the total number of wells and other activities expected in the Valley. Based on recent history, approximately 1000-2000 new federal wells can be expected within the next 10 years in the entire Valley, and there are tens of thousands of existing wells, both federal and private (mostly private), already producing in the area.

The activities and impacts resulting from the proposed action on the approximately 19,620 acres offered for lease would be proportionately smaller than those described in the previous analyses, including miles of seismic lines run, number of wells, amount and size of surface facilities, and total acres of disturbance. See Table 1 below.

TABLE 1. Expected gross surface disturbance on 2006 lease sale tracts with Preferred Alternative **Lease with Limited Surface Use - Protected Species (LSU - Protected Species) and Limited Surface Use – Sensitive Species (LSU – Sensitive Species) Stipulations - Proposed Action)**

Surface Disturbing Activity	Number	ACRES

		Perm.	Temp.	Transient	Total
In-field Wells Drilled	10 wells	10			10
Tank Batteries	2	2			2
Exploration Wells, incl. roads	10 wells	3	27		30
Cross Country Seismic Lines	20 miles			30	30
Surface Disturbance, acres		15	27	30	72

Proposed Action Alternative – Effects on Critical Elements

Resources in addition to those discussed below were considered as a part of the scoping process. Those resources were dropped from further consideration once it was determined that there was minimal potential for them to sustain significant impacts. The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order, and must be considered in all environmental assessments. Those elements that are affected are discussed below in greater detail.

Critical Element	Affected		Critical Element	Affected	
	YES	NO		YES	NO
Air Quality	X		**Wastes, Hazard/ Solid**		X
ACEC's		X	**Water Quality**		X
Cultural Resources		X	**Wetlands/Riparian**		X
Floodplains	X		**Wild and Scenic Rivers**		X
Native Amer. Concerns		X	**Wilderness**		X
T & E Species	X		**Weeds**		X
Environmental Justice		X	**Farmland**	X	

X

ACEC's (Area of Critical Environmental Concern) and other Special Management Areas

There are several lease sale parcels that are adjacent to ACECs designated in the Caliente RMP. The lease parcels are in the following units: Lokern (adjacent to Lokern ACEC); Chico Martinez (adjacent to the Chico Martinez ACEC); McKittrick Summit (adjacent to Carrizo Plain National Monument, designated as an ACEC in the RMP); and Carrizo Adjacent (adjacent to Carrizo Plain National Monument). The leasing and any subsequent oil and gas development on these parcels would not detract from meeting the objectives of these ACECs or the Carrizo Plain National Monument. Specifically for the CPNM, the McKittrick Summit parcels are outside of the viewshed as seen from within the Monument. The Carrizo Adjacent parcels are also on slopes facing away from the Monument, but may only be visible from the Elkhorn Road directly entering the lease parcels. The impacts from well pads, roads, seismic exploration, and facilities would be subject to site-specific NEPA assessments that would mitigate and/or avoid impacts to these ACEC units and the National Monument.

Floodplains

Portions of parcels numbered 25, 28, and 36 are located within the 100-year floodplains of the Cuyama River and/or Santa Barbara Canyon Creek, both of which are ephemeral in nature. Even though these are both usually dry, siting of oil/gas wells, pipelines, facilities, and other equipment will be prohibited in the portions of these parcels that are within the 100-year floodplains. A map showing the restricted areas is available in the Bakersfield Field Office of the BLM. Regardless of where on each parcel development may be proposed, site-specific NEPA analysis would identify measures to minimize the risk of flood

damage to oil and gas facilities/wells and oil spills or other contamination entering the Cuyama River and Santa Barbara Creek channels.

Impacts to Air Quality

Introduction - Impacts would be in the form of gaseous and particulate matter that are emitted into the air as a result of the activities being analyzed. All of the pollutants subject to analysis are addressed in federal, state and local laws, statutes, regulations and rules. The federal and state ambient air quality standards define the criteria pollutants that are part of the emissions that are typically analyzed. In addition to the criteria pollutants, there are criteria for air toxics, hazardous air pollutants (HAPs), Prevention of Significant Deterioration (PSD), fugitive dust and regional haze.

The analysis is based upon various activities' potential to emit. The analysis is further limited by the need to look at changes in emissions that would occur as a result of the proposed action. Many similar regional activities that produce emissions would not be impacted by the proposed action and would not be addressed in this analysis. The activities associated with the proposed action that would have an impact on air quality include construction activities at the well pad, establishing vehicle routes, vehicle access, drilling operations, development, production, Rights of Ways and distribution. Changes in these activities would result in changes in disturbance rates to soil surfaces and would result in changes in PM10 and PM2.5 emissions. In addition, combustion emissions and other gaseous emissions including ozone precursors such as nitrous oxides and reactive organic gases would be produced. Based upon the potential to emit and emissions that are likely to be affected by the proposed action, this analysis primarily addresses the particulate emission PM10 and the ozone precursor emissions. In addition, these two pollutants are important because the affected area is classified as federal nonattainment areas for PM10, PM2.5 and ozone (both 1-hour and 8-hour).

Planning Assumptions for Air Quality: State Implementation Plans (SIPs) are prepared for most of the federal nonattainment areas. These SIPs are designed to result in compliance with the NAAQS by federal deadlines. The SIPs are implemented through a series of rules. In addition, air quality is highly regulated by a number of additional federal, state and regional regulations and rules. These regulations and rules apply to many of the activities in the proposed action. These activities would be required to be conducted in compliance with the regulations and rules. As the new air plans for PM2.5 and the 8-hour ozone standards are developed, activities would be conducted in compliance with those plans also. A certain degree of uncertainty exists as to the exact development schedules, location of wells, which wells would produce, the number of wells that would be drilled and a number of other factors which are addressed in the RFD. This analysis is based on the same assumptions as to a normal expected activity level as reflected in the discussion in the RFD.

Expected Impacts - The proposed action could ultimately result in a number of activities which would generate emissions. Project emissions include direct emissions of NOx, SOx and VOC (which are precursor emissions for ozone and PM2.5), CO, PM10 and PM2.5. These emissions are associated with combustion sources and fugitive sources associated with exploration, drilling, production and abandonment such as seismic exploration,/diesel drill rig engines, drill pad construction equipment (e.g., dozers, backhoe, grader, etc.), temporary production flares, remedial well work, equipment trucks, hauling of liquids, drill rig crew trucks/vehicles, portable lift equipment, portable testing equipment and temporary and permanent production facilities. In addition, PM10 will be released during the drill pad construction phase and from the daily ingress and egress of vehicles on the unpaved access roads. The primary emission sources during any new construction at the drill sites and on Rights of Ways would be from heavy equipment exhaust and fugitive dust. Other emission sources will occur during the operation and maintenance of these leases and Rights of Ways. These sources include oil facilities, gas facilities, operator vehicle traffic, and gas powered oil well pumping units.

The expected emissions from the proposed action would be low both in relation to the overall activity in the five county region, and by itself. Over the next ten years the proposed action is projected to result in permanent disturbance to up to 15 acres, temporary disturbance up to 27 acres, transient disturbance up to 30 acres, and the development of up to 20 new wells. Based upon existing estimates for oil and gas development, this would generate an estimated emission of less than 1,000 pounds of PM10 emissions and less than 1200 pounds of NOx per year. These emissions would be scattered between the five air districts. These emissions are well below deminimus emission levels for the pollutants (10 tons per year for VOC or NOx and 70 tons per year for PM10) and insignificant in light of the 1000-2000+ new wells that are drilled in these areas every year, along with the very large volume of automobile and truck traffic and significant other industrial and agricultural sources.

BLM requires that the lessee/operator has the responsibility for ensuring that all operations are properly permitted with the appropriate agencies, and that the operations are in compliance with all mobile and stationary source guidelines. Mitigation measures would include such items as dust control using application of water or pre-soaking and limiting traffic speed on unpaved roads. It would also include such items as use of low-emission construction equipment, use of low sulfur fuel, and/or use of the existing power transmission facilities, where available, rather than temporary power generators. The failure of the lessee/operator to follow the air quality rules would likely result in fines and could also lead to the loss of the BLM and air district authorizations.

Conformity:
The USEPA rules require federal agencies to determine whether a proposal conforms to the existing SIPs. USEPA rules state that an analysis is not necessary when the total emissions do not exceed deminimus levels, comply with the SIP and do not exceed 10% of the regional emissions. As the emissions are well below deminimus levels, comply with the SIP and are well below 10% of regional emissions, no further conformity analysis is necessary.

Impacts to soil

The parcels associated with the proposed action are on both disturbed and undisturbed surface. We are projecting that no more than 20 wells will be drilled on these parcels over the next ten years. The impacts due to this disturbance will be reduced because most or all surface disturbing activities will be subject to rehabilitation and mitigation measures that are included in sundry notices and applications for permit to drill. Impacts from spills/contamination are expected to be very localized because all activities will be subject to spill prevention and control plans, and any contamination will be removed/mitigated as required in those plans.

Impacts to Water

Many of the parcels are in areas where there are or may be fresh water aquifers. All such aquifers will be fully protected by using standard oilfield practices such as requiring a string of casing to be cemented across all fresh water aquifers and by requiring compliance with all appropriate laws, regulation, and BLM policies, including, but not limited to, state and federal Clean Water Act(s), Memoranda of Understanding (MOUs) between BLM, EPA, CDF&G, and CDOGGR, and compliance with Regional Water Quality Control Board requirements.

Where there is a threat to water quality or where water quality does not meet state standards, coordination must occur with the regional water quality control board(s). Where aquatic or riparian habitat may be impacted, coordination with CDF&G must occur. All parcels that contain any water bodies (streams, lakes, springs, etc.) must have adopted Best Management Practices (BMP) for all activities associated

with oil and gas operations that could affect water quality. A list of areas where there are aquifers that are considered to be fresh can be found in Volumes I, II, and/or III of California Oil and Gas Fields, published by the California Conservation Division.

Although there are few or no ponds, lakes, or streams that contain water year round, there are two ephemeral rivers/streams – the Cuyama River and the Santa Barbara Canyon Creek - that cross portions of parcels 25, 28, and 36. Conditions of approval will be attached to permit approvals that require protective measures to be taken where spills or other contamination are potentially a concern to surface or underground water. In addition, Special Stipulation 7 will be added to the 3 parcels (see above) that will prevent facilities/wells from being installed within those 100-year floodplains. This will protect all waters in the area, including those mentioned previously, from contamination related to floods.

Biological Resources

Impacts to Habitat from Oil and Gas Activities

A likely effect of new oil and gas activities on these lease parcels would be the loss or alteration of habitat. BLM estimates that wells, roads, facilities and seismic exploration would result in permanent impacts to 15 acres, temporary impacts to 27 acres and transient impacts to 30 acres. This totals 72 acres within the 19,620 acres being offered in this lease sale (Table 1). Note: The following Biological Discussion still includes Parcels 35 and 37. Those parcels have been dropped in the final EA and Decision Record.

Of the 20,800 acres (that were evaluated for sale prior to dropping parcels 35 and 37), 16,203 acres are presently native lands, 460 acres has been disturbed in the past and 4,138 acres are under active cultivation. If all 72 acres of disturbance were to occur on native lands this would amount to less than 1% of the native lands offered under this lease sale.

The RFD further estimates that 12 acres of this disturbance would occur as a result of infield wells within CDOG Administrative Oilfield Boundaries. Approximately 1,836 acres within six of the biological units are within CDOG Administrative Oilfield Boundaries: Derby Acres (16 acres), McKittrick Summit (181 acres), North Kern (1236 acres), Pentland (40 acres), Valley Floor (320 acres), and Ventura County (42 acres). The 12 acres of infield disturbance would occur within these areas. Of the 1,836 acres, 922 acres are under agricultural cultivation and 914 acres (378 acres BLM surface) are native lands with some existing roads within the parcels. This amounts to nearly 50% cultivated and 50% native. If the 12 acres is randomly distributed over the 1,836 it can be estimated that 6 acres could occur on cultivated land and 6 acres on native lands. The 6 acres on native lands would impact less than 1 percent of the native land surface scattered among the 6 native land parcels.

The RFD also estimates that 10 exploratory wells with roads would result in 30 acres of habitat disturbance on lease parcels that occur outside of the existing oil zones. These 30 acres could occur within the 18,965 lease acres outside the CDOG boundaries. Of these 18,965 acres, 3,676 acres are under active cultivation and 15,289 acres are native lands. If all of the surface disturbing activities occur on native lands, the 30 acres would impact less than 0.2% of the native lands being offered outside the CDOG boundaries. It is projected that 27 acres of these 30 acres would be temporarily disturbed as only 1 in 10 exploratory wells on average will be an economic producing well.

Impacts to habitat on cultivated lands would depend on whether the lands are under active cultivation or are fallowed at the time of any development. If the land is under active cultivation, impacts to native vegetation and wildlife are likely to be minimal. If the lands are fallow, the area may be a bare area of

cultivated soil or a weedy field of non-native plants. If wildlife (such as burrowing mammals or birds) reoccupies fallow fields, their habitat could be impacted by oil development and exploration activities

Impacts to habitat on native lands would depend on the native vegetation type and the topography of the lease parcels. The lease parcels contain a combination of grassland, shrubland and woodland vegetation communities. Habitat disturbance in grasslands generally has less of an impact than disturbance in shrublands and woodland since shrubs and trees take longer to become re-established. Shrublands and woodlands also support a greater diversity and number of wildlife species as trees and shrubs provide a high variety of food and cover. As the diversity of habitat structure increases from grassland to shrubland to woodland, so does the wildlife species richness. Thus, there is more potential for impacts to wildlife in shrubland and woodland communities, than in grassland communities. The impacts associated with well pads and roads, however, would be very site-specific and are not expected to significantly affect these habitats at the community scale. The footprint of the disturbance is also expected to be a small proportion of the habitat area.

With the exception of the alkali sink scrub community in the Lakebed Unit and the scrub habitat in the Cuyama River Unit, the vegetative communities potentially impacted by this leasing proposal (non-native annual grassland, saltbush scrub, arid scrub, and juniper woodland) are widely distributed within the individual parcel units and within the Cuyama and San Joaquin Valley regions. The Lakebed Unit would have historically supported alkali sink habitat, but these parcels have been cultivated and it is unlikely that native habitat remains on the parcels.

Topography can play a role in the amount of surface disturbance that results from well and road construction. Flat areas will require little or no cut and fill, and road routes are not constrained by topography. In hilly areas, cut and fill may be required which disturbs additional land. Roads routes may have to travel longer distances to meet engineering requirements and may also require cut and fill. Areas lacking roads near potential drilling sites will have more disturbance, as the entire access route will need to be constructed rather than just a short spur route from an existing road.

The parcels that are relatively flat occur within the following units: Cuyama River (960 acres), Lakebed (177 acres), Lokern (160 acres), parts of North Kern (1521 acres), and parts of North of Bakersfield (620 acres). The Cuyama River, Lakebed, Lokern, North Kern and North of Bakersfield Units have relatively good access with existing roads in the interior or on the edge of the parcels. Well pad and road construction is these parcels would have minimal footprint impacts to biological resources.

The hilly parcels include the Santa Barbara Canyon (4,244 acres), Ballinger Canyon (3,127 acres), Bittercreek NWR (360 acres), Temblor South (482 acres), Chico Martinez (585 acres), Kings County (1,099 acres), McKittrick Summit (1,033 acres), North Kern (1,683 acres), and North of Bakersfield (4,206 acres) lease parcels. These hilly parcels are likely to require new road construction to access well pads unless the wells are located adjacent to an existing road. While many of these lease parcels have one or more existing roads, it is likely that new roads would be required to reach the proposed well pad locations. As the terrain becomes steeper and hilly, more side slope, cut and fill construction may be required. If all 10 exploration wells were located in these hilly areas, the total disturbance would still not exceed the 30 acre disturbance estimate. This amounts to less than 0.2% of the offered parcels. Restoration of side slope, cut and fill pads and roads is more difficult. Impacts in such areas, even if the well is abandoned and the road restored, may persist as altered, but functional, habitat, for several decades.

Habitat restoration also takes longer in shrublands and woodlands as opposed to grasslands. Grassland habitats may resemble their pre-project conditions in 2 to 5 years. Shrublands may require 5 to 15 years and woodlands even longer as trees must be reestablished on the site. The parcels in this lease sale are

generally grassland and alkali shrubland habitats that return to their pre-project composition and structure relatively easily and quickly.

Impacts from Seismic Exploration

The projected 20 miles of seismic exploration would result in about 30 acres of surface disturbance. BLM typically requires receiver lines to be hand carried, helicopter-transported, or transported by light all-terrain vehicles. This eliminates cross-country truck travel on the receiver lines. The source points are typically located along lines using buggy-type vibroseis vehicles, or buggy-mounted or heliportable drills for shot holes. If exploration is conducted using continuous vibroseis source points, there would be about 24 acres of surface disturbance. The use of shot holes or heliportable drills in hilly terrain would reduce this disturbance estimate. Monitoring and post-project reports from previous geophysical projects indicates that seismic projects result in transitory impacts to soil and vegetation. Transitory impacts generally recover within one growing season if normal rainfall is received. Larger shrubs can be damaged by cross-country source vehicle travel, and may take several years (3 to 10) to recover or reoccupy the travel route. In most cases, off road vehicle use is limited to one or two passes. Use of ATV's rather than full size vehicles also helps to reduce soil disturbance.

If a seismic project is proposed within endangered species habitat, it would be subject to ESA compliance. In Kings and Kern Counties, the existing Oil and Gas Programmatic Biological Opinion requires pre-activity surveys, take-avoidance and mitigation measures for geophysical operations. The implementation of these measures would minimize impacts to habitat features used by listed species and minimize habitat disturbance. Projects conducted in the Cuyama Valley and Ventura County areas would be subject to a separate project biological opinion if conducted in endangered species habitats. Similar survey, mitigation and take-avoidance measures would be part of the BLM authorization for geophysical exploration in these lease areas. While seismic activities may disturb and displace wildlife during the operations, in many instances, small mammals are observed to dig into vibroseis footprints and vehicle tracks following project impacts.

Impacts to Species from Oil and Gas Activities that result from Oil and Gas Leasing

Potential impacts to plants include direct mortality from earth excavation or crushing by vehicles. Adverse impacts could also result from soil erosion resulting in loss of the supporting substrate for plants, or from soil compaction resulting in reduced germination rates. Impacts to plants occurring after seed germination but prior to seed set could be particularly harmful as both current and future generations would be adversely affected. Weeds which are introduced and/or promoted by soil disturbing activities compete against and displace native vegetation.

Development associated with oil and gas activities have the potential to affect rare plants. Soil disturbing activities directly affect species by destroying habitat, churning soils, impacting biological crusts, disrupting seedbanks, burying individual plants, and generating sites for undesirable weedy species. Weeds may be introduced during construction and operation of the lease. Roads generate weedy habitat along their edges, as well as avenues for weed invasion into unoccupied territory. Dust generated by construction activities and travel along dirt roads can affect nearby plants by depressing photosynthesis, disrupting pollination, and reducing reproductive success. Oil or other chemical spills could contaminate soils as to render them temporarily unsuitable for plant growth until cleanup measures were fully implemented. If cleanup measures were less successful, longer term impacts could be expected..

Potential impacts to animals, including listed species, include direct mortality or injury, loss of dens or burrows, displacement, and human disturbance. Direct mortality or injury could result from vehicle strikes, or from collapsed dens and burrows resulting in animals being crushed or entombed. Burrows

and dens could be destroyed or damaged by vehicle traffic, particularly heavy equipment. Animals could be displaced during project activities. Such displacement of animals into unfamiliar areas could increase the risk of predation and increase the difficulty of finding required resources such as food and shelter. Human disturbance could result in displacement of animals, even though dens and burrows may not be directly impacted. Human disturbance also might alter the behavior of animals (e.g., activity periods, space use) resulting in increased predation risk, reduced access to resources, and reduced breeding success. Project activities during the spring breeding season could increase the potential for adverse impacts. Animals could also become entrapped in oil spills, leaks, sumps or improperly maintained well cellars or other facilities.

Roads and large areas of disturbance can be a barrier to movement for some animal species. Animals in the San Joaquin Valley suite of sensitive animal species, however, generally do not have difficulty crossing roads or disturbed areas. It is not unusual to observe kangaroo rats, kit foxes, antelope squirrels or blunt-nosed leopard lizards crossing roads. This tendency does expose these animals to vehicle strikes, especially on paved roads with higher vehicle speeds.

Structures such as polelines, buildings, and pumping units may provide perches for raptors. Addition of such structures in flat terrain may increase predation rates on small mammals and other prey species. The types of structures typically found in oilfields, however, do not tend to provide nesting structures for raptors, including ravens. Introducing nesting structures can have a greater impact on prey species since much more prey is taken by raptors that are rearing young, and the nest site is continuously occupied for the season increasing the duration and frequency of the predation effect. The effect of introducing structures that will only serve as perches is not expected to be significant as such perches are likely to only occasionally be used for hunting.

Individual projects would be subject to NEPA and ESA review. If a project is determined to adversely affect listed species, the project would be subject to compliance with the Oil and Gas Programmatic Biological Opinion or a project level consultation. Under the Oil and Gas Programmatic Biological Opinion, listed species and habitat surveys are required prior to BLM authorizations and surface disturbing activities. Habitat features used by listed plants and animals, special status plant populations, and important habitats are avoided as required in the BO. Direct incidental take is avoided for San Joaquin kit fox and blunt-nosed leopard lizards, and direct take is avoided to the greatest extent practicable for the other listed animals species (rarely resulting in direct take). Impacts to the habitats supporting these species are mitigated through the Biological Opinion's requirement that "compensation habitat" be acquired and managed as habitat in perpetuity in an agency-approved off-site location. The BO requires that three acres be acquired for each acre subject to permanent disturbance and 1.1 acres be acquired for each acre of temporary disturbance. The BO also requires that each acre of BLM listed species habitat on federally owned surface be "replaced", acre for acre, since the BLM lands are considered conserved lands by the Recovery Plan and Draft Kern Valley Floor Habitat Conservation Plan.

In addition to NEPA and ESA review, all new oil and gas leases would be subject to the "Limited Surface Use – Protected Species" and "Limited Surface Use – Sensitive Species" stipulations. Leasing of lands under these constraints will provide strong protection for protected species and special status species.

Effects to Federally Listed and Proposed Species, and Critical Habitat

Several federally listed species (California jewelflower, Kern mallow, Hoover's woolly-star, San Joaquin Woolly-threads, giant kangaroo rat, Tipton kangaroo rat, blunt-nosed leopard lizard, San Joaquin kit fox, California condor) may occur on or in the vicinity of several of the parcels. If exploration or development occurs on one of these parcels, the proposed action may affect listed species.

Section 7 of the Endangered Species Act requires a federal agency to complete Formal Consultation with the USFWS prior to undertaking an action which may affect a listed species. Formal Consultation addressing the impacts of oil and gas leasing, exploration and development, to these species, was completed on March 31, 1997 (Caliente RMP Biological Opinion 1-1-97-F-64). The U.S. Fish and Wildlife Service concluded that oil and gas leasing, exploration and development, as proposed by the Caliente RMP, was not likely to jeopardize the continued existence of these species. The proposed action is in compliance with the Caliente RMP, and thus, is consistent with the March 31, 1997 Caliente RMP BO. Should an exploration or development proposal be submitted for any of these leases, it will be subject to additional site specific ESA review as described above.

There will be no effect to critical habitat as none of the parcels include designated or proposed critical habitat. Two parcels are within the boundary of critical habitat for steelhead, but do not contain any constituent elements, and thus are not considered critical habitat.

Relationship to San Joaquin Valley Endangered Species Recovery

The Caliente RMP specifies that that BLM land within the San Joaquin Valley be managed to contribute to regional conservation goals. Lands that have been identified by the Kern Valley Floor Habitat Conservation Plan and the San Joaquin Valley Recovery Plan as part of the regional conservation strategy are managed by BLM as reserves (red zone lands) or corridors (green zone lands). Of the lands offered in this sale 16.5 acres are within reserves (red zone) and 17,394 acres are within corridors (green zone). The remaining lands are not part of the San Joaquin Valley strategy.

Of the red and green zone lands, 1,197 are infield acres within CDOG Administrative Oilfield Boundaries. The RFD predicts that 12 acres of disturbance could occur as a result of infield wells. If all 12 acres of infield development were to occur in red or green zone lands, this would amount to 1% of the infield red and green acres offered in this lease sale. Of the 1,197 red and green zone acres, 558 acres are native and 640 acres are cultivated. If the 12 acres were distributed randomly over the area, some of the disturbance would occur on cultivated lands. This would further reduce the impact to native lands in the red and green zone.

Outside field boundaries, 16,213 acres are within the green zone. The RFD estimates that 10 exploratory wells and associated roads could result in 30 acres of disturbance. If all 30 acres of disturbance were to occur in the green zone, this would impact less than 1% of the green zone land (outside fields) offered in the lease sale. Of the 16,213 acres, 14,789 acres are native, 1,424 acres are cultivated. If the 30 acres were distributed randomly over the area, some of the disturbance would occur on cultivated lands. This would further reduce the impact to native lands in the green zone.

Kern mallow. Kern mallow has been documented from a BLM parcel adjacent to the Lokern Unit. Kern mallow can be adversely impacted by activities associated with oil and gas activities. Impacts include loss of habitat, destruction of plants and seedbanks, introduction and spread of weeds and reduced vigor and reproduction due to dust. Survey and avoidance measures will be implemented for Kern mallow to minimize impacts to this species. Actual impacts are unlikely since the Lokern Unit is currently under cultivation.

San Joaquin woollythreads. San Joaquin woolythreads has been documented from several locations near the lease sale parcels. San Joaquin woolythreads could be adversely impacted by activities associated with oil and gas activities. Impacts include loss of habitat, destruction of plants and seedbanks, introduction and spread of weeds and reduced vigor and reproduction due to dust. Focused surveys for San Joaquin woolythreads will be undertaken at the project stage to avoid this species and occupied habitat.

Hoover's Wooly-star. Hoover's woolly-star may be abundant at some lease parcels, particularly in gentle terrain, but it also occurs in rugged terrain. Hoover's woolly-star could be adversely impacted by earth excavation, off-road vehicle traffic, erosion and spills. It is projected that the post-leasing activities will result in temporary or transient habitat disturbance. Hoover's wooly-star can quickly colonize disturbed areas and is expected to re-colonize temporary or transient disturbance areas. Survey and avoidance measures will also be implemented for Hoover's wooly-star to further minimize impacts to this species.

San Joaquin kit fox. San Joaquin kit fox may occur within all the units except the Kings County and Ventura County Units. Potential impacts to San Joaquin kit fox include direct mortality, loss of dens, loss or alteration of habitat, human disturbance, and exposure to oil field chemicals. Construction of well pads, access roads, and associated oil field facilities may trap or bury foxes, particularly if the construction occurs on or near a den site. Dens are ecologically important to kit foxes. Since kit fox use multiple dens, the occasional loss of a den is not expected to be significant. Activities near or impacts to natal dens could have more impact, particularly if such impacts occur while young pups are present. Disturbance to dens, especially natal dens, should be minimized due to survey and avoidance measures required by BLM for all actions.

Several lease parcels are located in the western Kern county core population, one of three core populations identified by the U.S. Fish and Wildlife Service as important for species recovery. One goal for the Western Kern county core population is to protect natural lands with appropriate land use and management. Project activities will result in some habitat loss. This habitat loss is not expected to conflict with recovery plan goals as individual projects are expected to be relatively small (less that 3 acres on average) compared to the home range of a kit fox (average 1144 acres) and widely dispersed over space and time. In addition, standard kit fox mitigation measures will be applied as appropriate to all BLM authorizations and projects.

Kit fox have been entrapped in well cellars that are not properly covered. In 1981 two kit fox pups were rescued from a concrete well cellar on NPR-2. In 1990, the remains of two kit fox pups were recovered from an abandoned well cellar.

The production, transportation, processing and storage of crude oil may result in some spills. The washes and drainages in which spilled oil collects are also primary travel routes and foraging areas for kit fox and other wildlife. Kit foxes could also drown in pooled oil, or become mired in tarry substances. In 1982, 2 kit fox pups were found dead in spilled oil on NPR-2 as a result of activities by a lessee. BLM has strict requirements for prompt containment and clean-up of such spills. This should help to reduce the impacts of oil spills on kit foxes.

Vehicle strikes are likely to occur as a result of project related traffic. Between 1983 and 1986, vehicles were the cause of about 6% of known kit fox deaths. As a comparison, during the same time period, coyotes were responsible for most (45%) of the known kit fox deaths.

Kit foxes are frequently observed near oil field facilities and commonly use developed areas. They do not seem to be particularly sensitive to human disturbance.

Giant kangaroo rat. Potential impacts to giant kangaroo rats include direct mortality, loss of burrow systems, loss or alteration of habitat, and harassment. The construction and maintenance of wells pads, access roads, pipelines, and other oil field structures may trap or bury kangaroo rats in their burrows. Kangaroo rats can also drown or become entrapped in spilled oil or tarry substances. Kangaroo rats may

also be killed by vehicles. Burrows can also be damaged or destroyed by project activities. Some habitat may also be lost or altered.

Giant kangaroo rats are known to occur near the Lokern and Derby Acres units, and may occur in the South Temblor and McKittrick Summit units. Giant kangaroo rats have not been documented on or near the other lease parcels. Pre-construction surveys and implementation of mitigation measures that are part of the Oil and Gas Programmatic Biological Opinion will reduce the potential for impacts. Giant kangaroo rats are mostly active at night and most vehicle traffic is expected during daylight hours. This combination will reduce the chances of a vehicle strike.

Tipton kangaroo rat. Impacts to the Tipton kangaroo rat would be similar to those described for the giant kangaroo rat. Tipton kangaroo rats may occur on or near the Lakebed and Valley Floor units. The special lease stipulations will ensure that BLM can implement the pre-construction and mitigation measures that are part of the Oil and Gas Programmatic Biological Opinion.

Blunt-nosed leopard lizard. Blunt-nosed leopard lizards may occur within the Ballinger Canyon, Chico Martinez, Cuyama River, Derby Acres, Lakebed, North Bittercreek, North Kern, North Bakersfield, Pentland, Valley Floor, and Santa Barbara Canyon units. Potential impacts to blunt-nosed leopard lizards include direct mortality, loss or alteration of habitat, and harassment. Blunt-nosed leopard lizards are active during the day, which enhances the threat of some impacts, such as vehicle strikes. Blunt-nosed leopard lizards have been killed by vehicles on both NPR-2 and nearby Elk Hills. Project activities could destroy burrows used by blunt-nosed leopard lizards. Lizards can become entrapped or buried inside destroyed burrows as well. Discharge of waste water could drown lizards using drainages. Lizards can become entrapped or drown in oil or tarry substances. Improperly covered well cellars, buried valve boxes, buckets and vertical pipe sections can act as pitfall traps and entrap lizards. Pre-construction surveys and implementation of mitigation measures that are part of the Oil and Gas Programmatic Biological Opinion will reduce the potential for these impacts. BLM lease operating standards (e.g. waste water discharge policies, proper maintenance of equipment and facilities, etc) will also reduce the potential for these impacts.

California Condor. A number of parcels occur within the historic range of the California Condor (**list out parcel unit names**). Only two of these are in proximity to current condor use areas – Ventura County and Bittercreek North. The several acres of road, well pad and facility construction are not expected to alter condor habitat at the site-specific or landscape scale. Condors are unlikely to land on the ground near the wells. However, the oil rig drilling structures and new powerlines could pose a risk of collision to condors. New road access into unroaded areas may pose an additional risk of harmful human interactions (shootings, microtrash, dumping of contaminants). The BLM lease operating standards would limit contaminant exposure and oil field guidelines developed for condor habitat would be implemented at the project stage to avoid such impacts.

Buena Vista Lake Shrew and Kern Primrose Sphinx Moth. The Buena Vista Lake shrew and Kern primrose sphinx moth are not thought to occur on the lease parcels, and will not be impacted by the proposed action.

San Joaquin Antelope Squirrel. Impacts to the San Joaquin antelope squirrel would be similar to those described for the giant kangaroo rat. Antelope squirrels are, however, more widely distributed and are more likely to occur on or near a project site than giant kangaroo rats. Pre-construction surveys and implementation of mitigation measures that are part of the Oil and Gas Programmatic Biological Opinion will reduce the potential for many of these impacts. To comply with the California Endangered Species Act, BLM has developed “take avoidance” measures that will be incorporated into the Oil and Gas

Programmatic Biological Opinion. Compliance with these take avoidance measures will significantly minimize impacts to antelope squirrel.

Short-nosed kangaroo rat. Impacts to short-nosed kangaroo rats would be similar to those described for the giant kangaroo rat. Short-nosed kangaroo rats are also widely distributed, and like the antelope squirrel, are more likely to occur on or near a project site than giant kangaroo rats.

Mountain Plover. Depending on the pattern of agricultural use on the split-estate parcels and the amount of grass in the BLM surface, mountain plovers may occur in the Valley Floor, Lakebed, Lokern, North Kern, and North Bakersfield units. The presence of an oil well would have little impact on mountain plover use except directly on and adjacent to the well location.

LeConte's Thrasher. LeConte's thrashers may occur in the Derby Acres, Pentland, and South Temblor units. Light and moderate oilfield development that maintains saltbush between wells and facilities, and tall saltbushes along drainages provides suitable habitat for LeConte's thrasher. The Oil and Gas Programmatic also contains measures to retain saltbush stringers and minimize the removal of saltbush. The combination of the development limits and the saltbush conservation measures in the Oil and Gas Programmatic are expected to maintain LeConte's thrasher habitat on these units.

BLM Sensitive Plant Species. Impacts to sensitive plants are generally those mentioned under rare plants above. Impacts to specific species would be dependent on the location of the disturbance relative to populations of the plant in question. Overall, impacts to the less common valley sink scrub habitat would tend to affect more species than similar impacts to the more widespread valley saltbush habitat

Sensitive Plant Communities. Potential impacts to sensitive plant communities include loss of key species, loss of species diversity, invasion by weeds, alteration and loss of soil health and fertility. In addition, roads and other development tend to fragment habitat, disrupt pollinators, remove sites for seed germination, and degrade habitat along edges.

Cultural Resources

Approval of this document will not impact known cultural resources. This document deals only with lease sale actions; any subsequent realty or oil and gas projects or development will be subject to a separate NEPA document and compliance with Section 106 of the National Historic Preservation Act. Native American consultation was conducted by phone regarding lease sale activities and no traditional cultural properties or heritage related issues were identified. We do acknowledge that the potential exists for the Native American community to identify heritage related issues in the future as specific actions are proposed.

As oil and gas development actions or associated realty actions are proposed, the areas of potential effect (APE) will be defined and assessments of the impacts upon cultural resources will be undertaken. NEPA and Sec. 106 compliance will be completed on all undertakings. In the event that cultural resources are identified within a project area, an evaluation of significance will occur and steps will be taken to mitigate impacts to that resource. Mitigation most frequently involves site avoidance, but may rarely include data recovery or compensation. It should be noted that BLM has discretional control over mitigation stipulations and/ or avoidance measures imposed on a project. Although a lessee has a right to develop a lease, BLM may require development activities to be moved up to 200 meters in any direction. This should allow nearly all sites to be avoided. Sites that cannot be avoided will be evaluated for listing on the National Register and mitigation measures will be instituted if the site is found eligible. Should development uncover subsurface sites, the lessee is required to halt all work until the site can be evaluated and proper mitigation and avoidance measures identified.

Lands

Due to the lack of legal access to the majority of the subject parcels, the oil and gas lessee will need to acquire sufficient access rights to the leased area across adjacent private lands and/or BLM lands, if and when actual exploration takes place. This could result in several road right-of-way applications to BLM from lessees, for those leases that are adjacent to BLM lands. It will more likely result in the need for multiple access agreements on adjacent private parcels. Depending on the parcel and the well location, new access roads may need to be built across not only the leased parcel, but adjacent private lands as well.

Farmland

Approximately 4598 acres are either currently under cultivation or else have historically been cultivated. Assuming that the projected permanent disturbance of 15 acres and temporary disturbance of 27 acres is uniformly distributed across the acreage proposed for lease, approximately 10 acres of that disturbance would be on farmland. Most of that disturbance in farmland would be temporary and would be returned to agriculture upon reclamation.

Also, only a portion of these lands could be considered "prime farmland," so it is clear that the total projected removal of "prime farmland" from cultivation would be insignificant.

Oil and Gas and other mineral exploration and development

This alternative will have a beneficial effect on mineral exploration and development, since the land will be offered for competitive leasing. The practical utilization of the lands will have a positive local effect in the generation of long term jobs and revenues to the State and county. The royalties and rentals from competitive leasing are also a dependable source of long term income for the Federal government. The impact from this particular sale may be small, due to the relatively small acreage offered. However, the positive action of leasing would provide the industry with increased opportunity for exploration, potentially resulting in increased stability and profitability of domestic companies.

In most instances, application of the **LSU – Protected Species** and **LSU – Sensitive Species** stipulations would not prevent surface occupancy for the entire lease. That is, an alternative site or other mitigation or compensation measure would probably be available that would still allow the lessee to drill and develop the lease.

Cumulative Impacts

In the Caliente Resource Management Plan and EIS, published December 1996, BLM analyzed the overall effects of oil and gas activities in the area. The analyses and conclusions contained in those documents are still valid, and current cumulative impacts are still significantly under the level of cumulative impacts that were projected/analyzed in those documents. There have not been and are not expected to be any additional impacts in the parcels covered in this EA that would change those conclusions.

Cumulative impacts to Minerals

For a more complete discussion of the types of activities associated with exploration, drilling, and production, in addition to the environmental consequences to Minerals and the cumulative impacts on Minerals see the Caliente RMP/EIS, to which this document is tiered. These discussions include

Reasonable Foreseeable Development scenarios (RFDs) and impacts, both general and cumulative. Many of these activities are also described in Appendix D.

Cumulative Impacts to Biological Resources

Table 1 shows the projected amount of disturbance resulting from oil and gas actions on the offered leases. It is estimated that 15 acres may be permanently disturbed, 27 acres may be temporarily disturbed and 30 acres may have transient impacts. This is a total of 72 acres, which amounts to less than 0.4% of the 19,620 acres in the offered leases and less than 0.5% of the 16,042 acres of native land in the offered leases. Should all 72 acres of disturbance occur on native reserve (red zone) or corridor lands (green zone), this would impact less than 0.5% of the native reserve and corridor lands (15,185 acres) offered in this lease sale. It is expected that disturbance would be distributed within all areas and also on some cultivated lands, further reducing the impact to native lands important to species conservation. This amount of disturbance is not expected to reduce the utility of these native lands for special status species conservation and recovery.

Cumulative effects also include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area. BLM is not aware of any specific non-federal activity that is reasonably certain to occur, that would affect biological resources. It is likely that activities similar to those described for the federal lands would occur on the non-federal lands adjacent to the offered leases.

No Action Alternative

Under this alternative, the parcels included within the proposed action would remain unleased at this point in time. They could be offered for leasing in the future, but may be subject to additional environmental analysis at that point in time. No leasing would have no direct impact to these lands. As compared to the proposed action, there would be approximately 72 acres less disturbance resulting from oil and gas related actions. Activities that have been occurring in the recent past, such as recreation or grazing will likely continue into the near future, as will associated impacts. The cumulative effects of non-Bureau activities will be as described under the proposed action.

Air, Soil, and Water - The No Action Alternative would not affect air, soil, and water since these leases would not be offered.

Biological Resources - No impacts would occur.

Cultural Resources – No impacts would occur.

Lands – No impacts would occur.

Oil and Gas – The no action alternative would not comply with the Energy Policy Act of 2005 and several existing regulations and policies to manage lands for multiple uses and to make all suitable lands available for oil and gas leasing unless they are withdrawn from leasing under the Mineral Leasing Act. Failure to make these lands available for leasing and potential subsequent development would also result in the loss of potential additional reserves of oil and/or gas. The amount of lost reserves would be difficult to predict at this time without additional data.

Range- No impacts would occur.

Recreation- No impacts would occur.

Socio-Economic - No impacts would occur.

Visual Resources- No impacts would occur.

Wilderness- No impacts would occur.

VII. Mitigation

Appropriate mitigation measures are incorporated into the proposed action, and no additional mitigation should be necessary.

VIII. Consultation and Coordination

Public Involvement, Contacts & Date of Contact

The EA for this lease sale was published March 23, 2006 on the BLM website. A press release was issued, and only 1 comment was received. This final EA addresses the issues that were raised.

In addition, the original EIS and RMP, on which this EA is "tiered," went through a several year scoping, comment, and review period, including a formal consultation with USFWS; several meetings with the public, including environmental groups, Native Americans, and members of industry; widespread circulation and publication; and a 120-day comment period. This proposed action is fully in conformance with and well within the range of environmental consequences predicted under that plan. There have been no significant changes to the consequences predicted under that Plan/EIS.

Native American Contacts

Mr. Gene Albitre, President
Native American Heritage Preservation Council of Kern County

Mr. Neil Peyron, Chairperson
Tule River Reservation

Mr. Clarence Atwell, Chairperson
Santa Rosa Rancheria

Mr. Catarino and Mrs. Juanita Montes

Hector Lalo Franco
Wukchumni Tribal Council

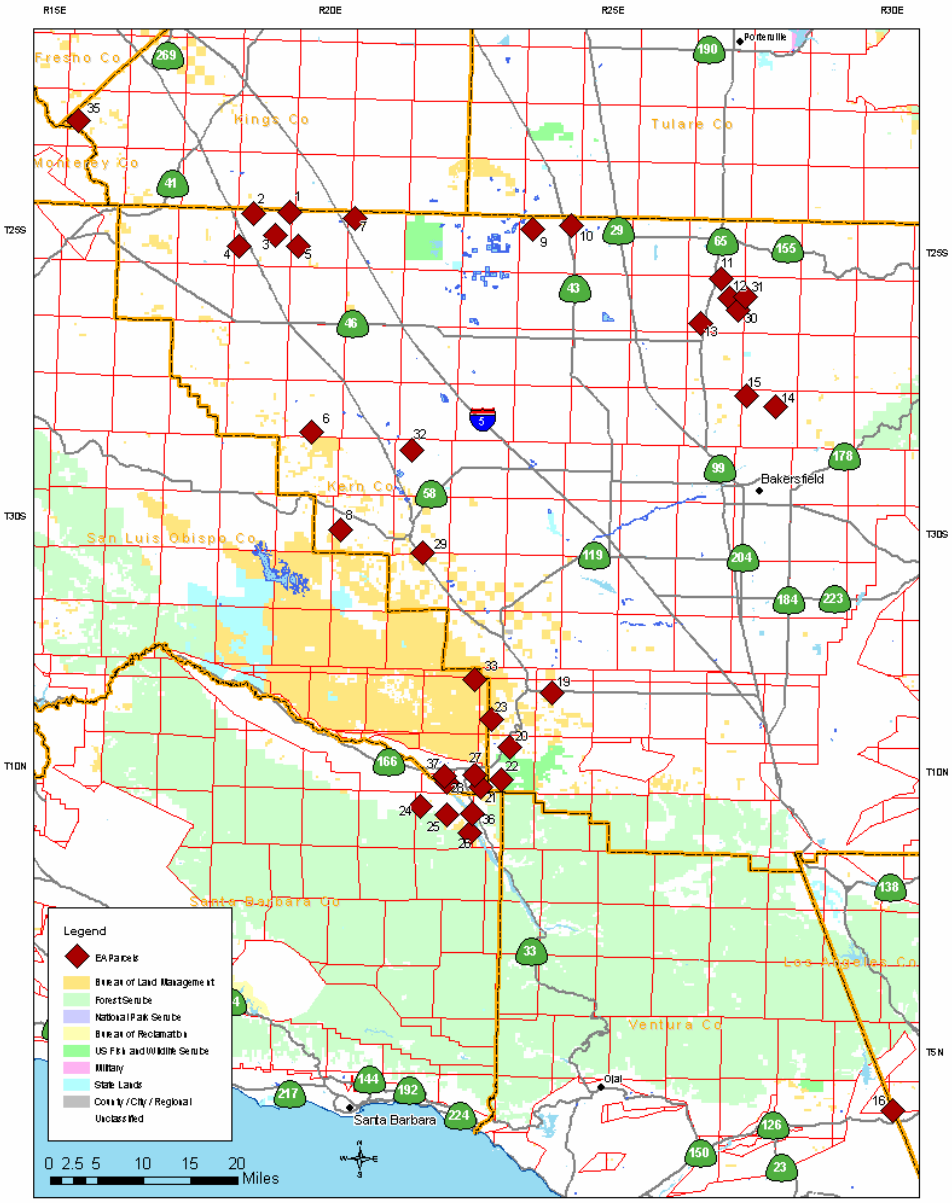
Kathy Morgan
Tejon Indian Tribe

Kathy Van Meter
Tejon Indian Tribe

Appendix A
Description of Sale Parcels

Following is a map showing the general location of the parcels analyzed in this EA. A more detailed map can be found at http://www.blm.gov/ca/bakersfield/

Map 1 – Parcel Locations – June 14, 2006 Lease Sale



The following public domain lands are subject to filings in the manner specified in the applicable portions of the regulations at 43 CFR, Subpart 3120. These parcel numbers will be different from those on the actual sale notice.

PARCEL 01

T. 25 S., R 19 E., MD Mer.,
Sec. 1, lots 1 and 2 of NE.
Kern County 159.200 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 02

T. 25 S., R 19 E., MD Mer.,
Sec. 5, E2 lot 1 of NE, lot 2 of NE, SE;
Sec. 7, S2 lot 2 of SW;
Sec. 9, SE.
Kern County 478.670 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 03

T. 25 S., R 19 E., MD Mer.,
Sec. 15, NE;
Sec. 23, N2.
Kern County 480.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 04

T. 25 S., R 19 E., MD Mer.,
Sec. 19, W2, SE;
Sec. 29, W2NW, SENW;
Sec. 31, SW, SESE.
Kern County 797.890 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2 and 3

PARCEL 05

T. 25 S., R 20 E., MD Mer.,
Sec. 19, All;
Sec. 33, All.
Kern County 1,288.800 acres
Split Estate Lands except:
Sec. 33, W2W2, SESW, NESE, S2SE
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 06

T. 28 S., R 20 E., MD Mer.,
Sec. 33, Lots 2, 3, 4, 6-10, 14, 15, 16;
Sec. 34, Lots 3-6.
Kern County 585.120 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 07

T. 25 S., R 21 E., MD Mer.,
Sec. 6, lots 6-12.
Kern County 177.720 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 08

T. 30 S., R 21 E., MD Mer.,
Sec. 18, lots 1-5, 9, 12;
Sec. 19, lots 1, 2, 3, 6, 7, 8, 12-20,
S2 lot 99, S2SE;
Sec. 20, lot 7, S2S2.
Kern County 1,033.430 acres
Split Estate Lands except:
Sec. 18, lots 5 and 9;
Sec. 19, lots 17 and 18.
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 09

T. 25 S., R 24 E., MD Mer.,
Sec. 8, N2.
Kern County 320.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 10

T. 25 S., R 24 E., MD Mer.,
Sec. 12, N2N2.
Kern County 160.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 11

T. 26 S., R 27 E., MD Mer.,
Sec. 2, N2;
Sec. 4, N2, SW;
Sec. 10, E2NE, SENW, SW, SWSE;
Sec. 12, E2.
Kern County 1,439.600 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 12

T. 26 S., R 27 E., MD Mer.,
Sec. 14, W2, SE.
Kern County 480.000 acres
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 13

T. 26 S., R 27 E., MD Mer.,
Sec. 18, NE;
Sec. 20, E2;
Sec. 28, SW;
Sec. 30, SW;
Sec. 32, N2, SW.
Kern County 1,260.940 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 14

T. 28 S., R 28 E., MD Mer.,
Sec. 4, lot 1 of NE, S2SW, N2SE;
Sec. 8, All;
Sec. 10, W2, SE.
Kern County 1,360.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 15

T. 28 S., R 28 E., MD Mer.,
Sec. 6, lot 2 of SW, SWSE.
Kern County 95.330 acres
Public Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 16

T. 4 N., R 17 W., SB Mer.,
Sec. 19, Lot 2.
Ventura County 42.060 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2 and 4

PARCEL 19

T. 11 N., R 23 W., SB Mer.,
Sec. 8, SWNE.
Kern County 40.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2, 5 and 6

PARCEL 20

T. 10 N., R 24 W., SB Mer.,
Sec. 10, SENE, E2NW, SWNW, NESW;
Sec. 11, E2SE;
Sec. 12, SESW, SESE.
Kern County 360.00 acres
Public Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 21

T. 10 N., R 24 W., SB Mer.,
Sec. 19, S2 lot 2;
Sec. 30, lot 2 of NW, S2;
Sec. 31, All.
San Luis Obispo County 1,087.430 acres
Public Lands except:
Sec. 19, S2 lot 2;
Sec. 30, lot 2 of NW, NESE;
Sec. 31, E2NE.
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 22

T. 10 N., R 24 W., SB Mer.,
Sec. 28, W2NE, SENE, SWNW, S2;
Sec. 29, W2NE, SENE, E2NW,NESW, SE;
Sec. 32, E2NE, W2NW, SENW, S2;
Sec. 33, E2NE, W2.
Kern County 1,800.000 acres
Split Estate Lands except:
Sec. 32, W2SW, SESW;
Sec. 33, NWSW.
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 23

T. 11 N., R 24 W., SB Mer.,
Sec. 29, W2NW, SENW, SWSW.
Kern County 160.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 24

T. 9 N., R 25 W., SB Mer.,
Sec. 4, SESE;
Sec. 5, W2SW;
Sec. 6, SE;
Sec. 7, All;
Sec. 8, NE, W2NW, SENW, N2SW, SWSW;
Sec. 9, W2W2, N2SE, SWSE.
Santa Barbara County 1,604.600 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 25

T. 9 N., R 25 W., SB Mer.,
Sec. 10, SWNE, S2NW, N2SW, W2SE;
Sec. 14, N2NW, SENW, W2SW, S2SE;
Sec. 15, N2NE, E2NW, SWNW, E2SW, SESE;
Sec. 16, E2NE, SE;
Sec. 22, N2NE, SWNE, E2W2, SESE;
Sec. 23, All;
Sec. 24, W2.
Santa Barbara County 2,400.000 acres
Split Estate Lands except:
Sec. 22, SESE ;
Sec. 23, NE, S2NW, S2;
Sec. 24, NWNW,W2SW, SESW.
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 26

T. 9 N., R 25 W., SB Mer.,
Sec. 25, NE.
Santa Barbara County 160.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 27

T. 10 N., R 25 W., SB Mer.,
Sec. 24, S2SE;
Sec. 25, N2NE, SENE, SESE.
San Luis Obispo County 240.000 acres
Split Estate Lands except:
Sec. 25, SESE.
Bakersfield FO
Subject to Special Stipulation 2

PARCEL 28

T. 10 N., R 25 W., SB Mer.,
Sec. 27, S2SW;
Sec. 28, W2NE, NW, NESW, N2SE,
SESE;
Sec. 29, E2NE, NWSE;
Sec. 34, NE, N2NW.
San Luis Obispo County and
Santa Barbara County 840.000 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2 and 7

PARCEL 29

T. 30S., R. 22E., MDM
Sec. 34, lots 5, 6;
Kern County 16.58 acres
Public Land
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 30

T. 26S., R. 27E., MDM
Sec. 24, NW/4;
Kern County 160.00 acres
Split Estate
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 31

T. 26S., R. 28E., MDM
Sec. 18, N2 of lot 2 of NW/4;
Kern County 29.66 acres
Split Estate
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 32

T. 29S., R. 22E., MDM
Sec. 8, NE/4;
Kern County 160.00 acres
Split Estate
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 33

T. 11N., R. 25W., SBB&M
Section 1, lots 1-4, S2N2;
San Luis Obispo County 322.84 acres
Public Land
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 35 ((Parcel withdrawn from proposed action – Sec. 19, No U.S. Minerals, Sec. 20, other issues)
T. 23S., R. 16E., MDM
Sec. 19 All
Sec. 20, Lots 5, 6, 12, 13
Kings County 1,099.46 acres
Split Estate Land Sec. 19
Public Land Sec. 20
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 36

T. 9N., R. 25W., SBB&M
Sec. 13, NENE, SWSW;
Santa Barbara County 80.00 acres
Split Estate Lands
Bakersfield FO
Subject to Special Stipulations 1, 2

PARCEL 37 (Parcel withdrawn from proposed action – No U.S. Minerals)
T. 10N., R. 25W., SBB&M
Sec. 28, E2NE;
Santa Barbara County 80.00 acres
Split Estate Land
Bakersfield FO
Subject to Special Stipulations 1, 2 and 7

Appendix B
Special Lease Stipulations

Stipulation No. 1 - Limited Surface Use - Protected Species: All or a portion of this lease is within the range of one or more plant or animal species (shown in the table following this stipulation) that are either listed as threatened or endangered, or are proposed for such listing by the U.S. Fish and Wildlife Service (USFWS).

The lessee is notified that time frames for processing applications may be delayed beyond established standards to allow for species surveys, and consultation or conferencing with the USFWS. Notice is also given that surface-disturbing activities may be moved or modified, and that some activities may be prohibited during seasonal time periods. Surface-disturbing activities will be prohibited on the lease only where:

a. The proposed action is likely to jeopardize the continued existence of a listed or proposed species, or
b. The proposed action is inconsistent with the recovery needs of a listed species as identified in an approved USFWS Recovery Plan.

Prior to the authorization of any surface-disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species. The lessee should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year.

The Bureau of Land Management (BLM) may need to initiate consultation or conference with the USFWS if the site inspection concludes that a listed or proposed species may be affected by the proposed activity. The lessee should be aware that the USFWS has up to 135 days to render their biological opinion, and that there are provisions for an additional 60-day extension. Offsite habitat protection or enhancement for wildlife or vegetation (compensation) may be required by the USFWS when habitat is disturbed. The consultation may also result in some restrictions to the lessee's plan of development, including movement or modification of activities, and seasonal restrictions. Surface-disturbing activities will be prohibited on the lease if the consultation or conference concludes that either of the conditions identified in a or b above exist.

See Appendix C - BIOLOGY for the list of Federally Listed and Federally Proposed species that occur within the Bakersfield Field Office Area.

Stipulation No. 2 - Limited Surface Use - Sensitive Species: All or a portion of this lease is within the range of one or more plant or animal species (shown in the table following this stipulation) that are either Federal candidates for listing as threatened or endangered (Federal Candidate), or are listed by the State of California as threatened or endangered (State Listed), or are designated by the Bureau of Land Management (BLM) as Sensitive (Bureau Sensitive).

The lessee is notified that time frames for processing applications may be delayed beyond established standards to allow for species surveys and coordination with the USFWS and California Department of Fish and Game. Notice is also given that surface-disturbing activities may be relocated beyond the standard 200 meters but not more than 1/4 mile and that surface disturbing activities may be prohibited during seasonal time periods.

Prior to the authorization of any surface-disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species. The lessee should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year. The BLM may need to coordinate with the USFWS or the California Department of Fish and Game if the site inspection concludes that a Federal Candidate, State Listed, or Bureau Sensitive species may be affected by the proposed activity. Coordination may delay application processing beyond established time frames.

To prevent or reduce disturbance to Federal Candidate, State Listed, or Bureau Sensitive species, surface operations may be moved up to 1/4 mile and surface-disturbing activities may be prohibited during seasonal time periods.

See Appendix C - Biology for the list of Federal Candidate, State Listed and Bureau Sensitive Species that occur within the Bakersfield Field Office Area.

Special Stipulation No. 3 – Parcel 04. Drainage Stipulation for Unleased Federal Minerals Subject to Drainage:

All or part of the lands contained in this parcel may be subject to drainage by well #1-8 located adjacent to this parcel in Sec. 20, T. 25 S., R.19 E., MD Mer., Kern County, California.

The lessee shall, within 6 months of lease issuance, submit for approval by the authorized officer:

1. Plans for protecting the lease from drainage. The plan must include either (a) an Application for Permit to Drill (APD) for the necessary protective wells or (b) a proposal for inclusion in an agreement for the affected portion of the lease. Any agreement should provide for an appropriate share of the production from the offending wells to be allocated to the lease; or

2. Engineering, geologic, and economic data to demonstrate to the authorized officer's satisfaction that no drainage has or is occurring and/or that a protective well would have little or no chance of encountering oil or gas in quantities sufficient to yield a reasonable rate of return in excess of the costs of drilling, completing, and operating the well.

If no plan, agreement, or data is submitted and drainage is determined to be occurring, compensatory royalty will be assessed. Compensatory royalty will be assessed effective the first day following expiration of the 6-month period and shall continue until a protective well has been drilled and placed in continued production status or until the offending wells cease production, whichever occurs first.

Authorized Officer: Patricia Gradek, Assistant Field Manager, Minerals
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308
(661) 391-6000

Special Stipulation No. 4 – Parcel 16 (Previous Lease CACA 45708):

This parcel embraces lands in relinquished lease CACA 45708. There is an existing well (USL Rogers #1) located in Sec. 19, T. 4 N., R. 17 W., SB Mer., Ventura County, California. There are also production facilities consisting of two 500 bbl oil tanks, one gas separator, and one concrete- lined disposal pit.

The new lessee/operator will be allowed a period of 90 days effective the date of lease issuance to evaluate the property and to attempt to bring the well back on production. If the new operator is successful reestablishing economic production from the lease, he will assume the responsibility to eventually plug and abandon the well, and remove the production facilities when the property is no longer economic to produce (per 43 CFR 3162.3-4). After the initial 90-day period, the lessee/operator will also be required to obtain and file an appropriate bond with the BLM. The use of the existing well and production facilities is granted to the new operator in conjunction with the lease.

If the new operator is unsuccessful in reestablishing economic production within 90 days, or if reworking or redrilling operations are not commenced and thereafter conducted with reasonable diligence, or if he does not want the well, he agrees to relinquish the newly issued lease to the BLM.

It is the responsibility of the new operators/lessees to obtain any required permits and/or bonds from/for the BLM prior to beginning any surface disturbing activities.

Special Stipulation No. 5 – Parcel 19 - Wellington-Maricopa Lease

This lease contains five existing wells, more or less. Not all of the wells have pumping equipment on them. All of the existing gathering lines are still in place. This lease contains the production processing and sales equipment for the former Federal lease. The use of these facilities is transferred with the issuance of this lease. No warranty is expressed or implied as to the serviceability of the wells or ancillary facilities. The production facilities will be brought into compliance with all BLM regulations, onshore orders and policies, by the new lessee, prior to commencing production.

The successful bidder on this parcel will have 180 days (trial period) to evaluate the property and meet with the Bakersfield Field Office to present the results of this study and the field data acquired. This trial period will require no bonding. Production tests may not begin prior to the 90th day of the new lease term unless the trial period will be shortened by an equal amount. This 90-day production period also complies with the California Division of Oil, Gas and Geothermal Resources “test drive” program. At the end of this 180-day period, the decision must be made whether to keep the lease and produce it or to relinquish it. At the end of the trial period the lessee will either relinquish the lease or post a bond in an amount to be determined by the Bakersfield Field Office. Failure to present the results of the field study and field data by the end of the trial period, will likely force an increase in the required bond amount.

During the trial period, the lessee may not salvage or remove any of the existing leasehold equipment without prior approval of the Bakersfield Field Office.

Special Stipulation No. 6 – Parcel 19. Drainage Stipulation for Unleased Federal Minerals Subject to Drainage:

All or part of the lands contained in this parcel may be subject to drainage by well #4 located adjacent to this parcel in the NWSE, Sec. 8, T. 11 N., R.23 W., SB Mer., Kern County, California.

The lease shall, within 6 months of lease issuance, submit for approval by the authorized officer:

1. Plans for protecting the lease from drainage. The plan must include either (a) an Application for Permit to Drill (APD) for the necessary protective well/s or (b) a proposal for inclusion in an agreement for the affected portion of the lease. Any agreement should provide for an appropriate share of the production from the offending well/s to be allocated to the lease; or

2. Engineering, geologic, and economic data to demonstrate to the authorized officer's satisfaction that no drainage has or is occurring and/or that a protective well would have little or no chance of encountering oil or gas in quantities sufficient to yield a reasonable rate of return in excess of the costs of drilling, completing, and operating the well. If no plan, agreement, or data is submitted and drainage is determined to be occurring, compensatory royalty will be assessed. Compensatory royalty will be assessed effective the first day following expiration of the 6-month period and shall continue until a protective well has been drilled and placed in continued production status or until the offending well/s ceases production, whichever occurs first.

Authorized Officer: Patricia Gradek, Assistant Field Manager, Minerals
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308
(661) 391-6000

Special Stipulation No. 7 – Parcel CA 25, 28 and 36.

Portions of this parcel are located within the 100-year floodplain of the Cuyama River and/or Santa Barbara Canyon Creek. Siting of oil/gas wells, pipelines, facilities, and other equipment will be prohibited in the portions of these parcels that are within the 100-year floodplains. Please contact the Authorized Officer at the address below for a detailed map of the areas.

Authorized Officer: Patricia Gradek, Assistant Field Manager, Minerals
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308
(661) 391-6000

Appendix C
Biology

Federally Listed Plant Species in the Bakersfield Field Office

Family	genus	species	ssp/ var	sub taxon name	Common Name	Federal status
Apiaceae	Lomatium	shevockii			Owens Peak lomatium	threatened
Asteraceae	Calycadenia	hooveri			Hoover's calycadenia	endangered
Asteraceae	Cirsium	crassicaule			slough thistle	endangered
Asteraceae	Cirsium	fontinale	var.	obispoense	Chorro creek bog thistle	endangered
Asteraceae	Cirsium	loncholepis			La Graciosa thistle	endangered
Asteraceae	Cirsium	rhothophilum			surf thistle	endangered
Asteraceae	Erigeron	multiceps			Kern River daisy	endangered
Asteraceae	Monolopia	congdonii			San Joaquin woollythreads	endangered
Asteraceae	Pseudobahia	peirsonii			Tulare pseudobahia	threatened
Brassicaceae	Caulanthus	californicus			California jewelflower	endangered
Cactaceae	Opuntia	basilaris	var.	treleasei	Bakersfield cactus	endangered
Ericaceae	Arctostaphylos	morroensis			Morro manzanita	threatened
Fabaceae	Lupinus	nipomensis			Nipomo mesa lupine	endangered
Hydrophyllaceae	Eriodictyon	altissimum			Indian Knob mountainbalm	threatened
Hydrophyllaceae	Eriodictyon	capitatum			Lompoc yerba santa	endangered
Liliaceae	Allium	shevockii			Spanish Needle onion	threatened
Liliaceae	Brodiaea	insignis			Kaweah brodiaea	endangered
Liliaceae	Fritillaria	striata			striped adobe-lily	endangered
Malvaceae	Eremalche	parryi	ssp.	kernensis	Kern mallow	endangered
Malvaceae	Sidalcea	hickmanii	ssp.	parishii	Parish's checkerbloom	candidate
Onagraceae	Clarkia	springvillensis			Springville clarkia	threatened
Polemoniaceae	Eriastrum	Hooveri			Hoover's eriastrum	delisted
Portulacaceae	Calyptridium	pulchellum			Mariposa pussypaws	threatened
Scrophulariaceae	Castilleja	campestris	var.	succulenta	succulent owl's-clover	threatened
Scrophulariaceae	Castilleja	mollis			soft-leaved indian paintbrush	endangered
Scrophulariaceae	Mimulus	gracilipes			slender-stalked monkeyflower	threatened

BLM Sensitive Plant Species in the Bakersfield Field Office

Family	genus	species	ssp/ var	sub taxon name	Common Name
Alismataceae	Sagittaria	sanfordii			Sanford's arrowhead
Apiaceae	Cymopterus	deserticola			desert cymopterus
Apiaceae	Eryngium	aristulatum	var.	hooveri	Hoover's button-celery
Apiaceae	Eryngium	spinosepalum			spiny-sepaled button-celery
Apiaceae	Sanicula	maritima			Adobe Sanicle
Asteraceae	Baccharis	plummerae	ssp.	glabrata	San Simeon baccharis
Asteraceae	Centromadia	parryi	ssp.	congdonii	Congdon's tarplant
Asteraceae	Centromadia	parryi	ssp.	australis	southern tarplant
Asteraceae	Cirsium	crassicaule			slough thistle
Asteraceae	Cirsium	fontinale	var.	obispoense	Chorro creek bog thistle
Asteraceae	Cirsium	loncholepis			La Graciosa thistle
Asteraceae	Cirsium	occidentale	var.	compactum	compact cobwebby thistle
Asteraceae	Cirsium	rhothophilum			surf thistle
Asteraceae	Deinandra	arida			Red Rock tarplant
Asteraceae	Deinandra	halliana			Hall's tarplant
Asteraceae	Deinandra	increscens	ssp.	villosa	Gaviota tarplant
Asteraceae	Deinandra	minthornii			Santa Susana tarplant
Asteraceae	Ericameria	gilmanii			Gilman's goldenbush
Asteraceae	Erigeron	aequifolius			Hall's daisy
Asteraceae	Erigeron	blochmaniae			Blochman's leafy daisy
Asteraceae	Erigeron	inornatus	var.	keilii	Keil's daisy
Asteraceae	Erigeron	multiceps			Kern River daisy
Asteraceae	Eriophyllum	lanatum	var.	hallii	Fort Tejon woolly sunflower
Asteraceae	Grindelia	hirsutula	var.	maritima	San Francisco gumplant
Asteraceae	Heterotheca	shevockii			Shevock's golden-aster
Asteraceae	Lasthenia	conjugens			Contra Costa goldfields
Asteraceae	Lasthenia	glabrata	ssp.	coulteri	coulter's goldfields
Asteraceae	Layia	carnosa			beach layia
Asteraceae	Layia	heterotricha			pale-yellow layia
Asteraceae	Layia	jonesii			Jones' layia
Asteraceae	Layia	leucopappa			Comanche Point layia
Asteraceae	Layia	munzii			Munz' tidy tips
Asteraceae	Madia	radiata			Showy madia
Asteraceae	Malacothrix	saxatilis	var.	arachnoidea	Carmel Valley malacothrix
Asteraceae	Monolopia	congdonii			San Joaquin woollythreads
Asteraceae	Pentachaeta	lyonii			Lyon's pentachaeta
Asteraceae	Pseudobahia	peirsonii			Tulare pseudobahia
Asteraceae	Stylocline	citroleum			Oil neststraw
Asteraceae	Stylocline	masonii			Mason neststraw
Boraginaceae	Plagiobothrys	uncinatus			Hooked popcorn-flower

Family	genus	species	ssp/ var	sub taxon name	Common Name
Brassicaceae	Caulanthus	amplexicaulis	var.	barbarae	Santa Barbara Jewelflower
Brassicaceae	Caulanthus	californicus			California jewelflower
Brassicaceae	Caulanthus	coulteri	var.	lemmonii	Lemmon's jewelflower
Brassicaceae	Dithyrea	maritima			Beach spectaclepod
Brassicaceae	Lepidium	jaredii	ssp.	album	Panchoe pepper-grass
Brassicaceae	Lepidium	jaredii	ssp.	jaredii	Jared's peppergrass
Brassicaceae	Lepidium	virginicum	var.	robinsonii	Robinson's pepper-grass
Brassicaceae	Rorippa	gambelii			Gambel's water cress
Brassicaceae	Streptanthus	cordatus	var.	piutensis	Piute Mtns. Jewel flower
Brassicaceae	Twisselmannia	californica			Kings gold
Cactaceae	Opuntia	basilaris	var.	treleasei	Bakersfield cactus
Campanulaceae	Nemacladus	twisselmannii			Twisselmann's nemacladus
Caryophyllaceae	Arenaria	paludicola			marsh sandwort
Chenopodiaceae	Aphanisma	blitoides			Aphanisma
Chenopodiaceae	Atriplex	cordulata			heartscale
Chenopodiaceae	Atriplex	coulteri			Coulter's saltbrush
Chenopodiaceae	Atriplex	depressa			brittlescale
Chenopodiaceae	Atriplex	erecticaulis			Earlimart orache
Chenopodiaceae	Atriplex	joaquiniana			San Joaquin spearscale
Chenopodiaceae	Atriplex	minuscula			lesser saltscale
Chenopodiaceae	Atriplex	pacifica			South Coast saltscale
Chenopodiaceae	Atriplex	serenana	var.	davidsonii	Davidson's saltscale
Chenopodiaceae	Atriplex	subtilis			subtle orache
Chenopodiaceae	Atriplex	tularensis			Bakersfield smallscale
Chenopodiaceae	Atriplex	vallicola			Lost Hills saltbush
Chenopodiaceae	Suaeda	californica			California seablite
Convolvulaceae	Calystegia	subacaulis	ssp.	episcopalis	Cambria morning-glory
Crassulaceae	Dudleya	abramsii	ssp.	bettinae	San Luis Obispo serpentine dudleya
Crassulaceae	Dudleya	abramsii	ssp.	murina	San Luis Obispo dudleya
Crassulaceae	Dudleya	blochmaniae	ssp.	blochmaniae	Blochman's dudleya
Crassulaceae	Dudleya	cymosa	ssp.	marcescens	marcescent dudleya
Crassulaceae	Dudleya	cymosa	ssp.	costafolia	Pierpoint Springs dudleya
Crassulaceae	Dudleya	parva			Conejo dudleya
Crassulaceae	Dudleya	verityi			Verity's dudleya
Cupressaceae	Cupressus	arizonica	ssp.	nevadensis	Arizona Cypress
Cyperaceae	Carex	obispoensis			San Luis Obispo Sedge
Ericaceae	Arctostaphylos	luciana			Santa Lucia manzanita
Ericaceae	Arctostaphylos	morroensis			Morro manzanita
Ericaceae	Arctostaphylos	osoensis			Oso manzanita
Ericaceae	Arctostaphylos	pechoensis			Pecho manzanita
Ericaceae	Arctostaphylos	pilosula			Santa Margarita manzanita
Ericaceae	Arctostaphylos	purissima			La Purisima manzanita
Ericaceae	Arctostaphylos	refugioensis			Refugio manzanita

Family	genus	species	ssp/ var	sub taxon name	Common Name
Ericaceae	Arctostaphylos	rudis			Sand mesa manzanita
Ericaceae	Arctostaphylos	tomentosa	ssp.	daciticola	dacite manzanita
Ericaceae	Arctostaphylos	tomentosa	ssp.	eastwoodiana	Eastwood's manzanita
Ericaceae	Arctostaphylos	wellsii			Wells' manzanita
Euphorbiaceae	Chamaesyce	hooveri			Hoover's spurge
Fabaceae	Astragalus	brauntonii			Braunton's milk-vetch
Fabaceae	Astragalus	ertterae			Walker Pass milkvetch
Fabaceae	Astragalus	pycnostachyus	var.	lanosissimus	Ventura marsh milk vetch
Fabaceae	Astragalus	shevockii			Shevock's milk-vetch
Fabaceae	Lupinus	citrinus	var.	citrinus	Orange lupine
Fabaceae	Lupinus	ludovicianus			San Luis Obispo County Lupine
Fabaceae	Lupinus	nipomensis			Nipomo mesa lupine
Fabaceae	Lupinus	padre-crowleyi			Father Crowley's lupine
Fabaceae	Trifolium	macilentum	var.	dedeckerae	DeDecker's clover
Fagaceae	Quercus	dumosa			Nuttall's scrub oak
Grossulariaceae	Ribes	tularense			Sequoia gooseberry
Hydrophyllaceae	Eriodictyon	altissimum			Indian Knob mountainbalm
Hydrophyllaceae	Eriodictyon	capitatum			Lompoc yerba santa
Hydrophyllaceae	Phacelia	nashiana			Charlotte's phacelia
Hydrophyllaceae	Phacelia	novenmillensis			Nine-mile canyon phacelia
Iridaceae	Iris	munzii			Munz's iris
Lamiaceae	Monardella	crispa			Crisp monardella
Lamiaceae	Monardella	frutescens			San Luis Obispo monardella
Lamiaceae	Monardella	linoides	ssp.	oblonga	flax-like monardella
Liliaceae	Allium	hickmanii			Hickman's onion
Liliaceae	Allium	howellii	var.	clokeyi	Mt. Pinos onion
Liliaceae	Allium	shevockii			Spanish Needle onion
Liliaceae	Bloomeria	humilis			dwarf goldenstar
Liliaceae	Brodiaea	insignis			Kaweah brodiaea
Liliaceae	Calochortus	clavatus	ssp.	recurvifolius	Arroyo De La Cruz Mariposa Lily
Liliaceae	Calochortus	obispoensis			San Luis mariposa lily
Liliaceae	Calochortus	palmeri	var.	palmeri	Palmer's mariposa lily
Liliaceae	Calochortus	plummerae			Plummer's mariposa lily
Liliaceae	Calochortus	simulans			San Luis Obispo mariposa lily
Liliaceae	Calochortus	striatus			alkali mariposa lily
Liliaceae	Calochortus	weedii	var.	vestus	late-flowered mariposa lily
Liliaceae	Calochortus	westonii			Shirley Meadows star-tulip
Liliaceae	Chlorogalum	pomeridianum	var.	minus	Dwarf soaproot
Liliaceae	Chlorogalum	pomeridianum	var.	reductum	Camatta Canyon amole
Liliaceae	Fritillaria	brandegeei			Greenhorn fritillary
Liliaceae	Fritillaria	ojaiensis			Ojai fritillary

Family	genus	species	ssp/ var	sub taxon name	Common Name
Liliaceae	Fritillaria	striata			striped adobe-lily
Liliaceae	Fritillaria	viridea			San Benito fritillary
Malvaceae	Eremalche	parryi	ssp.	kernensis	Kern mallow
Malvaceae	Malacothamnus	davidsonii			Davidson's bush mallow
Malvaceae	Malacothamnus	palmeri	var.	involucratus	Carmel Valley bushmallow
Malvaceae	Sidalcea	hickmanii	ssp.	anomala	Cuesta Pass Checkerbloom
Malvaceae	Sidalcea	hickmanii	ssp.	parishii	Parish's checkerbloom
Malvaceae	Sidalcea	keckii			Keck's checkerbloom
Onagraceae	Camissonia	hardhamiae			Hardham's evening primrose
Onagraceae	Camissonia	integrifolia			Kern River evening primrose
Onagraceae	Clarkia	australis			Small southern clarkia
Onagraceae	Clarkia	speciosa	ssp.	immaculata	Pismo clarkia
Onagraceae	Clarkia	springvillensis			Springville clarkia
Onagraceae	Clarkia	tembloriensis	ssp.	calientensis	Caliente clarkia
Onagraceae	Clarkia	xantiana	ssp.	parviflora	Kern Canyon clarkia
Papaveraceae	Eschscholzia	lemmonii	ssp.	kernensis	Tejon Poppy
Papaveraceae	Eschscholzia	rhombipetala			diamond-petaled California poppy
Philadelphaceae	Carpenteria	californica			Tree anemone
Pinaceae	Pinus	radiata			Monteret pine
Poaceae	Agrostis	hooveri			Hoover's bent grass
Poaceae	Orcuttia	inaequalis			San Joaquin Valley orcutt grass
Poaceae	Tuctoria	greenei			Greene's tuctoria
Polemoniaceae	Eriastrum	Hooveri			Hoover's eriastrum
Polemoniaceae	Eriastrum	luteum			Yellow-Flowered eriastrum
Polemoniaceae	Leptosiphon	serrulatus			Madera linanthus
Polemoniaceae	Navarretia	nigelliformis	ssp.	radians	shining navarretia
Polemoniaceae	Navarretia	peninsularis			Baja navarretia
Polemoniaceae	Navarretia	setiloba			Piute Mtns. Navaretia
Polygonaceae	Aristocapsa	insignis			Indian Valley spineflower
Polygonaceae	Chorizanthe	breweri			Brewer's spineflower
Polygonaceae	Chorizanthe	pungens	var.	pungens	Monterey spineflower
Polygonaceae	Chorizanthe	rectispina			Straight-awned spineflower
Polygonaceae	Eriogonum	breedlovei	var.	breedlovei	Breedlove's buckwheat
Polygonaceae	Eriogonum	crocatum			Conejo buckwheat
Polygonaceae	Eriogonum	kennedyi	var.	pinicola	Cache Peak buckwheat
Polygonaceae	Eriogonum	nudum	var.	murinum	Mouse Buckwheat
Polygonaceae	Eriogonum	temblorense			Temblor Buckwheat
Portulacaceae	Calyptridium	pulchellum			Mariposa pussypaws
Portulacaceae	Lewisia	disepala			Yosemite lewisia
Pottiaceae	Tortula	californica			California tortula moss
Ranunculaceae	Delphinium	inopinum			Unexpected larkspur
Ranunculaceae	Delphinium	parryi	ssp.	blochmaniae	Dune larkspur

Family	genus	species	ssp/ var	sub taxon name	Common Name
Ranunculaceae	Delphinium	purpusii			Kern County larkspur
Ranunculaceae	Delphinium	recurvatum			Valley Larkspur
Ranunculaceae	Delphinium	umbraculorum			Umbrella larkspur
Rhamnaceae	Ceanothus	hearstiorum			Hearst's ceanothus
Rhamnaceae	Ceanothus	maritimus			Maritime ceanothus
Rosaceae	Horkelia	cuneata	ssp.	sericea	Kellogg's horkelia
Rosaceae	Horkelia	tularensis			Kern Plateau horkelia
Rubiaceae	Galium	angustifolium	ssp.	onycense	Onyx peak bedstraw
Rubiaceae	Galium	hardhamiae			Hardham's bedstraw
Scrophulariaceae	Castilleja	campestris	var.	succulenta	succulent owl's-clover
Scrophulariaceae	Castilleja	densiflora	ssp.	obispoensis	Obispo indian paintbrush
Scrophulariaceae	Castilleja	mollis			soft-leaved indian paintbrush
Scrophulariaceae	Cordylanthus	maritimus	ssp.	maritimus	salt marsh bird's-beak
Scrophulariaceae	Cordylanthus	mollis	ssp.	hispidus	hispid bird's beak
Scrophulariaceae	Cordylanthus	rigidus	ssp.	littoralis	Seaside Bird's-beak
Scrophulariaceae	Gratiola	heterosepala			Bogg's lake hedge-hyssop
Scrophulariaceae	Mimulus	gracilipes			slender-stalked monkeyflower
Scrophulariaceae	Mimulus	norrisii			Kaweah monkeyflower
Scrophulariaceae	Mimulus	pictus			Calico monkeyflower
Scrophulariaceae	Mimulus	shevockii			Kelso Creek monkeyflower
Scrophulariaceae	Pedicularis	dudleyi			Dudley's lousewort
Scrophulariaceae	Scrophularia	atrata			Black Flowered figwort

Federally Listed, Proposed and Candidate Species
Designated and Proposed Critical Habitat
Bakersfield Field Office

COMMON NAME	SCIENTIFIC NAME	STATUS[1]		OCCURRENCE[2,3]				
		SP	CH	C	V	S	CPNM	FM
Snails								
BANDED DUNE SNAIL	HELMINTHOGLYPA WALKERIANA	FE	CH	K	N3	N3		
Fairy Shrimp								
LONGHORN FAIRY SHRIMP	BRANCHINECTA LONGIANTENNA	FE	CH	N1	L1	N3	K	
VERNAL POOL FAIRY SHRIMP	BRANCHINECTA LYNCHI	FT	CH	N1	L1	N3	H	x
VERNAL POOL TADPOLE SHRIMP	LEPIDURUS PACKARDI	FT	CH	N3	N3	N3		x
Insects								
VALLEY ELDERBERRY LONGHORN BEETLE	DESMOCERUS DIMORPHUS	FT	CH	N	L	L		x
KERN PRIMROSE SPHINX MOTH	EUPROSERPINUS EURERPE	FT		N	K?	L	K	
Fish								
LITTLE KERN GOLDEN TROUT	ONCORHYNCHUS AQUABONITA WHITEI	FT	CH	N3	N3	N1		
CA GOLDEN TROUT	ONCORHYNCHUS MYKISS AGUABONITA	90-day		N3	N3	N2?		
LAHONTAN CUTTHROAT TROUT	ONCORHYNCHUS CLARKI HENSHAWI	FT		N3	N3	N3		N1
PAIUTE CUTTHROAT TROUT	ONCORHYNCHUS CLARKI SELENIRIS	FT		N3	N3	N3		N1
UNARMORED THREESPINE STICKLEBACK	GASTEROSTEUS ACULEATUS WILLIAMSONI	FE	PCH	N1	N3	N3		
TIDEWATER GOBY	EUCYCLOGOBIUS NEWBERRYI	FE	CH	N1	N3	N3		
STEELHEAD (southern CA coast)*	ONCORHYNCHUS MYKISS	FE	CH	N1	N3	N3		
STEELHEAD (south central CA coast)*	ONCORHYNCHUS MYKISS	FT	CH	N1	N3	N3		
Amphibians								
CA TIGER SALAMANDER (SB DPS)	AMBYSTOMA CALIFORNIENSE	FT	CH	H	N3	N3		
CA TIGER SALAMANDER (Cen CA DPS)	AMBYSTOMA CALIFORNIENSE	FT	CH	H	M1	H		H
ARROYO SOUTHWESTERN TOAD	BUFO MICROSCAPHUS CALIFORNICUS	FE	CH	LI	LI	N3		
CALIFORNIA RED-LEGGED FROG	RANA AURORA DRAYTONI	FT	PCH	M1	L1	L1		
MTN YELLOW-LEGGED FROG (So. CA DPS)	RANA MUSCOSA	FE		N3	N3	N3		
MTN YELLOW-LEGGED FROG (Sierran DPS)	RANA MUSCOSA	Candidate		N3	N3	N2		N1
Reptiles								
BLUNT-NOSED LEOPARD LIZARD	GAMBELIA SILA	FT		M1	K	K	K	x
ISLAND NIGHT LIZARD	XANTUSIA RIVERSIANA	FT		N1	N3	N3		
GIANT GARTER SNAKE	THAMNOPHIS GIGAS	FT		N3	L1	N3		x
Birds								
CALIFORNIA BROWN PELICAN	PELECANUS OCCIDENTALIS CALIFORNICUS	FE		K	N1	N1		
ALEUTIAN CANADA GOOSE	BRANTA CANADENSIS LEUCOPAREIA	FT		N1	L1	N1		
CALIFORNIA CONDOR	GYMNOGYPS CALIFORNIANUS	FE	CH	K	K	K		
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	FT		M2	H	M2	K	x
AMERICAN PEREGRINE FALCON	FALCO PEREGRINUS ANATUM	R		K	H	M2		
LIGHT-FOOTED CLAPPER RAIL	RALLUS LONGIROSTRIS LEVIPES	FE		N1	N3	N3		
CALIFORNIA CLAPPER RAIL	RALLUS LONGIROSTRIS OBSOLETUS	FE		N1	N3	N3		
WESTERN SNOWY PLOVER (COAST)	CHARADRIUS ALEXANDRINUS NIVOSUS	FT	CH	H	N3	N3		
CALIFORNIA LEAST TERN	STERNA ANTILLARUM BROWNI	FE		H	N3	N3		
MARBLED MURRELET	BRACHYRAMPHUS MARMORATUS	FT	CH	H	N3	N3		
WESTERN YELLOW-BILLED CUCKOO	COCCYZUZ AMERICANUS OCCIDENTALIS	Candidate		N3	L1	L1		
CALIFORNIA SPOTTED OWL	STRIX OCCIDENTALIS OCCIDENTALIS	90-day		M1	N1	K		x
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTERMIS	FE	PCH	N1	N1	K		
LEAST BELL'S VIREO	VIREO BELLII PUSILLUS	FE	CH	N2	N2	N2		
Mammals								
BUENA VISTA LAKE SHREW	SOREX ORNATUS RELICTUS	FE		N3	K	N3		
PACIFIC LITTLE POCKET MOUSE	PEROGNATHUS LONGIMEMBRIS PACIFICUS	FE		N3	N3	N3		
MORRO BAY KANGAROO RAT	DIPODOMYS HEERMANNI MORROENSIS	FE	CH	L1	N3	N3		
GIANT KANGAROO RAT	DIPODOMYS INGENS	FE		L1	K	N3	K	x
TIPTON KANGAROO RAT	DIPODOMYS NITRATOIDES NITRTOIDES	FE		N3	K	N3		
FRESNO KANGAROO RAT	DIPODOMYS NITRATOIDES EXILIS	FE	CH	N3	L1	N3		x
SAN JOAQUIN VALLEY WOODRAT	NEOTOMA FUSCIPES RIPARIA	FC		N3	N3	N3		
SAN JOAQUIN KIT FOX	VULPES MACROTIS MUTICA	FE		K	K	K	K	x
FISHER (West Coast DPS)	MARTES PENNANTI	Candidate		N3	N3	K		?
CA BIGHORN SHEEP (Sierra Nevada pop.)	OVIS CANADENSIS CALIFORNIANA	FE		N3	N3	N2		N1
GUADALUPE FUR SEAL*	ARCTOCEPHALUS TOWNSENDI	FT		L1	N3	N3		
NORTHERN SEA LION (eastern pop.)*	EUMETOPIAS JUBATUS	FT	CH	K	N3	N3		
SOUTHERN SEA OTTER	ENHYDRA LUTRIS NEREIS	FT		H	N3	N3		
GRAY WHALE*	ESCHRICHTIUS ROBUSTUS	REC		K	N	N		
BLUE WHALE*	BALAENOPTERA MUSCULUS	FE		L	N	N		
HUMPBACK WHALE*	MEGAPTERA NOVAEANGLIAE	FE		H	N	N		

[1] **STATUS**

Species (**SP**)

FE	endangered
FT	threatened
FPE	proposed endangered
FPT	proposed threatened
FC	candidate
REC	recovered
90-day	90-day'may be warranted' finding
not warr	not warranted

Critical Habitat (**CH**)

CH	designated critical habitat
PCH	proposed critical habitat

[2] **OCCURRENCE** on public land

K	known
H	highly likely
M1	likely but limited habitat
M2	likely but localized species
L	unlikely
L1	unlikely - local species and limited habitat
L2	unlikely - very localized species
N	very unlikely
N1	very unlikely - no suitable habitat
N2	very unlikely - limited suitable habitat exists but known not to be occupied
N3	very unlikely - outside of normal range
U	unknown

[3] Column headings referring to **Management Areas**

C	Coast
V	Valley
S	South Sierra
CPNA	Carrizo
FM	eastern Fresno and Madera counties.

California-BLM Animal Sensitive Species
List Update, September 2005
Bakersfield Species

Common Name	Scientific Name
MAMMALS	
Pacific fisher	*Martes pennanti pacifica*
Short-nosed kangaroo rat	*Dipodomys nitratoides brevinasus*
Tulare grasshopper mouse	*Onychomys torridus tularensis*
San Joaquin pocket mouse	*Perognathus inornatus inornatus*
Yellow-eared pocket mouse	*Perognathus xanthonotus*
Spotted bat	*Euderma maculatum*
Western mastiff-bat	*Eumops perotis californicus*
Townsend's western big-eared bat	*Plecotus townsendii*
Pallid bat	*Antrozous pallidus*
Fringed Myotis	*Myotis thysanodes*
Small-footed Myotis	*Myotis ciliolabrum*
Long-eared Myotis	*Myotis evotis*
Yuma Myotis	*Myotis yumanensis*
BIRDS	
Northern goshawk	*Accipiter gentilis*
Mountain plover	*Charadrius montanus*
Burrowing owl	*Athene cunicularia*
California spotted owl	*Strix occidentalis occidentalis*
Tricolored blackbird	*Agelaius tricolor*
Le Conte's thrasher (San Joaquin Population)	*Toxostoma lecontei lecontei*
REPTILES	
California horned lizard	*Phrynosoma coronatum frontale*
Northern sagebrush lizard	*Sceloporus graciosus graciosus*
Two-striped garter snake	*Thamnophis hammondii*
Southwestern pond turtle	*Clemmys marmorata pallida*
AMPHIBIANS	
Tehachapi slender salamander	*Batrachoseps stebbinsi*
Yellow-blotched salamander	*Ensatina eschscholtzi croceator*
Foothill yellow-legged frog	*Rana boylei*
Western spadefoot toad	*Scaphiopus hammondi*
INVERTEBRATES	
San Joaquin dune beetle	*Coelus gracilis*

California State Listed Only Animal Species

Species that are both federally listed and state listed are NOT repeated on this list

Techachapi slender salamander
Batrachoseps stebbinsi

Kern Canyon slender salamander
Batrachoseps simatus

Southern rubber boa
Charina bottae umbratica53

Swainson's hawk
Buteo swainsoni

American peregrine falcon
Falco peregrinus anatum

Greater sandhill crane
Grus Canadensis tabida

Western yellow-billed cuckoo
Coccyzus americanus occidentalis

Willow flycatcher
Empidonax traillii

Belding's savannah sparrow
Passerculus sandwichensis beldingi

San Joaquin antelope squirrel
Ammospermophilus nelsoni

Appendix D
Oil and Gas Management Guidelines

Oil and Gas Leasing Availability Categories

The Amendment describes the various categories of land availability for leasing for oil and gas. A determination has been made that the lands covered by this Amendment are open to leasing for oil and gas. In addition, the plan identifies proposed stipulations to be associated with each new lease.

Public lands that are closed to leasing separate into two groups. Tracts that have been closed by previous legislation or secretarial policy form one group of lands and are known as *non-discretionary closure*s. The second group of closed lands, consisting of those that would possibly be proposed for closure under this plan, is called *proposed discretionary closures*.

Lands open to oil and gas leasing separate into the following groups: open to leasing under a standard lease stipulation; open to leasing under a no surface use stipulation; and open to leasing under a limited surface use stipulation. The standard oil and gas lease form includes those preprinted lease terms and conditions that apply to all leases. Other stipulations developed in this plan are applied in lease areas with special resource concerns, and supersede any inconsistent provisions of the standard lease form. The special stipulations proposed in this plan address limited surface use for areas with resource protection needs slightly different from the standard lease stipulation. The Limited Surface Use (LSU) stipulation provides additional protection for Federally Proposed and Listed Species; Proposed and Designated Critical Threatened and Endangered Species Habitat; and Federal Candidate, State Listed and Bureau Sensitive Species. Three additional special stipulations were contained in the Caliente RMP that are not applicable to any of the land in the subject parcels. Those special stipulations are: No surface use for areas where very unique resources exist, LSU – Department of Defense lands, and LSU – Coast (for management of Coast Area ACEC's/SMA's).

Lands Open to Oil and Gas Leasing

All public land and Federally reserved mineral estate within the area covered under this EA are open for oil and gas leasing activities.

The process of nominating a federal parcel for this lease sale was initiated when a letter of interest in oil and gas leasing was submitted to the Sacramento Office of the Bureau of Land Management. The RMP was used to determine the applicability of lease stipulations attached to the parcels in this sale. There are three categories of lease stipulations, described in detail below, and they are:

1. Offer for lease with a Standard Lease stipulation
2. Offer for lease with a No Surface Use stipulation
3. Offer for lease with a Limited Surface Use stipulation

All new leases covered by this EA would be offered with Limited Surface Use Stipulation(s) (LSU). If new leases expire or terminate and the lands are re-leased, they will also be leased with Limited Surface Use Stipulation(s).

Leasing with Standard Lease Stipulation

The Standard Lease stipulation includes the terms and conditions that are the national standards printed on Bureau of Land Management lease forms (form 3100-11, February 2003).

Under standard terms, a proposed exploration and development operation can be modified by the operator and Bureau to minimize impacts of the project's operation design. Modifications are limited to moving the proposed operation less than 200 meters and delaying the project less than 60 days in one lease year.

No lands covered by this EA are proposed to have this stipulation.

No Surface Use Stipulation

This lease is within an area that contains unique or significant natural or cultural values, or other uses preclude surface development over the entire leased area. To prevent or reduce disturbance to unique or significant natural or cultural values or other pre-existing uses that preclude surface development, No Surface Use is allowed on the lease.

Additional Information

Application. The No Surface Use stipulation is intended for use when adequate protection of surface resources cannot be provided through mitigation, and there are no suitable sites for development anywhere on the **entire** lease. Mineral development of the lease from an off-site location is recommended. **There are no lands covered by this EA that are proposed to have this stipulation.**

Review Process. If conditions change so that the NSU stipulation becomes necessary for lands to be leased at a future date, **t**he No Surface Use stipulation would be applied at the time of a lease sale. An exception or modification to the stipulation may be approved if it can be demonstrated that operations can be conducted without causing unacceptable impacts to the critical cultural or natural values or to the other pre-existing use. Any decision to grant an exception or modification would be based on field inspection and inventory and the NEPA review process. The lessee should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year. The stipulation may be waived if a determination is made by the Bureau that the resource or other use no longer exists on the leased lands.

Although there may be specific discrete areas within the parcels under this EA where No Surface Use is allowed due to pre-existing conditions, there are no leases where the entire surface is precluded from development. Consequently, there are no lands within these parcels that are proposed to have this stipulation.

Leasing with the Limited Surface Use Stipulation

Special stipulations may be proposed for use to protect unique resources or values where it may be necessary to modify surface activities beyond authorities contained under the standard lease terms (43 CFR 3103.1-3). The Limited Surface Use Stipulation allows BLM, in consultation with the applicant, to extend modification of development proposals beyond the standard 200 meters and 60-day conditions. By reserving the additional leeway in siting facilities, the BLM and applicant can generally use the combination of increased siting and timing flexibility to modify development proposals to entirely avoid or significantly minimize surface-disturbing effects associated with lease development. The Limited

Surface Use stipulation thus allows BLM to offer for lease parcels known to or suspected to contain unique resources or values and resolve any potential conflicts at the time when the lessee is prepared to design development proposals.

This stipulation also advises prospective lessees that they are considering the purchase of a lease in areas known or suspected to contain unique resources or values and advises them of potential constraints and development options available. Historically, the BLM in cooperation with the lessee has been able to find sufficient flexibility in designing lease development proposals, even in the most sensitive of locations, to facilitate development without adversely affecting either the resource values of concern or the oil and gas lease.

Special conditions that may be attached to new leases issued in the area managed by the Bakersfield Field Office are collectively referred to as the Limited Surface Use stipulation (LSU) and supersede any inconsistent provisions of the standard lease form. The wording of the Limited Surface Use stipulation has been adjusted to address two differing resource concerns (there were six in the Caliente RMP, but four are not currently applicable because the resource values or other pertinent criteria do not exist in the subject parcels). The Limited Surface Use Stipulation would be applied at the lease sale, to parcels located as shown on the RMP map and as described below.

This stipulation has been developed to be utilized over the life of the plan without the need for further plan amendments. The LSU stipulation has been worded to allow for adjusting the geographic locations where they would be applied based on the resource condition at the time of the lease sale offering. The locations identified in this plan address 2006 resource conditions that will be updated and modified on an annual basis. Information on those updates will be available to those interested in potential lease sales.

Limited Surface Use Stipulations

a. Federally Proposed and Listed Species (LSU - Protected Species)
b. Federal Candidate, State Listed and Bureau Sensitive Species (LSU - Sensitive Species)

The following LSU categories from the Caliente RMP are shown for informational purposes only – there are currently no lands in the parcels covered by this EA area subject to these stipulations. However, if a determination is made in the future that one or more of the following stipulations would be appropriate, then the stipulation(s) would be applied according to the criteria in the Caliente RMP.

c. Proposed Critical Habitat and Designated Critical Habitat (LSU - Critical Habitat) N/A for the parcels in this EA

d. Raptor (LSU - Raptor) N/A for the parcels in this EA

e. Department of Defense lands (LSU – Defense) – N/A for the parcels in this EA

f. Coast Management Area (LSU – Coast, for management of Coast Area ACEC's/SMA's) – N/A for the parcels in this EA

Waivers, Modification, Exceptions and Deferral to Other Plans

The Authorized Officer may grant a waiver, modification, or exception to the Limited Surface Use stipulation if the factors leading to the stipulation's inclusion in the lease have changed or if new information has been made available. If the protection provided by the stipulation is no longer necessary or can be adequately mitigated and the proposed operation on a lease would not cause unacceptable impacts, a waiver would be evaluated (see 43 CFR 3101.1-4).

The Authorized Officer may also defer the addition of the Limited Surface Use stipulation referred to under b, c, and d above to requiring compliance with other existing approved plans. Those plans may include Habitat Conservation Plans, Programmatic Consultations, Conservation Agreements or others that provide for adequate protection and conservation of resources and compliance with all Federal and State laws.

As an example, once completed, the Kern County Valley Floor Habitat Conservation Plan and associated BLM Programmatic Section 7 Consultation on oil and gas development activities will provide adequate protection for resources identified in b, c, and d above for lands within CDOG administrative boundaries and for all federally reserved mineral estate in Kern County. Future lease sales covering parcels in those areas would defer the addition of a Limited Use Stipulation to notation that compliance with the above approved programs or plans is required.

a. Limited Surface Use Stipulation - Federally Proposed and Listed Species (LSU - Protected Species)

All or a portion of this lease is within the range of one or more plant or animal species (a list of species would be included with the stipulation for each lease) that are either listed as threatened or endangered, or are proposed for such listing by the U.S. Fish and Wildlife Service.

The lessee is notified that time frames for processing applications may be delayed beyond established standards to allow for species surveys, and consultation or conferencing with the U.S. Fish and Wildlife Service. Notice is also given that surface-disturbing activities may be moved or modified, and that some activities may be prohibited during seasonal time periods. Surface disturbing activities will be prohibited on the lease only where:

1. *the proposed action is likely to jeopardize the continued existence of a listed or proposed species, or*
2. *the proposed action is inconsistent with the recovery needs of a listed species as identified in an approved U.S. Fish and Wildlife Service Recovery Plan.*

Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species. The lessee should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year.

The BLM may need to initiate consultation or conference with the U.S. Fish and Wildlife Service if the site inspection concludes that a listed or proposed species may be affected by the proposed activity. The lessee should be aware that the U.S. Fish and Wildlife Service has up to 135 days to render their biological opinion, and that there are provisions for an additional 60 day extension. Offsite habitat protection or enhancement for wildlife or vegetation (compensation) may be required by the U.S. Fish and Wildlife Service when habitat is disturbed. The consultation may also result in some restrictions to the lessee's plan of development, including movement or modification of activities, and seasonal restrictions. Surface disturbing activities will be prohibited on the lease if the consultation or conference concludes that either of the conditions identified in 1. or 2. above exists.

Additional Information

Application. The Limited Surface Use - Federally Proposed and Listed Species (LSU - Protected Species) stipulation would be attached, at the time of lease sale, to leases within the range of certain federally listed or proposed species, or to leases containing, or adjacent to, documented locations of

certain federally listed or proposed species. (A list of species would be included with the stipulation for each lease.)

The combined range of the following currently listed species will be used to determine current applicability of the LSU - Protected Species stipulation for listed species: San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, Tipton kangaroo rat, California jewelflower, Kern mallow, San Joaquin woolly-threads and Bakersfield Cactus. Hoover's woolystar (*Eriastrum hooveri*) was removed from the Federal List of Endangered and Threatened Species on October 7, 2003 (68 **FR** 57829) and is now treated as a sensitive species by BLM. The range of the listed species is shown on the map packet. If additional species become listed, existing species become delisted, or if new range information becomes available, the area on the map packet will be modified accordingly and all subsequent lease sales will be evaluated against the modified map area. The recent historic range of the California condor was excluded from consideration due to the extensive amount of unoccupied range.

Documented locations for currently proposed species will be used to determine current applicability of the LSU - Protected Species stipulation for proposed species. If additional species become proposed, or new location information becomes available, the species and parcel lists will be modified and all subsequent lease sales will be evaluated against the modified parcel list.

Review Process. Generally, the following process will be used to approve surface disturbing activities on leases with the LSU - Protected Species stipulation. The proposed activity would be reviewed to determine if listed or proposed species would be affected. This review may involve site-specific surveys for plant and animal species, conducted according to established methodologies that may specify certain seasons or other conditions. In some cases, this may mean that a survey cannot be completed until the next growing season for some plant species or after seasonal appearance for some animal species.

If the review determines that listed or proposed species will not be affected, approval of the application will normally be granted within 30 days of the review.

If the review determines that listed or proposed species may be affected, but in a beneficial, insignificant or benign manner, and written concurrence is received from the U.S. Fish and Wildlife Service, approval of the application will normally be granted within 30 days of receiving U.S. Fish and Wildlife Service concurrence.

If it is determined that a listed or proposed species may be adversely affected, the BLM will work with the applicant to modify the proposal to minimize impacts. Modifications may include movement of activities, seasonal restrictions, mitigation and/or compensation. Modified proposals will be developed cooperatively with the applicant to ensure that the modified project still meets the applicant's objective. If the modified project may still adversely affect a listed or proposed species, BLM will initiate formal consultation or conference with the U.S. Fish and Wildlife Service.

Coordination with the U.S. Fish and Wildlife Service on Listed Species. Currently there are two options for meeting the formal consultation requirement. A new consultation may be initiated or a previously completed formal consultation may be utilized.

If a new consultation is initiated, the U.S. Fish and Wildlife Service will issue a document, called the Biological Opinion. The U.S. Fish and Wildlife Service has up to 135 days to complete a Biological Opinion and they may request an additional 60-day extension. Extensions beyond 195 days require the consent of any applicant.

A previously completed formal consultation may also be used to meet the formal consultation requirement. Examples of previously completed consultations that may be used include the **San Joaquin Valley Oil and Gas Programmatic** and the **Programmatic Opinion for Naval Petroleum Reserve No. 1.**

Upon completion of a new consultation or determination that a previously completed consultation can be used, approval of the application will normally be granted within 30 days. If the new consultation concludes that a listed species may be jeopardized, then surface disturbance will be prohibited on the lease. Surface disturbance will also be prohibited if the consultation concludes that the proposed action is inconsistent with the recovery needs of the listed species as identified in an approved U.S. Fish and Wildlife Service Recovery Plan.

Coordination with the U.S. Fish and Wildlife Service on Proposed Species. Bureau policy requires a conferencing with the U.S. Fish and Wildlife Service on any action that may adversely affect proposed species. Depending on the complexity of the situation, a conference may be completed in a single telephone conversation or may require the time frames of a consultation. Generally, upon completion of the conference, approval of the application will be granted within 30 days. If the conference concludes that a proposed species may be jeopardized, surface-disturbing activities will be prohibited on the lease.

Final Approval. Final approval of applications that will have no effect on listed or proposed species will normally be granted within 30 days of the review.

Final approval for projects that may affect listed or proposed species in a beneficial, insignificant or benign manner will normally be granted within 30 days of receiving U.S. Fish and Wildlife Service written concurrence. The U.S. Fish and Wildlife Service generally responds to requests for concurrence in 30 days.

For projects that require consultation or conference with the U.S. Fish and Wildlife Service, final approval will normally be granted within 30 days of consultation or conference completion. Conditions of approval will include any conditions specified by the BLM or U.S. Fish and Wildlife Service for minimizing impacts.

b. Limited Surface Use - Federal Candidate, State Listed and Bureau Sensitive Species (LSU - Sensitive Species)

All or a portion of this lease is within the range of one or more plant or animal species (see attached list) that are either Federal candidates for listing as threatened or endangered (Federal Candidate), are listed by the State of California as threatened or endangered (State Listed), or are designated by the Bureau of Land Management as Sensitive (Bureau Sensitive).

The lessee is notified that time frames for processing applications may be delayed beyond established standards to allow for species surveys and coordination with the U.S. Fish and Wildlife Service and California Department of Fish and Game. Notice is also given that surface-disturbing activities may be relocated beyond the standard 200 meters but not more than 1/4 mile and that surface disturbing activities may be prohibited during seasonal time periods.

Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species. The lessee

should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year.

The Bureau of Land Management may need to coordinate with the U.S. Fish and Wildlife Service or the California Department of Fish and Game if the site inspection concludes that a Federal Candidate, State Listed or Bureau Sensitive species may be affected by the proposed activity. Coordination may delay application processing beyond established time frames.

To prevent or reduce disturbance to Federal Candidate, State Listed or Bureau Sensitive species, surface operations may be moved up to 1/4 mile and surface disturbing activities may be prohibited during seasonal time periods.

Additional Information

The Limited Use - Federal Candidate, State Listed and Bureau Sensitive Species (LSU - Sensitive Species) stipulation would be attached to leases that are either within the range of certain species, or that contain or are adjacent to a documented location of a certain species. A list of species would be included with the stipulation for each lease.

Ranges or documented locations for the following species will be used to determine the current applicability of the LSU - Sensitive Species stipulation: Tehachapi slender salamander, mountain plover, San Joaquin antelope squirrel, Asteraceae: *Lasthenia glabrata* ssp. *coulteri* (Coulter's goldfields), *Layia munzii* (Munz' tidy tips), *Layia leucopappa* (Comanche Point layia), *Stylocline citroleum* (oil neststraw), *Stylocline masonii* (Mason neststraw); Chenopodiaceae: *Atriplex cordulata* (heartscale), *Atriplex depressa* (brittlescale), *Atriplex vallicola* (Lost Hills saltbush); Liliaceae: *Calochortus striatus* (alkali mariposa lily); Papaveraceae: *Eschscholzia lemmonii* ssp. *kernensis* (Tejon poppy); Polemoniaceae: *Eriastrum hooveri* (Hoover's wooly star); Ranunculaceae: *Delphinium recurvatum* (valley larkspur); Scrophulariaceae: *Cordylanthus mollis* ssp. *hispidus* (hispid bird's-beak).

The current list of parcels or potential geographic area for each species will be maintained in the Bakersfield Field Office. As species are added or removed from special designation, or new location information becomes available, the species list, parcel lists and geographic area lists will be modified. All subsequent lease sales will be evaluated against the modified species list, parcel list or geographic area list.

Generally the following process will be used to approve surface disturbing activities on leases with the LSU - Sensitive Species stipulation. The proposed activity would be reviewed to determine if special status species would be affected. This review may involve site-specific surveys for plant and animal species, conducted according to established methodologies that may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plants or after seasonal appearance for some animal species.

If the review determines that a special status species may be adversely affected, then surface disturbing activities may be relocated up to 1/4 mile and certain surface disturbing activities may be prohibited during seasonal periods. Bureau policy may also require coordination with the U.S. Fish and Wildlife Service or California Department of Fish and Game.

c. **Limited Surface Use Stipulation - Proposed Critical Habitat and Designated Critical Habitat (LSU - Critical Habitat)** – Although there is not currently any Proposed or Designated Critical Habitat within the areas that are identified for lease in this sale, should Proposed or Critical Habitat be designated within these lands in the future, the following stipulation would apply:

All or a portion of this lease lies within an area that is designated as critical habitat, or is proposed for designation as critical habitat (see attached species and parcel list) by the U.S. Fish and Wildlife Service.

The lessee is notified that time frames for processing applications may be delayed beyond established standards to allow for species surveys, and consultation or conferencing with the U.S. Fish and Wildlife Service. Notice is also given that surface disturbing activities may be moved or modified and that some activities may be prohibited during seasonal time periods. Surface disturbing activities will be prohibited on the lease only where:

> *1. the proposed action is likely to destroy or adversely modify critical habitat or proposed critical habitat, or*
>
> *2. the proposed action is inconsistent with the recovery needs of a listed species as identified in an approved U.S. Fish and Wildlife Service Recovery Plan.*

Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of habitat for these species. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these species. The lessee should be aware that the timing of the surveys is critical, in that some species can only be surveyed during a brief period each year.

The Bureau of Land Management may need to initiate consultation or conference with the U.S. Fish and Wildlife Service if the site inspection concludes that designated or proposed critical habitat may be affected by the proposed activity. The lessee should be aware that the U.S. Fish and Wildlife Service has up to 135 days to render their biological opinion, and that there are provisions for an additional 60 day extension. Offsite habitat protection or enhancement for wildlife or vegetation (compensation) may be required by the U.S. Fish and Wildlife Service when designated or proposed critical habitat is disturbed. The consultation may also result in some restrictions to the lessee's plan of development, including movement or modification of activities, and seasonal restrictions. Surface disturbing activities will be prohibited on the lease only if the consultation or conference concludes that either of the conditions identified in 1. or 2. above exist.

Additional Information

Application. The Limited Surface Use - Designated and Proposed Critical Habitat (LSU - Critical Habitat) stipulation would be attached to leases within areas that are designated as critical habitat, or proposed for designation as critical habitat for certain species. A list of species and parcels would be included with the stipulation for each lease. Critical habitat is designated or proposed by the U.S. Fish and Wildlife Service according to the regulations found in 50 CFR 424. Critical habitat means (1) the specific areas within geographical area currently occupied by a species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features (i) essential to the conservation of the species and (ii) that may require special management considerations or protection, and (2) specific areas outside the geographical area occupied by a species at the time it is listed upon a determination by the Secretary that such areas are essential for conservation of the species (50 CFR 424.02).

There is currently no designated or proposed critical habitat, or else the constituent elements do not exist, within the parcels covered by this EA. Consequently, no critical habitat would be affected by leasing and developing these parcels, and none of the parcels would have this stipulation. If additional areas are

designated within these parcels, future permit approvals would be evaluated using those criteria as appropriate

Review Process. Generally, the following process will be used to approve surface disturbing activities on leases with the LSU - Critical Habitat stipulation. The proposed activity would be reviewed to determine if designated or proposed critical habitat would be affected. This review may involve site specific surveys for plant and animal species, conducted according to established methodologies which may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plant species or after seasonal appearance for some animal species.

If the review determines that listed or proposed critical habitat will not be affected, approval of the application will normally be granted within 30 days of the review.

If the review determines that listed or proposed critical habitat may be affected, but in a beneficial, insignificant or benign manner, and written concurrence is received from the U.S. Fish and Wildlife Service, approval of the application will normally be granted within 30 days of receiving U.S. Fish and Wildlife Service concurrence.

If it is determined that a listed or proposed critical habitat may be adversely affected, the BLM will work with the applicant to modify the proposal to minimize impacts. Modifications may include movement of activities, seasonal restrictions, mitigation and compensation. Modified proposals will be developed cooperatively with the applicant to ensure that the modified project still meets the applicant's objective. If the modified project may still adversely affect designated or proposed critical habitat, BLM will initiate formal consultation or conference with the U.S. Fish and Wildlife Service.

Coordination with the U.S. Fish and Wildlife Service on Designated Critical Habitat. The BLM is required to initiate formal consultation with the U.S. Fish and Wildlife Service for any action that may adversely affect designated critical habitat. As a result of the consultation, the U.S. Fish and Wildlife Service issues a document, called the Biological Opinion. The U.S. Fish and Wildlife Service has up to 135 days to complete a Biological Opinion and they may request an additional 60 day extension. Extensions beyond 195 days require the consent of any applicant.

As part of the Biological Opinion, the U.S. Fish and Wildlife Service will determine if the proposed action is likely to destroy or adversely modify critical habitat. Destruction or adverse modification of critical habitat means a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical (50 CFR 402.02).

If consultation concludes that critical habitat will be destroyed or adversely modified, then surface disturbance will be prohibited on the affected portion of the lease. Surface disturbance will also be prohibited if the consultation concludes that the proposed action is inconsistent with the recovery needs of the listed species as identified in an approved U.S. Fish and Wildlife Service Recovery Plan.

Coordination with the U.S. Fish and Wildlife Service on Proposed Critical Habitat. Bureau policy requires conferencing with the U.S. Fish and Wildlife Service on any action that may adversely affect proposed critical habitat. Depending on the complexity of the situation, a conference may be completed in a single telephone conversation or may require the time frames of a consultation. Generally, upon completion of the conference, approval of the application will be granted within 30 days. If the

conference concludes that proposed critical habitat will be destroyed or adversely modified, then surface disturbance will be prohibited on the affected portion of the lease.

Final Approval. Final approval of applications that will have no effect on designated or proposed critical habitat will normally be granted within 30 days of the review.

Final approval for projects that may affect designated or proposed critical habitat in a beneficial, insignificant or benign manner will normally be granted within 30 days of receiving U.S. Fish and Wildlife Service written concurrence. The U.S. Fish and Wildlife Service generally responds to requests for concurrence in 30 days.

For projects that require consultation or conference with the U.S. Fish and Wildlife Service, final approval will normally be granted within 30 days of consultation or conference completion. Conditions of approval will include any conditions specified by the BLM or U.S. Fish and Wildlife Service for minimizing impacts.

d. Limited Surface Use - Raptor (LSU - Raptor) – N/A

e. Department of Defense lands (LSU – Defense) – N/A

f. Coast Management Area (LSU – Coast, for management of Coast Area ACEC's/SMA's) – N/A

Standard Engineering Practices

Recognized engineering practices for the routine operation of oil and gas exploration and development are known as Conditions of Approval or COAs. These standard procedures are described in the Federal Onshore Orders and further clarified in the Code of Federal Regulations (CFR 43, October, 2005).

Standard regulations may be supplemented with additional COAs. The additional COAs address sensitive issues within the Area managed by the Bakersfield Field Office. Critical issues underlying the federal regulations and supplemental COAs are the protection of usable aquifers, mineral zones including hydrocarbons, surface environmental issues, site safety and well control, and site reclamation.

Bureau inspection and monitoring of oil field activity on public lands is discussed within the phases of oil and gas development:

a. Drilling a New Well
b. Temporary Abandonment of a Producing Well (Idle Well)
c. Plugging and Abandonment of a Well
d. Surface Reclamation

No special COAs are normally added for routine producing operations.

Drilling a New Well

After an Application for Permit to Drill (APD) has been received by the Bakersfield Office of the Bureau of Land Management, a review of engineering design as well as potential effects to sensitive resources is undertaken. Special conditions would be noted on the application at this review stage of an oil and gas project by either the operator or the Bureau of Land Management. Modified proposals would be developed cooperatively with the applicant to ensure that the modified project still meets the applicant's

objective. Any special conditions would be attached to the APD by the Bureau and the applicant would be informed within seven days of receipt of the APD. In addition to Bureau-wide regulations, the Bakersfield Field Office has developed procedures - these may include but are not limited to:

Steam Injectors. All steam injection wells within a 300' radius of a new location must be shut-in a minimum of 3 days prior to the spudding of a new well.

Conductor Pipe. A minimum of 50' of conductor pipe is to be set and cemented to surface. The conductor pipe must be equivalent to or exceed the properties of A-25 grade line pipe.

Diverter. Prior to spud, a diverter system will be installed on the conductor pipe and function tested. The test will be recorded in the drilling log. The diverter system, at a minimum, will consist of an annular type preventer (minimum working pressure 1000 psi), 2" (minimum ID) kill line, and 6" (minimum ID) diverter line with no internal restrictions or turns. A full opening hydraulically-controlled valve will be installed in the diverter line which will automatically open when the annular preventer is closed. The accumulator system will have sufficient capacity to close the annular preventer and open the hydraulically-controlled valve.

Remote controls for the diverter system will be located on the rig floor and readily accessible to the driller. Remote controls will be capable of closing the annular preventer and opening the hydraulically-controlled valve. Master controls will be located at the accumulator and will be capable of closing and opening the annular preventer and opening the hydraulically-controlled valve. The diverter system will be function-tested daily and the test recorded in the drilling log.

General Casing and Cementing. A Subsequent Report (Form 3160-5) detailing the size, weight, and grade of the casing; the amount and type of cement, including additives; and a copy of the service company's materials ticket and job log will be submitted to the BLM within five (5) business days following the cementing of the casing string. Each casing string (except conductor pipe) will be pressure tested, prior to drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1000 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. The casing pressure test will be recorded in the drilling log. The wait-on-cement (WOC) time for each casing string will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

Drilling Fluids. Sufficient quantities of drilling fluid (mud and water) will be maintained at the well site, at all times, for the purpose of controlling steam kicks.

Temporary Abandonment of a Producing Well (Idle Well)

Economic conditions often depress the California market for the typical heavy oil produced in the area managed by the Bakersfield Field Office. When the producing market is depressed, an operator may decide to shut-in his uneconomic, producing wells and wait for conditions to improve. The highly viscous nature of most Kern County crude oil, typical low well head pressures, and the relatively low corrosive properties of the fluids (low sulfur crude) make the known dangers of shutting in a well for long periods and then bringing it back on-line less of a mechanical problem here in this Field Office Area than in other producing regions of the country. As a result, by 1990, a large number of wells were remaining idle for longer and longer periods. Monitoring and correction of the problem have been successfully undertaken by the California Division of Oil, Gas, and Geothermal Resources and the local BLM Field Office. The following additional conditions *may* be required as applicable prior to the temporary abandonment (TA) of a producing oil/gas well, service well, or an injection well.

Zone Isolation. The requirement to isolate the producing interval (General Requirement #4) is waived. This waiver is based on the information submitted with the application and the geologic data in Volume # 1 California Oil and Gas Fields, Central California, (Buena Vista Oil field) which indicates the absence of usable water aquifers above the producing horizon in (section in which well is located).

Mechanical Integrity of Casing. The mechanical integrity of the casing may be determined using the ADA pressure test method.

Fluid Surveys. A fluid level survey will be performed at 2-5 year intervals during the period the well is temporarily abandoned. A copy of the survey will be submitted to the BLM with the TA well request (sundry notice form 3160-5).

Monitoring of Wellhead Pressures and Temperatures. Wellhead pressure and temperature will be continuously monitored throughout the period the well is temporarily abandoned. Any pressure/temperature change will be promptly reported to the BLM.

Isolation of the Producing Interval. The producing interval will be isolated by setting a plug in the casing within 100' above the producing interval if a rising fluid level, an increasing wellhead pressure, or an increasing wellhead temperature is detected. The plug can be either a retrievable or drillable-type bridge plug or a cement plug of at least 100' in length.

Plugging and Abandonment of a Well

No additional conditions are typically attached to the abandonment of a well in California. Onshore Orders describe the plugging procedure. While final abandonment will normally be witnessed by the BLM, no final site marker is currently required by the Bakersfield field office.

Surface Reclamation

Conditions for the recovery of an oil well site are unique to each area's ecosystem and habitat. The following examples of Conditions of Approval have been developed for use within the Area managed by the Bakersfield Field Office. The applicability of any or all of these COAs will be determined based on site-specific conditions.

General. The operator (or holder) will prepare a seedbed by: a) scarifying the disturbed area, (b) distributing topsoil uniformly, or c) disking the topsoil, as directed by the BLM Authorized Officer (use one as appropriate).

The operator will recontour the disturbed area and obliterate all earthwork by removing embankments, backfilling excavations, and grading to re-establish the approximate original contours of the land in the area of operation.

The operator will uniformly spread topsoil over all unoccupied disturbed area (outside the ditch line, fence line, work area). Spreading will not be done when the ground or topsoil is frozen or wet.

The operator will seed all disturbed area, using an agreed upon method suitable for the location. Seeding will be repeated if a satisfactory stand is not obtained as determined by the BLM Authorized Officer upon evaluation after the first growing season.

The operator will arrange to have a biologist available to assist the construction workers in the identification and avoidance of endangered species.

Producing Wells. Site reclamation for producing wells will be accomplished for portions of the site not required for continued operation of the well. The following measures are typical reclamation requirements, and any or all of these may be required on a site by site basis:

Reclamation of drilling fluid pit (mud pit).
Polluting substances, contaminated materials moved offsite or buried.
Site fencing.

Berm removal and site grading.
Cut and fill slope vegetation.

Non-producing Wells. Rehabilitation on the entire site will be required and will commence as soon as practical, dependent upon prevailing weather conditions. Cut and fill slopes will be reduced and graded to blend to the adjacent terrain.

Drilling fluids held within pits may be allowed to dry. Fluids that will not dry must be removed. All polluting substances or contaminated materials such as oil, oil-saturated soils, and gravels will be buried with a minimum of 2 feet of clean soil as cover, or be removed to an approved site.

Drainages will be re-established and temporary measures will be required to prevent erosion to the site until vegetation is established.

After final grading and before replacement of topsoil, the entire surface of the site will be scarified to eliminate slippage surfaces and to promote root penetration. Topsoil will then be spread over the site to achieve an approximate uniform, stable thickness consistent with the established contours.

Permanent Well Abandonment. The surface management agency is responsible for establishing and approving methods for surface rehabilitation and determining when this rehabilitation has been satisfactorily accomplished. At this point, a Subsequent (Final) Report of Abandonment will be proved.