INITIAL STUDY / ENVIRONMENTAL CHECKLIST

Habitat Conservation Plan

For

Elk Hills Oil & Gas Field

Kern County, CA

LEAD AGENCY:

Department of Fish and Game
1234 East Shaw Avenue
Fresno, CA 93710
Contact: Julie Vance
(559) 243-4005 (Ext. 141)

CONSULTANT:

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June 2009

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LIST OF ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ACEC	Area of Critical Environmental Concern
ACHP	Advisory Council of Historic Preservation
ALUCP	Airport Land Use Compatibility Plan
API	American Petroleum Institute
ATC	Authority to Construct
AWSC	All Way Stop Controlled Intersection
BA	Biological Assessment
BACM/BACT	Best Available Control Measures/Best Available Control Technology
BCF	Billion Cubic Feet
BCF/Yr	Billion Cubic Feet per Year
BLM	Bureau of Land Management
BMPs	Best Management Practices
BO	Biological Opinion
BOE	Barrels of Oil Equivalent
BP	Years Before Present (used in archaeological dating, instead of BC and AD)
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Environmental Species Act
CFR	Code of Federal Regulations
CH_4	Methane
CLEP	Coles Levee Ecological Preserve
CNDDB	California Natural Diversity Data Base
CNLM	Center for Natural Lands Management
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
CRMP	Cultural Resources Management Plan
CRHR	California Register of Historic Resources
CRP	Certified Regulatory Program
CRPAQS	California Regional Particulate Air Quality Study
dBA	Decibels A-weighted
DGZ	Dry Gas Zone
DOE	Department of Energy
DOGGR	Division of Oil, Gas and Geothermal Resources
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EHOF	Elk Hills Oil Field
EHPP	Elk Hills Power Plant
EHU	Elk Hills Unit
EIR	Environmental Impact Report

EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERT	Emergency Response Team
ESA	Environmental Site Assessment
FESA	Federal Endangered Species Act
FEMA	Federal Emergency Management Act
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FR	Federal Register
GHG	Greenhouse Gas
GMP	General Management Plan
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HPA	High Production Area
ICE	Internal Combustion Engine
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
IS	Initial Study
ITP	Incidental Take Permit
ITS	Incidental Take Statement
KCFD	Kern County Fire Department
KCVFHCP	Kern County Valley Floor Habitat Conservation Plan
KWBA	Kern Water Bank Authority
LOS	Level of Service
MB	Million Barrels
MB/Yr	Million Barrels per Year
MBOE	Million Barrels of Oil Equivalent
MDBM	Mount Diablo Baseline and Meridian
MGal/Yr	Million Gallons per Year
MER	Maximum Efficient Rate
MMG	Million Gallons
MMP	Mitigation Monitoring Program
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
MRZ	Mineral Resource Zone
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NEPA	National Environmental Policy Act
NGL	Natural Gas Liquid Products
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
Non-HPA	Non-High Production Area
NOP	Notice of Preparation
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
N_2O	Nitrous Oxide
NPDES	National Pollution Discharge Elimination System
NPR	Naval Petroleum Reserve(s)
NPRC	Naval Petroleum Reserves California
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OADP	Ozone Attainment Demonstration Plan

OEHI	Occidental of Elk Hills Incorporated
O&M	Operations and Maintenance
OPR	Office of Planning and Research
PA	Programmatic Agreement
PAS	Pre Activity Survey
PEIR	Program Environmental Impact Report
PTO	Permit to Operate
$PM_{2.5}$	Particulate Matter (2.5 microns or smaller)
PM_{10}	Particulate Matter (10 microns or smaller)
RCRA	Resource Conservation and Recovery Act
RFP	Reasonable Further Progress
ROG	Reactive Organic Gases
ROW(s)	Right(s)-Of-Way
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOZ	Shallow Oil Zone
SO_x	Sulfur Oxides
SPCC	Spill Prevention Control and Countermeasures
SHPO	State Historic Preservation Office
TWSC	Two Way Stop Controlled Intersection
USACOE	United States Army Corps of Engineers
USFWS	Service
$\mu g/m^3$	Micrograms per cubic meter
Wh	Watthour - The electrical energy unit of measure equal to one watt of power
GW	One thousand megawatts (1,000 MW) or, one million kilowatts (1,000,000 kW) or one billion watts (1,000,000,000 watts) of electricity
GWH	Gigawatt-hour - One million kilowatt-hours of electric power
kW	Kilowatt - One thousand (1,000) watts. A unit of measure of the amount of electricity needed to operate given equipment.
kWh	Kilowatt-Hour. The most commonly-used unit of measure telling the amount of electricity consumed over time. It means one kilowatt of electricity supplied for one hour. In 1989, a typical California household consumes 534 kWh in an average month.
Therm	One hundred thousand (100,000) British thermal units (1 therm = 100,000 BTU)
BTU	British Thermal Unit

SECTION 1.0

INTRODUCTION

1.1 PURPOSE

The California Department of Fish and Game (CDFG) has prepared this Initial Study as part of environmental review required by the California Environmental Quality Act (CEQA). CDFG is conducting the review required by CEQA as a result of an application by Occidental of Elk Hills, Inc. (OEHI) for an incidental take permit (ITP) from CDFG under section 2081(b) of the California Endangered Species Act (CESA). The proposed ITP would authorize take of species protected by CESA in connection with otherwise lawful activities conducted by OEHI at the Elk Hills Oil Field (EHOF) in Kern County, California. These activities include the continued exploration, development, production, recovery and processing of oil and gas reserves at the EHOF.

OEHI is currently operating at the EHOF in compliance with CESA based on a 1997 Memorandum of Understanding (MOU) with the CDFG, a First Amendment to the MOU that extended its term to 2009 (CDFG CESA MOU 1997,1999), and a Second Amendment to the MOU that extended its term to 2014. (See generally Fish & Game Code, Section 2081.1.) OEHI is also currently operating at the EHOF in compliance with the federal Endangered Species Act (FESA) pursuant to an Incidental Take Statement (ITS) and Biological Opinion (BO) issued to the Department of Energy (DOE) in 1995 by the U.S. Fish & Wildlife Service (Service) under Section 7 of FESA (USFWS 1995).[1] In terms of environmental review required in connection with the earlier authorization under CESA, CDFG issued the MOU as a Responsible Agency under CEQA. In so doing, CDFG relied on Lead Agency review of oil and gas activities in the EHOF conducted by Kern County under CEQA and the DOE under the National Environmental Policy Act (NEPA). As part of that divestiture effort, DOE and Kern County prepared and certified a joint Supplemental Environmental Impact Statement (SEIS) and a Program Environmental Impact Report (PEIR) (referred to throughout this document as "1997 SEIS/PEIR") under NEPA and CEQA, respectively (DOE 1997).[2] The 1997 SEIS/PEIR was prepared to analyze potential environmental impacts associated with the anticipated sale of Naval Petroleum Reserve No. 1 (NPR-1) and the likely oil and gas

[1] As of 1995, the EHOF was a federal facility referred to as "Naval Petroleum Reserve No. 1" (NPR-1) and was operated by DOE. As explained under Section 1.2, in 1996 Congress directed DOE to sell NPR-1 to the private sector and transfer the BO and ITS to the purchaser.

[2] DOE had previously prepared an EIS for Elk Hills in 1979 and a Supplemental EIS in 1993; for NEPA purposes the 1997 document is a Supplement to the 1993 SEIS.

operations at the EHOF under private ownership until the year 2034, and an unspecified period beyond that until operations were estimated to be no longer economic. The 1997 SEIS/PEIR recognizes that private operations at the EHOF would require several subsequent approvals by federal, state and local agencies. The document also makes specific reference to future incidental take permitting under state and federal law, and the environmental analysis is structured so that it could be relied on later to inform subsequent permitting actions.

The ITP now proposed by OEHI under Section 2081(b) of CESA would modify and supersede the existing MOU previously approved by CDFG in 1997 and 1999 as well as the Second Amendment to the MOU that extended its term to 2014. Stated another way, the proposed ITP would modify and update the earlier CESA MOU and authorize incidental take of CESA-listed species associated with continued oil and gas production activities by OEHI at the EHOF. Because approval of the proposed ITP would constitute a discretionary project approval for purposes of CEQA, CDFG must conduct required environmental review under state law before taking final action under CESA. This Initial Study and the analysis following below is part of CDFG's initial effort to comply with CEQA with respect to the CESA ITP proposed by OEHI.

CDFG has approached its initial obligations related to the proposed ITP by OEHI as a Responsible Agency under CEQA. CDFG is a Responsible Agency with respect to the proposed ITP in light of earlier environmental review by Kern County as Lead Agency. In general, CDFG's obligations as a Responsible Agency are more limited than those of the Lead Agency to the effect that CDFG is responsible for considering only the effects of those activities that it is required by law to carry out or approve. Thus, while CDFG must consider the environmental effects of the activities proposed for coverage under the proposed ITP as detailed in the 1997 SEIS/PEIR, CDFG has the responsibility to mitigate or avoid only the direct or indirect environmental effects of those activities associated with the proposed ITP that CDFG decides to carry out, finance, or approve. (Pub. Resources Code, Section 21002.1, subd. (d); CEQA Guidelines, Sections 15041, subd. (b), 15096, subds. (f), (g).) Accordingly, because CDFG's proposed exercise of discretion is limited to issuance of an ITP to supersede and replace an existing CESA MOU, CDFG is responsible for considering only the environmental effects that fall within its permitting authority under CESA. With respect to all other effects associated with ongoing oil and gas operations by OEHI at the EHOF, CDFG is bound by the legal presumption that the 1997 SEIS/PEIR fully complies with CEQA. (Pub. Resources Code, Section 21167.3; *City of Redding v. Shasta County Local Agency Formation Commission* (1989) 209 Cal.App.3d 1169, 1178-1181; see also CEQA Guidelines, Section 15096, subd. (e); Pub. Resources Code, Section 21167.2; *Laurel Heights Improvement Association v. Regents of the University of California* (1993) 6 Cal.4th 1112, 1130.)

CDFG began its initial Responsible Agency review of the proposed ITP by considering the relevant environmental effects identified in the Lead Agency 1997 SEIS/PEIR. (CEQA Guidelines, 15096, subd. (f)). In coordinating that review with OEHI, CDFG determined the proposed ITP may constitute a modification of the previously approved MOU; that changed circumstances may exist relative to the proposed ITP versus the existing MOU; and that new information may be available relevant to the proposed ITP as compared to the information available to CDFG at the time it approved the existing MOU.

1.2 BACKGROUND

History of EHOF, and Prior Environmental Review and Incidental Take Permitting

The federal government established the EHOF in 1912 for national defense purposes as part of the Naval Petroleum Reserves (NPR). The EHOF was designated as NPR-1 and was largely maintained in reserve shut-in status until 1976. As a result of oil shortages in the early 1970's, Congress passed the Naval Petroleum Reserve Production Act in 1976, directing the DOE to operate the EHOF at the "maximum efficient rate" or "MER." To ensure that its oil production activities complied with the FESA, DOE engaged in several formal consultations with the Service under Section 7 of FESA, resulting in several Biological Opinions. The most recent BO and associated ITS was issued in 1995 (USFWS 1995). It covered continued MER production at the EHOF, and authorized the incidental take of several listed species.

In the National Defense Authorization Act for Fiscal Year 1996, Congress directed DOE to sell NPR-1. Section 3413(d) of that act authorized the DOE to transfer the ITS (permit) to the purchaser of NPR-1 and provided that the transferred permit "shall cover the identical activities, and shall be subject to the same terms and conditions, as apply to the permit at the time of transfer." This provision was interpreted by the U.S. Department of the Interior to mean that the 1995 BO and accompanying ITS were to be transferred to the purchaser of NPR-1. DOE determined that the sale of NPR-1 required NEPA review, as the transfer of oil field operations to the private sector could result in accelerated levels of development and different types of activities, and consequent environmental impacts. Kern County also determined that the sale would require a General Plan amendment, a discretionary approval which triggers the need for environmental review under the CEQA. Consequently, in 1997 DOE and Kern County prepared a joint NEPA/CEQA document to assess the environmental impacts of the anticipated sale of NPR-1 (DOE 1997). The resulting environmental document was a SEIS for NEPA purposes, and a PEIR for CEQA purposes. A more detailed discussion of the sale of NPR-1, and the continued operations at EHOF under private ownership as evaluated in the 1997 SEIS/PEIR is provided in Section 2.0, which offers a comparison of that project versus the Habitat Conservation Plan (HCP) and

requested Section 2081 ITP (hereinafter referred to as the "proposed ITP") analyzed here in this Initial Study.

OEHI completed the purchase of NPR-1 in February 1998, and has since been operating the EHOF consistent with the 1995 BO and associated ITS. With respect to CESA, OEHI has also operated under the terms of a 1997 MOU with the CDFG, a 1999 Amendment to the MOU that extended its term to 2009 (CDFG CESA MOU 1997,1999), and a Second Amendment to the MOU that extended its term to 2014.

The federal BO and ITS authorize the incidental take of listed species associated with a fixed amount of future land disturbance. Both the federal BO and the CESA MOU anticipated the possible sale of the EHOF to the private sector, the eventual exhaustion of the take authorization limits in the BO/ITS, and thus the subsequent need for issuance of new take authorization in the future. OEHI now seeks to obtain additional take authorization under Section 10 of the FESA, and Section 2081 of the CESA. The proposed incidental take permit sought by the applicant under CESA Section 2081(b) would modify and replace the existing CESA MOU. OEHI is preparing an HCP in connection with the proposed federal take authorization under Section 10 of FESA, and intends to rely on the HCP as part of its application to the CDFG for a state ITP under Section 2081(b).[3]

Gap Analysis

The 1997 SEIS/PEIR analyzed environmental impacts associated with the sale of the EHOF by the federal government, and subsequent operation by the private sector. That analysis was based on certain assumed levels of future oil and gas production.

In 2004, OEHI prepared a Gap Analysis to evaluate the extent to which the 1997 SEIS/PEIR adequately analyzes the environmental effects associated with the new incidental take authorization which OEHI is now seeking (OEHI, 2004, 2008). The Gap Analysis compared the analysis of environmental effects associated with the sale and future private sector operation of the EHOF as evaluated in the 1997 SEIS/PEIR, with the anticipated environmental effects associated with the proposed ITP (Gap Analysis p. 1-81). The 1997 SEIS/PEIR considered and evaluated potential impacts associated with several future operation scenarios including the Upper Bound Commercial Development Case, which is the scenario used in the Gap Analysis to compare impacts associated with the implementation of the proposed ITP. The Upper Bound Commercial Development Case was selected as the alternative to utilize for comparison purposes in the Gap Analysis because it represented the maximum development and impact scenario evaluated in the

[3] With the departure of DOE from Elk Hills, there is no longer a "federal nexus" (i.e., federal agency funding or approval) associated with oil field operations at Elk Hills. As a result, OEHI cannot obtain additional FESA take authorization through the FESA Section 7 process, but instead must utilize the Section 10 process.

1997 SEIS/PEIR. The results of the Gap Analysis are incorporated into this Initial Study to determine whether new significant or substantially more severe impacts may result with issuance of the proposed ITP under CESA than were previously identified in the Lead Agency 1997 SEIS/PEIR. Therefore, if it is determined that the proposed ITP may constitute a modification of the previously approved MOU and that new information is available relevant to the proposed ITP as compared with information available to CDFG at the time it approved the existing MOU; then CDFG will prepare additional environmental analysis focused on those new significant or substantially more severe environmental impacts (CEQA Guidelines Sections 15162 and 15168).

Potential for a Subsequent Joint CEQA/NEPA Document

In the event that this Initial Study concludes that, the proposed ITP may result in new significant or substantially more severe impacts as compared to the environmental impacts identified in the 1997 SEIS/PEIR, CDFG will prepare a subsequent or supplemental environmental document pursuant to Public Resources Code Section 21166 (c).

As noted above, in this instance, the issuance by CDFG of a Section 2081 incidental take permit constitutes a discretionary action subject to CEQA compliance. CDFG's implementing regulations, as found in 14 CCR 783.0 et seq., is considered a Certified Regulatory Program (CRP) under CEQA (PRC Section 21080.5(c), see also CEQA Guidelines Section 15251(o)). Therefore, when CDFG proposes to issue an ITP as a Lead Agency, CDFG may fulfill its CEQA obligations by complying with its CRP and related provisions of CEQA.

With respect to OEHI's application for a federal incidental take permit under FESA, the Service has determined that an Environmental Impact Statement (EIS) must be prepared pursuant to the NEPA. The Service released a Notice of Intent to initiate scoping for the EIS pursuant to NEPA in 2006 (USFWS 2006).

As a result, should CDFG determine through this Initial Study that additional environmental review is required under CEQA, CDFG anticipates that the resulting environmental review document would be prepared in conjunction with the Service as a joint subsequent CEQA/NEPA document.

1.3 REGULATORY SETTING

California Endangered Species Act

The CESA protects plant and animal species listed by the Fish and Game Commission as being threatened or endangered, or designated by the Commission as candidates for listing.

"Take" of listed species is prohibited, unless incidental take authorization is first obtained from CDFG. Take is defined under Fish and Game Code Section 86 as meaning to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill. The prohibition on take of listed species also extends to any species designated as a candidate species pursuant to Fish and Game Code Section 2085.

Under Fish and Game Code Section 2081(b), CDFG may issue an incidental take permit for a state listed species if the following criteria are met:

- The authorized take is incidental to an otherwise lawful activity;
- The impacts of the authorized take are minimized and fully mitigated;
- The measures required to minimize and fully mitigate the impacts of the authorized take:
  - are roughly proportional in extent to the impact of the taking on the species
  - maintain the applicant's objectives to the greatest extent possible
  - are capable of successful implementation;
- Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and
- Issuance of the permit will not jeopardize the continued existence of state-listed species.

Federal Endangered Species Act

The FESA protects plant and animal species listed by the Service as being threatened or endangered. "Take" of listed wildlife species is prohibited, unless take authorization is first obtained from the Service. "Take" is more broadly defined under the FESA than under the CESA, and means to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. "Harm" is defined to mean an act which actually kills or injures wildlife, including those activities that cause significant habitat modification or degradation resulting in the killing or injuring of wildlife by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering (50 CFR 17.3).

Under Section 7 of the FESA, all federal agencies must consult with the Service if their actions may affect listed species or designated Critical Habitat for such species. This consultation concludes with issuance of a BO by the Service. Most BOs include terms and conditions to minimize impacts on listed species, and an Incidental Take Statement authorizing the take of listed wildlife subject to such terms and conditions. As noted above, when DOE operated the EHOF it consulted with the Service several times, resulting in the issuance of several BOs. However, since the EHOF is now under private ownership, there is no longer a "federal nexus" for the project. Further incidental take at the EHOF can only be authorized under the FESA Section 10 process.

Under Section 10(a)(1)(B) of the FESA, the Service may permit, under certain terms and conditions, the incidental take of listed species that may occur pursuant to an otherwise lawful activity. To obtain a Section 10(a)(1)(B) permit, an HCP must be prepared that provides the following information:

- Impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- Measures the applicant will undertake to monitor, minimize, and mitigate such impacts; the funding that will be made available to undertake such measures; and the procedures to deal with unforeseen circumstances;
- Alternative actions the applicant considered that would not result in take, and the reasons why such alternatives are not being utilized; and
- Additional measures the Service may require as necessary or appropriate for purposes of the plan.

The Service has adopted a five-point policy initiative (USFWS and NOAA 2000) designed to clarify elements of the HCP program as they relate to measurable biological goals, adaptive management, monitoring, permit duration, and public participation. To be approved by the Service, an HCP must satisfy the following additional criteria:

Biological Goals and Objectives: HCPs must include biological goals and objectives that set out specific measurable targets that the plan is intended to meet. These targets are based on the best scientific information available and are used to guide conservation strategies for species covered by the plan.

Adaptive Management: The five-point policy encourages the development of adaptive management plans as part of the HCP process under certain circumstances. Adaptive management provides a means to address biological uncertainty and to devise alternative strategies for meeting biological goals and objectives.

Monitoring: Monitoring is a mandatory element of all HCPs under the five-point policy. HCPs must provide for monitoring programs to gauge the effectiveness of the plan in meeting the biological goals and objectives and to verify that the terms and conditions of the plan are being properly implemented.

Permit Duration: Under the five-point policy, several factors are used to determine the duration of an incidental take permit, including the duration of the applicant's proposed activities and the expected positive and negative effects on Covered Species associated

with the proposed duration. The Service also considers the level of scientific and commercial data underlying the proposed operating conservation program, the length of time necessary to implement and achieve the benefits of the operating conservation program, and the extent to which the program incorporates adaptive management strategies.

Public Participation: Under the five-point policy, the Service announced its intent to expand public participation in the HCP process to provide greater opportunity for the public to assess, review, and analyze HCPs and associated documentation (e.g., National Environmental Policy Act documents). As part of this effort, the Service has expanded the public review process for most HCPs from a 30-day comment period to a 60-day period.

1.4 PROGRAM EIR AND SUBSEQUENT ENVIRONMENTAL REVIEW

CEQA Guideline Section 15168(a) allows for a "Program EIR" to be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in the chain of contemplated action; (3) in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. Further, CEQA Guideline 15168(d) provides that a Program EIR can: (1) provide the basis in an Initial Study for determining whether the later activity may have any significant effects; (2) be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole; and (3) focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

In order to determine whether factors calling for preparation of a subsequent or supplemental EIR (SEIR) exist for certain topics, CEQA contemplates that the Lead Agency may prepare an Initial Study. If the CEQA standards requiring preparation of an SEIR to address any issues are met, then the agency (CDFG) should focus the subsequent environmental review on the new or substantially more severe significant impact areas (CEQA Guidelines Section 15163(b)).

As discussed in Section 1.2, the certified 1997 SEIS/PEIR prepared by DOE and Kern County to assess the environmental impacts of the anticipated sale of NPR-1, provides the environmental analysis upon which the current proposed ITP (to obtain a Section 2081(b) ITP) may rely (except where CEQA would require further analysis for all or certain topics as identified in this Initial Study). The proposed ITP is expected to have "generally similar

environmental effects which can be mitigated in similar ways" as those identified in the Upper Bound Commercial Development Case in the 1997 SEIS/PEIR (CEQA Guidelines Section 15168(a). As a result, further environmental review for the proposed ITP is required only as specified in Section 21166 of the State Public Resources Code (PRC) and Section 15162 of the CEQA Guidelines. The proposed ITP is considered a "subsequent activity" referred to in CEQA Guidelines Section 15168(c) and has been "examined in light of the Program EIR (as analyzed in the 1997 SEIS/PEIR) to determine whether an additional environmental document must be prepared". In this instance, the Initial Study is being prepared to enable the CDFG to determine whether the proposed ITP would trigger the need for subsequent or supplemental environmental review pursuant to PRC Section 21166 and CEQA Guidelines 15162 and 15163.

1.5 PREVIOUS ENVIRONMENTAL DOCUMENTS

Applicable documents relating to this Initial Study are cited in accordance with Section 15148 of the CEQA Guidelines, which encourages incorporation by reference to reduce redundancy in and the length of environmental reports. Portions of the following documents are discussed and summarized in subsequent sections of this Initial Study. These documents are available for public review during normal business hours at the California Department of Fish and Game, 1234 E. Shaw Avenue, Fresno, California 93710, phone number (559) 243-4014, (extension 222), as well as at the Taft Branch Library located at 27 Emmons Drive, Taft, CA 93268. These documents are hereby incorporated by reference into this Initial Study as permitted, in Section 15150 of the State CEQA Guidelines. Information contained within these documents has been utilized for this Initial Study.

- Errata to the 1997 SEIS/PEIR Gap Analysis, prepared by Occidental of Elk Hills Inc., August 2008.

- Agency Draft Habitat Conservation Plan for Elk Hills Oil and Gas Field prepared by Live Oak Associates, Inc. January 2006.

- 1997 SEIS/PEIR Gap Analysis, prepared by Occidental of Elk Hills Inc., October 4, 2004.

- U. S. Department of Energy, 1999, Finding of No Significant Impact for Waste Remediation Activities at Elk Hills (Former Naval Petroleum Reserve No. 1). November 12, 1999.

- U.S. Department of Energy, 1999, Environmental Assessment for Waste Remediation Activities at Elk Hills (Former Naval Petroleum Reserve No. 1), Kern County, California, DOE/EA-1288. September 1999.

- California Department of Fish and Game (CDFG), 1999; First Amendment to California Endangered Species Act Memorandum of Understanding and Take Authorization, By and Between Occidental of Elk Hills Inc., and CDFG regarding Elk Hills Unit (Formerly Known as Naval Petroleum Reserve-1).

- U.S. Department of Energy, 1998, Mitigation Action Plan, Sale of Naval Petroleum Reserve No. 1 (Elk Hills), Kern County, California, January, 1998.

- California Department of Fish and Game (CDFG), 1997; California Endangered Species Act Memorandum of Understanding and Take Authorization, By and Between Occidental of Elk Hills Inc., and CDFG regarding Naval Petroleum Reserve -1 (Elk Hills).

- California Department of Fish and Game (CDFG), 2010; Second Amendment to California Endangered Species Act Memorandum of Understanding and Take Authorization, By and Between Occidental of Elk Hills Inc., and CDFG regarding Elk Hills Unit (Formerly Known as Naval Petroleum Reserve-1).

- U.S. Department of Energy, 1997. Record of Decision. Final Supplemental Environmental Impact Statement/Program Environmental Impact Report for the Sale of NPR-1. U.S. Department of Energy Report DOE/SEIS/PEIR-0158-S2, (SCH 96121013). December 19, 1997.

- Kern County Board of Supervisors, Resolution No. 97-375; Adoption and Certification of the Final Program Environmental Impact Report (SCH 96121013), December 15, 1997.

- U.S. Department of Energy, 1997, Final Supplemental Environmental Impact Statement/Program Environmental Impact Report for the Sale of Naval Petroleum Reserve No. 1 (Elk Hills), Kern County, California, U.S. Department of Energy Report DOE/SEIS/PEIR-0158-S2, (SCH 96121013), October 1997.

- Kern County Planning Department, 1996, Notice of Preparation for the Sale of Naval Petroleum Reserve No. 1 (Elk Hills), (SCH 96121013), December 3, 1996.

- U.S. Fish and Wildlife Service (USFWS). 1995. Biological Opinion (1-1-95-F-102), November 9, 1995.

- U.S. Department of Energy, 1994, Draft Environmental Assessment for Continued Exploration, Development and Operation, Naval Petroleum Reserve No. 2, Buena Vista Hills, Kern County California, DOE/EA-0997.

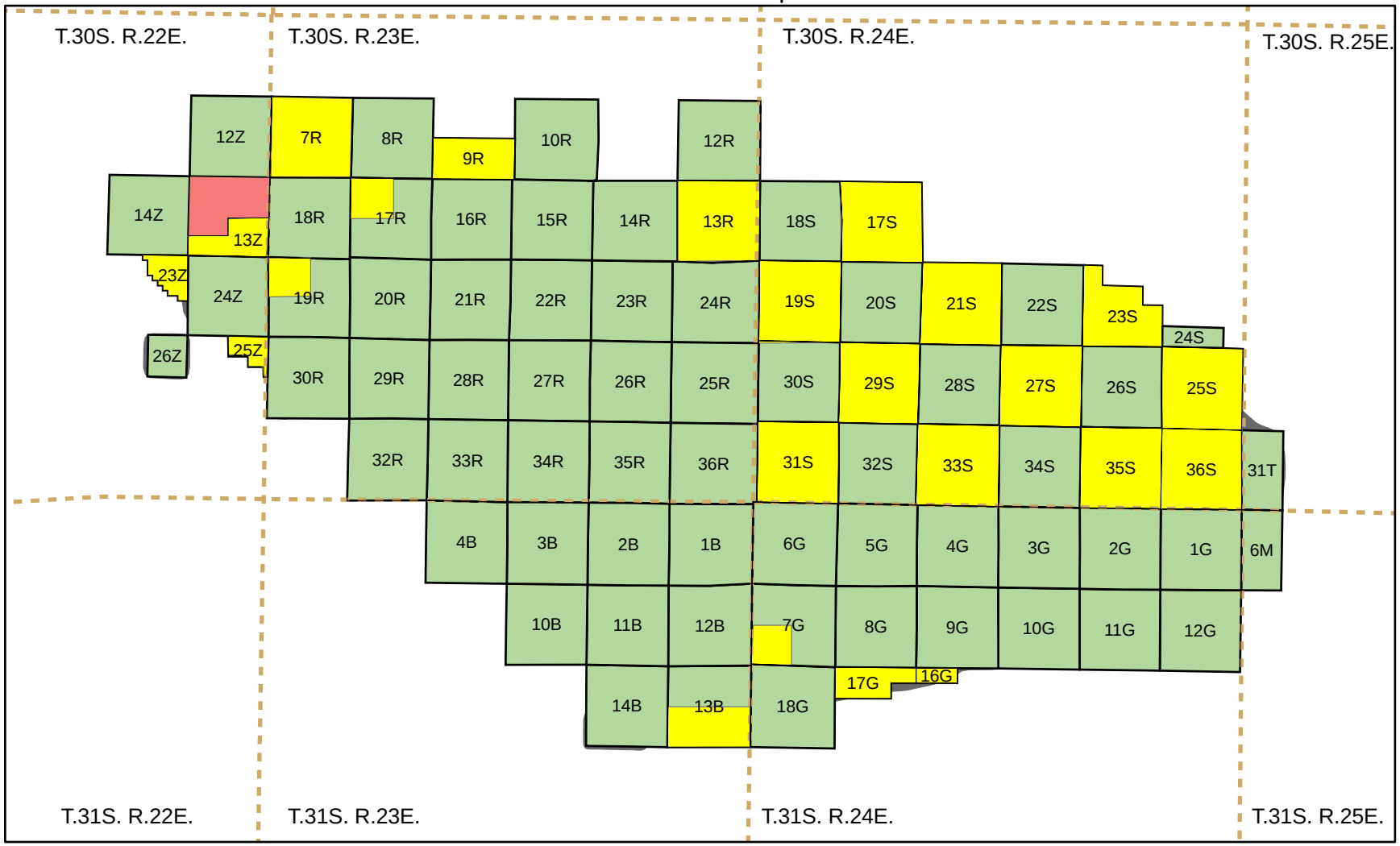
- Naval Petroleum Reserve No. 1 (Elk Hills) Supplemental Environmental Impact Statement; Record of Decision, (DOE EIS/0158), February 1994.

- U.S. Department of Energy, 1993, Supplemental Environmental Impact Statement, Petroleum Production at Maximum Efficient Rate Naval Petroleum Reserve No. 1 (Elk Hills) Kern County, California, U.S. Department of Energy Report DOE/EIS-0158, July 1993.

- U.S. Department of Energy, 1991. Biological Assessment on the Effects of Petroleum Production at Maximum Efficient Rate, Naval Petroleum Reserve No. 1 (Elk Hills), Kern County, California, on Endangered Species.

Occidental of Elk Hills

Unit Land Map



0 8,000 16,000
Feet
1:121,000

OEHI Unit Land
Chevron Unit Land
Chevron Non-Unit Land

Quad Knopf

FIGURE 1.1

060008

SECTION 2.0

PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study has been prepared to determine whether the proposed ITP may result in new significant or substantially more severe impacts as compared to the environmental impacts analyzed in the 1997 SEIS/PEIR. If so, such impacts will be analyzed in the subsequent joint CEQA/NEPA document for the proposed ITP. To make this determination, this document compares the prior project (Proposed Action), analyzed by and the associated environmental impacts identified in the 1997 SEIS/PEIR, with the new project (the proposed ITP) and its associated environmental impacts.

This Section of the Initial Study describes the project analyzed in the 1997 SEIS/PEIR, the proposed ITP, and includes a summary of the comparison of impacts evaluated in the Gap Analysis. Then, Section 4.0 presents an evaluation of each environmental resource area using the following approach: (1) a summary of the impacts and mitigation measures identified in the 1997 SEIS/PEIR, (generally the discussion will include impacts evaluated in the 1996 NOP/IS), (2) a discussion of the proposed ITP and associated impacts if any, including any incorporated mitigation measures, (3) a summary of the impacts associated with the proposed ITP that were adequately analyzed in the 1997 SEIS/PEIR (Gap Analysis), and (4) a conclusion specifying whether the proposed ITP will result in any new or substantially more severe impacts which must be analyzed in a subsequent joint CEQA/NEPA document.

2.2 PROJECT LOCATION

The EHOF is located 26 miles (42 km) southwest of Bakersfield in western Kern County, California (Figure 2.2). The entire 47,884-acre EHOF includes land distributed across all or part of 81 sections within the following townships: T.30S, R.22E; T.30S, R23E; T.30S, R.24E; T.30S, R.25E; T.31S, R.25E; and T.31S, R.24E, Mount Diablo Baseline and Meridian (MDB&M).

Legal Description Method

The EHOF was originally developed as part of the federal Naval Petroleum Reserves, and was designated as “NPR-1.” The U.S. Navy, the original operator of the field, did not use

the customary cadastral survey conventions to refer to the location of a particular section. Instead, it employed a "short cut" method in which each distinct Township/Range was identified by a letter designation. Under the cadastral survey method, each Township is comprised of 36 one-mile square Sections, numbered 1 through 36, and each Section is referred to by Section, Township and Range designations. Under the Navy's shortcut method, however, each Section at the EHOF was identified simply by its Section number and the Township/Range letters. Thus, what would normally be described as "Section 7 of Township 30 South, Range 23 East" was described by the Navy simply as "Section 7R."

The Navy's convention has persisted, and therefore all Sections within and adjacent to the EHOF are still commonly referred to by this shortcut method, which is used in this document (Figure 2.3). Standard legal descriptions are also provided as appropriate for the reader's benefit in parenthesis following a "shortcut" description.

2.3 ENVIRONMENTAL SETTING

Section 15125(a) of the CEQA Guidelines requires that a description of the existing physical environmental conditions in the vicinity of the project be included in the environmental setting. The setting will normally constitute the baseline physical conditions by which a Lead Agency determines whether an impact is significant. Normally, the baseline condition is the physical condition that exists when the Notice of Preparation (NOP) is published, or at the time environmental analysis is commenced. However, the establishment of an alternate baseline is allowable because Section 15125(a) of the State CEQA Guidelines gives Lead Agencies flexibility to establish other points in time as the baseline should the circumstances warrant it. Here the circumstances warrant the use of the environmental setting set forth in the Gap Analysis described in Section 1.

The Gap Analysis contains a detailed assessment of the EHOF environmental setting, updating the environmental setting analyses in the 1997 SEIS/PEIR, and is incorporated herein by this reference. It accurately represents the environmental setting at the time the Gap Analysis was commenced (June 2004), and since physical conditions at the EHOF have not changed appreciably since that time it also accurately represents the current environmental setting.

This Initial Study addresses impacts to Covered Lands, caused by Covered Activities. The Covered Lands include the EHOF, which includes a 7,801-acre Conservation Area that was established on November 6, 1998. The 1995 Biological Opinion required that a Conservation Area of at least 7,075-acres be established within 3 years to compensate for past and future habitat loss. The EHOF component and limited areas within the 2-mile buffer of Covered Lands were analyzed in the 1997 SEIS/PEIR. In addition, impacts are

considered for mitigation lands (Initial Conservation Lands, and Future Conservation Lands) that will be acquired (purchased) within EHOF and within and outside the 2-mile buffer. Approximately 1,349 acres of land will be dedicated as Initial Conservation Lands and are located in Section 6R, (T.30S., R.23E.), Section 22S (T. 30S., R. 24E.), and Section 12G (T. 31S., R. 24E.), As seen on Figures 1.1, and 2.4a one of these three parcels (6R) is not part of the EHOF, but is within the 2-mile buffer. Any future Covered Lands that might be located in the surrounding 2-mile buffer were generally not addressed in the 1997 SEIS/PEIR. Finally, impacts are also considered for Covered Lands that consist of facility ROWs (off-site utilities) that are located outside of EHOF.

EHOF is divided into two types of land designations: the High Production Area (HPA) (23,960 acres[4]) and Non-HPA (23,924 acres[5]) which includes the Conservation Area. The majority of the oil and gas development and related activities have historically occurred within the HPA. The HPA overlies the productive limits of the known hydrocarbon producing reservoirs at the EHOF as designated by the California Division of Oil, Gas and Geothermal Resources (DOGGR). The Non-HPA is generally located outside the productive limits of these producing reservoirs and within the limits of the designated administrative boundary of the oil field. The Non-HPA is also commonly referred to as the "step-out zone" within a designated oil field boundary. OEHI has currently acquired within the Non-HPA approximately 475 acres located in Section 22, T.30S., R.24E., (Section 22S), and approximately 234 acres located in Section 12, T. 31S., R.24E., (Section 12G) for dedication as Initial Conservation Lands (Figure 2.4a). OEHI has also acquired within the 2-mile buffer approximately 640 acres located in Section 6 T.30S., R.23E., (Section 6R) for dedication as Initial Conservation Lands. Thus, approximately 1,349 acres have been acquired as Initial Conservation Lands (Figure 2.4a). The acreage within the 2-mile buffer is approximately 59,662 acres (93.2 square miles). The amount and precise location of other Future Conservation Lands that may be set aside within EHOF, or acquired within the 2-mile buffer and elsewhere, is not known at this time.

Elk Hills and Buena Vista Hills, two anticlinal ridges, run southeast to northwest. Numerous steep draws and dry stream channels characterize the site. Alluvial plains and flat valley lands occur around the perimeter of the reserves. Elevations range from 289 to 1552 feet (88 m to 473 m).

The EHOF is situated immediately south of and contiguous with the Lokern Area of Critical Environmental Concern (ACEC[6]), a fraction of which is controlled by the Bureau of Land

[4] OEHI database

[5] OEHI database

[6] This ACEC designation is authorized by Section 202(c) (3) of the Federal Land Policy and Land Management Act, 43 U.S.C. § 1712(c)(3). ACEC's include public lands where special management attention and direction is needed to protect and prevent irreparable damage to important historic, cultural and scenic values, fish, or wildlife resources or other natural

Management (BLM) (3,110 acres). Portions of the Lokern ACEC are managed by the Center for Natural Lands Management (CNLM, 2,050 acres) and Nuevo Habitat Management Lands (now known as Plains Exploration and Production Company) (200 acres) as conservation areas; the remainder is owned by Chevron and other private land owners. The City of Buttonwillow is directly north.

McKittrick Valley and portions of Buena Vista Valley with Highway 33 running NW-SE are to the west. The cities of McKittrick and Derby Acres are located along Highway 33. Approximately 10 miles to the west and across the Temblor Range is the Carrizo Plain National Monument (also an ACEC; 199,030 acres). Inholdings in the Carrizo Plain are owned in some cases privately but the area is managed by the BLM.

To the southwest lay Buena Vista Valley, the majority of which is within the former NPR-2. The NPR-2 federally owned lands previously managed by DOE have been transferred to BLM. The City of Taft is located approximately 7 miles to the southwest. Mostly undeveloped areas are located along Highway 119 to the southeast of EHOF and the 2-mile buffer.

Lands to the immediate east include Coles Levee Ecological Preserve (CLEP; 6,059 acres), Kern Water Bank Authority (19,900 acres), Tule Elk State Reserve and the Kern River. The California Aqueduct and the West Side Canal converge and flow along the north and eastern boundary of EHOF, as does the Kern River. The Buena Vista Lake Bed is located immediately southeast of Highway 119. The EHOF is approximately 10 miles to the east of Taft and 26 miles southwest of Bakersfield. The EHOF and the 2-mile buffer are circumscribed by Interstate 5 to the north and east, Highways 119 and 33 to the southwest, Highway 33 to the west and Highway 58 to the north. Elk Hills Road runs north and south and bisects the project area.

EHOF Vegetation

The major vegetation type on the EHOF has been described as Lower Sonoran Grassland (Twisselman 1967). Other descriptions include Valley Saltbush Scrub, Non-native Grassland, and Valley Sink Scrub (Mayer et al. 1988). These habitats have not been delineated on site as they grade into one another and shift over time.

Valley Saltbush Scrub

Valley Saltbush Scrub habitat (also referred to as chenopod scrub, alkali desert scrub, Great Basin saltbush scrub, and shadscale), consists of open stands of very low to moderately high grayish pubescent subshrubs and shrubs. Soils of this

systems or processes or to protect human life and safety from natural hazards. ACEC designation indicates BLM recognizes the significant values of the area and intends to implement management to protect and enhance the resource values.

habitat type are generally very rich in carbonates. Valley saltbush scrub habitat at the EHOF is dominated by desert saltbush (*Atriplex polycarpa*), although spiny saltbush (*Atriplex spinifera*), cheesebush (*Hymenoclea salsola*), and matchweed (*Gutierrezia bracteata*) are often present in less abundance. Grasses and forbs common to the non-native grassland habitat as described below are also present where openings in the shrub canopy allow.

Non-native Grassland

Non-native grasses and forbs of mostly European origin dominate the non-native grassland present within the EHOF. Grasses present during the extensive site surveys conducted at the EHOF include red brome (*Bromus madritensis ssp. rubens*), ripgut (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), rattail fescue (*Vulpia myuros*) and wild oats (*Avena fatua*). The most dominant forb within non-native grasslands at the EHOF includes red-stemmed filaree (*Erodium cicutarium*). Other species commonly observed include various species of buckwheat (*Eriogonum sp*), prickly lettuce (*Lactuca serriola*), rancher's fireweed (*Amsinckia eastwoodiae*), and various species of lupine (*Lupinus sp*.).

Valley Sink Scrub

Valley Sink Scrub habitat is extremely limited in extent at the EHOF. Where present, this habitat generally consists of low-lying arroyos or sandy washes surrounded by valley saltbush scrub habitat. Although rainwater may flow through these washes during storm events, sink scrub habitats are dry most of the year. Plants within this habitat are generally taller and denser than those of surrounding scrublands, but consist of the same species found in the valley saltbush scrub.

2.4 DESCRIPTION OF PROJECT ANALYZED IN 1997 SEIS/PEIR

The 1997 SEIS/PEIR analyzed all the environmental impacts associated with the sale of the NPR-1 (EHOF) to the private sector, and the continued and future operation and development of hydrocarbon resources at the EHOF under private sector ownership. The 1997 SEIS/PEIR evaluated potential impacts associated with several future operational scenarios. Of these scenarios, the Upper Bound Commercial Development Case scenario (hereinafter referred to as the Proposed Action in the 1996 NOP/IS and the 1997 SEIS/PEIR) represented the greatest amount of development activity and the greatest level of environmental impact. The 1997 SEIS/PEIR analysis/Gap Analysis of that scenario is what this Initial Study compares the proposed ITP and its associated impacts against.

2.4.1 1997 SEIS/PEIR and Associated Impacts

A summary of the 1997 SEIS/PEIR's project description, impact envelope and Mitigation Monitoring Program (MMP) is provided below.

Project Description:

Continued oil and gas exploration and production activities and operations at Elk Hills by a private sector operator would occur for the period of 1997-2034+ (37 years).

Primary components for the Upper Bound Commercial Development Case include, but are not limited to;

- Drill 628 wells
- Complete 5,113 remedial well jobs
- Construct and operate two carbon dioxide flood enhanced oil recovery projects
- Construct and operate one gas storage project
- Third party activities to operate and maintain pipelines, power lines and substations
- Third party activities to conduct seismic testing (geophysical surveys) programs

Habitat Disturbance Envelope:

Development Drilling:

- 766 acres permanent disturbance (754 acres wells + 12 acres production facilities)
- 754 acres temporary disturbance

Capital Improvement Remedials:

- 5,113 acres temporary disturbance

Total Disturbance:

- 766 acres permanent disturbance
- 5,867 acres temporary disturbance

Despite the intensive amount and pace of development analyzed for the Upper Bound Commercial Development Case, the 1997 SEIS/PEIR concluded that only modest environmental impacts would likely occur because most of the facilities necessary to support future operations had already been constructed.

2.4.2 1997 SEIS/PEIR Mitigation Monitoring Program

The 1997 SEIS/PEIR included multiple mitigation measures and an MMP. Based on these measures, Kern County concluded that any otherwise significant impacts were mitigated to a level of less than significant (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997). Therefore, a Statement of Overriding Considerations pursuant to CEQA Guidelines 15093 was not required. A summary of these 33 mitigation measures adopted in Exhibit B of Resolution No. 97-375 is provided below.

Mitigation Measure 1: Design and construct new habitable structures, if any, to minimize damage from seismic events to the extent feasible, in compliance with applicable provisions of the Kern County Building Code.

Mitigation Measure 2: Select new drilling sites taking into account site-specific soil stability as necessary to mitigate to the extent feasible, the potential for damage to habitable structures from landslides or mudslides.

Mitigation Measure 3: Conserve and reuse topsoil at new construction sites to the extent feasible to mitigate the potential for erosion.

Mitigation Measure 4: Minimize disturbance of natural drainageways during construction to the extent feasible to mitigate the potential for erosion.

Mitigation Measure 5: Contour and stabilize or revegetate disturbed slopes at new construction sites to the extent feasible after construction to mitigate the potential for erosion.

Mitigation Measure 6: Visually inspect habitable structures at least annually for structural integrity, and in the event significant structural damage is observed, due to erosion or subsidence, implement a corrective action plan in an appropriate time.

Mitigation Measure 7: Implement an asbestos management plan that complies with applicable laws.

Mitigation Measure 8: Implement a waste minimization plan that complies with applicable laws.

Mitigation Measure 9: Implement an environmental training plan that complies with applicable laws.

Mitigation Measure 10: Implement a radiological control plan that meets the intent of the program implemented by DOE.

Mitigation Measure 11: Implement an emergency response plan that complies with applicable laws.

Mitigation Measure 12: Minimize the area of disturbance at new construction sites to the extent feasible.

Mitigation Measure 13: Implement a dust control plan that complies with applicable laws.

Mitigation Measure 14: Minimize the extent of new impervious areas to the extent feasible consistent with the dust control plan for air quality.

Mitigation Measure 15: Restore the topography in disturbed areas to natural or similar contours after new construction to the extent feasible.

Mitigation Measure 16: Reclaim drilling sumps to be abandoned in the future to restore natural or similar drainage patterns to the extent feasible.

Mitigation Measure 17: Visually inspect the berm abutting the California Aqueduct on the Elk Hills Unit Lands at least once annually and, if warranted, by the inspection, prepare and implement a plan to maintain the berm as necessary to mitigate the potential for discharge of oil or hazardous materials by surface runoff into the California Aqueduct.

Mitigation Measure 18: Construct future construction activities in the vicinity of the California Aqueduct in appropriate locations, or otherwise use appropriate techniques, to mitigate the potential for a discharge of oil or hazardous materials by surface runoff into the California Aqueduct.

Mitigation Measure 19: Maintain necessary emergency overflow catchment basins to mitigate the potential impact of a discharge of oil or hazardous materials.

Mitigation Measure 20: Visually observe stormwater entering Buena Vista Creek from the direction of the nearest oil field structure at least once annually during a heavy precipitation event for an oil sheen. If an oily sheen is observed, investigate the source of the sheen and, if the source of the sheen is found to be oil field operations on the Elk Hills Unit Lands, promptly take feasible actions to contain or remove the sheen to reduce further discharge of stormwater containing an oily sheen to Buena Vista Creek.

Mitigation Measure 21: Comply with the requirements of water purchase agreements with the West Kern Water District or similar water provider.

Mitigation Measure 22: Implement a groundwater management plan that meets the intent of the relevant elements of the program implemented by DOE taking into account whether or not the underlying groundwater is used as a source of drinking water.

Mitigation Measure 23: Monitor static groundwater levels annually at remaining groundwater wells at the South Flank of NPR-1 and, if necessary, evaluate feasible alternative produced water disposal options.

Mitigation Measure 24: Filter and recycle produced water (reinject for waterflooding) to the extent feasible.

Mitigation Measure 25: Prohibit the use of chromium additives in drilling fluids.

Mitigation Measure 26: Design hydrostatic test activities for new pipelines to minimize to the extent feasible the generation of wastewater.

Mitigation Measure 27: Implement a hazardous materials spill prevention control and countermeasure plan that complies with applicable laws.

Mitigation Measure 28: Minimize discharges of produced water to surface sumps to the extent feasible.

Mitigation Measure 29: Implement DOE's remaining obligations set forth in the terms and conditions of the 1995 Biological Opinion. Establishment of the Conservation Area specified in the 1995 Biological Opinion is included in these obligations.

Mitigation Measure 30: Enter into and implement a Memorandum of Understanding (MOU) with the California Department of Fish and Game pursuant to Fish and Game Code Section 2081.

Mitigation Measure 31: Evaluate inclusion of the two locations of suspected human remains identified by DOE within the Conservation Area to be established pursuant to the 1995 Biological Opinion to the extent feasible.

Mitigation Measure 32: Implement a cultural resources training plan supervised by an archaeologist.

Mitigation Measure 33: Implement a plan to address the discovery of suspected human remains, other than human remains addressed by the Programmatic Agreement between DOE and SHPO, which may be unexpectedly encountered during construction activities. The plan may include consulting with the County Coroner, an archaeologist and/or a local Native American representative to avoid disturbing suspected human remains.

This Initial Study reviews and recognizes the mitigation measures in the MMP to the extent they are still applicable to the proposed ITP and assumes project compliance with these mitigation measures to reduce the level of potential environmental impacts. Substantive mitigation measures are reiterated in the impact evaluation discussions in Section 4.0 as they pertain to each resource area.

2.5 DESCRIPTION OF THE NEW PROJECT (THE PROPOSED ITP)

2.5.1 Covered Activities

OEHI seeks a Section 2081 ITP which will extend the term and coverage of, and will supersede, an existing CESA MOU (Fish and Game Code 2081.1) which currently authorizes the take of CESA-listed species incidental to ongoing oil and gas extraction, processing and related activities. The proposed ITP would have a term of 50 years, and would authorize incidental take for the following categories of general activities: (1) the continued exploration, development, production, recovery and processing of oil and gas reserves on the 47,884-acre EHOF over a period of 50 years, including the drilling of additional wells which could result in the permanent disturbance of up to 4,000 acres and the temporary disturbance of up to 3,000 acres of presently undisturbed land; (2) the operation, maintenance and repair of facilities associated with *existing* facility ROWs (i.e.; product transmission lines and pipelines, waterlines, and powerlines, etc.) both on the EHOF and within a surrounding 2-mile buffer (which encompasses 59,662 acres); (3) the installation, operation and maintenance of limited *additional* off-site facilities within the 2-mile buffer; and (4) implementation of the conservation program specified in the Section 2081(b) application, including the management for conservation purposes of Conservation Lands designated within the EHOF and/or acquired in the adjacent 2-mile buffer area or areas otherwise approved by the CDFG and Service. The extent to which these activities have been covered under the existing CESA MOU and their impacts disclosed in the 1997 SEIS/PEIR is analyzed in Section 4.0 of this Initial Study.

A summary of the future development and disturbance activities at EHOF anticipated in the proposed ITP is provided below.

Through the HCP and requested Section 2081 ITP, OEHI seeks continued authorization to take listed species incidental to all activities associated with ongoing and new oil and gas production operations within the EHOF, including but not limited to: (1) construction, operation and maintenance of production facilities, (2) surface excavations, (3) activities required by the California Division of Oil, Gas and Geothermal Resources (DOGGR), (4) construction and operation of related facilities, (5) installation, maintenance and repair of perimeter and interior fencing, (6) transmission lines, (7) emergency response and environmental remediation, (8) livestock grazing, (9) regulatory agency requirements, (10) recreational and educational activities, (11) scientific research, and (12) implementation of conservation program activities. Up to 10% net acreage per quarter section of Conservation Lands within the EHOF may be disturbed for such activities.

OEHI also seeks authorization to take listed species incidental to the following activities on lands within the 2-mile buffer surrounding the EHOF: (1) operation, maintenance, and repair of production and transmission facilities, such as pipelines associated with existing Rights-of-Way (ROWs); (2) limited construction of new facilities; and (3) implementation of conservation program activities. Each of these is described more fully below.

Operations and Maintenance of Facilities Associated with Existing Facility (ROWs)

These activities include the operation, maintenance, repair, construction, reconstruction, replacement, and abandonment of transmission lines and pipelines located within the 2-mile buffer. This includes the maintenance of various powerlines or hydrostatic testing and cleaning of pipelines.

Limited Construction of Linear Facilities

From time to time, additional pipelines and transmission lines may have to be constructed within the 2-mile buffer in order to maintain EHOF operations and accommodate product sales, processing and distribution demands. The covered linear projects would be generally confined/co-located next to existing ROWs within the 2-mile buffer and facilities shown outside of the 2-mile buffer (See Figure 4.4). Each individual linear project would be limited to no more than a construction ROW width of 100-feet and length of 1-mile on a not to exceed basis per section (approximately 12-acres of disturbance per section).

Management Activities

Management of the Initial Conservation Lands (Section 6R and portions of Sections 22S and 12G see Figure 2.4a, and Section 2.5) and other Future Conservation Lands

includes, but is not limited to, a) annual monitoring of Covered Species, b) annual reporting of findings to agencies, and c) habitat enhancements to increase sustainability of Covered Species. Habitat enhancements will likely include: 1) appropriate fencing to prohibit trespassing, 2) trash removal and signage, 3) improve vegetation appropriate for Covered Species (for example, enhance saltbush, improve grasslands through limited grazing, etc.), 4) limit road use and implement the reclamation of roads no longer needed for operations, and 5) reseeding areas with shrubs.

Except as described above, any disturbance of Conservation Lands outside of the EHOF (i.e., within the 2-mile buffer, or elsewhere) would not be a Covered Activity. Such disturbance could include impacts from installing new roads, pipelines, exploration wells, or production wells. As a result, if OEHI elects in the future to pursue any such disturbance, it would be required at that time to obtain all applicable regulatory approvals, including incidental take authorization. Accordingly, the environmental impacts associated with any such disturbance will not be addressed in this Initial Study, or in the subsequent joint CEQA/NEPA document.

2.5.2 Covered Lands

The proposed ITP would cover the activities identified above on the following Covered Lands: (1) the EHOF, which consists of approximately 47,884 acres (~74.8 square miles); (2) lands within a 2-mile buffer area or areas otherwise approved by the Service and CDFG; (3) facility ROWs (e.g., off-site utilities) located outside of EHOF; and (4) any Conservation Lands managed to mitigate for impacts pursuant to the proposed ITP. Covered Lands do not include approximately 480 acres of Chevron non-Unit land located in Section 13Z (see Figure 1.1). The surface interest on this parcel is privately owned by Chevron and the activities conducted thereon are not currently part of EHOF operations, except for portions of roads and utility lines that cross the parcel. Any future maintenance, repair, operation and abandonment of said roads/utility lines including the need for improved infrastructure will be included as Covered Activities under the proposed ITP in the same fashion that off-site utilities and facilities maintenance and operation will be handled.

As OEHI acquires conservation land properties over the 50-year life of the proposed ITP, these properties in the southern San Joaquin Valley may be added to the list of properties covered by the associated incidental take permits, upon CDFG and Service approval.

2-Mile Buffer – Future Conservation Lands

As stated above, the 2-mile buffer was generally not evaluated in the 1997 SEIS/PEIR and was identified during the HCP planning process as an area suitable for future land acquisitions to provide for Conservation Lands. The EHOF supports habitat of varying quality for many special-status animal and plant species. Acquisition and management of Conservation Lands within the 2-mile buffer and adjacent areas is important for regional populations of Covered Species. The HCP would include a General Management Plan (GMP) that would govern the process for acquiring Future Conservation Lands within and outside of the 2-mile buffer (see Section 4.2 discussion). In addition, specific management plans would be developed based on best available information, informal consultation with the Service and CDFG, and needs of the Covered Species. Lands located outside of the EHOF and the 2-mile buffer can be acquired and incorporated into the proposed ITP with a minor amendment to the HCP and associated incidental take permits. Minor amendments to HCPs are not uncommon over the life of a permit and can be incorporated in an expedited way. In the event that, and with agency approval, conservation land(s) located outside of the EHOF and the 2-mile buffer would provide superior mitigation for conservation and recovery purposes, facilitating connectivity and wildlife linkages, said lands can also be acquired and incorporated into the HCP and associated ITPs.

All future lands would be acquired in consultation with and approval of the CDFG and Service**.** Future acquisitions would be managed for the persistence and viability of Covered Species' populations and specific measures would be implemented to enhance Covered Species' habitat. Enhancement activities would be designed to increase the value of the habitat for Covered Species and therefore satisfy the "fully mitigate" standard under CESA.

The HCP and associated ITPs Permit Area, consisting of the four areas identified above under Covered Lands, would be the main source of Conservation Lands establishing the foundation of the HCP and associated ITPs.

2.5.3 Covered Species

Covered Species for the proposed ITP are species that are currently listed as federal/state threatened or endangered or have the potential to become listed during the life of the proposed ITP and have some likelihood to occur within the Covered Lands. Species that have the potential to become listed are those that have a petition for listing pending, are currently candidates for listing, or whose populations are declining from a significant portion of their range and, therefore, may become listed in the future.

Covered Species include those wildlife species for which take will be authorized by the HCP and associated ITPs. Inclusion of a regionally occurring species as a Covered Species in the proposed ITP is based on the likelihood of take, status of the species, and, for those species that are not currently listed under the CESA/FESA, the potential for that species to become listed in the future. Should unlisted Covered Species become listed under the FESA during the term of the permit, take authorization under FESA for those species will become effective upon listing. Special status species that are known to occur or could potentially occur in habitats similar to what is found in the EHOF were considered for their potential to occur. Should unlisted Covered Species become listed under the CESA during the term of the permit, OEHI could seek to amend the permit at that time to include take authorization for such species.

OEHI intends to request an incidental take permit from the CDFG for the following state Covered Species: Giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton's kangaroo rat (*Dipodomys nitratoides nitratoides*), and San Joaquin antelope squirrel (*Ammospermophilus nelsoni*).

OEHI intends to also request an incidental take permit from the Service for the following federal Covered Species: Giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton's kangaroo rat (*Dipodomys nitratoides nitratoides*), Buena Vista lake shrew (*Sorex ornatus relictus*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), and San Joaquin LeConte's thrasher (*Toxostoma lecontei macmillanoura*). Plant species covered in the proposed ITP include the Tejon poppy (*Eschscholzia lemmonii ssp. Kernensis*), oil nestraw (*Stylocline citroleum*), Kern mallow (*Eremalche parryi ssp. Kernensis*), heartscale (*Atriplex cordulata*), Lost Hills saltbush (*Atriplex vallicola*), and San Joaquin woolly-threads (*Monolopia congdonii*).

Federal Covered Species will also include the blunt-nosed leopard lizard (*Gambelia sila*) and the Western burrowing owl (*Athene cunicularia hypugea*). However, based on the status of the blunt-nosed leopard lizard (Federally Endangered, State Endangered and Fully Protected), and the western burrowing owl (a Federal Species of Concern, a BLM Sensitive Species, a State Species of Special Concern, a Migratory Bird Treaty Act species, and Fish and Game Code Sections 3503 and 3513), incidental take cannot be authorized by the CDFG or Service for these two species.

All state and federal Covered Species are identified in Tables 2.5-1 and 2.5-2 below.

Table 2.5-1

Covered Special Status Species, Potential to Occur

Species	Federal Status	State Status	Potential to Occur
Giant Kangaroo Rat *(Dipodomys ingens)*	Endangered	Endangered	Present
Blunt-nosed Leopard Lizard *(Gambelia sila)*	Endangered	Endangered, Fully Protected	Present
San Joaquin Kit Fox *(Vulpes macrotis mutica)*	Endangered	Threatened	Present
Tipton's Kangaroo Rat *(Dipodomys nitratoides nitratoides)*	Endangered	Endangered	Restricted to small portion of site on the east side of the California aqueduct
Buena Vista Lake Shrew *(Sorex ornatus relictus)*	Endangered	-	Potential habitat restricted to a small portion of site
San Joaquin Antelope Squirrel *(Ammospermophilus nelsoni)*	Formerly listed as Special Concern	Threatened	Present
Western Burrowing Owl *(Athene cunicularia hypugea)*	MBTA	Species of Special Concern	Present
Short-nosed Kangaroo Rat *(Dipodomys nitratoides brevinasus)*	Formerly listed as Special Concern	Species of Special Concern	Present
San Joaquin Le Conte's Thrasher *(Toxostoma lecontei macmillanoura)*	Formerly listed as Special Concern	Species of Special Concern	Present

Table 2.5-2

Covered Special Status Plants, Potential to Occur

Species	Federal Status	State Status	Potential to Occur
Tejon Poppy *(Eschscholzia lemmonii ssp. Kernensis)*	Formerly listed as Special Concern	CNPS List 1B	Present
Oil Neststraw *(Stylocline citroleum)*	Formerly listed as Special Concern	CNPS List 1B	Present
Kern Mallow *(Eremalche parryi ssp. Kernensis)*	Endangered	CNPS List 1B	Not detected within EHOF, may be present in 2-mile buffer
Heartscale *(Atriplex cordulata)*	Not listed	CNPS List 1B	Not detected within EHOF, may be present in 2-mile buffer
San Joaquin Woolly-threads *(Monolopia congdonii)*	Endangered	CNPS List 1B	Rare, not detected within EHOF, may be present in 2-mile buffer
Lost Hills Saltbush *(Atriplex vallicola)*	Formerly listed as Special Concern	CNPS List 1B	Present, historical occurrences in 2-mile buffer

2.5.4 ITP Permittee

Although OEHI is the permittee for the HCP, and will be solely responsible for implementing the HCP and complying with the terms of any ITP issued by CDFG, the EHOF is jointly owned and operated by OEHI and Chevron. OEHI owns approximately 78% of the EHOF and Chevron owns the remaining 22% (Figure 1.1). Given the joint ownership of the EHOF, the requested incidental take permit would be issued only to the Elk Hills Unit. No third party incidental take permits would be issued to Chevron. The OEHI and Chevron relationship is set forth in a Unit Plan Contract and Unit Operating Agreement (Unit Agreement). The Unit Agreement provides for producing petroleum products from OEHI and Chevron properties that are part of the "Elk Hills Unitized Oil Field", or "Unit Lands" in a cooperative manner that shares costs and profits among the parties of the Unit Agreement based on their respective percentage ownership.

2.5.5 Habitat Disturbance Envelope:

The primary components of the anticipated oil and gas extraction and production activities and operations over the 50-year term of the proposed ITP include the drilling of 2,000 to 4,000 new wells, construction and operation of associated production facilities, completion of 15,000 well remedials, and maintenance of existing facilities. This is projected to result in the following amounts of disturbance of previously undisturbed areas within EHOF:

- 2,000 to 4,000 acres permanent disturbance
- 2,400 to 3,000 acres temporary disturbance

The proposed ITP would cover incidental take associated with up to 4,000 acres of permanent disturbance and 3,000 acres of temporary disturbance within the EHOF, continued oil and gas operations and maintenance at the EHOF, continued operation, maintenance, and repair of certain facility ROWs within the 2-mile buffer, the installation of limited new facility ROWs within the 2- mile buffer, and the implementation of habitat conservation actions as described in the HCP. OEHI anticipates that 80% to 90% (up to 3,600 acres) of new permanent disturbance could occur within the High Production Area (HPA), and that 10% to 20% (up to 800 acres) could occur within the Non-HPA and EHOF Conservation Lands (see lands designation discussion in Section 2.3, Environmental Setting). The majority of the oil and gas development and related activities have historically occurred within the HPA and are expected to continue here. The actual number and location of future oil wells and associated development will depend on future economics and technical feasibility of extracting oil and gas from known and undiscovered reservoirs. Impacts are anticipated for the existing pipelines, transmission lines and related off-site facility maintenance. In addition, impacts from monitoring and conservation management activities are considered.

Impacts due to monitoring and conservation management will be considered for all land designations (HPA, Non-HPA, Initial Conservation Lands, the 7,801-acre Conservation Area located within the Non-HPA, and Future Conservation Lands). The majority of conservation management will occur within the existing Conservation Area, Initial Conservation Lands, and 2-mile buffer located along the southwest edge of the San Joaquin Valley (Figure 2.4b).

2.6. GAP ANALYSIS

As explained in Section 1.2, OEHI prepared a Gap Analysis (OEHI 2004, 2008) that compares the levels of oil field development and associated environmental impacts

described in the 1997 SEIS/PEIR document with the levels of development and associated environmental impacts that would likely result from OEHI's implementation of the proposed ITP. The 1997 SEIS/PEIR evaluated potential impacts associated with several future operation scenarios including the Upper Bound Commercial Development Case. For the Gap Analysis, OEHI selected the Upper Bound Commercial Development Case because it represented the maximum development and impact scenario.

The Gap Analysis determined that all of the environmental impacts associated with implementation of the proposed ITP were adequately analyzed in the 1997 SEIS/PEIR with the following exceptions: aesthetics, agricultural resources, surface disturbance (and the consequent impacts on biological and cultural/paleontological resources), and the cumulative water injection levels which would result from the drilling of up to 4,000 more wells.

The extent to which EHOF activities projected in the proposed ITP would exceed the level of activities analyzed in the 1997 SEIS/PEIR are summarized below:

Incremental Increase in Projected Oil Field Activities and Associated Habitat Disturbance – Comparison of Proposed ITP with 1997 SEIS/PEIR

2.6.1 Projected Oil Field Activities:

- Continued operations from 2034 to 2054 (20 years)
- 1,372 to 3,372 new wells drilled and construct/operate associated production facilities
- 9,887 additional well remedials
- Continued maintenance of facilities

2.6.2 Habitat Disturbance Envelope:

Table 2.6-1
Total Acreage Disturbance Envelopes:
1997 SEIS/PEIR versus Elk Hills Oil Field Proposed ITP

	1997 SEIS/PEIR Envelope Maximum Build-out	Elk Hills Oil field Proposed ITP Envelope Maximum Build-out	Incremental Difference
Permanent Disturbance	5,394 acres	9,394 acres	4,000 acres
Temporary Disturbance	6,608 acres	3,000 acres	(3,608 acres)[7]

It should be noted that despite the projected increase in surface disturbance, the actual volumes of oil and gas which would be produced and processed over the 50-year term of the proposed ITP are projected to be less than that analyzed in the 1997 SEIS/PEIR.

Estimates of permanently disturbed and undisturbed acreages are provided below in Table 2.6-2. These estimates are based on assessments at the time of property transfer of the NPR-1 (EHOF) from the DOE to OEHI, the acquisition of two parcels within EHOF totaling 475 acres, and the surface disturbance which has occurred post-sale. This constitutes the "Existing" estimate for the Developed portion of the EHOF both on a pre-sale, June 2004 Baseline, and post-sale basis through the end of 2006. In addition, Table 2.6-2 provides the maximum build-out acreages per the 1995 BO, 1997/1999 CESA MOU, and the 1997 SEIS/PEIR, as well as the proposed ITP increments above these amounts so as to show a comparison of impacts between the different project authorizations. The "Maximum Build Out" estimate for the proposed ITP is based on adding the 4,000 acres of permanent disturbance that would be covered by the proposed ITP to the estimated "Existing" acreage for the developed portion of the EHOF. The table below outlines the existing conditions for the EHOF at the time of the property transfer, and several post-sale updates (land acquisition, 2004 and 2006) to the proposed conditions that would occur upon approval of the proposed ITP. The increment of additional habitat disturbance that would be covered by the proposed ITP compared to the level of impacts assessed in the 1997 SEIS/PEIR is shown in the far right column of Table 2.6-2 below. This level of disturbance is what is being evaluated in this Initial Study.

[7] The incremental difference of 3,608 acres is the *additional* temporary disturbance that was evaluated in the 1997 SEIS/PEIR of which the proposed ITP's temporary disturbance is significantly below.

Table 2.6-2
Pre-Sale Conditions for EHOF, Allowable Permanent Acreage Disturbances, Subsequent Land Acquisitions and Disturbances, Maximum Proposed ITP Build-Out, and Increment Above Levels Assessed in 1995 BO, 1997/1999 CESA MOU and 1997 SEIS/PEIR (Acres of Permanent Disturbance)

Habitat/Land Use	Existing Pre-Sale	1995 BO, 1997/1999 CESA MOU Maximum Build Out	1997 SEIS/PEIR Maximum Build-Out	Post-Sale Land Acquisition	2004 Baseline (6-30-04)	2006 Cumulative Since Sale (12-31-06)	Proposed ITP Maximum Build Out + 50 Years	Proposed ITP Increment Above 1995 BO, 1997/1999 CESA MOU Maximum Build-out	Proposed ITP Increment Above 1997 SEIS/PEIR Maximum Build-out
Developed	3,800.0	4,628	5,394	3,800.0	4,335.5	4,668.7	9,394[8]	4,766[9]	4,000.0[10]
Undisturbed	43,609.0	42,781	42,015	44,084.0	43,548.5	43,215.3	38,490[11]	-4,766[12]	-4,000.0
Total	47,409.0	47,409	47,409	47,884.0	47,884.0	47,884.0	47,884.0	+475.0[13]	+475.0

[8] 5,394 acres + 4,000 acres = 9,394 acres.

[9] 9,394 acres – 4,628 acres = 4,766 acres.

[10] 9,394 acres – 5,394 acres = 4,000 acres.

[11] 42,015 acres + 475 acres habitat acquisitions = 42,490 acres. 42,490 acres – 4,000 acres = 38,490 acres

[12] 42,781 acres + 475 acres habitat acquisitions = 43,256 acres. 43,256 acres – 38,490 acres = 4,766 acres.

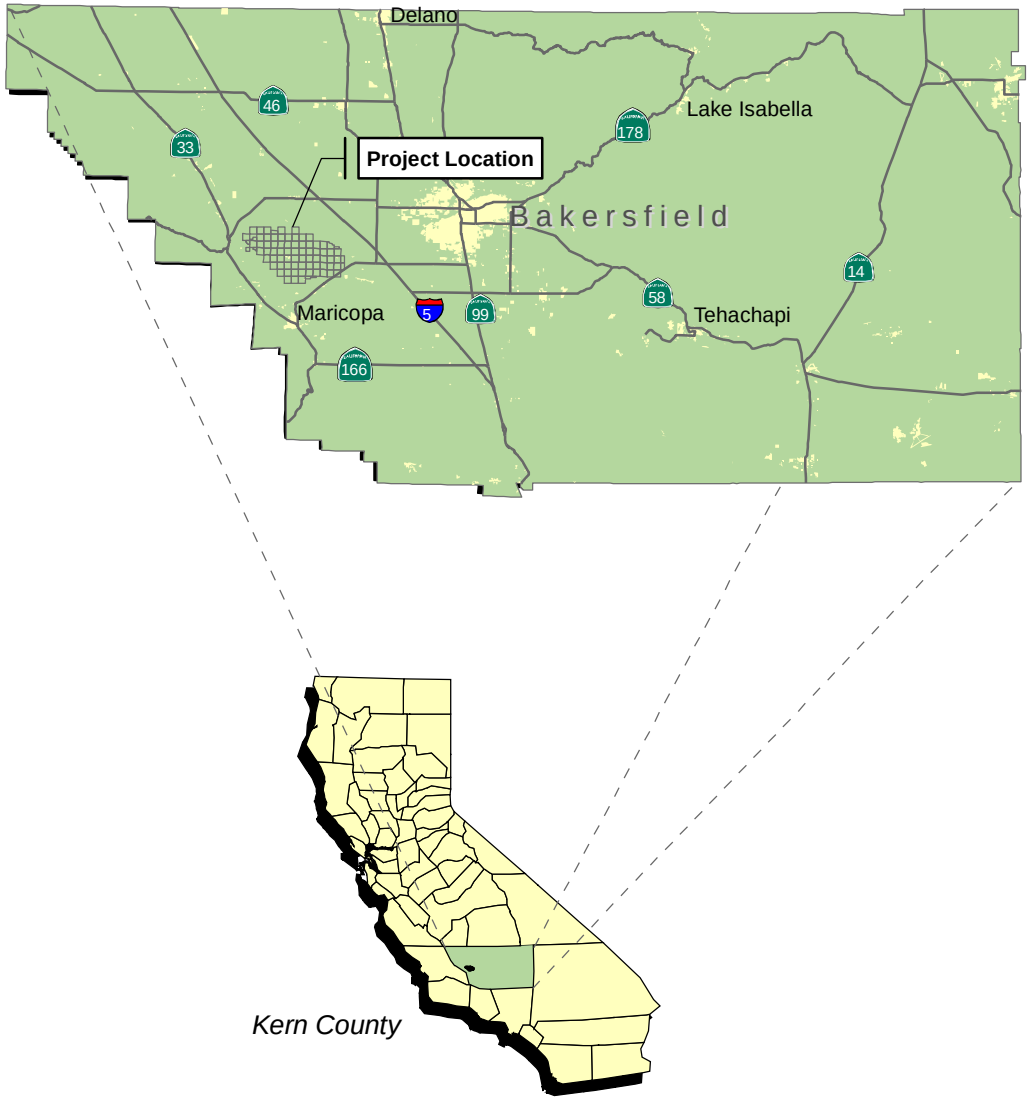
[13] 47,884 acres – 47,409 acres = 475 acres.

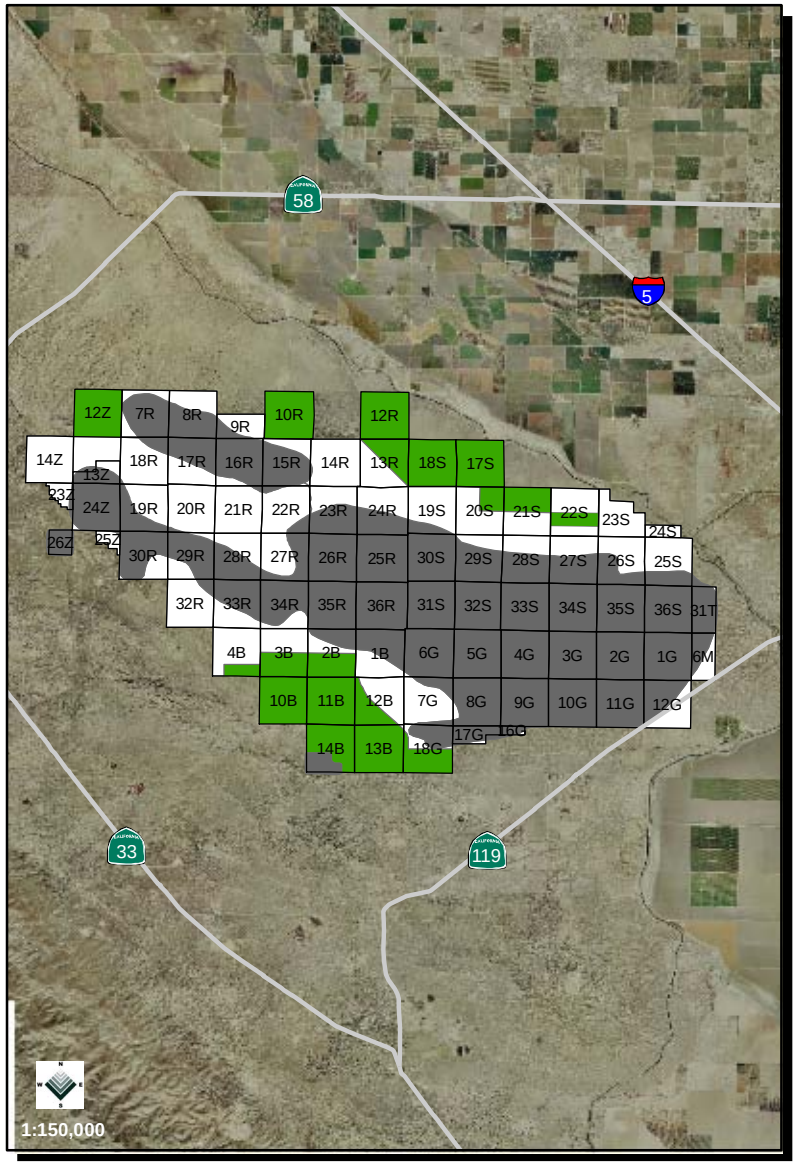
2.7 INTENDED USES OF THIS DOCUMENT

CDFG has prepared this Initial Study as part of its effort to comply with CEQA in connection with the proposed Section 2081 incidental take permit under CESA. The Initial Study is intended to inform CDFG and the public about the nature and scope of the new potentially significant or substantially more severe environmental impacts that may result with the issuance of the incidental take permit as compared to the environmental impacts previously identified in the 1997 SEIS/PEIR. The Initial Study is also intended to inform the public of the nature and scope of CDFG's related obligations under CEQA.

Occidental of Elk Hills

Site Vicinity Map



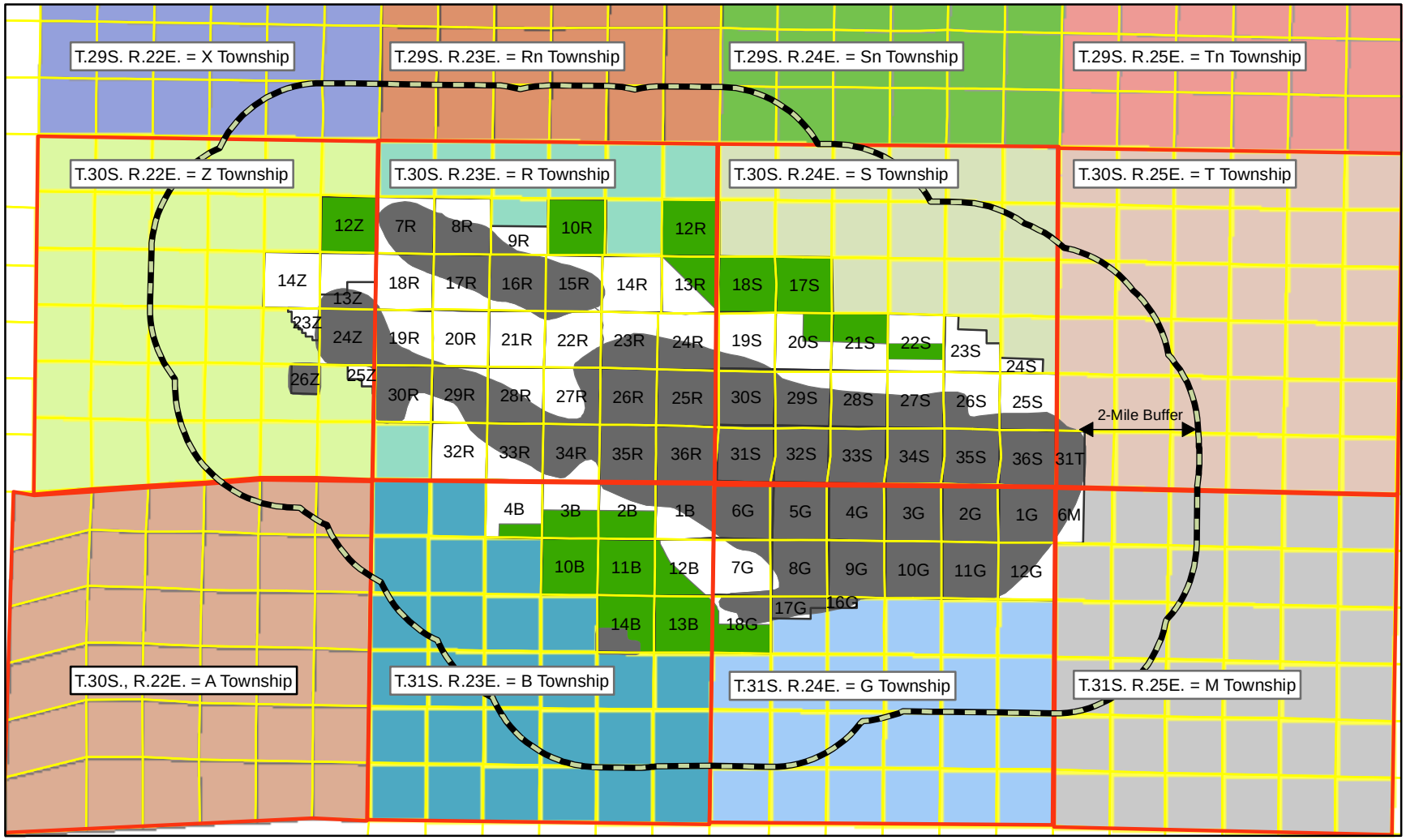


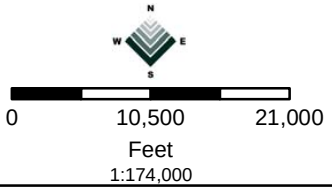
Quad Knopf

FIGURE 2.2

Occidental of Elk Hills

Legal Land Description





EHOF Non High Production Area (NHPA)
Conservation Area
EHOF High Production Area (HPA)
Township Boundary
Section Lines
2-Mile Buffer

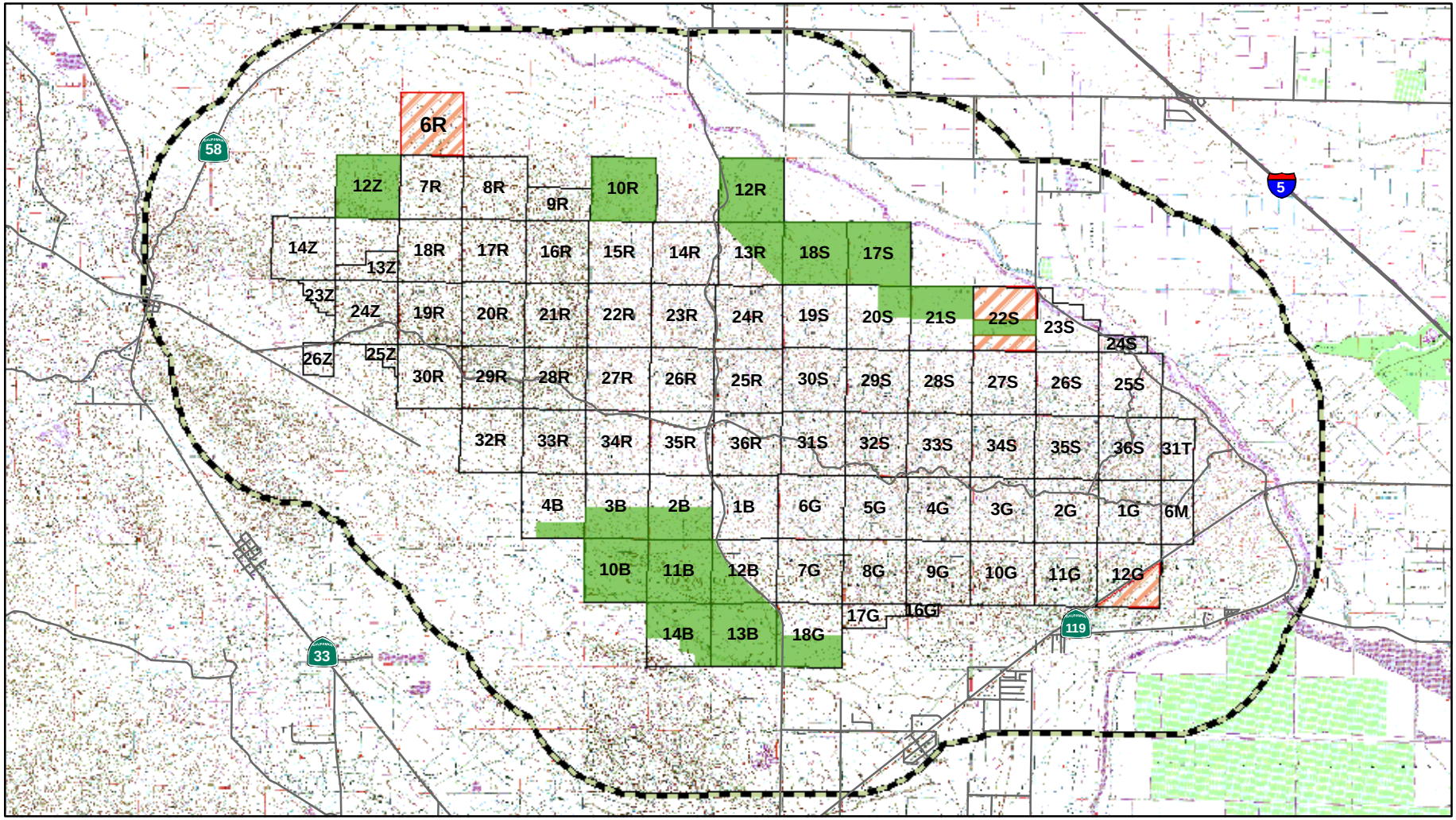
Quad Knopf

FIGURE 2.3

060008

Occidental of Elk Hills

Conservation Lands



N
W E
S

0 10,000 20,000
Feet
1:150,000

EHOF Existing Conservation Area (~7,801 Acres)

Initial Conservation Lands (~1,349 Acres)

2-Mile Buffer

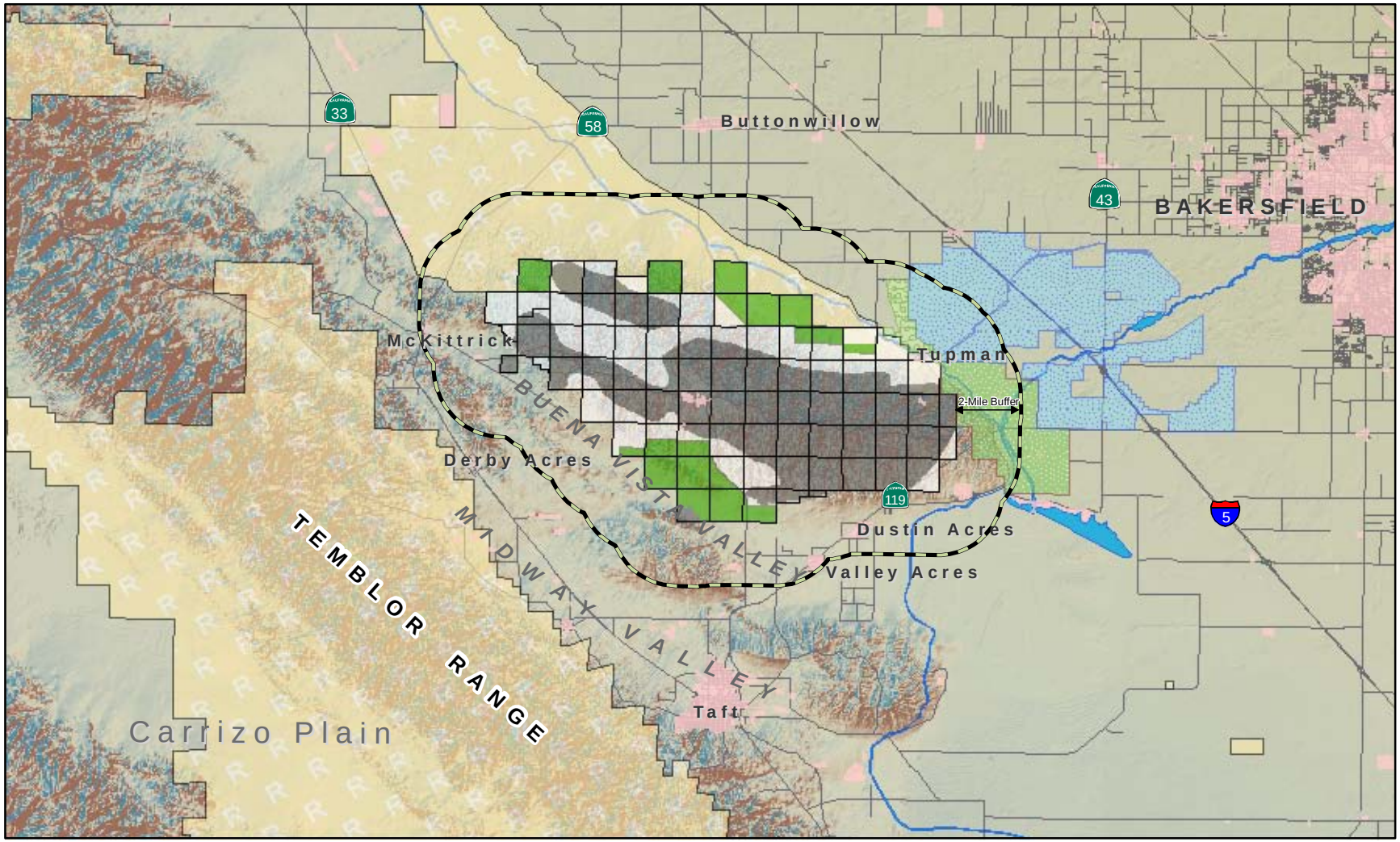
Quad Knopf

FIGURE 2.4a

060008

Occidental of Elk Hills

Regional Context Map



N
W E
S

0 19,500 39,000

Feet

1:302,000

- EHOF NHPA (16,849 Acres)
- EHOF Existing Consv. Area (7,801 Acres)
- EHOF High Production Area (23,960 Acres)
- 2-Mile Buffer
- Tule Elk Park
- KWBA
- CLEP
- BLM ACEC
- Urban/Built Up

Quad Knopf

FIGURE 2.4b

060008

SECTION 3.0

ENVIRONMENTAL CHECKLIST

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages:

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☒ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Services Systems	☐ Energy Conservation
☒ Mandatory Findings of Significance		

3.2 ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project could not have a significant effect on the environment, and a **Negative Declaration** will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. **A Mitigated Negative Declaration** will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an **Environmental Impact Report** is required.

☒ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **Negative Declaration** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **Negative Declaration**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ *Date* 8/10/2010

Jeffrey R. Single Ph.D.
Regional Manager

3.3 EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporation" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.1 Aesthetics ***Would the project:***				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
4.2 Agriculture Resources *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.* *Would the project:*				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☒	☐
4.3 Air Quality *Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.* *Would the project:*				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☒	☐	☐
4.4 Biological Resources *Would the project:*				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐
4.5 Cultural Resources *Would the project:*				

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
4.6 Geology and Soils *Would the project:*				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒	☐	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☒	☐	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.7 Greenhouse Gas Emissions				
4.8 Hazards and Hazardous Materials *Would the project:*				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safely hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
4.9 Hydrology and Water Quality *Would the project:*				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses or planned uses for which permits have been granted)?	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☒	☐	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
4.10 Land Use and Planning *Would the project:*				
a) Physically divide an established community?	☐	☐	☐	☒

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐
4.11 Mineral Resources *Would the project:*				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
4.12 Noise *Would the project result in:*				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
4.13 Population and Housing *Would the project:*				

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
4.14 Public Services *a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
Fire Protection?	☐	☐	☒	☐
Police Protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐
4.15 Recreation				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒
4.16 Transportation/Traffic *Would the project:*				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
4.17 Utilities and Service Systems *Would the project:*				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☒	☐	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
4.18 Energy Conservation				
4.19 Mandatory Findings of Significance				

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

SECTION 4.0

DISCUSSION OF ENVIRONMENTAL EVALUATION

INTRODUCTION

This section of the Initial Study compares the impacts of the project analyzed in the 1997 SEIS/PEIR, with the impacts of the new proposed project to determine whether the new project may result in any new significant or substantially more severe impacts that must be analyzed in a subsequent joint CEQA/NEPA document. This document will use the "Proposed Action" to refer to the project as discussed in the previous documents (1996 NOP/IS and 1997 SEIS/PEIR), and will use the "proposed ITP" when discussing the new project.

The impact comparisons for each environmental factor noted in the Environmental Checklist (Section 3.0) are set forth below. The approach used to perform those comparisons is as follows.

First, the impacts identified in the 1996 Notice of Preparation and Initial Study (NOP/IS), and/or in the 1997 SEIS/PEIR, are summarized. For some environmental factors, the 1996 NOP/IS identified no impact, and as a result that environmental factor was generally not further analyzed in the 1997 SEIS/PEIR which followed. However, in some cases the 1997 SEIS/PEIR did include an analysis of such impacts. Hence, to be complete, at times impact discussions from both the 1996 NOP/IS and the 1997 SEIS/PEIR are summarized as appropriate.

Second, the impacts of the proposed ITP are analyzed. This analysis assumes the continued implementation by OEHI of all applicable mitigation measures imposed through the 1997 SEIS/PEIR. Those mitigation measures will be identified in this Section within the applicable resource areas. Note that for consistency and identification purposes, the numbering of the mitigation measures follows the original numbering of the 33 mitigation measures. Based on those measures, Kern County concluded in 1997 that any otherwise significant impacts were mitigated to a level of less than significant. Therefore, a Statement of Overriding Considerations pursuant to CEQA Guidelines 15093 was not required (Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997). A summary of these 33 mitigation measures is provided in Section 2 along with the discussion of the 1997 SEIS/PEIR.

Third, the comparison of impacts identified in the 1997 SEIS/PEIR and the newly identified impacts of the proposed ITP, as described in detail in the Gap Analysis (and sometimes as described in this Initial Study with updated information obtained since the completion of the Gap Analysis), is summarized. The overall purpose of the comparison is to identify any new significant or substantially more severe impacts that may occur despite the application of the mitigation measures from the 1997 SEIS/PEIR; and to identify any new mitigation measures, if any, to avoid or reduce any remaining potentially significant environmental impacts.

Fourth, based on the evaluation completed above, the discussion closes with a conclusion as to whether any further analysis in a subsequent joint CEQA/NEPA document will be required. To the extent that additional analysis is required, relevant information from the prior documents and this Initial Study will be utilized to focus that additional analysis.

The following resource areas are discussed in this section:

4.1 Aesthetics
4.2 Agricultural Resources
4.3 Air Quality
4.4 Biological Resources
4.5 Cultural Resources
4.6 Geology and Soils
4.7 Greenhouse Gas Emissions
4.8 Hazards and Hazardous Materials
4.9 Hydrology and Water Quality
4.10 Land Use and Planning
4.11 Mineral Resources
4.12 Noise
4.13 Population and Housing
4.14 Public Services
4.15 Recreation
4.16 Transportation/Traffic
4.17 Utilities and Service Systems
4.18 Energy Conservation
4.19 Mandatory Findings of Significance

4.1 AESTHETICS: *WOULD THE PROJECT*:

a) Have a substantial adverse effect on a scenic vista?

No Impact

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact

Discussion

1996 NOP/IS

As discussed in the 1996 NOP/IS the NPR-1 (EHOF) project area does not provide a scenic vista open to the public. The 1996 NOP/IS stated that the Kern County Scenic Highway Plan provided a scenic route designation for State Route 119, however it ranked low in the recommended order of implementation (NOP/IS p. 6-44). The NOP/IS also concluded that the Proposed Action would be an intensification of existing land uses and would not significantly alter the appearance of the NPR-1 (EHOF) site. Overall, the 1996 NOP/IS concluded that there would be no impacts to this resource area.

1997 SEIS/PEIR

Based on the 1996 NOP/IS finding of less than significant impact, this subject was not further analyzed in the SEIS/PEIR.

Proposed Project

EHOF

Although the NOP/IS identifies Elk Hills Road, State Route 119 and various county roads that border the eastern half of the project site as being designated as scenic routes, the Kern County Board of Supervisors rescinded the County's Scenic Highway Element (Circulation Element of the Kern County General Plan) in 1992. According to the Circulation Element a, "Scenic Route is any freeway, highway, road, or other public right-of-way, which traverses an area of exceptional scenic quality." Also, the California Scenic Highway Master Plan does not designate State Route 119 or Elk Hills Road as an "Eligible State Scenic Highway."

EHOF is currently being used for oil and gas production. Also, the vast majority of new surface disturbance and facilities associated with the proposed ITP would be located in the High Production Area (HPA) which is the most developed area of the EHOF. Hence, the visual character and qualities of the project area would not be impacted by the proposed ITP.

Parts of the EHOF and most of the 2-mile buffer are largely undeveloped. Developed portions are occupied by oil and gas production facilities and infrastructure such as dirt roads, well pads, wells, pipelines and production equipment. Therefore, as the EHOF project site is not a new development but would be a continuation of ongoing activities, no significant amount of additional light and glare would be created as a result of the proposed ITP. No impact is identified.

2-Mile Buffer

As discussed in the Project Description under Section 2.0 above, Covered Activities within the 2-mile buffer such as the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs would not impact the existing visual character or quality of the site and its surroundings, or adversely affect day or night time views in the area. The benign nature of such activities would result in no significant environmental impacts.

Gap Analysis

Aesthetic resources related impacts were not addressed in the Gap Analysis.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would result in no impacts to this resource area. The proposed ITP would be a continuation of ongoing activities where the

majority of new development would occur within the HPA which would not adversely affect the surrounding visual character or quality of the area. No substantial changes in circumstances and no new information of substantial importance exist regarding potential aesthetic effects that would result in a new significant impact since the preparation of the 1997 SEIS/PEIR. Thus, no further evaluation is required.

4.2 AGRICULTURAL RESOURCES: *WOULD THE PROJECT*:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS concluded that the Proposed Action would not affect the status of agricultural resources, including Williamson Act Contract, on off-site agricultural land or the agricultural operations (Kern County Planning Department 1996 NOP/IS p. 6-6). Overall, the 1996 NOP/IS concluded that the Proposed Action would result in no impact to agricultural resources.

1997 SEIS/PEIR

Kern County as Lead Agency in the 1997 PEIR process, and CDFG as a Responsible Agency in connection with the 1997 MOU, determined based on substantial evidence in the record that the Project as analyzed in the 1997 PEIR would have no impact or less than significant impacts on agricultural resources. The 1997 SEIS/PEIR concluded that land use impacts of the Proposed Action would be less than significant as the Proposed Action would not convert agricultural use or impact the agricultural productivity of prime agricultural land (1997 SEIS/PEIR p. 4.7-3). The Kern County CEQA Findings also concluded that impacts to this resource would be less than significant (Kern County Board of Supervisors, Resolution No. 97-375, 1997, Exhibit A p. 6).

Proposed Project

EHOF

The EHOF is *not* designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance under the California Department of Conservation, Division of Land Resource Protection's Farmland Mapping and Monitoring Program (FMMP) (California Department of Conservation 1998). "Prime Farmland" is defined as "Land with the best combination of physical and chemical characteristics able to sustain long term production of agricultural crops. This land must have been used for production of irrigated crops at some

time during the four years prior to the mapping date." The majority of the EHOF project site is classified as "*other land*" where "[c]ommon examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres (see Figure 4.2a). Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land." (DOC 2004).

2-Mile Buffer

The main three categories of classified land within the 2-mile buffer are Grazing Land, Other Land, and Prime Farmland (Figure 4.2a). Under the proposed ITP, land would be acquired and managed within the 2-mile buffer in order to preserve and enhance habitat and movement corridors for Covered Species. The areas within the 2-mile buffer that can achieve these purposes are located to the southwest and northwest of the EHOF, within the "Target Compensation Area" depicted on Figure 4.2a. Only Target Compensation Area lands would be eligible for acquisition and preservation under the proposed ITP. The remaining areas within the 2-mile buffer, outside the Target Compensation Area, would also be naturally excluded from acquisition as Future Conservation Lands, as they are occupied by Prime Farmland, Irrigated Farmland, the Tule Elk State Reserve, Coles Levee Ecological Preserve (CLEP) and Kern Water Bank Authority (KWBA) (Figure 2.4b.) The Target Compensation Area does not include any Prime Farmland, Unique Farmland or any Farmland of Statewide Importance.

Gap Analysis

The Gap Analysis compared land use impacts which covered impacts on agricultural resources. The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis, p. 39).

Conclusion

Both the 1996 NOP/IS and the 1997 SEIS/PEIR concluded that the Proposed Action would result in no or less than significant impacts. There are no lands within the EHOF unit classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). The Target Compensation Area within the 2-mile buffer does not include Prime Farmland, Unique Farmland or any Farmland of Statewide Importance. Consequently, implementation of the proposed ITP would not result in the conversion of Farmland and less than significant impacts would occur. These impacts were adequately analyzed in the previous environmental documents and there is no significant new information or changed circumstances, thus no further evaluation is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less Than Significant Impact

Discussion

The following discussion pertains to any potential conflicts related to zoning. Any potential impact to a Williamson Act contract is being evaluated separately, below.

1996 NOP/IS

As discussed in the 1996 NOP/IS, the Proposed Action at that time would not change the zoning for the NPR-1 (EHOF) site, as the then present zoning accommodated mineral resource extraction as a permitted use (NOP/IS p. 6-2 to 6-4). The 1996 NOP/IS concluded that the Proposed Action would result in no impact from a conflict with existing zoning for agricultural use.

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.1(a) above.

The 1997 SEIS/PEIR concluded that other land use impacts would be less than significant because the Proposed Action does not conflict with adopted environmental plans and goals of the community or disrupt or divide the physical arrangement of an established community (1997 SEIS/PEIR p. 4.7-3).

Proposed Project

EHOF and the 2-Mile Buffer

See answer to Section 4.2 (a) above.

Conflict with existing zoning for agricultural use?

Less Than Significant Impact

Land Use and Zoning

The Kern County General Plan land use designations for the EHOF are Mineral and Petroleum (Map Code 8.4) and Extensive Agriculture (Map Code 8.3) (Figure 4.2b and Figure 4.2b-1). The EHOF is currently zoned as A (Exclusive Agriculture), and A-1

(Limited Agriculture) (Figure 4.2c and Figure 4.2c-1). The majority of the land use designations within the 2-mile buffer are classified as various Resource designations (Map Code 8x) (Figure 4.2b). The majority of the land within the 2-mile buffer is zoned as A (Exclusive Agriculture) and A-1 (Limited Agriculture) (Figure 4.2d). (As seen on Figure 4.2c-1, the 2-mile buffer also includes a Mineral Resource Zone (MRZ) in the Buena Vista Valley. The Kern County General Plan land use designations within the MRZ includes 1.1 (State and Federal Land), 8.4 (Mineral and Petroleum) and 3.4 (Solid Waste Disposal Facilities). The 3.4 land use designation within the 2-mile buffer is the Taft Sanitary Landfill which is located in the Northeast ¼, Section 25, T.31S, R.23E.

Land Use Compatibility

First, Kern County has specified, in its Agricultural Preserve Standard Uniform Rules, compatible uses between agriculture and oil and gas drilling and production, in accordance with the provisions of Chapter 19.98 of the Ordinance Code of Kern County (Kern County Board of Supervisors Resolutions, Agricultural Preserve Standard Uniform Rules). The proposed ITP does not require the conversion of land to a non-agricultural or non-agriculturally compatible use. EHOF and the 2-mile buffer are located within Agricultural Preserves No. 3 and No. 9 (Kern County Year 2000 Subvention Act Lands Map Agricultural Preserve).

Government Code Section 51238.1 states that [land] uses approved on lands subject to Williamson Act contracts shall be consistent with all of the following principles of compatibility:

- The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.

- The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

- The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Second, the designated permitted uses in the A (Exclusive Agriculture) zone are: agricultural uses (growing and harvesting crops, breeding and raising animals,

agricultural industries); residential uses; commercial uses (general retail sales); utility and communications facilities; resource extraction and energy development uses; miscellaneous uses (Kern County Zoning Ordinance).

Third, the designated permitted uses in the A-1 (Limited Agriculture) zone are: resource extraction and energy development uses; various miscellaneous uses; agricultural uses (growing and harvesting crops, breeding and raising animals); residential uses (manufacture homes, residential accessory structures, residential facilities for six or fewer persons, single-family dwellings with a width greater than 16 feet); commercial uses (general retail sales); and utility and communication facilities (Kern County Zoning Ordinance).

Gap Analysis

The Gap Analysis did not specifically address zoning conflicts; however, the Gap Analysis concluded that the proposed ITP would not result in any significant new impacts not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis, p. 39).

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would result in no impact as a result of a conflict with existing zoning for agricultural use. The 1997 SEIS/PEIR concluded that overall land use impacts would be less than significant. Based on the discussion above, Implementation of the proposed ITP would not result in any conflicts with existing zoning for agricultural use both within the EHOF and the 2-mile buffer, as the uses described in the proposed ITP are compatible with the zoning designations. The impacts were adequately analyzed in the previous documents, and no new impact has been identified, thus requiring no further evaluation.

Conflict with a Williamson Act contract?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS only identified Williamson Act contracted lands located off-site of NPR-1 (EHOF), immediately adjacent to the north and southwest of NPR-1 (EHOF). The 1996 NOP/IS found that the Proposed Action would not affect the status of Williamson Act contracted off-site lands and concluded that implementation of the Proposed Action would result in no impact to agricultural resources or operations (NOP/IS p. 6-6).

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not identify or discuss the on-site Williamson Act contracted lands which were under private ownership. However, the 1997 SEIS/PEIR determined that the Proposed Action would not convert agricultural use or impact the agricultural productivity of prime agricultural land. The 1997 SEIS/PEIR concluded that overall land use impacts would be less than significant (1997 SEIS/PEIR p. 4.7-3). The Kern County CEQA Findings also concluded that impacts to this resource would be less than significant (Kern County Board of Supervisors, Resolution No. 97-375, 1997, Exhibit A p. 6).

Proposed Project

EHOF and the 2-Mile Buffer

Portions of the EHOF and the 2-mile buffer are comprised of lands that are enrolled under California Land Conservation Act (Williamson Act) contract. The following discussion provides an evaluation of potential impacts to on and off-site Williamson Act contracted lands.

Table 4.2-1 below shows the sections within the EHOF (totaling approximately 1,470 acres) and the sections within the 2-mile buffer (totaling approximately 31,769 acres) that are under a Williamson Act contract. These lands within the 2-mile buffer are depicted in Figure 4.2d. Note that none of the 1,470 acres of contracted lands within the EHOF are contained within the 7,801 acre Conservation Area. Contracted lands are located adjacent to the 7,801 acre Conservation Area.

Table 4.2-1
Williamson Act Lands

Williamson Act Inside EHOF	Acres	Land Classification
Sec. 9, T.30S. R.23E.	~320	Non-Prime Ag Land
Sec. 13, T.30S. R.24E.	~480	Mixed Enrollment Ag Land
Sec. 22, T.30S. R.24E.	~320	Non-Prime Ag Land
Sec. 16, T.31S. R.24E.	~100	Mixed Enrollment Ag Land
Sec. 17, T.31S. R.24E.	~250	Mixed Enrollment Ag Land
Sum	1,470	All Categories
Williamson Act Inside 2-Mile Buffer (Outside EHOF)	**Acres**	**Land Classification**
T.29S. R.22E. / T.29S. R.23E. T.29S. R.24E./ T.30S. R.22E. T.30S. R.23E./ T.30S. R.24E. T30S. R.25E. /T31S. R.22E. T.31S. R.23E. / T.31S. R.24E. T.31S. R.25E.	~31,769	Farmland Security Zone Mixed Enrollment Land Mixed Enrollment Land – Non-Renewal Non-Prime Non-Prime – Non-Renewal Non-Prime – Out Prime Ag Land Prime Ag Land – Non-Renewal
Total Acres (EHOF and 2-Mile Buffer)	**~33,239[14]**	**All Categories**

Compatible uses of Williamson Act lands are defined in Government Code Section 51201(e). "Compatible use" is any use determined by the county or city administering the preserve pursuant to Section 51231, 51238, or 51238.1 or by this act to be compatible with the agricultural, recreational, or open-space use of land within the preserve and subject to contract (see discussion above under Land Use Compatibility). "Compatible use" includes agricultural use, recreational use or open-space use unless the board or council finds after notice and hearing that the use is not compatible with the agricultural, recreational or open-space use to which the land is restricted by contract pursuant to this chapter.

Furthermore, Government Code Section 51205 states: "[n]otwithstanding any provisions of this chapter to the contrary, land devoted to recreational use or land within a scenic highway corridor, a wildlife habitat area, a saltpond, a managed wetland area, or a submerged area

[14] The number of acres in Williamson Act Contracts within the 2-mile buffer is based on the Department of Conservation's Division (DOC) of Land Resource Protection Williamson Act Map of 2004-2005. Maps depicting Williamson Act enrollment are produced in cooperation with the participating counties and the DOC using manual cartographic methods and Geographic Information Systems.

may be included within an agricultural preserve pursuant to this chapter. When such land is included within an agricultural preserve, the city or county within which it is situated may contract with the owner for the purpose of restricting the land to recreational or open space use and uses compatible therewith in the same manner as provided in this chapter for land devoted to agricultural use. For purposes of this section, where the term "agricultural land" is used in this chapter, it shall be deemed to include land devoted to recreational use and land within a scenic highway corridor, a wildlife habitat area, a saltpond, a managed wetland area, or a submerged area, and where the term "agricultural use" is used in this chapter, it shall be deemed to include recreational and open space use." (California Land Conservation Act, Government Code, Section 51200-51297.4).

Pursuant to the proposed ITP, OEHI would periodically set aside and preserve additional habitat called "Future Conservation Lands." Future Conservation Lands may be lands owned by OEHI at the time the proposed ITP is approved, or lands acquired by OEHI in the future. In the event that a potential future acquisition includes Williamson Act lands, or for acquisitions that have already occurred such as Sections 6R and a portion of 22S (the Future Conservation Lands to be dedicated for the proposed ITP), appropriate steps, as described below, would be taken to ensure compliance with the California Land Conservation Act so as to avoid conflicts with a Williamson Act contract.

Williamson Act lands within the 2-mile buffer located outside of the Target Compensation Area (see Figures 4.2a, 4.2d) would not be impacted as these lands would be excluded from acquisition for Future Conservation Lands. For the remaining contracted parcels, that could be acquired, as stated in Government Code Section 51205, both agriculture and "a wildlife habitat area" is a compatible use to an agricultural preserve. Therefore, acquisition of a designated parcel of Williamson Act contracted land for subsequent use as Future Conservation Lands would not of itself create conflicts with a Williamson Act contract, because the wildlife habitat area use is deemed a compatible one. Conflicts with a Williamson Act contracted parcel can nevertheless occur, if the contract is prematurely terminated by the owner, and not allowed to expire in its natural term[15]. Allowing a contract to expire in its natural term via a non-renewal without cancellation avoids such conflict because the land remains in its intended use until the contract expires, at which time other uses can occur without conflict.

[15] Williamson Act contracts run for a ten year term and are automatically renewed at the end of each year unless the owner elects to file a non-renewal on the contract. Election of a non-renewal then allows the contract to expire over the remaining 9-year term while the land in the interim period remains available for agricultural uses, the property continues to have enforceable restrictions to protect it from development, and it is taxed accordingly with a lower property tax rate. This approach also avoids premature termination property tax cost penalties associated with an early termination. Cancellation, or premature termination, of a contract is generally inconsistent with the purposes of the Williamson Act, and must meet rigorous criteria. The inconsistency with the Williamson Act's purposes arise if the objectives to be served by the cancellation should have been predicted and served by non-renewal at an earlier date, or can be served by non-renewal now.

Therefore, unless consideration is provided for contracted parcels being acquired to serve as Future Conservation Lands, conflicts with Williamson Act contracts could potentially occur.

As an integral design feature for the proposed ITP, future acquisitions within and outside of the 2-mile buffer would be subject to a selection and review process as outlined in the General Management Plan (GMP) (see Section 2.5.2 discussion) that will govern the process for acquiring Future Conservation Lands within EHOF and within and outside of the 2-mile buffer. The GMP process would identify such contracted lands and if lands under a Williamson Act contract are acquired, OEHI would avoid any conflicts with contracts by filing an application for non-renewal and let the contract term expire in due course.

Gap Analysis

The Gap Analysis did not specifically address conflicts with Williamson Act lands. However, it compared land use impacts, which covered potential impacts that would have occurred as a result from a conflict with Williamson Act lands. The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis, p. 39).

Conclusion

Neither the 1996 NOP/IS nor the 1997 SEIS/PEIR identified or discussed on-site Williamson Act Lands. Hence, as there are Williamson Act lands within EHOF, any potential impacts occurring as a result of a conflict with such lands were not adequately analyzed. Potential conflicts with such lands within the 2-mile buffer under the proposed ITP were also not adequately analyzed. Consequently, this Initial Study evaluated potential impacts that could occur as a result of the proposed ITP for both the EHOF and the 2-mile buffer. The discussion above shows that compliance with the GMP would avoid any potential conflicts with Williamson Act contracted lands. Less than significant impacts would occur, thus no further evaluation is required.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS identified agricultural lands to the north and northeast and to the east and southeast of the NPR-1 (EHOF) site. It also noted that sheep and cattle were grazed on agricultural lands to the west and southwest of the NPR-1 (EHOF) site. However, the 1996 NOP/IS determined that the Proposed Action would not be incompatible with existing land uses in the vicinity of NPR-1 (EHOF). Consequently, it was determined that the Proposed Action would not affect the status of the agricultural resources and concluded that no impacts would occur (NOP/IS p. 6-6).

1997 SEIS/PEIR

The 1997 SEIS/PEIR determined that the Proposed Action would not convert agricultural use or impact the agricultural productivity of prime agricultural land and concluded that less than significant impacts would occur (1997 SEIS/PEIR p. 4.7-3). The Kern County CEQA Findings also concluded that impacts to this resource would be less than significant (Kern County Board of Supervisors, Resolution No. 97-375, 1997, Exhibit A p. 6).

Proposed Project

See response to Sections 4.2(a) and (b).

EHOF

As discussed in Sections 4.2(a) and (b), above, implementation of the proposed ITP would not result in the conversion of Farmland to non-agricultural use within the EHOF.

2-Mile Buffer

Refer to discussion under Sections 2.0 and 4.2(a) and (b) above.

Much of the area surrounding the EHOF consists of agricultural land and open space, with oil extraction occurring as a compatible land use. Intensively irrigated agriculture occurs to the north and east of the project site near the California Aqueduct. Numerous canals, ditches, drains and wells serve the farms in this area. The Bureau of Land Management's land holdings in the area are leased for grazing. Cattle and sheep are grazed to the south and west of the EHOF on lands that are not irrigated for crop production. In addition, numerous oil extraction facilities coexist with these agricultural activities**.** However, as stated above under 4.2(a) any future acquisitions within the 2-mile buffer would exclude lands located outside of the Target Compensation Area, thereby preventing the conversion of farmland to non-agricultural use.

Gap Analysis

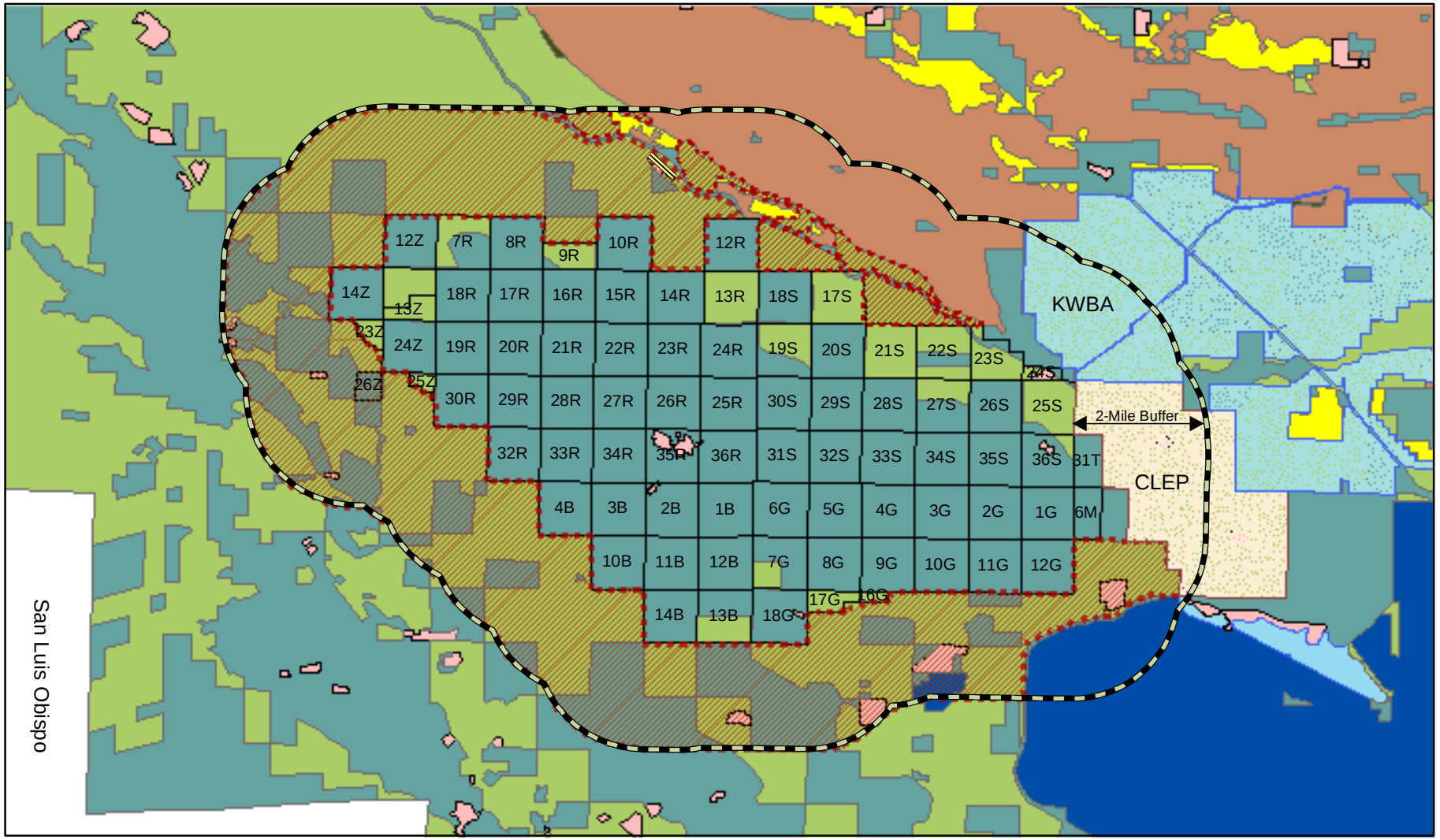
The Gap Analysis did not specifically address if other changes in the existing environment could result in conversion of Farmland to non-agricultural use. However, as previously stated, overall land use impacts were compared, and no new significant impacts were identified (Gap Analysis, p. 39).

Conclusion

The potential of the Proposed Action to convert Farmland to non-agricultural use was previously evaluated and found to have no impacts (1996 NOP/IS) or less than significant impacts (1997 SEIS/PEIR). Likewise, as evaluated in this Initial Study, the proposed ITP would not convert farmland to non-agricultural use within the EHOF or in the 2-mile buffer. No new significant environmental impact has been identified, thus requiring no further evaluation.

Occidental of Elk Hills

Kern County Important Farmland



Source: Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program

N
W E
S

0 12,000 24,000
Feet
1:180,000

- G = Grazing Land
- X = Other Land
- P = Prime Farmland
- I = Irrigated Farmland
- S = Farmland of Statewide Importance
- D = Urban / Built Up
- U = Unique Farmland
- W = Water
- KWBA
- CLEP
- Target Compensation Area

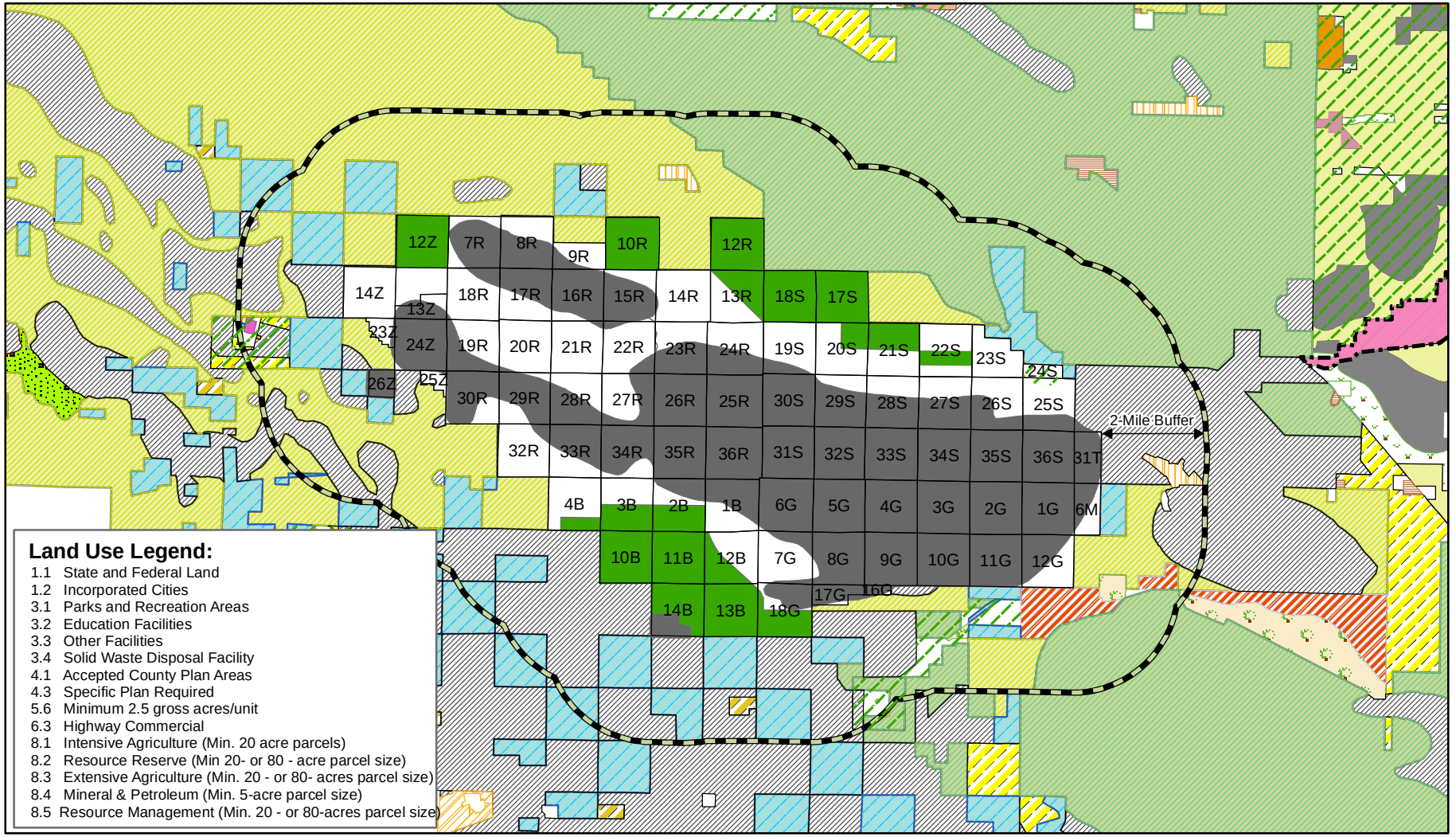
Quad Knopf

FIGURE 4.2a

060008

Occidental of Elk Hills

Land Use Designation



Land Use Legend:

1.1 State and Federal Land
1.2 Incorporated Cities
3.1 Parks and Recreation Areas
3.2 Education Facilities
3.3 Other Facilities
3.4 Solid Waste Disposal Facility
4.1 Accepted County Plan Areas
4.3 Specific Plan Required
5.6 Minimum 2.5 gross acres/unit
6.3 Highway Commercial
8.1 Intensive Agriculture (Min. 20 acre parcels)
8.2 Resource Reserve (Min 20- or 80 - acre parcel size)
8.3 Extensive Agriculture (Min. 20 - or 80- acres parcel size)
8.4 Mineral & Petroleum (Min. 5-acre parcel size)
8.5 Resource Management (Min. 20 - or 80-acres parcel size)

N
W E
S

0 13,000 26,000
Feet
1:185,000

Kern County General Land Use

1.1 3.1 3.3 4.3 5.6 8.1 8.3 8.5
1.2 3.2 3.4 4.1 6.3 8.2 8.4

City of Bakersfield Land Use

ER R-IA RMP
OS R-MP SI

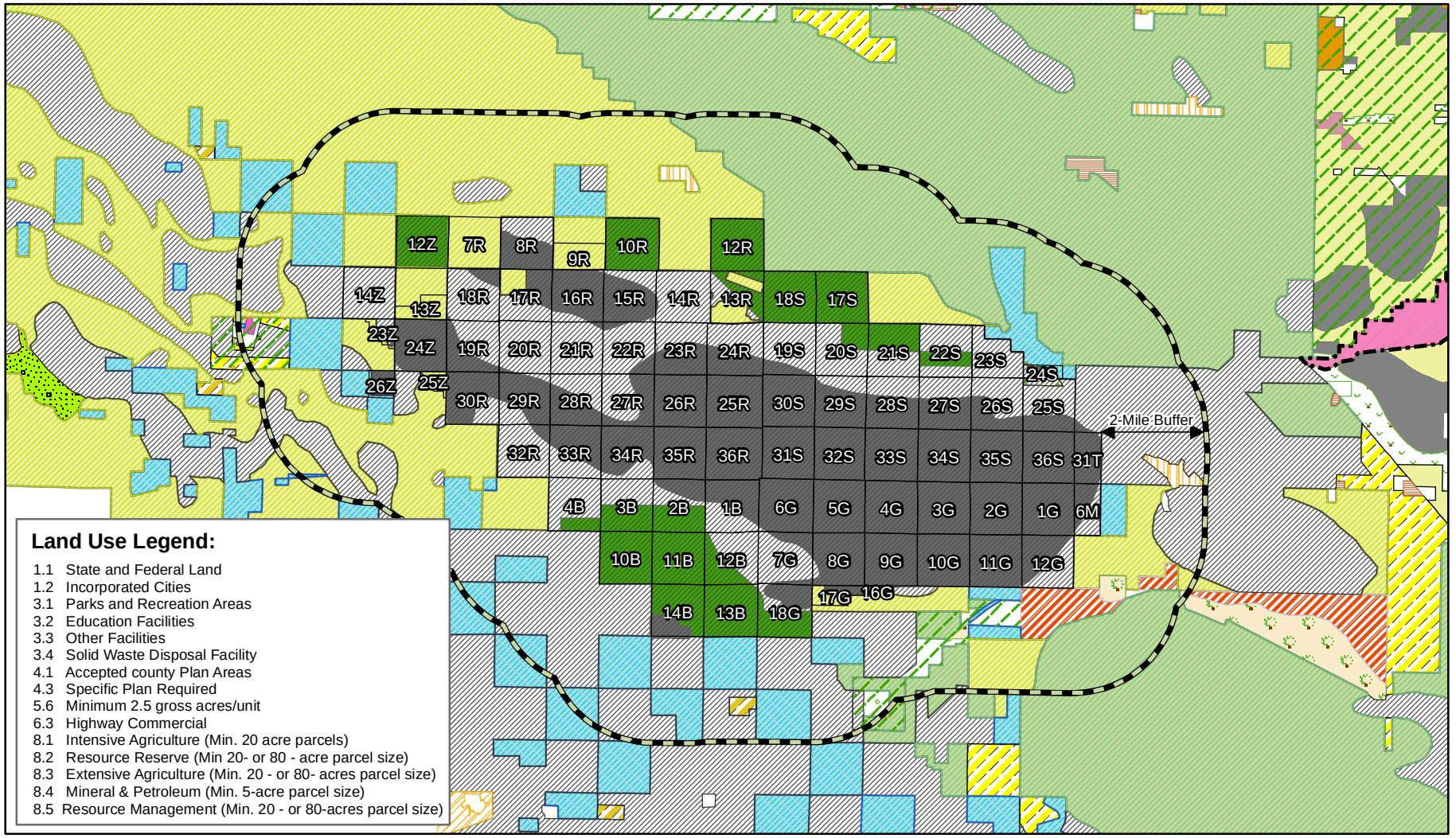
Quad Knopf

FIGURE 4.2b

060008

Occidental of Elk Hills

Elk Hills Land Use Designation



Land Use Legend:

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3.1 Parks and Recreation Areas
3.2 Education Facilities
3.3 Other Facilities
3.4 Solid Waste Disposal Facility
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8.3 Extensive Agriculture (Min. 20 - or 80- acres parcel size)
8.4 Mineral & Petroleum (Min. 5-acre parcel size)
8.5 Resource Management (Min. 20 - or 80-acres parcel size)

N W E S

0 13,000 26,000
Feet
1:185,000

Kern County General Plan Land Use

1.1 3.1 3.3 4.3 5.6 8.1 8.3 8.5
1.2 3.2 3.4 4.1 6.3 8.2 8.4

City of Bakersfield Land Use

ER R-IA RMP
OS R-MP SI

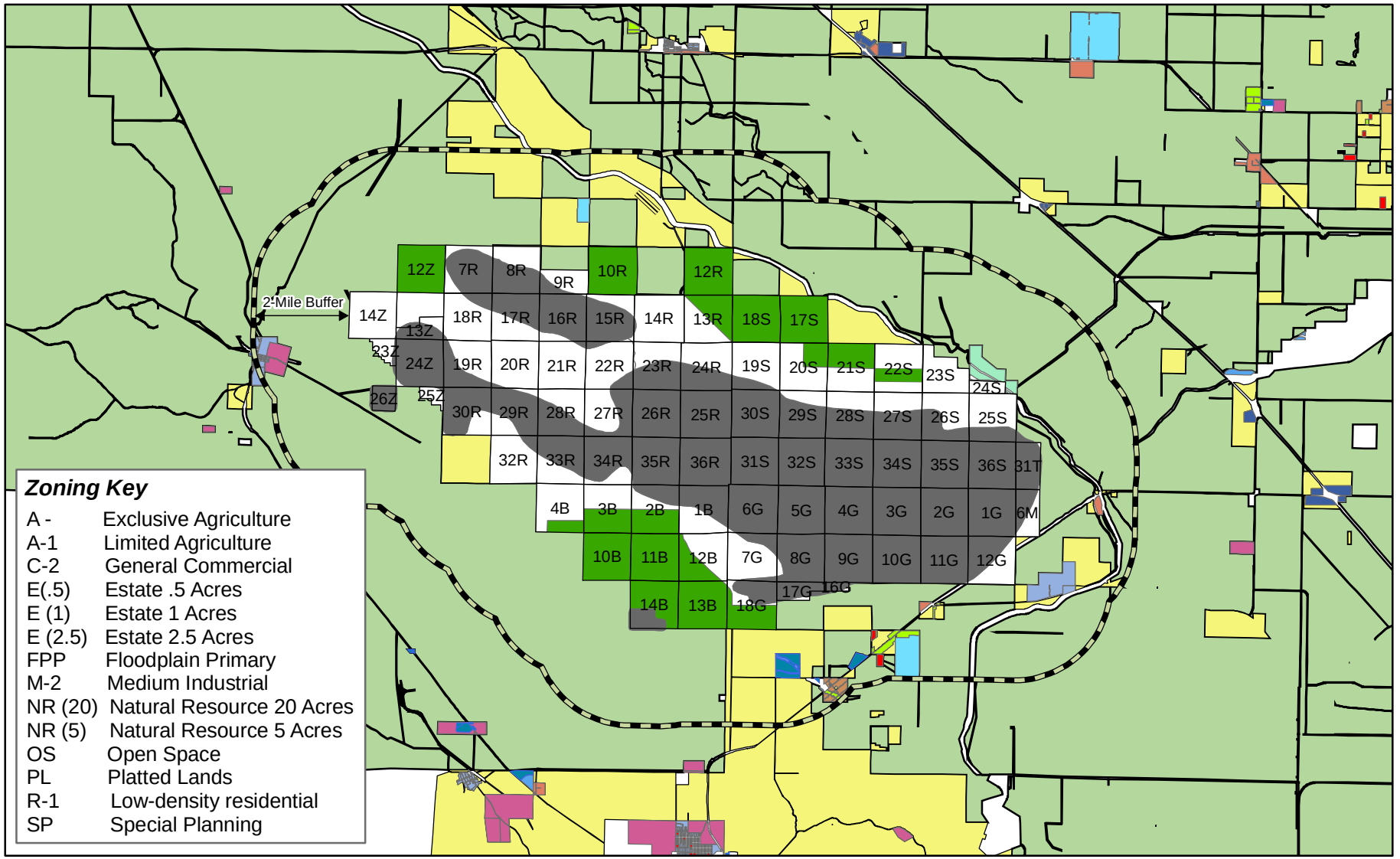
Quad Knopf

FIGURE 4.2b-1

060008

Occidental of Elk Hills

Kern County Zoning



Zoning Key

A -	Exclusive Agriculture
A-1	Limited Agriculture
C-2	General Commercial
E(.5)	Estate .5 Acres
E (1)	Estate 1 Acres
E (2.5)	Estate 2.5 Acres
FPP	Floodplain Primary
M-2	Medium Industrial
NR (20)	Natural Resource 20 Acres
NR (5)	Natural Resource 5 Acres
OS	Open Space
PL	Platted Lands
R-1	Low-density residential
SP	Special Planning

N W E S

0 5,000 10,000 20,000

Feet

1:195,000

Kern County Zoning

A C-2 E(1) FPP NR(20) OS R-1

A-1 E(.5) E(2.5) M-2 NR(5) PL SP

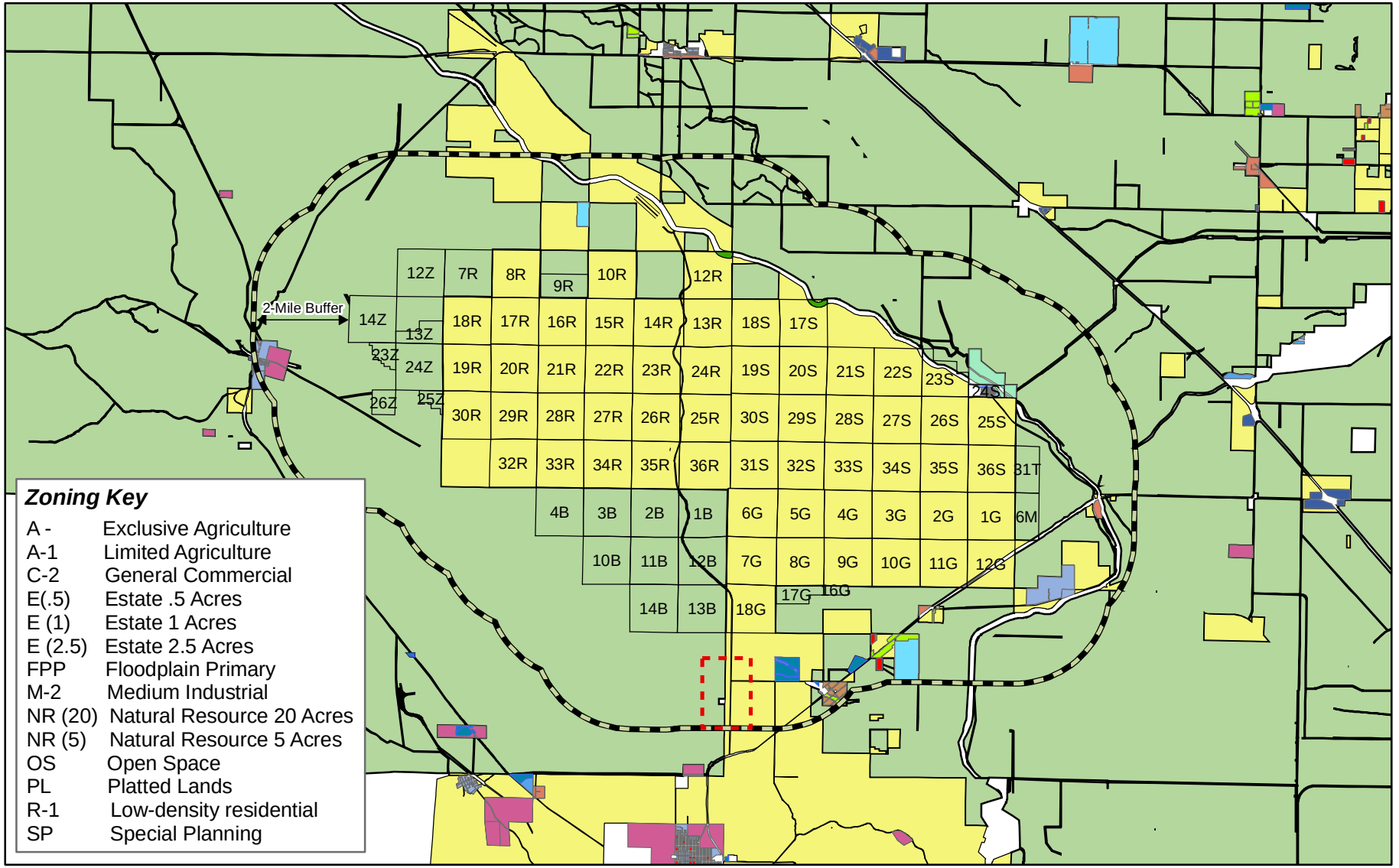
Quad Knopf

FIGURE 4.2c

060008

Occidental of Elk Hills

Elk Hills Zoning



Zoning Key

A -	Exclusive Agriculture
A-1	Limited Agriculture
C-2	General Commercial
E(.5)	Estate .5 Acres
E (1)	Estate 1 Acres
E (2.5)	Estate 2.5 Acres
FPP	Floodplain Primary
M-2	Medium Industrial
NR (20)	Natural Resource 20 Acres
NR (5)	Natural Resource 5 Acres
OS	Open Space
PL	Platted Lands
R-1	Low-density residential
SP	Special Planning

0 4,950 9,900 19,800

Feet

1:195,000

Kern County Zoning

A | C-2 | E(1) | FPP | NR(20) | OS | R-1 | MRZ

A-1 | E(.5) | E(2.5) | M-2 | NR(5) | PL | SP

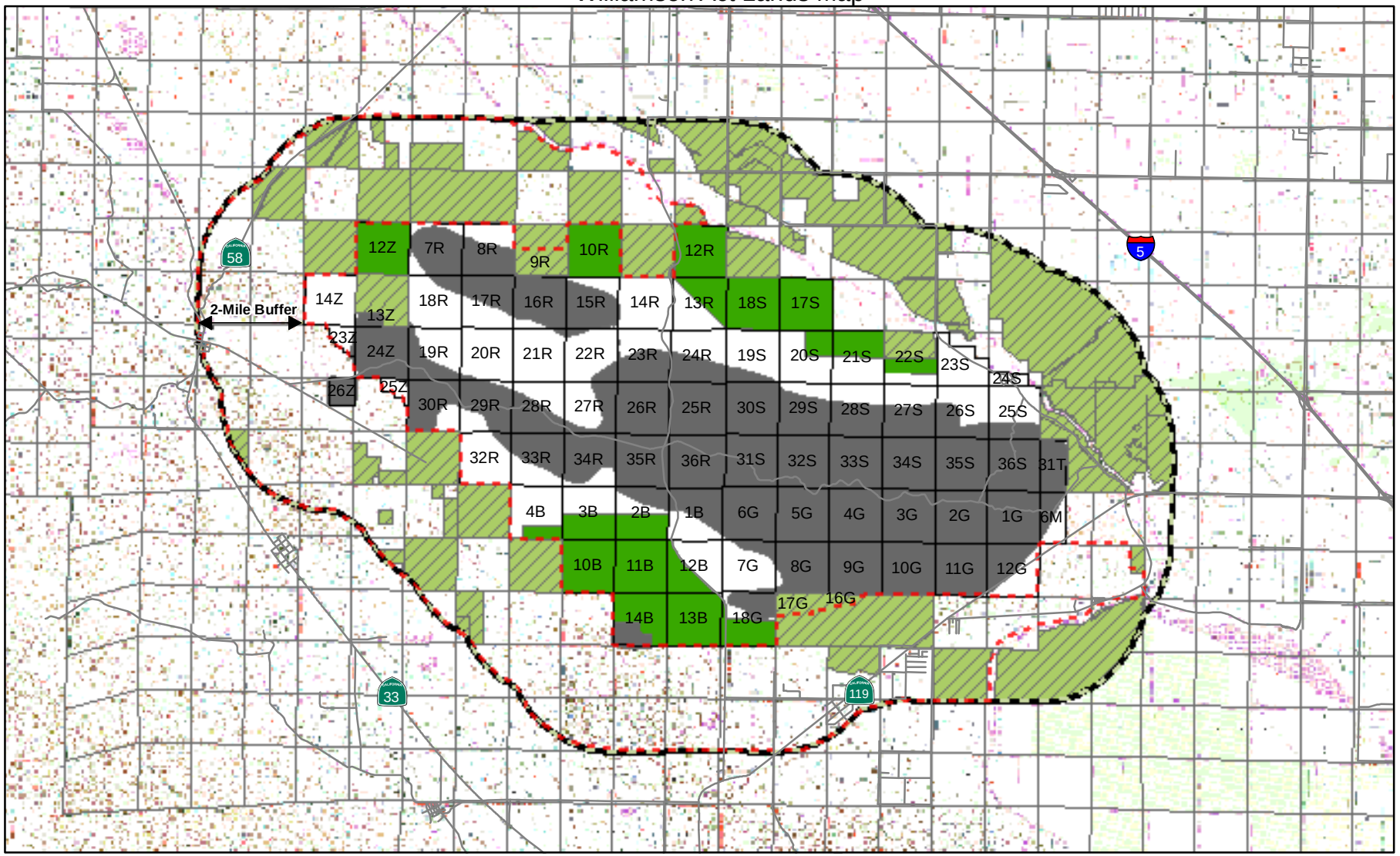
Quad Knopf

FIGURE 4.2c-1

060008

Occidental of Elk Hills

Williamson Act Lands Map



Source: Department of Conservation

0 9,500 19,000
Feet
1:170,000

Williamson Act Lands | Target Compensation Area | 2-Mile Buffer

Quad Knopf

FIGURE 4.2d

060008

4.3 AIR QUALITY: *WOULD THE PROJECT:*

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standards or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact With Mitigation Incorporated

Discussion

The following discussion provides a summary of the air quality impact analyses and evaluation of potential air quality impacts as contained in the 1996 NOP/IS and the 1997 SEIS/PEIR and a comparative discussion relating the 1997 SEIS/PEIR analysis to the updated evaluation contained in the Gap Analysis to demonstrate that the projected emissions associated with the proposed ITP are less than that previously evaluated. This is followed by an assessment of proposed project operations relative to air quality plans adopted since the 1997 SEIS/PEIR.

1996 NOP/IS

The 1996 NOP/IS did not specifically address if the Proposed Action would conflict with or obstruct implementation of the applicable air quality plan. However, the 1996 NOP/IS did address whether the Proposed Action could violate any air quality standards or contribute substantially to an existing or projected air quality violation. The implementation of the Proposed Action, with the selection of the high commercial development case, has the potential to result in commercial practices that are more intensive than that of the existing condition. The Proposed Action would result in short-term emissions due to construction activities and long-term emissions due to the ongoing operations. The sources of air pollutants emitted at NPR-1 (EHOF) include pollutants related to stationary combustion sources, drilling and construction related sources, non-combustion oil and gas production sources, and vehicular sources. Air pollutants from these sources include reactive organic gasses (ROG), oxides of nitrogen, CO, SO_2, sulfate, and particulates (NOP/IS p. 6-20 to 23). The impacts of these emissions were determined to be potentially significant.

1997 SEIS/PEIR

The 1997 SEIS/PEIR evaluated the emissions of the Upper Bound Commercial Development Case, as well as several other alternative operational scenarios. The Upper Bound Commercial Development Case would result in the greatest increase in emission levels and concentrations. Activities included drilling and extraction of oil and gas, handling and production of oil and gas products, and the operation of motor vehicles. The 1997 SEIS/PEIR noted that activities such as oil and gas handling (drilling, tanks, ground disturbance) and the use of equipment (engines, flares, boilers, heaters, motor vehicles) would produce emissions of atmospheric pollutants (1997 SEIS/PEIR p. 4.3-1).

The 1997 SEIS/PEIR evaluated the emissions of stationary sources from three categories: stationary combustion sources, drilling and construction, and evaporative emissions. Mobile source emissions included emissions from a variety of automobiles, light-duty and heavy duty trucks that would be operated on and off the site (1997 SEIS/PEIR p. 4.3-4 to 4.3-7).

The 1997 SEIS/PEIR recognized that as production levels were projected to first increase, and then decrease, future air emissions at NPR-1 (EHOF) would vary over time. As a worst-case scenario, the analysis projected future emissions for the estimated maximum commercial production year of 2001 (or peak production year). The levels of air emissions are typically associated with the levels of oil and gas production levels (refer to discussions below). Higher levels of production tend to result in more activity and throughput of products in the existing facilities and infrastructure. The analysis also utilized the maximum potential emissions for 2001 without the application of mitigation or permit limits to identify the most conservative results (1997 SEIS/PEIR p. 4.3-2). Air quality dispersion modeling was conducted for this scenario and determined the air quality impacts of these future pollutant emissions from the NPR-1 (EHOF) site. The results of the modeling analyses were then compared to state and federal ambient air quality standards to determine the significance of the impacts (1997 SEIS/PEIR p. 4.3-3).

The 1997 SEIS/PEIR estimated the following levels of stationary source emissions for PM_{10}, CO, SOx, NOx, and ROG respectively for the peak production year: 105.85 lbs/hr, 1,120.44 lbs/hr, 71.23 lbs/hr, 1,331.98 lbs/hr, and 1,322.60 lbs/hr. The associated mobile emissions for the peak production year for PM_{10}, CO, NOx, and ROG respectively were: 1,444.98 lbs/day, 719.43 lbs/day, 393.97 lbs/day, and 50.30 lbs/day. The air quality dispersion modeling indicated that concentrations of CO would be well below national and state ambient standards both within and outside the border of NPR-1 (EHOF). Concentrations of particulates, NOx, and SO_2 could be elevated within certain areas of the NPR-1 (EHOF) boundary. Particulate concentrations were also estimated to slightly exceed state standards

in a limited one square mile area adjacent to the northwest NPR-1 (EHOF) boundary (1997 SEIS/PEIR p. 4.3-7, D.4-19).

The 1997 SEIS/PEIR noted that the total predicted values included background values in exceedance of the state standards (1997 SEIS/PEIR p. D.4-5). As discussed above, this estimate was based on the maximum potential emissions without the application of mitigation measures. The 1997 SEIS/PEIR noted that the maximum potential emissions are always larger than the actual emissions under normal operating conditions. The use of mitigation measures would reduce the PM_{10} emissions to less than the state standard (1997 SEIS/PEIR p. 4.3-9). Further, an examination of the modeling results indicated that the majority of the particulate impacts were associated with dust from motor vehicles driving on paved and unpaved roads (1997 SEIS/PEIR p. D.4-5). The on-site concentrations of SO_2 were estimated to exceed state standards, while the on-site concentrations of NOx were estimated to exceed national standards. The 1997 SEIS/PEIR concluded that the use of the maximum potential emissions approach produces much greater increases in emissions for the peak production year, and that actual NOx and SO_2 emission levels would likely not exceed state and federal standards (1997 SEIS/PEIR p. 4.3-9) with implementation of the following existing legal/regulatory requirements and mitigation measures. Therefore, impacts would be less than significant.

1997 SEIS/PEIR Existing Legal/Regulatory Requirements, and Mitigation Measures (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Existing Legal/Regulatory Requirement:** The owner/operator of the Project site, upon acquiring the property from DOE, shall be responsible for obtaining the necessary air permits from the San Joaquin Valley Air Pollution Control District (SJVAPCD) relative to regulated stationary sources. This includes the transfer of existing permits held by DOE for current operations and the acquisition of new permits for future construction and operation of major new facilities or sources. During the process of issuing new permits, the SJVAPCD would review and determine specific measures necessary to address air quality impacts.

- **Mitigation Measure 12:** Minimize the area of disturbance at new construction sites to the extent feasible.

- **Mitigation Measure 13:** Implement a dust control plan that complies with applicable laws.

The 1997 SEIS/PEIR found that the Proposed Action, with its associated development and projected air emissions as proposed even under the maximum development scenario of the Upper Bound Commercial Development Case would not conflict with or obstruct implementation of applicable air quality plans. As discussed in the 1997 SEIS/PEIR, the new owner would be required to obtain new or revised construction and operating permits to accommodate the increased emissions predicted to occur under the Upper Bound Commercial Development Case. During the permitting process, specific measures for avoiding and mitigating air quality impacts through the application of the most stringent control technology or emission reduction offset requirement specified by the appropriate regulation would be determined by the SJVAPCD and included in the terms and conditions of the permits. Any such permits would only be issued after a clear demonstration of consistency with the State Implementation Plan (SIP) (1997 SEIS/PEIR p. 4.3-7).

The Lead Agency determined that the applicable legal/regulatory requirement, the permitting process of the SJVAPCD, provides the basis to evaluate the specific emissions of concern and require the appropriate emission controls or other mitigation. This existing legal/regulatory requirement provides an effective means to substantially lessen the air quality impacts associated with the Project. The Lead Agency also determined that with the exception of the controls listed in the two mitigation measures above, the responsibility for ensuring that the necessary air pollutant controls are implemented lies within another agency than Kern County (i.e., the SJVAPCD) (Kern County Board of Supervisors, Resolution No. 97-375, 1997, Exhibit A p. 12).

Proposed Project

Regulatory Setting

The SJVAPCD is responsible for maintaining air quality in San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings and Tulare counties, and the valley portion of Kern County. At the local level, responsibilities of the SJVAPCD include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

Air quality is also managed through land use and development planning practices. These practices are implemented in Kern County through the general planning process primarily by the municipalities and Kern County. The SJVAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws, but does not have any land use or development planning authority. As well, the SJVAPCD is responsible for developing plans and implementing control measures

that will help the region achieve attainment with state and federal air quality standards. Applicable air quality plans, and associated rules and regulations, are discussed below, followed by a discussion of the potential emissions of criteria pollutants from the proposed ITP which illustrates these emissions would not conflict with or obstruct implementation of applicable air quality plans.

Applicable Air Quality Plans

Due to ongoing violations of the National and State Ambient Air Quality Standards (NAAQS/SAAQS) for ozone and PM_{10}, these pollutants are the most relevant to air quality planning and regulation in the San Joaquin Valley Air Basin (SJVAB). The SJVAPCD manages these pollutants through a long-term attainment planning process that forecasts future emissions depending on changes in source activity, regulatory programs, population, and meteorological conditions. The air quality plans for achieving attainment (one each for ozone and PM_{10}) are evolving documents that are updated triennially to reflect changing population, economic, land use and transportation conditions in the SJVAB.

New air quality plans for two pollutants have been adopted since the 1997 SEIS/PEIR. Each of these is discussed below.

Ozone Attainment Demonstration Plan

The most recent SJVAPCD ozone plan is the 2004 Extreme Ozone Attainment Demonstration Plan (OADP), adopted October 2004, developed for attainment of the previous federal 1-hour ozone standard. Through 2002 and 2003, the SJVAPCD Governing Board had been considering voluntarily downgrading the District from its "severe" federal nonattainment status for ozone to "extreme." The EPA issued a final rule classifying the SJVAB as extreme nonattainment, effective May 17, 2004 (SJVAPCD, 2004). Downgrading the nonattainment status allowed the SJVAPCD additional time to attain the ozone standard before incurring federal penalties. An OADP is required to contain emission inventories for baseline, present, and future years, control measures to reduce emissions, and photochemical modeling that demonstrates attainment by the deadline date. The SJVAPCD revised the plan to address the "extreme" designation during 2004, and the plan recommends more stringent stationary source controls. Control measures in the OADP to reduce emissions will be implemented by the SJVAPCD and the California Air Resources Board (CARB). Effective June 15, 2005, the EPA revoked the federal 1-hour ozone standard, including associated designations and classifications. However, EPA had previously classified the SJVAB as extreme nonattainment for this standard. Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

Particulate Matter Attainment Demonstration Plan

The 2006 PM_{10} Attainment Demonstration Plan was adopted February 2006. The new plan is a SIP revision required as part of the 2003 PM_{10} Plan approval. As required by the EPA, the 5 percent annual reduction and milestones for reasonable further progress (RFP) were evaluated for completion. As well, the 2006 Plan evaluates modeling from the California Regional Particulate Air Quality Study (CRPAQS), new emissions inventories, and modeling data results associated with the updated inventories. Updated inventories used for the 2006 Plan were completed by the CARB and SJVAPCD, and reflect controls implemented up to April 2005. In the previous 2003 Plan, aggressive steps were identified that the SJVAPCD must implement in order to achieve attainment with the federal standards. Some of the control strategies evaluated include more stringent control measures for agricultural dust, road dust, and dust from construction activities. The 2006 Plan includes all controls necessary to achieve NAAQS by the earliest possible date. The Plan also evaluates measures to be implemented to meet the Best Available Control Measures/Best Available Control Technology (BACM/BACT) requirements; however, most of the District's regulations were found to have already met the BACM/BACT requirements. The CRPAQS further indicates that the 2006 Plan will meet RFP milestones and will achieve attainment with NAAQS through control strategies implemented in the previous 2003 PM_{10} Plan.

On September 25, 2008 the EPA redesignated the SJVAB to attainment for the national ambient air quality standard for coarse particulate matter (PM_{10}) and approved the PM-10 Maintenance Plan.

The SJVAB is also designated as nonattainment of the state and federal $PM_{2.5}$ standard. The SJVAPCD developed a $PM_{2.5}$ Plan. This Plan was approved by the CARB and subsequently submitted to the EPA for consideration.

Applicable SJVAPCD Rules to Implement Attainment Demonstration Plans

Once Attainment Demonstration Plans are adopted, the reductions necessary to meet the respective reduction mandates contained in the Plan(s) are achieved through prohibitory rules created and enforced by the local air quality board.

The following discussion describes several of the pertinent SJVAPCD rules applicable to this impact analysis for the proposed ITP. The need for particular air quality rules and regulations is identified by the air quality agency in applicable air quality plans as control measures necessary to achieve and maintain compliance with air quality standards.

Rule 2010 (Permits Required): This rule requires that any project constructing, altering, replacing, or operating any source operation, the use of which emits, may emit, or may reduce emissions, to obtain an Authority to Construct (ATC) and a Permit to Operate (PTO). This rule applies to the construction of the proposed renovations and operation of the new processes and equipment to be installed at the EHOF.

Rule 2201 (New and Modified Stationary Source Review): This rule applies to all new and modified stationary sources that would emit, after construction, a criteria pollutant for which there is an established national or California Ambient Air Quality Standard (AAQS). The rule provides mechanisms by which an ATC can be granted without interfering with the Basin's attainment with ambient air quality standards. These mechanisms offer methods to generate no net increases in emissions of nonattainment pollutants over specific thresholds as detailed in the rule and the imposition of best available control technology for all emission increases.

Regulation VIII (Fugitive PM_{10} Prohibitions): The purpose of Regulation VIII is to reduce ambient concentrations of particulate matter (PM_{10}) by requiring actions to prevent, reduce, or mitigate anthropogenic fugitive dust emissions.

EHOF

As part of this Initial Study, production levels were once again examined to confirm that the assumptions of the 1997 SEIS/PEIR and Gap Analysis were correct and that overall oil and gas production at the EHOF is declining as forecasted and not likely to exceed the levels previously assessed. On a total produced hydrocarbons measurement basis of million barrels of oil equivalent (MBOE), the following production was achieved from 2003 through 2006 as indicated below:

- 2003 Total Production at 48,650 MBOE
- 2004 Total Production at 47,585 MBOE
- 2005 Total Production at 47,818 MBOE
- 2006 Total Production at 48,562 MBOE

The foregoing demonstrates that the general trend in hydrocarbon production has reached a plateau as part of a steady long-term downward decline at a level considerably less than that analyzed in the 1997 SEIS/PEIR (Also see Table 4.3-5 below.). Figure 4.3 taken from the 1997 SEIS/PEIR is provided to demonstrate the historical and projected production curves and declines expected in future years that were used to assess the various production scenarios. This is a typical trend in mature oil and gas fields such as the EHOF.

Although production levels are declining, the examination conducted for this Initial Study presented above for the period 2003-2006 identified one exception in regards to individual hydrocarbon production streams. While the oil and natural gas production stream levels continued to decline from their respective peaks, the natural gas liquids (NGL) production level has been increasing since 2003. This factor led to further examining why this was occurring despite a drop in natural gas and oil production.

When the Gap Analysis was prepared in 2004, it was assumed the 2003 level of 262,680 MGal/yr NGLs represented the peak of NGL production at the EHOF, as the 2004 production numbers were not yet available, and the natural gas production level continued to decline. However, this assumption failed to account for increased efficiency in the Low Temperature Separation Gas Plant No. 1, achieved through OEHI's installation of a pseudo-cryogenic unit (installed under permit with the SJVAPCD in accordance with all air quality regulations). This new unit resulted in more efficient recovery of NGLs from the existing natural gas production stream. As a result of this increased efficiency, NGL production levels reached 270,236 MGal/yr in 2004, 294,769 MGal/yr in 2005, and 313,683 MGal/yr in 2006.

While this represents an increase in the NGL production stream from that assessed in the 1997 SEIS/PEIR and the Gap Analysis, it does not represent an associated increase in air emissions. This is due to the following factors:

First, additional infrastructure, such as piping, compressors, separators, tanks, loading racks, etc., is not required to handle this increased level of NGL production, as would be the case for additional oil and gas wells and production. The increase in NGL production is not the result of increased natural gas production. Since the peak production year of 1999, at a level of 165.141 billion cubic feet per year (BCF/yr), natural gas production has ranged from 141.1 down to 134.7 BCF/yr from 2003 through 2005. All of the gas separation at the EHOF takes place at the tank settings, piping, compressors, and gas plants which are already in place. These facilities are managed on a daily pounds of emission basis that assumes the systems are full whether or not the tanks/lines are empty or partially full. The NGL processing and shipping systems are controlled, closed-loop systems. The systems are under vacuum and any deliveries from the gas plant to the loading racks have the fugitive emissions managed and calculated on a daily basis. Any excess NGLs and fugitive emissions are returned to the gas plant for further processing.

Second, the increased NGL production would not lead to an increase in mobile emissions from deliveries. This is due to the installation of two (2) NGL sales pipelines (a three inch and four inch pipeline) which deliver NGL's to the Coles Levee Inergy Resources gas plant

and storage tanks for later sale during the winter (see discussions in Sections 4.8 and 4.16). Therefore, truck traffic levels have been reduced over the historical levels experienced.

Fugitive emissions are a function of the number of valves, flanges, threaded components, etc. They are not a function of increased flows, rather they are a function of the total number of components. While there is a potential for an increase in fugitive emissions, the EHOF fugitive emissions control program is more comprehensive than required by regulation and is effective in identifying and correcting emissions from detected leaks in the production and processing systems. The infrastructure associated with the delivery of NGLs at the EHOF has remained relatively constant while at the same time the program to identify and repair leaks is significantly more comprehensive. Therefore, significant increases in fugitive emissions are not expected from the increase in NGL production.

NGL production levels would eventually decline with the continuing decline in natural gas production. Overall, the total hydrocarbon production levels would continue to decline in future years from those assessed in the 1997 SEIS/PEIR. While temporary, or short-term increases in production may occur in future years due to enhanced oil recovery projects that are implemented at the EHOF, the increase would be within the range assessed in the 1997 SEIS/PEIR and the Gap Analysis. Such increases would be followed by more rapid and permanent declines in production in future years. As a result, exceedance of associated air emissions as estimated in the 1997 SEIS/PEIR at the peak production level is not anticipated, and emissions are anticipated to remain within the range previously assessed.

Since the completion of the 1997 SEIS/PEIR, Federal and State air quality standards have become increasingly restrictive on allowable air emissions. For example, in 1997 the state standard for PM_{10} was 30 micrograms per cubic meter ($\mu g/m^{3)}$ a year (annual mean) and is now 20 $\mu g/m^3$ a year (annual mean). Another example is the adoption of SJVAPCD Regulation VIII Rules, which were not in effect when the 1997 SEIS/PEIR was completed (see the response to Section 4.3(b) below). It is likely that future standards will be more restrictive as new regulations are developed to meet attainment standards. The proposed ITP would continue to operate in full compliance with all applicable air emissions standards and regulatory requirements. Therefore, emissions from the proposed ITP would continue to decrease in response to these more restrictive regulatory standards as well as the continued decline in production levels.

As noted in the project description, oil production contains multiple components, and many of the air emissions come from ancillary support systems such as compressors, tank settings and hydrocarbon processing facilities, and to a limited extent, vehicle traffic. Overall emissions from these facilities and infrastructure have declined with the continued downward trend in production levels experienced since 2002. As technology improves in

the future, some equipment would be upgraded and replaced at the EHOF. Some examples of such upgrades completed since the sale of NPR-1 are listed in Section 4.18. New drilling would likely utilize new technologies to optimize production and reduce the potential for exceeding air emissions standards. The 1997 SEIS/PEIR did not consider these improvements in technology in its estimates for future air emissions under the Proposed Action.

Federal and state regulations are expected to further restrict the emission of air pollutants in the future, production levels would continue to decline, and equipment specifications would continue to improve. Consequently, air emissions of the proposed ITP would remain substantially below the levels analyzed in the 1997 SEIS/PEIR which were estimated on a worst case, conservative basis. Moreover, they would continue to decrease at a greater rate than that indicated in the 1997 SEIS/PEIR.

The SJVAPCD's air quality management plans account for future population growth and the associated infrastructure required to support such growth. Air emission inventories, and projections of future air emission inventories, are based in part on local agency land use plans and their associated zoning and land use designations which plan for and project future growth within the jurisdiction. This data along with other data such as monitoring data, changes in source activity, and permitted source inventories are utilized in air quality planning to formulate strategies needed to meet or attain compliance with state and federal air quality standards, such as new air quality rules and local ordinances. Compliance with applicable Rules, Regulations, and land use and zoning requirements ensures continued movement towards achieving the SJVAPCD attainment goals.

The proposed ITP is consistent with the site's land use and zoning designations. The Kern County General Plan land use designation of the EHOF project site is Mineral and Petroleum (Map Code 8.4) and Extensive Agriculture (Map Code 8.3) (Figure 4.2b). The EHOF is currently zoned as A (Exclusive Agriculture), and A-1 (Limited Agriculture.) No changes in land use or zoning designations would occur with the proposed ITP. Therefore, the proposed ITP would not conflict with its zoning or general plan land use designations and would continue to operate in a manner consistent with these designations and the associated projections for future air emission inventories contained in the applicable air quality plans, as well as the required control strategies to achieve or maintain compliance with air quality standards in the applicable air quality plans. Therefore, given these designations, and OEHI's consistency with the land use plans approved by agencies, OEHI does not anticipate that the proposed ITP would interfere with attainment of ambient air quality standards, and the applicable air quality plans, which are developed to achieve and maintain compliance with such standards.

The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above and continue to comply with all applicable regulatory requirements. The foregoing analyses demonstrate that potential future emissions of criteria pollutants as a result of the proposed ITP would be at levels substantially less than that previously evaluated in the 1997 SEIS/PEIR. The proposed ITP would not conflict with or obstruct implementation of air quality plans adopted since the 1997 SEIS/PEIR, nor would it violate any air quality standards or contribute substantially to an existing or projected air quality violation.

2-Mile Buffer

Covered Activities described under Section 2.0 above, including habitat restoration and management activities have the potential to contribute to the overall amount of pollutants on the project site on a short-term basis. Emissions would likely occur from the exhaust of vehicles used for monitoring and maintenance purposes, and dust from habitat restoration and vehicles driving on site for monitoring purposes. Other activities that may produce dust pollution include the installation and maintenance of fencing to protect the habitat areas from off-highway vehicle (OHV) users and other civilians who may attempt to use the property illegally. As habitat monitoring, and fence construction and maintenance, would likely happen at occasional intervals and be small and temporary in nature, air quality impacts from these activities would be less than significant. Therefore, these management and monitoring activities would not obstruct or conflict with implementation of the SJVAPCD air quality management plans, nor would it violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Construction of fencing to prohibit trespass onto Conservation Lands would also have several beneficial environmental impacts. Fencing would greatly reduce, or prevent OHV use on any Conserved Lands within the 2-mile buffer. OHV recreational use occurs in the project vicinity. Elimination of unauthorized access onto Conserved Lands would in turn reduce associated fugitive dust generation, and associated soil erosion on Conserved Lands that results from this activity, while at the same time help to preserve the natural habitat features on the fenced properties.

As discussed under Section 2.0 above, Covered Activities within the 2-mile buffer such as the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs would not obstruct or conflict with implementation of the SJVAPCD air quality management plans, nor would it violate any air quality standards or contribute substantially to an existing or projected air quality violation. Project activities would also comply with all applicable air quality rules and regulations, such as Rule VIII regulations. The short-term nature and limited extent of such activities would result in less than significant environmental impacts.

The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above.

Gap Analysis

For the EHOF, the projected future impacts of the proposed ITP as analyzed in the Gap Analysis indicates that PM_{10}, CO, SOx, NOx, and ROG stationary source emissions are estimated to be 95.05 lbs/hr, 669.08 lbs/hr, 65.14 lbs/hr, 1,098.44 lbs/hr, and 1,198.96 lbs/hr, respectively, less than that estimated by the 1997 SEIS/PEIR (Gap Analysis p. 9-11). Comparing these stationary source levels to those estimated in the 1997 SEIS/PEIR demonstrates that the levels of particulates, CO, SOx, NOx and ROG are less than estimated (See Table 4.3-1). With the exception of CO, mobile emissions were also found to be less than estimated in the 1997 SEIS/PEIR. For the proposed ITP, PM_{10}, CO, NOx, and ROG mobile source emissions were estimated to be 1,256.81 lbs/day, 725.43 lbs/day, 393.97 lbs/day, and 50.30 lbs/day respectively (Gap Analysis p. 11-12). Refer to Table 4.3-2 below for a comparison of mobile source emissions. Some of this decrease in emissions is due to factors such as lower than predicted peak production levels, lower levels of traffic and vehicle trips due to the declining number of employees, stricter regulatory standards, and improvement of equipment and fuel specifications. Finally, Table 4.3-3 below provides a comparison of the total estimated emissions from stationary and mobile sources combined as identified in the 1997 SEIS/PEIR for the Upper Bound Commercial Development Case, and in the Gap Analysis for the proposed ITP.

Table 4.3-1
Stationary Source Emissions

Source Type	1997 SEIS/PEIR 2001 Emissions (lbs/hr)	EHOF Aliquoted Peak Emissions (lbs/hr)	Difference
PM_{10}	105.85	10.80	95.05
CO	1,120.44	451.36	669.08
SOx	71.23	6.09	65.14
NOx	1,331.98	233.54	1,098.44
ROG	1,322.60	123.64	1,198.96

Table 4.3-2
Mobile Source Emissions

Source Type	1997 SEIS/PEIR 2001 Emissions (lbs/hr)	EHOF Aliquoted Peak Emissions (lbs/hr)	Difference
PM_{10}	1,444.98	1,256.81	188.17
CO	719.43	725.43	(6.00)
NOx	393.97	393.97	0
ROG	50.30	50.30	0

Table 4.3-3
Total Stationary and Mobile Source Emissions

Source Type	1997 SEIS/PEIR 2001 Emissions (lbs/hr)	EHOF Aliquoted Peak Emissions (lbs/hr)	Difference
PM_{10}	166.06	63.13	102.93
CO	1,150.02	481.58	668.84
NOx	1,348.40	249.96	1,098.44
ROG	1,324.70	125.74	1,198.96

Production level estimates under the Upper Bound Commercial Development Case in the 1997 SEIS/PEIR projected maximum oil production to peak in the year 2001 at 40,750 million barrels per year (MB/Yr), gas production at 190.00 billion cubic feet per year (BCF/Yr), and NGLs at 264,033.04 million gallons per year (MGal/Yr) (1997 SEIS/PEIR p. 4.3-2, B.6-24). On a total produced hydrocarbons measurement basis of barrels of oil equivalent (BOE), this equates to a peak annual production level of 79,000 MBOE (Gap Analysis p. 8).

As part of the Gap Analysis, OEHI assessed current emissions, to compare them with the levels projected and analyzed in the 1997 SEIS/PEIR. The Gap Analysis concluded that oil production at the EHOF peaked in 2002 at 19,758 MB/Yr, natural gas production peaked in

1999 at 165.141 BCF/Yr, and natural gas liquids peaked in 2003 at 262,680 MGal/Yr (Gap Analysis p. 8). These figures represent decreases of 20,992 MB/Yr, 24.859 BCF/Yr, and 1,353.04 MGal/Yr, respectively from those levels assessed in the 1997 SEIS/PEIR. On a total produced hydrocarbons measurement basis of BOE, this equates to an aliquoted peak production level of 53,535 MBOE/yr for an assumed 2002 year, a decrease of 25,465 MBOE from that assessed in the 1997 SEIS/PEIR (Gap Analysis p. 8). Refer to Table 4.3-4 below for a comparison of hydrocarbon production levels.

Table 4.3-4
Production Level Estimates

Hydrocarbon Production	1997 SEIS/PEIR Peak Year: 2001	EHOF Aliquoted Peak Year	Difference
Oil	40,750 MB/Yr	19,758 MB/Yr (2002)	20,992 MB/Yr
Gas	190.00 BCF/Yr	165.141 BCF/Yr (1999)	24.859 BCF/Yr
NGLS	264,033.04 MGal/Yr	262,680 MGal/Yr (2003)	1,353.04 MGal/Yr
Total	79,000 MBOE	53,535 MBOE	25,465 MBOE

The 1997 SEIS/PEIR predicted that all hydrocarbon production levels would peak in a single year, as opposed to what was actually experienced at EHOF with the individual hydrocarbon production streams having different peak years. The EHOF aliquoted peak production level as provided in Table 4.3-4 above, allows a comparison of the 1997 SEIS/PEIR and the EHOF production level estimates. These sharply lower levels of oil and gas production, as compared to the levels analyzed in the 1997 SEIS/PEIR that were based on maximum potential emissions without the application of mitigation measures, show that the air emissions from the proposed ITP are significantly less than the emissions analyzed in the 1997 SEIS/PEIR (see discussion above regarding oil production operations infrastructure and equipment in regards to the increase in the NGL production stream).

Despite significant reductions in air emissions at EHOF, Kern County's overall progress in meeting certain state and federal air pollution attainment standards has been challenging since the completion of the 1997 SEIS/PEIR. The status of the County's attainment efforts as reflected in the Gap Analysis are as follows:

Table 4.3-5
Kern County Attainment Status

Attainment Status	1997		Gap Analysis	
	State Standard	Federal Standard	State Standard	Federal Standard
Ozone O_3	Severe non-attainment	Serious non-attainment	Extreme non-attainment	Non-attainment
Carbon Monoxide-CO	Attainment	Attainment *except Bakersfield	Attainment	Attainment
Sulfur Dioxide-SO_2	Attainment	Attainment	Attainment	Attainment
Nitrogen Dioxide- NO_2	Attainment	Attainment	Attainment	Attainment
Particulate Matter- PM_{10}	Non-attainment	Serious non-attainment	Non-attainment	Serious non-attainment
Particulate Matter-$PM_{2.5}$	Not classified	Not classified	Non-attainment	Non-attainment
Lead	Attainment	Attainment	Attainment	No designation

Conclusion

The 1996 NOP/IS indicated that potentially significant impacts to violations of air quality standards could result from implementation of the Proposed Action. As was found to be the case with the Proposed Action in the 1997 SEIS/PEIR, and as indicated above, compliance with existing rules and regulations, the implementation of mitigation measures, voluntary emission control programs, stricter regulatory standards, increased efficiencies from new technologies, and the continued downward trend in production levels, would keep the proposed ITP from obstructing or conflicting with implementation of the SJVAPCD air quality management plans or violating any air quality standards, therefore causing a less than significant impact.

Such impacts were adequately analyzed in the 1997 SEIS/PEIR, but such impacts are less than significant with mitigation and compliance with existing legal/regulatory requirements. However, as the proposed ITP would re-adopt the mitigation measures listed above, such

impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address whether the Proposed Action could result in a cumulatively considerable net increase of any criteria pollutants for which the region is in nonattainment (NOP/IS p. 6-22).

1997 SEIS/PEIR

All impacts associated with cumulative impacts of the Proposed Action were discussed in the 1997 SEIS/PEIR. The 1997 SEIS/PEIR evaluated future year emission impacts with NPR-1 (EHOF) operations and other existing or reasonably foreseeable sources in the air basin and projected total production levels for NPR-1 (EHOF) out to the year 2033. The analysis concluded that while there would be ozone precursors and CO emissions increases at NPR-1 (EHOF) up until the year 2001, there would be an overall basin-wide decrease of emissions of ozone precursors during this time. Significant decreases in criteria pollutant emissions would occur after the peak production year of 2001. Hence, impacts from NPR-1 (EHOF) will decrease after that time, especially due to changes in permitted emission limits, below existing impacts. The analysis also concluded that the long-term emissions to 2033 both within the air basin and NPR-1 (EHOF) should also fall because emissions from oil and gas production in the air basin are expected to scale back as oil and gas production decreases throughout the area (1997/SEIS/PEIR p. 4.3-10, 4.3-11).

Proposed Project

See Section 4.3(a) above.

The criteria pollutants for which the project region is in non-attainment under applicable air quality standards are ozone, and particulate matter ($PM_{2.5}$), and ozone precursors such as ROG.

The discussion below summarizes project activities that may result in emissions of these pollutants, and evaluates whether they would result in a cumulatively considerable net increase.

EHOF

Construction Activities: Ingress & egress of construction vehicles, grading, compacting, and similar types of construction activities may temporarily increase particulate matter and exhaust emissions. Particulate matter from fugitive dust and nitrogen oxides from diesel engine exhausts would be the primary pollutants of concern. The CARB estimates that for each acre under construction, approximately eighty pounds of dust per day is generated, if no dust control measures are implemented.

Construction would also produce exhaust emissions from the transport of workers and machinery to and from the site as well as the operation of construction equipment on-site. Typical equipment used for construction activities for the proposed ITP may include light and heavy-duty trucks and autos, drill-rigs, earthmovers, air compressors, and generators. Construction emissions associated with such activities were addressed in the 1997 SEIS/PEIR and then reevaluated in the Gap Analysis completed for the proposed ITP (1997 SEIS/PEIR p. 4.3-5 to 4.3-9, Gap Analysis p. 8-12). It was determined that emissions from the proposed ITP would have lower concentrations than originally analyzed (see Section 4.3(a)). Moreover, the proposed ITP would comply with SJVAPCD Regulation VIII Rules to minimize Fugitive Dust from Construction Activities, which includes a dust control plan under Rule 8021**.**

Further, the more recent San Joaquin Valley Regulation VIII, which will be implemented on a case-by-case basis, would serve to further ensure that the proposed ITP dust emissions remain lower than that analyzed in the 1997 SEIS/PEIR (Particulate emissions level increases were estimated without the application of mitigation measures which if implemented would reduce the particulate emissions to below state and federal standards 1997 SEIS/PEIR p. 4.3-9). Dust control measures discussed in Regulation VIII Rules, include (but are not limited to) frequent watering, paving of access roads, and periodic road washing in construction areas. At the EHOF, dust control plans are prepared for specific projects on an as-needed basis. According to the SJVAPCD Guide to Assessing and Mitigating Air Quality Impacts, the implementation of and compliance with Regulation VIII cause air quality impacts on a project and cumulative basis to be less than significant.

Operational Emissions: Operational emissions would be created by both stationary and mobile sources including generators, pump engines, gas compressor engines, well pumps, drill rigs, heat treatment, steamers, glycol re-boilers, flares, well cellars, valves, fittings, seals, tanks, sumps, pits, oil-spills, and stack vents. As indicated in the Gap Analysis, stationary emissions from the proposed ITP are less than that originally analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 9-12). As stated in Section 4.3(a), some of this decrease in emissions is due to lower than predicted peak production levels, stricter regulatory standards, less traffic and vehicle trips due to a decrease in employees, and improvement of equipment specifications. Since, federal and state regulations are expected to further restrict the allowable limits for emission of criteria air pollutants in the future, equipment specifications will continue to improve, while production levels will continue to decline, it is likely that the level of criteria pollutant emissions from the project site will decrease at an even greater rate than that indicated in the 1997 SEIS/PEIR and Gap Analysis. Therefore, compliance with all state and federal regulations, end of pipe remediation technologies, and permits to operate, the proposed ITP, coupled with increasing equipment efficiency and decreasing oil production, keeps the proposed ITP from having a considerable cumulative net increasing affect on any criteria pollutant for which the County is currently in nonattainment.

2-Mile Buffer

As indicated in the project description, lands within the 2-mile buffer would be acquired for habitat restoration, maintenance, and conservation**.** Habitat restoration and management may contribute slightly to the overall amount of criteria pollutants on the project site. Short-term emissions would likely occur from the exhaust and fugitive dust from vehicles used for initial surveying of purchased habitat conservation lands. Other activities that may produce dust pollution include the installation of fencing to protect the habitat areas from OHV users and other civilians who may wish to use the property illegally.

Habitat management activities within the 2-mile buffer may contribute very slightly to the overall amount of criteria pollutant emissions. Ingress and egress of vehicles in the buffer area for monitoring of wildlife and the maintenance of habitat and fences could create pollutants such as nitrogen oxides and dust. Since habitat monitoring and fence maintenance would likely happen at occasional intervals and be small and temporary in duration, and since these activities are relatively benign in nature, they would not result in a cumulatively considerable net increase in emissions of non-attainment criteria pollutants.

As discussed under Section 2.0 above, Covered Activities within the 2-mile buffer such as the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs would not

result in a cumulatively considerable net increase in emissions of non-attainment criteria pollutants. These activities are of limited extent, and of a short-term temporary nature. Project activities would also comply with all applicable air quality rules and regulations, such as Regulation VIII Rules. The short-term nature and limited extent of such activities would result in less than significant environmental impacts.

Gap Analysis

See Section 4.3(a) and the Proposed Project discussion in Section 4.3(c) above.

Conclusion

The 1996 NOP/IS did not specifically address whether the Proposed Action could result in a cumulatively considerable net increase of any criteria pollutants for which the region is in non-attainment. The 1997 SEIS/PEIR concluded that the temporary increase in criteria pollutant emissions until the peak production year of 2001 would not represent a cumulatively considerable net increase, given the overall projected decrease in basin-wide emissions during the same period. Further, following 2001, emissions of criteria pollutants at NPR-1 (EHOF) would experience significant decreases thereafter, followed by a general decline until the year 2033 throughout the basin as future oil and gas production levels decrease. The conservative project level direct and cumulative emissions estimates and levels of production projected in the 1997 SEIS/PEIR were never realized. In addition, more stringent regulatory requirements have been established, such as SJVAPCD Regulation VIII to reduce pollutant emissions. Thus, future emissions under the proposed ITP would be at a level even less than estimated.

Such impacts were adequately analyzed in the 1997 SEIS/PEIR, and as evaluated in this Initial Study, potential impacts are at a level of less than significant. Thus, no further analysis is warranted.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact with Mitigation Incorporated

Discussion

1996 NOP/IS

As indicated in the 1996 NOP/IS, off-site residential areas include Buttonwillow, located approximately 4 miles to the north, Dustin Acres located approximately 1 mile to the

southeast, Valley Acres located approximately 3 miles south, Taft located approximately 2 miles to the west, and McKittrick located approximately 2 miles to the west. Due to the distance, from the source of the air emissions at NPR-1 (EHOF) to these nearby communities, it was not anticipated that the Proposed Action would expose sensitive receptors to air pollutants. Less than significant impacts would result (NOP/IS p. 6-21).

1997 SEIS/PEIR

The 1997 SEIS/PEIR determined that at the peak production year of 2001 there would be no off-site emissions of pollutants at levels above state or federal standards with the implementation of the following mitigation measures and compliance with existing legal/regulatory requirements (1997 SEIS/PEIR p. 4.3-9).

1997 SEIS/PEIR Existing Legal/Regulatory Requirements and Mitigation Measures (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Existing Legal/Regulatory Requirement:** The owner/operator of the Project site, upon acquiring the property from DOE, shall be responsible for obtaining the necessary air permits from the San Joaquin Valley Air Pollution Control District relative to regulated stationary sources. This includes the transfer of existing permits held by DOE for current operations and the acquisition of new permits for future construction and operation of major new facilities or sources. During the process of issuing new permits, the SJVAPCD would review and determine specific measures necessary to address air quality impacts.

- **Mitigation Measure 12:** Minimize the area of disturbance at new construction sites to the extent feasible.

- **Mitigation Measure 13:** Implement a dust control plan that complies with applicable laws.

Proposed Project

EHOF

See response to Section 4.3 (a-c) above.

Sensitive populations (i.e. children, the elderly, and the sick) are typically more susceptible to fluctuations in air pollution concentrations. Buildings which generally house such sensitive

populations include schools, daycares, nursing homes, hospitals, residences, and others. No recognized sensitive receptor locations are located within or immediately adjacent to the EHOF except for the Elk Hills Elementary School which is located just inside the northeast corner of the EHOF in the community of Tupman. More specifically, the school is located in the Northwest ¼ of Section 25, T.30S, R.24E, MDB&M. (see Figure 4.7a). McKittrick Elementary School is located on the edge of the 2-mile buffer, outside the western boundary of EHOF.

The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above.

2-Mile Buffer

As discussed in Sections 4.3(a) & (b), impacts from restoration and maintenance of habitat areas acquired in the buffer area are minimal and temporary in nature. Adherence to regulatory standards would further ensure that such activities would not significantly impact sensitive receptors within the buffer area. Due to the benign nature and minimal creation of pollutants by such activities, impacts are considered less than significant.

As discussed under Section 2.0 above, Covered Activities within the 2-mile buffer such as the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs (generally confined to existing ROWs) would not expose sensitive receptors to substantial pollutant concentrations. These activities are of limited extent, and of a short-term temporary nature. Project activities would also comply with all applicable air quality rules and regulations, such as Regulation VIII Rules. The short-term nature and limited extent of such activities would result in less than significant environmental impacts.

The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above.

Gap Analysis

As indicated in the Gap Analysis, future emissions are less than previously assessed and would remain so in the future (Gap Analysis p. 8-12). Therefore, implementation of the proposed ITP would not expose sensitive receptors to substantial pollutant concentrations.

Conclusion

As indicated in the 1996 NOP/IS, the Proposed Action would not expose sensitive receptors to air pollutants and concluded that less than significant impacts would occur. The 1997 SEIS/PEIR determined there would be no off-site emissions of pollutants at levels above state or federal standards with the implementation of mitigation measures and compliance with existing legal/regulatory requirements. Such impacts were adequately analyzed in the 1997 SEIS/PEIR, but such impacts are less than significant with mitigation. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact with Mitigation Incorporated

Discussion

1996 NOP/IS

As indicated in the 1996 NOP/IS, due to the distance of the source of potential odors at NPR-1 (EHOF) on-site facilities to any off-site residential areas or sensitive receptors, and the limited access of people to the site, it was not anticipated that the Proposed Action will cause an effect related to odors. No impact was identified (NOP/IS p. 6-21, 6-22).

1997 SEIS/PEIR

While potential objectionable odor impacts were not specifically addressed in the 1997 SEIS/PEIR, the analysis determined that at the peak production year of 2001 there would be no off-site emissions of pollutants at levels above state or federal standards with the implementation of the following mitigation measures and compliance with existing legal/regulatory requirements (1997 SEIS/PEIR p. 4.3-9). These pollutants included odor-forming compounds such as found in sulfur dioxides and reactive organic gasses. Therefore, these mitigation measures and regulatory compliance standards would also control potential odor emissions at EHOF sources.

1997 SEIS/PEIR Existing Legal/Regulatory Requirements and Mitigation Measures (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program

Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Existing Legal/Regulatory Requirement:** The owner/operator of the Project site, upon acquiring the property from DOE, shall be responsible for obtaining the necessary air permits from the San Joaquin Valley Air Pollution Control District relative to regulated stationary sources. This includes the transfer of existing permits held by DOE for current operations and the acquisition of new permits for future construction and operation of major new facilities or sources. During the process of issuing new permits, the SJVAPCD would review and determine specific measures necessary to address air quality impacts.

- **Mitigation Measure 12:** Minimize the area of disturbance at new construction sites to the extent feasible.

- **Mitigation Measure 13:** Implement a dust control plan that complies with applicable laws.

Proposed Project

EHOF

See response to Sections 4.3 (a-d) above.

The proposed ITP may produce some objectionable odors at the EHOF from diesel exhaust associated with construction equipment and maintenance, as well as from hydrocarbon processing facilities and evaporative loss from tanks and lines. However, EHOF is a restricted access facility with limited public access, and no sensitive receptors are located near enough to the emission sources at EHOF to be effected by odors. The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above and continue to comply with all applicable regulatory requirements and permit conditions which would reduce any effects to a less than significant level as was the case with the 1997 SEIS/PEIR.

2-Mile Buffer

Odors from the exhaust associated with the ingress and egress of vehicles used for monitoring, maintenance, and restoration of habitat have the potential to minimally affect people in and around the communities of Tupman, Dustin Acres and Valley Acres. Impacts from restoration and maintenance of habitat areas acquired in the 2-mile buffer area are considered minimal and temporary in nature. Adherence to regulatory standards for engine

exhaust will further ensure that such activities will not significantly impact people within the 2-mile buffer area. Therefore, impacts are considered less than significant.

As discussed under Section 2.0 above, Covered Activities within the 2-mile buffer such as the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs (generally confined to existing ROWs) would not create objectionable odors affecting a substantial number of people. These activities are of limited extent, and of a short-term temporary nature. Project activities would also comply with all applicable air quality rules and regulations, such as Regulation VIII Rules. The short-term nature and limited extent of such activities would result in less than significant environmental impacts.

The proposed ITP would also re-adopt Mitigation Measures (12 and 13) of Exhibit B listed above which would reduce any effects to a less than significant level as was the case with the 1997 SEIS/PEIR.

Gap Analysis

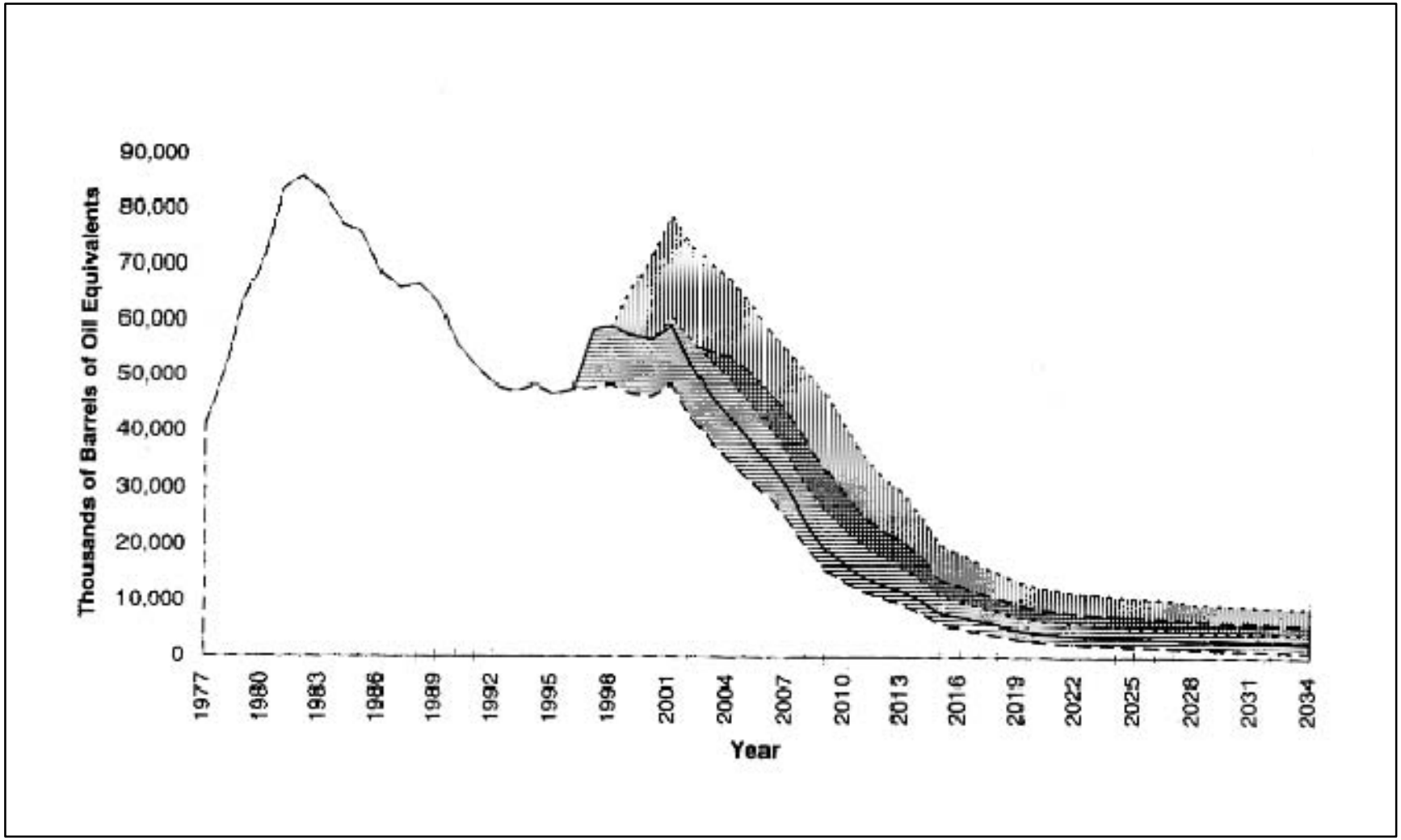
As indicated in the Gap Analysis, future emissions under the proposed ITP are less than previously assessed and would remain so in the future (Gap Analysis p. 8-12).

Conclusion

The 1996 NOP/IS determined that the Proposed Action would not cause an odor-related effect and concluded that no impacts would occur. The 1997 SEIS/PEIR determined there would be no off-site emissions of pollutants at levels above state or federal standards with the implementation of mitigation measures and compliance with existing legal/regulatory requirements. These pollutants included odor-forming compounds such as found in sulfur dioxides and reactive organic gasses. Such impacts were adequately analyzed in the 1997 SEIS/PEIR, but such impacts are less than significant with mitigation. As evaluated in this Initial Study, objectionable odors may occur on-site but would not affect any members of the public or off-site sensitive receptors due to their distance from the source. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

Occidental of Elk Hills

Elk Hills Historical Production and Case Projection



Source:

Figure 2.1-2 in the
1997 SEIS/PEIR

• • • • Commercial

Commercial Case (Range Between Upper and Lower Bound)

− − − Government

Government Case (Range Between Upper and Lower Bound)

——— Reference

Quad Knopf

FIGURE 4.3

060008

4.4 BIOLOGICAL RESOURCES: *WOULD THE PROJECT*:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Introduction

This resource area does not include a summary of impacts as evaluated in the 1996 NOP/IS. This is because the 1996 NOP/IS concluded that overall impacts to this resource area would result in potentially significant impacts; hence such potential impacts would be subject to a more extensive analysis in the subsequent 1997 SEIS/PEIR. Thus, it was determined most appropriate to utilize the analyses from the 1997 SEIS/PEIR in the discussions below.

Potentially Significant Impact

Discussion

1997 SEIS/PEIR

Vegetation

The 1997 SEIS/PEIR identified the vegetation at NPR-1 (EHOF) as being part of a major floristic zone within California known as Valley Grassland, which is dominated by annual grasses (1997 SEIS/PEIR p. 3.5-3). It further noted that the new dominant annual grassland is extremely persistent and prevents the reestablishment of native vegetation. Disturbances that have affected the vegetation at NPR-1 (EHOF) included grazing, fires, and gas and oil operation activities.

Plants

The 1997 SEIS/PEIR identified the Hoover's woolly-star (*Eriastrum hooveri*) as the only listed plant species known to exist on NPR-1 (EHOF). When the 1997 SEIS/PEIR was prepared it was listed as a federally threatened and as a state species of concern[16]. In addition, the 1997 SEIS/PEIR noted that four (4) species of threatened or endangered plants, and as many as

[16] The 1997 SEIS/PEIR defines species of concern as species that (1) are recognized by the State of California as species of concern ("State Special"); (2) are recognized by the Service as Category 1 Species; or (3) formerly had a federal status as Category 2 species. These species were all included as species of concern as it was determined that they may be more sensitive to development activities than other species. Note, that the Service no longer has a Category 1 or a Category 2 designation. Category 1 was replaced by 'candidate species' using the same definition.

fourteen (14) additional state or federal species of concern may occur at NPR-1 (EHOF); ten (10) state or federal species of concern have been observed.

Wildlife

The 1997 SEIS/PEIR identified five (5) animal species (federally or state listed as endangered or threatened at that time) as being known to occur on NPR-1 (EHOF). The listed species included the San Joaquin kit fox (*Vulpes macrotis mutica*), blunt-nosed leopard lizard (*Gambelia sila*), giant kangaroo rat (*Dipodomys ingens*), Tipton kangaroo rat (*Dipodomys nitratoides*) and the San Joaquin antelope squirrel (*Ammospermophilus nelsoni*). In addition, the 1997 SEIS/PEIR noted that thirteen (13) bird and two (2) reptile species of concern have been observed at NPR-1 (EHOF).

The 1997 SEIS/PEIR concluded that the development of the Proposed Action which was assumed to follow the Upper Bound Commercial Development Case would result in significant impacts to biological resources (1997 SEIS/PEIR p. 4.5-17). A total of 766 acres of permanent habitat would be lost, and 754 acres of temporary habitat disturbance would occur (1997 SEIS/PEIR p. 4.5-21). The significant impacts to biological resources resulting from the continued operation and future increases in oil and gas production activities included:

- Reduced potential for recovery of listed species, and increased potential for listing of additional species;
- Damage or destruction of threatened and endangered plants;
- Mortality, injury, and displacement of threatened and endangered animals;
- Loss or destruction of animal dens and burrows;
- Direct and indirect impacts associated with spills, noise and pest control; and
- Habitat loss for species of concern.

The 1997 SEIS/PEIR concluded that potential impacts to biological resources would be less than significant with implementation of several mitigation measures. These mitigation measures are identified below.

> **1997 SEIS/PEIR Mitigation Measure** (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 29:** Implement DOE's remaining obligations set forth in the terms and conditions of the 1995 Biological Opinion. Establishment of the Conservation Area specified in the 1995 Biological Opinion is included in these obligations.

- **Mitigation Measure 30**: Enter into and implement a Memorandum of Understanding (MOU) with the California Department of Fish and Game pursuant to Fish and Game Code Section 2081.

The 1997 SEIS/PEIR also identified the 28 mitigation measures and terms and conditions established in the 1995 BO to reduce potential impacts to this resource area. These mitigation measures, and terms and conditions are provided in Table 4.5-3 of the 1997 SEIS/PEIR (1997 SEIS/PEIR. p. 4.5-13 to 4.5-16) and are summarized below:

- Implement all mitigation commitments and terms and conditions as specified in the 1995 BO. These specific measures are identified below:

    - Establish a 7,075 acre conservation area and habitat management program by Nov. 1998;

    - Continue to implement provisions of the NPR-1 Wildlife Management Plan;

    - Continue to implement the NPR-1 Endangered Species and Monitoring Program;

    - Perform habitat reclamation of disturbances when no longer needed for operations;

    - Complete a comprehensive floristic survey of NPR-1;

    - Initiate separate consultations for project specific impacts to listed plants, except for impacts to Hoover's wooly-star;

    - Minimize adverse effects to Hoover's wooly-star by conducting preactivity surveys, relocating projects when reasonable, avoiding disturbing Hoover's wooly-star habitat after plants have set seed, if possible, and re-using topsoil;

    - Include Hoover's wooly-star in the habitat conservation area;

- Use locally obtained native seed for revegetation efforts to the extent they are commercially available at competitive prices;
- Ensure that oil nestraw habitat in Sections 10R, 12R, and 17S is not developed;
- Continue to implement preactivity surveys prior to all surface disturbing activities;
- Use biological monitors during all critical construction activities occurring within and adjacent to sensitive endangered species habitat;
- Minimize, to the maximum extent practicable, the areas disturbed by construction related activities and routine operations;
- Confine all Naval Petroleum Reserves California (NPRC) and contractor vehicles to existing roads or to projects that have undergone a preactivity survey;
- Clean-up all spills of oil or liquids contaminated by oil or hazardous materials in a manner consistent with the NPR-1 SPCC Plan;
- Enforce all speed limits, which shall not exceed 25 mph in construction areas;
- Implement a litter control program;
- Minimize construction activities between dusk and dawn;
- Use qualified personnel to implement the Endangered Species program;
- Avoid damage or destruction to San Joaquin kit fox dens, giant kangaroo rat burrows, and burrows potentially utilized by blunt-nosed leopard lizards;
- Known San Joaquin kit fox dens shall not be damaged or destroyed. Potential dens may be excavated without prior notification, provided the den is not a known kit fox den;
- San Joaquin kit foxes, blunt-nosed leopard lizards, and giant and Tipton kangaroo rats may be captured and relocated from construction sites, if the burrows of these animals cannot reasonably be avoided during construction with the approval of the FWS Field Office;

- At the end of each day, during all major construction projects, all open pipeline trench segments and other steep-walled holes or trenches greater than two feet deep shall either be covered or equipped with escape ramps no further than one-quarter mile apart. Trapped wildlife shall be removed by qualified personnel;
- Prior to the sale of NPR-1, the Department shall initiate and complete a subsequent Section 7 consultation as to this Federal action;
- Submit an annual report within 90 calendar days following the end of each fiscal year;
- Accompany FWS personnel on tours of construction sites or other locations, to review project impacts to endangered species and their habitats;
- Apply BO terms and conditions to third party activities on site; and
- Notify FWS within three days of the death or injury of listed species.

The 1997 SEIS/PEIR also identified the draft CESA MOU 17 mitigation measures in the proposed CESA MOU developed by CDFG to reduce potential impacts to this resource area. These measures are identified as MOU Mitigations 1-17 (1997 SEIS/PEIR p. 4.5-32 to 33). Refer to discussion below under Gap Analysis for further details.

Based on all of these mitigation measures, the 1997 SEIS/PEIR concluded that impacts would be less than significant.

Proposed Project

The majority of the discussion provided below includes information obtained from the Draft Habitat Conservation Plan for the Elk Hills Oil Field, prepared by Live Oak Associates, Inc. (Live Oak Associates 2006). Relevant sections have been included in whole or summarized where appropriate.

EHOF

As explained in Section 2.0, Project Description, the proposed ITP would authorize incidental take of listed species associated with up to 4,000 acres of permanent disturbance; 3,000 acres of temporary disturbance; continued oil and gas operations/maintenance; maintenance and limited construction of off-site facilities; and management of Conservation Lands on EHOF,

acquired Conservation Lands within the 2-mile buffer; and acquired Conservation Lands outside the 2-mile buffer as approved by the agencies. The proposed ITP would also adversely affect other sensitive species or special status species that are not currently listed as threatened or endangered. EHOF is divided into two designations: the HPA (23,960 acres) and non-HPA (23,924 acres) (see Section 2.3, Environmental Setting). Within the Non-HPA, the 7,801-acre Conservation Area was established on November 6, 1998. The majority of the oil and gas development and related activities have historically occurred within the HPA. OEHI anticipates that 80% to 90% (up to 3,600 acres) of new permanent disturbance could occur within the HPA and that 10% to 20% (up to 800 acres) could occur within the Non-HPA and Conservation Lands. The actual number and location of future oil wells and associated development will depend on future economics and technical feasibility of extracting oil and gas from known and undiscovered reservoirs.

Proposed ITP Covered Species

Plants

In accordance with the 1995 BO, a comprehensive floristic survey of the EHOF was conducted during the years 1995-2001. The survey encompassed a total of 81 sections or partial sections of land that comprise the EHOF. The floristic survey was required so that the occurrence and distribution of potential sensitive plant species on the EHOF would be accurately ascertained, and no longer in question. The data resulting from this effort would then provide for consideration of their presence in future site activities. Thirty-seven special-status species were targeted during this survey effort. The targeted species list included federal and/or state listed and candidate species, CDFG species of special concern, and rare plants identified by the California Native Plant Society (CNPS). The Service approved the target list.

As a result of this floristic survey, eleven special-status plant species have been identified on the EHOF as opposed to the 14 potential plant species discussed in the 1997 SEIS/PEIR above. These include the following species: crownscale (*Atriplex coronata* var. *coronata*), Lost Hills crownscale (*Atriplex vallicola*), gypsum-loving larkspur (*Delphinium gypsophilum* ssp. *gypsophilum*), recurved larkspur (*Delphinium recurvatum*), Hoover's eriastrum (*Eriastrum hooveri*), cottony buckwheat (*Eriogonum gossypinum*), Tejon poppy (*Eschscholzia lemmonii ssp. kernensis*), hollisteria (*Hollisteria lanata*), creosote bush (*Larrea tridenta*), oil nestraw (*Stylocline citroleum*), and San Joaquin bluecurls (*Trichostema ovatum*). The survey determined that with the exception of Hoover's woolly-star (Hoover's eriastrum), no other listed plant species occurred on the EHOF (Quad Knopf 2001). Note, that on October 7, 2003, Hoover's woolly-star was removed from the Federal Threatened Species List. Therefore, it will not be a Covered Species under the proposed ITP. Note that the EHOF floristic survey did not

encompass the 2-mile buffer, therefore, it is possible that listed and other sensitive plant species may occur therein.

Plant species covered in the proposed ITPs include six species (See Table 2.5-2): Tejon poppy (*Eschscholzia lemmonii ssp. Kernensis*), oil nestraw (*Stylocline citroleum*), Kern mallow (*Eremalche parryi ssp. Kernensis*), heartscale (*Atriplex cordulata*), Lost Hills saltbush (*Atriplex vallicola*), and San Joaquin woolly-threads (*Monolopia congdonii*). Refer to Section 2.5.3 for a discussion of why certain species were proposed for inclusion as a Covered Species. Note that several species, which do not occur on the EHOF, have the potential to occur in the 2-mile buffer. Consequently, these species were identified as Covered Species.

Wildlife

OEHI intends to request an incidental take permit from the CDFG for the following state Covered Species: Giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton's kangaroo rat (*Dipodomys nitratoides nitratoides*), and San Joaquin antelope squirrel (*Ammospermophilus nelsoni*).

OEHI intends to request an incidental take permit from the Service for the following federal Covered Species: Giant kangaroo rat (*Dipodomys ingens*), San Joaquin kit fox (*Vulpes macrotis mutica*), Tipton's kangaroo rat (*Dipodomys nitratoides nitratoides*), Buena Vista lake shrew (*Sorex ornatus relictus*), San Joaquin antelope squirrel (*Ammospermophilus nelsoni*), short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*), and San Joaquin LeConte's thrasher (*Toxostoma lecontei macmillanoura*).

Federal Covered Species will also include the blunt-nosed leopard lizard (*Gambelia sila*) and the Western burrowing owl (*Athene cunicularia hypugea*). However, based on the status of the blunt-nosed leopard lizard (Federally Endangered, State Endangered and Fully Protected), and the western burrowing owl (a Federal Species of Concern, a BLM Sensitive Species, a State Species of Special Concern, a Migratory Bird Treaty Act species, and Fish and Game Code Sections 3503 and 3513), incidental take cannot be authorized by the Service or CDFG for these two species.

Effects of the Proposed ITP within EHOF

Impacts to Covered wildlife Species[17] are anticipated from the following Covered Activities:

- Oil and gas development (temporary and permanent surface disturbance)

[17]**"Covered Species"** means the species, listed and non-listed, whose conservation and management are provided for by the HCP and for which limited take is authorized by the CDFG and the Service pursuant to the State and Federal Incidental Take Permits. The term Covered Species is inclusive of *sensitive species*, and impacts addressing Covered Species, therefore, includes consideration of impacts to sensitive species.

- Oil and gas development-related activities (temporary and permanent surface disturbance)
- Monitoring activities for Covered Species
- Management activities for Covered Species including habitat enhancement
- Covered Species may be subject to harm and mortality during routine day-to-day operations within EHOF. These Covered Activities include:
    - Vehicle traffic
    - Grading associated with well drilling and associated access road construction
    - Oil spills
    - Contamination from commonly used oil field chemicals
    - Habitat fragmentation and loss
    - Other routine operations

Harassment to wildlife species could result from increased levels of human disturbance, destruction or excavation of burrows and dens, entrapment in open pipes and construction-related trenches, and other factors. Individuals may escape death but be forced into unfamiliar territory that could in turn increase the likelihood of predation, exposure (to the elements), stress through disorientation, and lack of shelter.

During construction activities, harm or death could result from inadvertent entombment or crushing in collapsed burrows and dens and through entrapment in construction related holes or trenches. Other forms of death or injury to Covered Species may result from vehicular strikes, direct contact with heavy equipment while in use, pouring of materials, contact with moving parts of wells or other heavy equipment, wildfire inadvertently ignited during welding or other operations, contact with oil spills, sumps, and inundation of animals during release of hydrostatic pipeline test water. Four active wastewater sumps are utilized in emergency and upset conditions, all of which have fencing and netting to exclude wildlife. Several other wastewater sumps are utilized on a non-routine basis. While unlikely that Covered Species would inadvertently come into contact with production sumps located at the drill site, impacts due to the presence of these sumps will be considered. Pig launching and receiving facilities for the major pipelines within the EHOF contain either an associated sump to contain hydrostatic release of the freshwater discharges or mechanisms in place to minimize erosion. For non-routine tests and pipeline repairs outside this containment system environment, discharges are either self-contained to portable tanks and removed, or any rare discharges to grade are strictly controlled through regulation by the Regional Water Quality Control Board and other resource agencies, and are monitored to reduce the likelihood of take. Impacts due to non-routine tests and pipeline repairs are also considered.

Impacts to Covered plant Species (see footnote 17) are anticipated from the following Covered Activities:

- Oil and gas development (temporary and permanent surface disturbance)
- Oil and gas development-related activities (temporary and permanent surface disturbance)
- Monitoring activities for Covered Species
- Management activities for Covered Species including habitat enhancement

Direct impacts due to oil development are most likely to affect the Tejon poppy, the oil neststraw, and, potentially, the San Joaquin woolly threads. Direct impacts due to Conservation Lands management activities could affect all six Covered Species. Both of these types of direct impacts are anticipated due to surface disturbance associated with these activities.

Impacts Related to Oil and Gas Development

Loss of habitat for Covered Species would result from development of well pads and other Covered Activities identified in the Project Description, Section 2.0. This loss will either be "permanent" or "temporary." Permanent development will result in habitat lost for use by Covered plant and animal Species for the life of this proposed ITP unless well pads or other types of permanent structures or pavement are removed and habitat reclaimed. The amount of new permanent development will not exceed 4,000 acres for the life of the proposed ITP but the yearly disturbance amount will vary. Temporary disturbance is a short-term event whose effects are relaxed almost immediately or within a short period after the event and does not result in any permanent loss of habitat. Temporary disturbance may diminish habitat value to plant and animal species for up to two years but is expected to be functionally restored after this time. Examples of temporary disturbance include clearing of vegetation and the construction of a slope below a well pad. The soil substrate of the slope is available for natural revegetation and burrow construction. Other types of temporary disturbances include but are not limited to pipeline installations, pipeline repairs, powerpole installations, geophysical surveys, oil spill remediation sites and emergency response activities. In general, areas that are temporarily disturbed are available for recolonization by Covered Species (both plants and animals). Dirt roads are considered permanent disturbance due to the fact that recolonization by Covered Species would be subject to on-going disturbance.

Impacts Related to Monitoring Activity

Impacts to Covered Species could result from on-going monitoring, although this activity has been intentionally designed to be non-invasive. Small mammal trapping requires

the handling of animals and could occasionally result in unintended mortalities. Individuals could also be impacted during diurnal and nocturnal driving surveys although the walking and driving surveys are not expected to result in incidental take due to the slow pace at which they are conducted. No impacts to habitat are expected to occur from monitoring activities. As a result of unavoidable impacts to occupied habitat, inadvertent mortality could occur during relocations.

Impacts Related to Conservation Management (On-Site)

Management and enhancement activities on initial and future Conservation Lands will be determined when these lands are acquired, but will likely include some of the following:

a) trash removal
b) road closures
c) revegetation
d) grazing
e) burning
f) other types of restoration
g) mowing
h) fencing

No incidental take is expected to occur to wildlife species as a result of these activities although there may be some temporary minor surface disturbance, disturbance to plants, and alteration to existing conditions of extant habitat. If any ground disturbing activities are planned as part of enhancement or management, then these activities will be preceded by a pre-activity survey (PAS) and, if recommended by the surveying biologist, a biological monitor will be present during these activities. In addition, fencing, mowing, burning, and revegetation will also be preceded by a PAS to document the presence of Covered Species, recommendations will be made to avoid take or disturbance, and monitoring will be conducted to ensure that no direct take occurs during these activities.

Effects of the Proposed ITP within the 2-Mile Buffer

Impacts Related to Maintenance of Off-Site Facilities

Maintenance of off-site facilities may include the construction, reconstruction, replacement, maintenance, repair, and operation of off-site transmission lines and pipelines that are part of oil and gas production, processing and distribution operations at the EHOF. This includes the maintenance of various powerlines or hydrostatic testing and cleaning of pipelines. All of these activities may have effects on Covered Species.

Impacts Related to Limited Construction of Off-Site Facilities

From time to time, the need for additional off-site facilities may involve construction work in order to maintain operations such as the installation of additional water lines and powerlines, including the need for improved infrastructure to accommodate product sales, processing and distribution demands. The covered linear projects would be generally confined/co-located next to existing ROWs within the 2-mile buffer and facilities shown outside of the 2-mile buffer (See Figure 4.4a). Each individual linear project would be limited to no more than a construction ROW width of 100-feet and length of 1-mile on a not to exceed basis per section (approximately 12-acres of disturbance per section). All of these activities may affect Covered Species.

Impacts Related to Conservation Management (Off-Site)

Management and enhancement activities on initial and future Conservation Lands will be determined when these lands are acquired, but will likely include some of the following:

a) trash removal
b) road closures
c) revegetation
d) grazing
e) burning
f) other types of restoration
g) mowing
h) fencing

No incidental take is expected to occur to wildlife species as a result of these activities although there may be some temporary minor surface disturbance, disturbance to plants, and alteration to existing conditions of extant habitat. If any ground disturbing activities are planned as part of enhancement or management, then these activities will be preceded by a PAS and, if recommended by the surveying biologist, a biological monitor will be present during these activities. In addition, fencing, mowing, burning, and revegetation will also be preceded by a PAS to document the presence of Covered Species, recommendations will be made to avoid take or disturbance, and monitoring will be conducted to ensure that no direct take occurs during these activities.

Gap Analysis

As discussed in Section 2.0, the Gap Analysis identified, compared, and evaluated the environmental impacts as described in the 1997 SEIS/PEIR with the levels of development and associated environmental impacts that would likely result from OEHI's implementation of the proposed ITP. The result of said evaluation resulted in the identification of new significant or substantially more severe environmental effects on biological resources, because the proposed

ITP would lead to more disturbance of currently undisturbed habitat within the EHOF than was anticipated in the 1997 SEIS/PEIR (refer to pages 17-35 of the Gap Analysis).

As discussed in the Gap Analysis, in anticipation of the sale of Elk Hills to a private party, the CDFG prepared a proposed CESA MOU that would reduce the impacts to CESA listed species. The proposed CESA MOU contained 17 mitigation measures (Gap Analysis p. 31). The proposed CESA MOU was subsequently executed in 1997, following the completion of the 1997 SEIS/PEIR and prior to the close of the sale of Elk Hills (CDFG 1997). The 1997 CESA MOU was amended in 1999 to extend its term by 10 years (1999 Amendment) (CDFG 1999) and a Second Amendment to the MOU that extended its term to 2014 (CDFG 2010). The 1997 CESA MOU mitigation measures and terms and conditions are summarized below (Note that these measures are slightly different from those discussed in the 1997 SEIS/PEIR p. 4-5-32 to 33.):

- At least thirty (30) days before Closing, Elk Hills shall designate a representative responsible for communications with the Department, and for overseeing compliance with this CESA MOU and the attached federal BO;

- Elk Hills shall conduct an orientation program for all persons who will work on-site during construction. The program shall consist of a brief presentation from a person knowledgeable about the biology of the Covered Species and the terms of this CESA MOU and the federal BO;

- If Elk Hills or any of its employees, contractors or designated agents kills or injures an individual of a Covered Species at Elk Hills, or finds any such animal dead, injured, or entrapped at Elk Hills, Elk Hills shall as soon as practicable notify the Department by telephone. All reasonable efforts shall be made to allow any entrapped animals to escape. Any dead or injured animal discovered by Elk Hills or its contractors or designated agents at Elk Hills shall be turned over to the Department in a manner reasonably requested by the Department (or to USFWS consistent with the BO), and a written report must be submitted to the Department no later than three (3) business days after the Representative has knowledge of such death or injury;

- Elk Hills shall allow Department representatives access to the project site, accompanied by the Representative, to monitor compliance with the terms and conditions of this CESA MOU. A copy of the annual compliance report required by the federal BO will be provided to the Department, and will be augmented to include information regarding the San Joaquin antelope squirrel consistent with the information required for the other Covered Species;

- Elk Hills shall continue to implement the on-going program components of the Wildlife Management Plan as described in the federal BO. Elk Hills will provide a description of the on-going program components for Department approval within thirty (30) days following the Closing;

- Elk Hills shall provide a baseline inventory of surface disturbances to the Department within ninety (90) days following the Closing, shall confer with the Department and the USFWS regarding the accuracy and adequacy of this inventory, and shall provide revisions as necessary;

- Elk Hills shall provide an annual summary of surface disturbances and reclamation to the Department within the first quarters of 1999 and 2000, unless this requirement s superseded by the requirements of the proposed long-term wildlife habitat and management plan;

- Elk Hills shall prepare a wildlife habitat and management plan for the Elk Hills in consultation with the Department and USFWS and subject to Department approval. A draft plan shall be submitted to the Department for review no later than the end of the second quarter of 1998, and a final plan including supporting plans, agreements, and other elements, shall be prepared for Department approval by November 9, 1998;

- Consistent with the federal BO, Elk Hills shall place into protected status at least 7,075 acres of Habitat Management lands on or adjacent to Elk Hills at locations approved by the Department, and shall provide a suitable management plan and adequate funding for long-term management of those lands, subject to Department requirements. The Department may extend or revise this requirement to facilitate the transition from this interim CESA MOU to a proposed long-term wildlife habitat and management plan, and/or potential federal section 10(a) permit;

- Occidental shall comply with those Conservation Measures identified in Exhibit 4, if any, for the Species that are not specifically provided for in the federal BO.

    - Exhibit 4 Additional Conservation Measures:

        - <u>San Joaquin Antelope Squirrel:</u>

            - Any San Joaquin antelope squirrel discovered during preactivity surveys shall be avoided, if reasonably practicable;

            - If it is not reasonably practicable to avoid a location where this species is present, known burrows will be excavated by hand if so required by the Department.

Western Burrowing Owl:

- Any burrowing owl discovered during preactivity surveys shall be avoided, if reasonably practicable;
- Terms and conditions 2(a), 2(b), and 2(c) from the BO (avoidance and relocation) shall apply except that (i) notice shall be provided to the Department rather than the USFWS, and (ii) relocation shall be performed consistent with the relocation provisions in the Department's October 17, 1995 Staff Report on Burrowing Owl Mitigation, unless other arrangements are made with the Department.

- Oil Neststraw:
  - Any populations of oil neststraw discovered during floristic surveys or during the normal course of preactivity surveys will be avoided, if reasonably practical;
  - If it is not reasonably practical to avoid a location where this species is present, the plant mitigation commitments numbered (3)c and (3)d in the BO shall apply (seasonal and soil/seed salvage provisions);
  - The plant mitigation commitment numbered (60 in the BO shall apply (protection of four known populations).

- Within thirty (30) days following the Closing, Occidental shall provide to the Department a Conditional Standby Letter of Credit in the face amount of Seven Hundred Fifty Thousand Dollars ($750,000.00), as security for Occidental's faithful performance of its obligations

As discussed in Section 2.0, estimates of permanently disturbed and undisturbed acreages were based on assessments at the time of property transfer of the EHOF from the DOE to OEHI, the acquisition of two parcels within EHOF totaling 475 acres, and the surface disturbance which has occurred post-sale (Table 4.4-1). This constitutes the "existing" estimate for the developed portion of the EHOF both on a pre-sale, 2004 Baseline and post sale basis through the end of 2006. In addition, the maximum build-out acreages are provided for the 1995 BO, 1997/1999 CESA MOU, and the 1997 SEIS/PEIR, as well as the increments above these amounts, so as to show a comparison between the different project authorizations. The "Maximum Build Out" estimate is based on adding the 4,000 acres of permanent disturbance anticipated by the proposed ITP to the estimated "existing" acreage for the developed portion of the EHOF. Table 4.4-1 below outlines the existing conditions for the EHOF at the time of the

property transfer, including several post-sale updates (Section 22S land acquisitions in 2004 and 2006, respectively) to the proposed conditions that would occur upon approval of the proposed ITP. This level of disturbance is what is being evaluated in this Initial Study.

Table 4.4-1
Pre-Sale Conditions for EHOF, Allowable Permanent Acreage Disturbances, Subsequent Land Acquisitions and Disturbances, Maximum Proposed ITP Build-Out, and Increment Above Levels Assessed in 1995 BO, 1997/1999 CESA MOU and 1997 SEIS/PEIR (Acres of Permanent Disturbance)

Habitat/Land Use	Existing Pre-Sale	1995 BO, 1997/1999 CESA MOU Maximum Build Out	1997 SEIS/PEIR Maximum Build-Out	Post-Sale Land Acquisition	2004 Baseline (6-30-04)	2006 Cumulative Since Sale (12-31-06)	Proposed ITP Maximum Build Out + 50 Years	Proposed ITP Increment Above 1995 BO, 1997/1999 CESA MOU Maximum Build-out	Proposed ITP Increment Above 1997 SEIS/PEIR Maximum Build-out
Developed	3,800.0	4,628	5,394	3,800.0	4,335.5	4,668.7	9,394[18]	4,766[19]	4,000.0[20]
Undisturbed	43,609.0	42,781	42,015	44,084.0	43,548.5	43,215.3	38,490[21]	-4,766[22]	-4,000.0
Total	47,409.0	47,409	47,409	47,884.0	47,884.0	47,884.0	47,884.0	+475.0[23]	+475.0

[18] 5,394 acres + 4,000 acres = 9,394 acres.

[19] 9,394 acres – 4,628 acres = 4,766 acres.

[20] 9,394 acres – 5,394 acres = 4,000 acres.

[21] 42,015 acres + 475 acres habitat acquisitions = 42,490 acres. 42,490 acres – 4,000 acres = 38,490 acres

[22] 42,781 acres + 475 acres habitat acquisitions = 43,256 acres. 43,256 acres – 38,490 acres = 4,766 acres.

[23] 47,884 acres – 47,409 acres = 475 acres.

Conclusion

The 1997 SEIS/PEIR concluded that the development of the Proposed Action would result in less than significant impacts to biological resources with implementation of mitigation measures. Although the proposed ITP would result in similar activities that could be mitigated in similar ways, as evaluated in this Initial Study, the implementation of the proposed ITP may result in new significant or substantially more severe impacts to this resource area (i.e. an increase in habitat disturbance) than were analyzed in the 1997 SEIS/PEIR. As a result, additional CEQA analysis of these impacts is required, and will be developed through a subsequent joint CEQA/NEPA document.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less Than Significant Impact With Mitigation Incorporated

Discussion

Refer to the discussion under Section 4.4 (a) above.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not identify the presence of riparian habitat within NPR-1 (EHOF). The 1997 SEIS/PEIR refers to the 1993 SEIS for more detailed information on plant communities. The 1993 SEIS noted that the Valley Grassland is dominated by annual grasses such as red brome (*Bromus rubens*), slender oats (*Avena barbara*), foxtail fescue (*Festuca megalura*) and foxtail (*Hordeum glaucum*); and a variety of forbs, especially red-stemmed filaree (*Erodium cicutarium*). The 1993 SEIS further noted that shrubs such as desert saltbush (*Atriplex polycarpa*), bladderpod *(Isomeris arborea*), and cheesebush (*Hymenoclea salsola*) are also common 1993 SEIS p. 3.5-1). The 1997 SEIS/PEIR stated that under the Proposed Action 766 acres of permanent habitat would be lost, and 754 acres of temporary habitat disturbance would occur (1997 SEIS/PEIR p. 4.5-21). Overall, the 1997 SEIS/PEIR concluded that the Proposed Action would result in less than significant impacts (1997 SEIS/PEIR p. 4.5-21).

The 1997 SEIS/PEIR identified two mitigation measures to further reduce some of these less than significant impacts. These mitigation measures are identified below.

1997 SEIS/PEIR Mitigation Measure (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 29:** Implement DOE's remaining obligations set forth in the terms and conditions of the 1995 Biological Opinion. Establishment of the Conservation Area specified in the 1995 Biological Opinion is included in these obligations.

- **Mitigation Measure 30**: Enter into and implement a Memorandum of Understanding (MOU) with the California Department of Fish and Game pursuant to Fish and Game Code Section 2081.

Proposed Project

EHOF

There is no riparian habitat located within the EHOF. The major vegetation type on the EHOF has been described as Lower Sonoran Grassland (Twisselman 1967). Other descriptions include Valley Saltbush Scrub, Non-native Grassland, and Valley Sink Scrub (Mayer et al. 1988). These sensitive natural communities have not been delineated on site as they grade into one another and shift over time.

The California Natural Diversity Database (CNDDB) has classified two of these vegetation types as Sensitive Natural Communities: Valley Saltbush Scrub and Valley Sink Scrub. A brief description of these communities and their occurrence on EHOF follows. Note that neither of these Sensitive Natural Communities has been recorded as occurring within the EHOF in the CNDBB. See Figure 4.4b for the recorded localities of these Sensitive Natural Communities outside EHOF.

Valley Saltbush Scrub

Valley Saltbush Scrub habitat (also referred to as chenopod scrub, alkali desert scrub, Great Basin saltbush scrub, and shadscale), consists of open stands of very low to moderately high grayish pubescent subshrubs and shrubs. Soils of this habitat type are generally very rich in carbonates. Valley saltbush scrub habitat at the EHOF is dominated by desert saltbush (*Atriplex polycarpa*), although spiny saltbush (*Atriplex spinifera*), cheesebush (*Hymenoclea salsola*), and matchweed (*Gutierrezia bracteata*) are often present in less abundance. Grasses and forbs common to the non-native grassland habitat as described below are also present where openings in the shrub canopy allow.

Valley Sink Scrub

Valley Sink Scrub habitat is extremely limited in extent at the EHOF. Where present, this habitat generally consists of low-lying arroyos or sandy washes surrounded by valley saltbush scrub habitat. Although rainwater may flow through these washes during storm events, sink scrub habitats are dry most of the year. Plants within this habitat are generally taller and denser than those of surrounding scrublands, but consist of the same species found in the valley saltbush scrub.

Regardless, loss of habitat will result from development of well pads and other activities described in Section 2.0. This loss will either be "permanent" or "temporary." Permanent development will result in habitat lost for use by Covered Species for the life of this proposed ITP unless well pads or other types of permanent structures or pavement are removed and habitat reclaimed. The amount of new permanent development will not exceed 4,000 acres for the life of the proposed ITP but the yearly disturbance amount will vary. The amount of new temporary development will not exceed 3,000 acres for the life of the proposed ITP, but the yearly disturbance amount will vary.

Annual disturbances are anticipated to vary in response to economics and the demand for oil and gas. Pursuant to the proposed ITP, impacts to habitat will be assessed on a yearly basis ("surface disturbance accounting") and compensated for in advance of disturbances through setting aside of appropriate acreage of suitable mitigation habitat.

2-Mile Buffer

There is no riparian habitat within the 2-mile buffer, and the only sensitive natural community delineated in the vicinity is Valley Saltbush Scrub, located 7 miles northeast of McKittrick, adjacent to and north of the California Aqueduct. This occurrence is located just on the edge of the 2-mile buffer. See Figure 4.4b. While no other sensitive natural communities have been recorded in the 2-mile buffer in the CNDBB, with the conditions present on EHOF, it is likely that other occurrences of Valley Saltbush Scrub and/or Valley Sink Scrub are also located within the 2-mile buffer.

A Bureau of Land Management (BLM) Area of Critical Environmental Concern (ACEC) is located within the 2-mile buffer north of the EHOF. The Lokern ACEC is identified on Figure 2.4b. According to the BLM, ACEC designations highlight areas where special management attention is needed to protect, and prevent irreparable damage to, important historic, cultural, or scenic values; fish or wildlife resources; or other natural systems or processes. ACECs may also be designated to protect human life and safety from natural hazards. The ACEC designation indicates to the public that the BLM recognizes that an area has significant values and has established special management measures to protect those values. No conflicts with the adjacent ACEC would occur. The proposed ITP would be

designed to match up and add to the conserved lands in the project vicinity for the overall benefit of species conservation and recovery. See the response to Section 4.4(f) below.

Gap Analysis

The Gap Analysis did not specifically address potential impacts to riparian habitat or sensitive natural communities. Rather it recognized the general habitat impacts that would occur to plant and animal communities on EHOF. The amount of permanent disturbance averaged approximately 85 to 100 acres a year from 1998 to 2004 (Gap Analysis p. 19). The range in annual disturbance over this period varied from a low of 40 acres to a high of 145 acres. The Gap Analysis did not address impacts to potential riparian habitat or sensitive natural communities in the 2-mile buffer.

Conclusion

The 1997 SEIS/PEIR concluded that the Proposed Action would not have a substantial adverse effect on riparian habitat or sensitive natural communities. As evaluated in this Initial Study, implementation of the proposed ITP would result in no significant impacts to *riparian habitat* on the EHOF or in the 2-mile buffer. Thus, no further evaluation is required with respect to this resource.

However, unless appropriately mitigated, implementation of the proposed ITP may result in significant impacts to two *sensitive natural communities* within the EHOF and the 2-mile buffer, Valley Saltbush Scrub and Valley Sink Scrub. Potential impacts to these natural communities were not adequately analyzed in the 1997 SEIS/PEIR. As evaluated in this Initial Study, the proposed ITP may result in potentially significant, but mitigable impacts to these two sensitive natural communities. As this is a new impact not previously identified in the 1997 SEIS/PEIR, additional CEQA analysis of these impacts is required, and will be developed through a subsequent joint CEQA/NEPA document.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 or the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Potentially Significant Impact

Discussion

1997 SEIS/PEIR

The 1997 SEIS/PEIR noted that no jurisdictional wetlands have been identified on NPR-1 (EHOF), and concluded as a result that there would be no impacts to wetlands as a result of the Proposed Action (1997 SEIS/PEIR p. 4.4-5). A wetlands delineation study was completed for NPR-1 (EHOF) in 1995 (DOE 1995). The study, conducted in accordance with the 1987 Army Corps of Engineers wetland delineation manual including Corps guidance, evaluated more than 40 sites located on the U.S. Fish and Wildlife Service's National Wetland Inventory maps within NPR-1 (EHOF). The study determined that none of the sites contain jurisdictional wetlands as defined in Section 404 of the Clean Water Act. The Sacramento District of the Corps of Engineers subsequently confirmed this determination for all of the sites studied (1997 SEIS/PEIR p. 3.4-3).

Proposed Project

EHOF

Given the arid environment and lack of surface water at the EHOF, there have been no changes in conditions within the EHOF that could have resulted in the creation of new wetlands since the 1995 determination was made. Consequently, the proposed ITP would not result in a significant impact on Section 404 wetlands.

2-Mile Buffer

Except for the area within the 2-mile buffer south of EHOF that is occupied by BLM administered lands (former NPR-2), no comprehensive wetlands delineation study has been completed for the 2-mile buffer. The 1997 SEIS/PEIR did not identify any wetlands within this portion of the 2-mile buffer, based on the results of a Wetland Delineation Study that was completed in 1994 and verified by the Sacramento District of the Corps of Engineers (1997 SEIS/PEIR p. 3.4-4). However, the 1997 SEIS/PEIR failed to make a specific determination that no impacts to wetlands would occur in this area since there were no resources present as it did for potential wetland resources on EHOF.

Due to their benign nature, conservation management activities are however, not expected to have any significant impacts on potential wetlands located within the 2-mile buffer. Maintenance activities and limited construction of off-site facilities could impact potential wetland areas within the 2-mile buffer. Since this potential impact was not analyzed in the 1997 SEIS/PEIR, it will be evaluated through a subsequent joint CEQA/NEPA document.

Gap Analysis

The 1997 SEIS/PEIR did not identify any impacts to wetlands within the EHOF and no new impacts to wetlands have been identified as a result of the proposed ITP. The Gap Analysis did not specifically address impacts to potential wetland resources in the 2-mile buffer.

Conclusion

EHOF

The 1997 SEIS/PEIR did not identify any wetlands within NPR-1 (EHOF), and there has been no change in the designation of potential wetlands existing within EHOF. Therefore, impacts of the Proposed Action were adequately analyzed in the 1997 SEIS/PEIR. As evaluated in this Initial Study, the proposed ITP would not result in a substantial new impact not previously identified, thus no further evaluation is required.

2-Mile Buffer

As previously stated, the 1997 SEIS/PEIR generally did not evaluate impacts of the Proposed Action within the 2-mile buffer. Consequently, potential wetland impacts occurring within the 2-mile buffer were not adequately analyzed in the 1997 SEIS/PEIR. Accordingly, as evaluated in this Initial Study, potentially significant impacts may occur, and thus these impacts will be analyzed in the forthcoming joint CEQA/NEPA document.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Potentially Significant Impact

Discussion

1997 SEIS/PEIR

The 1997 SEIS/PEIR noted that habitat loss, alteration and fragmentation, and associated reduction in biological diversity of animal communities would be expected to occur. It further stated that the construction of wells and their access roads permanently destroys habitat through the creation of compacted surfaces that the animal species can no longer use. The 1997 SEIS/PEIR noted that 766 acres of permanent habitat would be lost, and 754 acres of temporary habitat disturbance would occur (1997 SEIS/PEIR p. 4.5-21). The network of wells and access roads fragments the habitat and reduces the carrying capacity of the

habitat (1997 SEIS/PEIR p. 4.5-9). However, the 1997 SEIS/PEIR concluded that impacts would be less than significant (1997 SEIS/PEIR p. 4.5-21).

Proposed Project

EHOF and the 2-Mile Buffer

Activities associated with the proposed ITP, which is a natural progression of ongoing activities, would include the addition of new facilities and infrastructure as required. To accommodate the new development, areas on the EHOF and within the 2-mile buffer that are currently undisturbed may be disturbed and developed, beyond the amounts analyzed in the 1997 SEIS/PEIR as shown in Table 4.4-1. This has the potential to affect wildlife dispersal and/or migration corridors for the animal species that occur on or in the vicinity of the EHOF and the 2-mile buffer.

Gap Analysis

The evaluation conducted for the Gap Analysis concluded that the difference in impact level between what was assessed in the 1997 SEIS/PEIR (Upper Bound Commercial Development Case) and the proposed ITP was an additional 1,234 to 3,234 acres of permanent habitat loss and a reduction of 3,467 to 2,867 acres of temporary habitat loss (See Gap Analysis pp. 18-19).

Conclusion

The 1997 SEIS/PEIR concluded that although habitat loss, fragmentation and alteration would occur, implementation of the Proposed Action would result in less than significant impacts. However, as identified in this Initial Study, changed circumstances exist that could result in significant new impacts to movement of native resident or migratory or wildlife species or with established resident or migratory wildlife corridors, or impede the use of established nursery sites not previously identified or adequately analyzed in the 1997 SEIS/PEIR. As a result, additional CEQA analysis of these potential impacts is required, and will be developed through a subsequent joint CEQA/NEPA document.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact

Discussion

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not include a discussion of local policies or ordinances protecting biological resources. Therefore, no impact was identified.

Proposed Project

EHOF and the 2-Mile Buffer

While the updated Kern County General Plan (Kern County 2004) mandates protection of oak woodlands and large oak trees and requires development to avoid the area beneath or within the trees' unaltered drip line, there are no oak trees on the project area that would be affected. Any other county policies or ordinances protecting biological resources would not conflict with implementation of the proposed ITP. No impacts have been identified.

Gap Analysis

The Gap Analysis did not evaluate the potential for impact as a result of a conflict with a local policy or ordinance protecting biological resources.

Conclusion

The 1997 SEIS/PEIR did not analyze potential impacts occurring as a result of a conflict with a local policy or ordinance protecting biological resources. However, as evaluated in this Initial Study, such impacts are not significant. As no new potentially significant impact has been identified with respect to any conflicts with a Kern County policy or ordinance protecting biological resources, no further analysis is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?

Less Than Significant Impact

Refer to discussion under Section 4.10 (c).

Discussion

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically discuss any conflicts with a Habitat Conservation Plan (HCP) or a Natural Community Conservation Plan (NCCP). The only discussion of an HCP or an NCCP was in the context of providing potential mitigation avenues for a new private owner. The 1997 SEIS/PEIR specifically mentions that the inclusion of NPR-1

(EHOF) in the Valley Floor Habitat Conservation Plan (VFHCP) could mitigate the loss of Federal obligation to protect, conserve, and help recover threatened and endangered species and their habitats to less than significant (1997 SEIS/PEIR p. 4.5-28). Ultimately, the 1997 SEIS/PEIR did not identify any conflict with the provisions of an HCP or NCCP or any other such conservation plan. Therefore, no impact was identified.

Proposed Project

EHOF and the 2-Mile Buffer

There are no applicable HCPs in place and in effect for the project area. However, three HCPs or NCCPs are located adjacent to the EHOF and the 2-mile buffer including the Kern Water Bank HCP/NCCP, Kern County Waste Management Department's HCP, and the Plains Exploration and Production Company HCP. Several HCP's in the vicinity of the EHOF are currently being prepared/amended, including the California Department of Water Resources (DWR) - San Joaquin Field Division HCP, Chevron's Lokern HCP, the Kern County Valley Floor HCP, and the Kern County Waste Management Department's HCP.

No conflicts with such HCPs or NCCPs are expected. The proposed ITP would be designed to match up to and add to the conserved lands in the project vicinity for the overall benefit of species conservation and recovery. Hence, the implementation of the proposed ITP could help restore historic wildlife linkages and connectivity areas. For example, as discussed in Section 2.0, OEHI will dedicate for use as its Initial Conservation Lands, approximately 640 acres located in Section 6R (T30S, R23E) within the 2-mile buffer, approximately 475 acres located in Section 22S (T30S, R24E) within EHOF, and approximately 234 acres located in Section 12G (T.31S., R.24E.) within the EHOF (Figure 2.4a). This represents a total of approximately 1,349 acres of Conservation Lands.

Gap Analysis

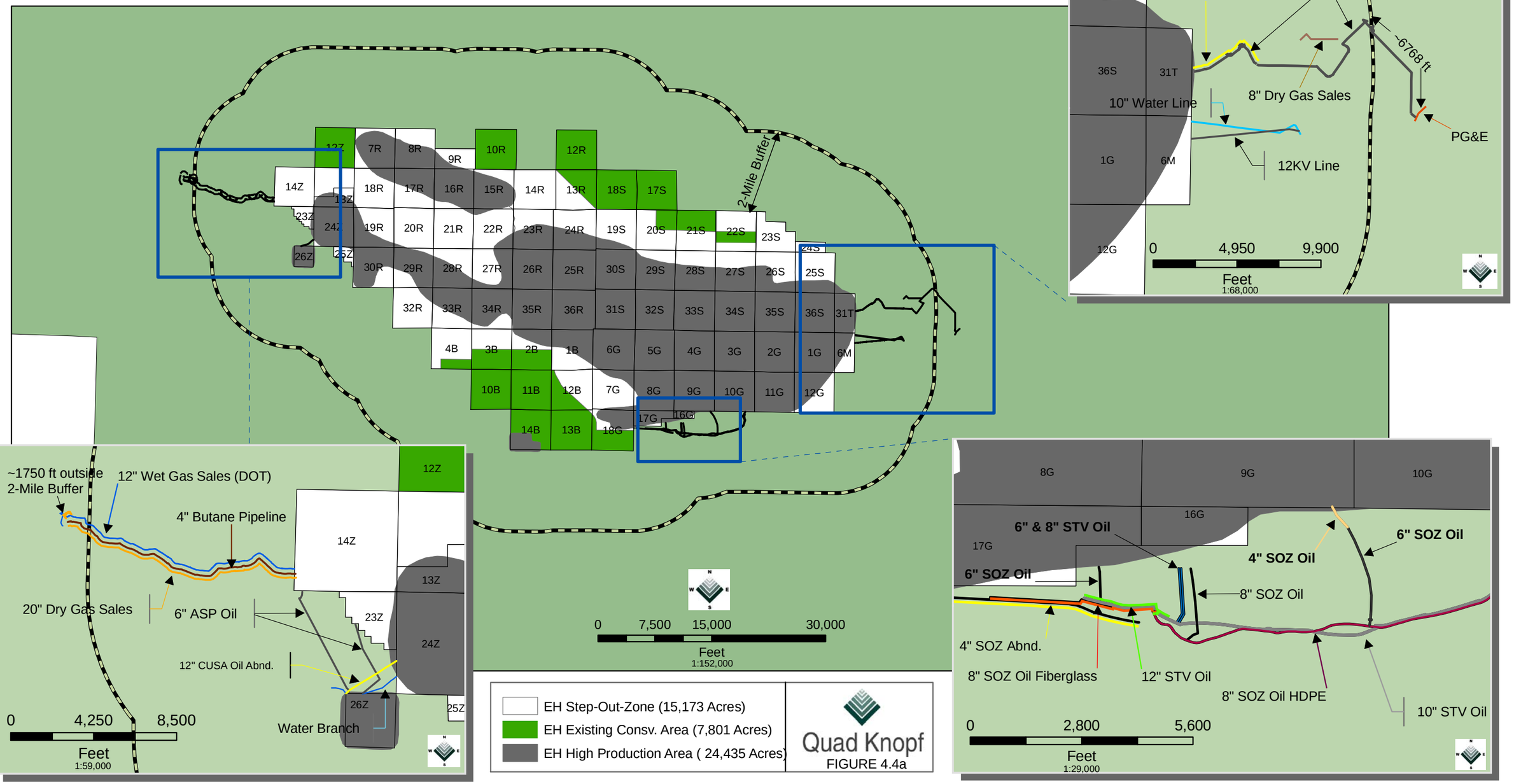
The 1997 SEIS/PEIR did not include an evaluation of a potential impact occurring as a result of a conflict with an HCP or NCCP, therefore no comparison of impacts could be identified in the Gap Analysis.

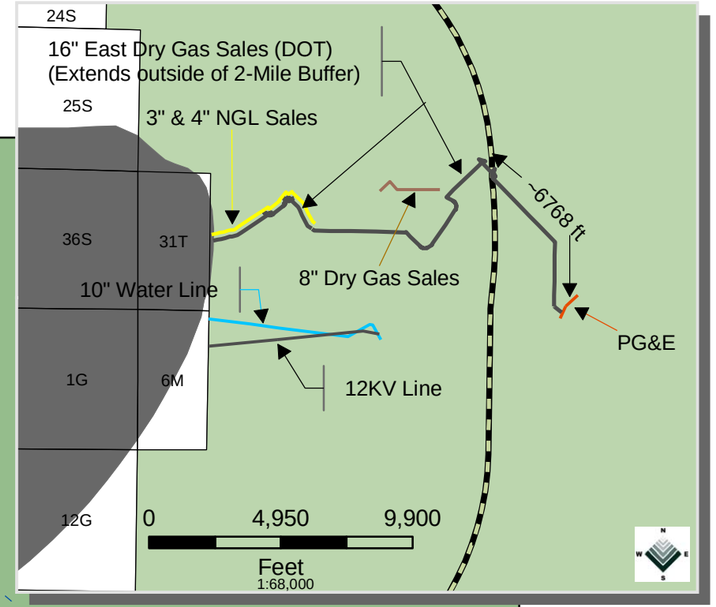
Conclusion

In summary, the 1997 SEIS/PEIR did not identify any impacts that would be created as a result of a conflict with an HCP or NCCP. However, as analyzed in this Initial Study, such impacts are not significant. The proposed ITP would be structured to complement and link up to surrounding HCPs/NCCPs to facilitate the continued protection, conservation and movement of special-status species and their habitats. No new significant impact is identified, thus no further analysis is required.

Occidental of Elk Hills

OFF-SITE UTILITIES

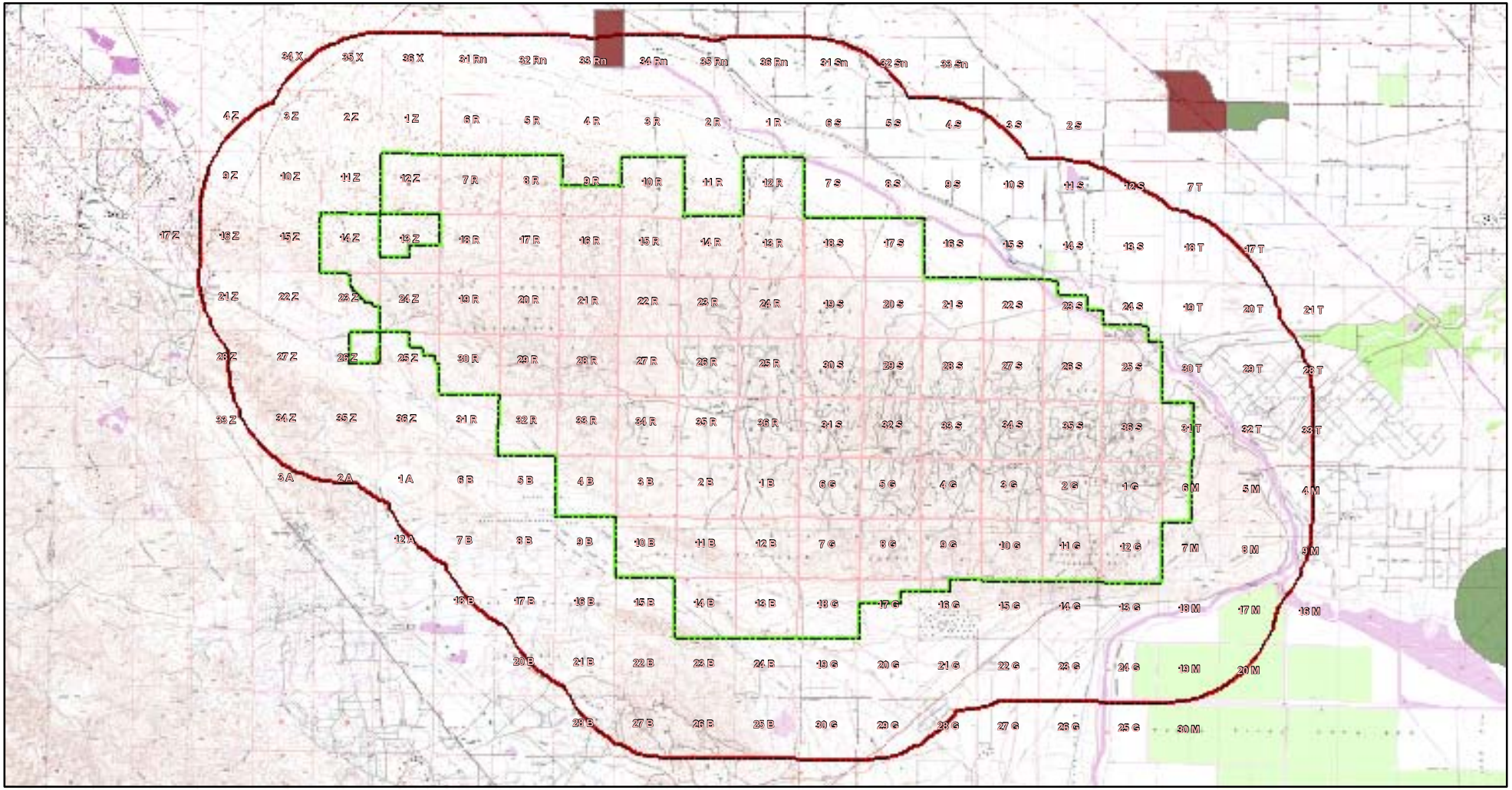




060008

Occidental of Elk Hills

California Natural Diversity Database - Sensitive Natural Community Observations



FILE: \\bk-server-01\Projects\Projects\2006\060008\IS\Maps\Maps_mxd\Fig_4_4b_CNDDB_Sensitive communities_04152009.mxd

0 0.5 1 2
Miles
1:155,000

Valley Saltbush Scrub
Valley Sink Scrub
Elk Hills Oilfeld Boundary
Elk Hills Oilfield Boundary 2-Mile Buffer

Quad Knopf

FIGURE 4.4b

4.5 CULTURAL RESOURCES: *WOULD THE PROJECT*:

INTRODUCTION

EHOF

Updated information now exists as a result of additional mitigation work required and evaluations completed following adoption of the 1997 SEIS/PEIR. This new information is incorporated into the analysis below, along with information from the 1997 SEIS/PEIR and the Gap Analysis.

2-Mile Buffer

As discussed in Section 2.0, Project Description, the proposed ITP, in addition to the 47,884-acre EHOF, covers approximately 59,662 acres within the 2-mile buffer, and the maintenance and limited construction of off-site facilities therein, as well as the conservation management activities that may occur there. Covered Activities outside of EHOF within the 2-mile buffer were generally not addressed in the 1997 SEIS/PEIR. The following discussion of environmental impacts therefore addresses potential impacts related to Covered Activities within the 2-mile buffer and off-site utilities. Where appropriate, each specific resource area will include a separate discussion regarding the potential of environmental impacts as a result of Covered Activities within the 2-mile buffer.

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The formal evaluation of *recorded archeological and prehistoric resources* located on NPR-1 (EHOF) underway as part of the sales process was identified in the 1996 NOP/IS. Known sites would be evaluated for eligibility to the National Register of Historic Places (NRHP) and for their importance or uniqueness under CEQA. The Proposed Action was determined to have the potential to affect cultural resources as defined by CEQA through disturbance during oil production operations. This was considered a potentially significant impact (NOP/IS p. 6-46).

The formal evaluation of *recorded historic archeological sites* located on NPR-1 (EHOF) underway as part of the sales process was identified in the 1996 NOP/IS. Known sites would be evaluated for eligibility to the NRHP and for their importance or uniqueness under CEQA. The Proposed Action was determined to have the potential to affect cultural resources as defined by CEQA through disturbance during oil production operations. This was considered a potentially significant impact (NOP/IS p. 6-46 to 6-47).

1997 SEIS/PEIR

Archaeological/Prehistoric Resources

As discussed in the 1997 SEIS/PEIR, approximately 50 percent of NPR-1 (EHOF) had at that time been subject to archaeological survey and inventory. Fifty-seven prehistoric sites and 35 prehistoric isolates were documented at the EHOF prior to April 1997. These sites are represented by accumulations of flaked stone, ground stone, shell and bone artifacts, features, faunal dietary remains (e.g., Anodonta shell, and fish, mammal, amphibian and reptile bone) and (at two known sites) what may be human remains. Hypothetically, these sites could date from 10,000 years before present (B.P.) to historic times (ca. A.D. 1850) but excavations at the EHOF prehistoric sites to-date suggest that most site components and assemblages date to the late prehistoric period post-A.D. 1500 (1997 SEIS/PEIR p. 4.6-1, 4.6-3).

An additional survey of approximately 3,000 acres was completed in September 1997. These surveys encompassed all areas known to be potentially archaeologically or historically sensitive based on the results of prior archaeological survey and archival historic research work. As a result of this latest survey, all areas expected to be archaeologically sensitive for prehistoric resources have been surveyed (1997 SEIS/PEIR p. 4.6-5).

Based on the archaeological work completed in September 1997, on analyzing the previously recorded sites, DOE archeologists determined that the vast majority of prehistoric archaeological sites at NPR-1 (EHOF) occur in geomorphic environments characterized by deflation. The majority of 18 sites inspected by archaeologists in 1997, using limited subsurface excavation, were found to be so substantially deflated that they do not retain integrity (1997 SEIS/PEIR p. 4.6-3). Four prehistoric archaeological sites were determined to be eligible for listing on the NRHP in 1997 (1997 SEIS/PEIR p. 3.6-10). These four sites are identified as; CA-KER-3079; CA-KER-3080; CA-KER-3082; and, CA-KER-3085/H (1997 SEIS/PEIR p. 4.6-3).

Significance of Historic Resources at EHOF

As of the 1997 SEIS/PEIR, all of the historic archaeological sites recorded at NPR-1 (EHOF) were related to oil exploration (1997 SEIS/PEIR p. 3.6-10). There were a total of 106 historic archaeological sites recorded at NPR-1 (EHOF) (1997 SEIS PEIR p. 3.6-10, 4.6-3). As summarized in the 1997 SEIS/PEIR, preliminary archaeological surveys indicated that no impact to significant historic archeological sites or buildings are expected primarily because any such sites already have been so disturbed as to destroy their informational values. The State Historic Preservation Office (SHPO) still at that time was reviewing the possibility that the historic resources at NPR-1 (EHOF) comprise a historic cultural landscape (1997 SEIS/PEIR p. 4.6-4).

The 1997 SEIS/PEIR concluded that the impacts to significant historical resources would be less than significant with the implementation of the following mitigation measures:

> **1997 SEIS/PEIR Mitigation Measures** (Exhibit B, Adoption and Certification of the Final Program Environmental Impact report, Kern County Board of Supervisors, Resolution No. 97-375, 1997).**:**
>
> - **Mitigation Measure 31:** Evaluate inclusion of the two locations of suspected human remains identified by DOE within the Conservation Area to be established pursuant to the 1995 BO to the extent feasible.
>
> - **Mitigation Measure 32:** Implement a cultural resources training plan supervised by an archaeologist.
>
> - **Mitigation Measure 33:** Implement a plan to address the discovery of suspected human remains, other than remains addressed by the programmatic Agreement between DOE and SHPO, which may be unexpectedly encountered during construction activities. The plan may include consulting with the County Coroner, and archaeologist and/or a local Native American Representative to avoid disturbing suspected human remains.

Proposed Project

EHOF

Pursuant to the mitigation measures adopted by DOE for the 1997 SEIS/PEIR, (DOE 1997c, 1998) after the sale of NPR-1, the DOE and the SHPO entered into a Programmatic Agreement (PA) concerning the cultural resources at the EHOF (DOE 1998e). A Cultural Resources Management Plan (CRMP) was developed in support of the PA among the DOE,

the SHPO and the Advisory Council on Historic Preservation (ACHP), consistent with regulations at 36 CFR 800 implementing Section 106 of the National Historic Preservation Act, 16 U.S.C. Section 470 (Pacific Legacy 1998). After the sale of NPR-1, historic properties and cultural resources at the EHOF were protected by the provisions contained within the PA and the CRMP.

After the sale of NPR-1, test excavation was conducted at sites not previously tested, thereby eliminating the 12 potentially eligible prehistoric sites previously investigated by PAI (Peak and Associates Inc.) in 1992 and the 18 sites investigated by Pacific Legacy in 1997. As a result of this work, in 1999, four additional prehistoric sites were determined to be eligible to the NRHP. Following the completion of the 1997 SEIS/PEIR, three historic resources sites were determined to be eligible to the NRHP. These three historic oil field well sites are identified as Hay Well No. 1, Hay Well No. 5, and Hay Well No. 7. Also, refer to discussions of other post-sale activities under the Gap Analysis discussion below.

Following the sale of NPR-1, as a best management practice and integral design feature, OEHI developed and has hosted annual coordination meetings with interested members of the Native American community. The meetings are held in February of each year to review OEHI's cultural resources protection/site avoidance program as discussed below, and to discuss potential cultural resources management issues as well.

In addition, OEHI reviews the cultural resources protection measures contained in the governing documents (Purchase and Sale Agreement, License Agreement, PA, CRMP, 1997 SEIS/PEIR Mitigation Measures, OEHI Policies, etc.) with the meeting participants. OEHI staff outlines their cultural resources site avoidance and project screening program that reviews projects occurring in/near known culturally sensitive areas. A review is provided on the level of effort involved in protecting cultural resources for the prior year's development projects that had the potential to affect cultural resources in sensitive areas. The outcome of the projects and success of avoidance/mitigation measures is reviewed. OEHI's proposed development project plans for the upcoming year are also identified. The meeting is then opened up for a general discussion. While participation varies from year to year, this annual outreach effort has been well received by the various attendees who have expressed their desire for OEHI to continue hosting them.

As the majority of future development will occur in the High Production Area (HPA), no impacts to significant historical resources are expected. Most prehistoric sites at the EHOF are sparse accumulations of artifacts and faunal remains distributed over a wide area. The average recorded site area is approximately 6,000 m^2 but sites larger than 50,000 m^2 occur. Such large sites are typical on the northern flank of the EHOF within the Non-HPA. As discussed in the 1997 SEIS/PEIR, the four prehistoric sites on EHOF that were determined to be eligible for inclusion on the NRHP are located away from active oil production facilities

(1997 SEIS/PEIR p. 4.6-4). The subsequent four prehistoric sites determined to be National Register eligible in 1999 are similarly located away from active oil production facilities. Prehistoric sites within the HPA are known and few in number. Given the length of time that the EHOF has been in operation, these HPA prehistoric sites have been so damaged by historic oil field development that they do not retain integrity. As discussed in Section 2.0, Project Description, between 80-90% of future development is projected to occur within the HPA. Therefore, the majority of future development and Covered Activities will avoid potential impacts to the more sensitive areas within the Non-HPA and Conservation Area. The proposed ITP would re-adopt Mitigation Measures 31, 32, and 33 of Exhibit B listed above to avoid impacts to these sites. Also, see the response to Section 4.5(b) below.

2-Mile Buffer

As discussed under Section 2.0 above, Covered Activities within the 2-mile buffer such as the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs (generally confined to existing ROWs) have the potential to affect cultural resources through ground disturbing activities.

Covered Activities such as habitat enhancement and management activities have the potential to generate impacts to known and unknown cultural resources from ground disturbing activities such as trash removal and road closures. Other activities that may impact cultural resources include the installation and maintenance of fencing to protect the habitat areas from off-highway vehicle (OHV) users and other civilians who may wish to use the property illegally.

Maintenance of off-site facilities may include the construction, reconstruction, replacement, maintenance, repair, and operation of off-site transmission lines and pipelines that are part of oil and gas production, processing and distribution operations at the EHOF. This includes the maintenance of various powerlines or hydrostatic testing and cleaning of pipelines. Some of these facilities were permitted or overseen by DOE and other agencies, and impacts to potential cultural resources were therefore assessed during the initial environmental review process. The ROWs for these surface and subsurface facilities were originally disturbed during their initial construction, and some continue to be disturbed through required maintenance and repair activities. This maintenance and repair activity generally consists of a limited extent to existing disturbed areas. On other older ROWs, the original construction and ongoing maintenance likely destroyed the integrity of any unknown cultural resources that may have been present in the ROWs. However, operation and maintenance activities have the potential to affect known and unknown cultural resources that may be present in such areas.

From time to time, the need for additional off-site facilities may involve construction work in order to maintain operations such as the installation of additional water lines and powerlines, including the need for improved infrastructure to accommodate product sales, processing and distribution demands. The covered linear projects would be generally confined/co-located next to existing ROWs within the 2-mile buffer and facilities shown outside of the 2-mile buffer. Each individual linear project would be limited to no more than a construction ROW width of 100-feet and length of 1-mile on a not to exceed basis per section (approximately 12-acres of disturbance per section). These activities may have effects on historic resources.

Covered Activities under the proposed ITP, unless mitigated, may result in adverse effects on potentially significant historic resources within the 2-mile buffer. These potential effects were not analyzed in the 1997 SEIS/PEIR.

Gap Analysis

As mentioned above, an additional survey of approximately 3,000 acres was completed in September 1997. In total, therefore, approximately 60 percent of the EHOF has been surveyed. The majority of future development would occur in the HPA. Sites in the HPA are known and few in number, and have been so damaged by oil field development that they do not retain integrity (Gap Analysis p. 77-78). Also as discussed above, various other tasks and activities to mitigate potential effects to significant historical resources were undertaken following the completion of the 1997 SEIS/PEIR and the close of the sale. These activities included executing a PA between DOE, the SHPO and ACHP, developing a CRMP, executing a License Agreement for continued federal government access to the EHOF following the sale to complete such activities, completing determinations of National Register eligibility on the remaining prehistoric sites, concluding the Historic Landscape Nomination proposed in the 1997 SEIS/PEIR, completing any required data recovery on eligible sites, and completing various publications related to the history of Elk Hills (Gap Analysis p. 78-81).

Significance of Historic Resources at EHOF

As reported in the Gap Analysis, based on subsequent work, four additional prehistoric sites were determined eligible for inclusion on the National Register in 1999: CA-KER-3168, CA-KER-5373/H, CA-KER-5392, and CA-KER-5404 (Gap Analysis p. 79). No other historic era sites, buildings, structures or objects at the EHOF were considered significant under any of the NRHP eligibility criteria at that time (also see Significant New Information in Section 4.5(b)).

As summarized in the Gap Analysis, the three National Register eligible historic well sites were the subject of studies and the publication of this data preserved the significant data

regarding these three historic resources (Gap Analysis p. 80). It should be noted that the actual locations of these wells in the oil field was undeterminable. Remaining historic properties were determined to be not eligible for listing on the NRHP as a Historic Landscape. The Historic Landscape District proposed by DOE under the PA and CRMP was determined by the SHPO to lack integrity under all themes considered in 1997. The historic resources at EHOF were considered to have less importance than numerous resources found on other oil and gas fields in the region (Gap Analysis p. 79-80). Publication of studies and lay public brochures/articles regarding historic resources findings were completed and distributed to local repositories and interest groups pursuant to the PA and CRMP (Gap Analysis p. 81). This effort has preserved the significant data regarding historic resources at the EHOF. No further work regarding historic resources at EHOF is required as a result of completing this mitigation work pursuant to the PA, CRMP, and 1997 SEIS/PEIR.

Significant New Information

Following the transfer of NPR-1 to OEHI, pursuant to the PA and CRMP arrangements were made by DOE to carry out further investigations and data recovery on the eight remaining NRHP eligible prehistoric sites located on EHOF. The effort was determined to be necessary, as OEHI could not guarantee that no disturbance to these Non-HPA areas would occur in the future. Pursuant to the PA and CRMP, DOE was therefore obligated to carry out an investigation to recover the significant data which might be lost from potential impacts of future site development activities. Data recovery was subsequently initiated in the fall of 2002, and completed on these eight prehistoric sites pursuant to the PA and CRMP. Further data recovery would not be required on these eight eligible sites, unless these areas would be disturbed in the future, which is not likely (Gap Analysis p. 80).

Subsequent to the completion of the Gap Analysis, following the completion of this mitigation work, the collection of artifacts and information on the cultural resources at the EHOF were donated to and developed by local Native Americans into an interpretive display at the Buena Vista Museum of Natural History in Bakersfield so that the information remains available and accessible for information and outreach by interested members of the public and local Native American community.

A Cultural Resources Report has been completed for this effort, *Archaeological Data Recovery at Eight Sites on the Former Naval Petroleum Reserve No. 1 (Elk Hills),* the results of which will be discussed in a focused manner in a subsequent joint CEQA/NEPA document (Pacific Legacy, April 2005)**.** This represents significant new information, which warrants additional CEQA analysis.

Conclusion

Potentially significant environmental impacts to historic resources on EHOF were adequately addressed in the 1997 SEIS/PEIR. Significant environmental effects to historic resources on EHOF have been and will continue to be mitigated to a level of less than significant, or avoided as a result of the 1997 SEIS/PEIR and the findings/mitigation measures adopted in connection with that EIR, or they were examined at a sufficient level of detail to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means. Further data recovery on the eight eligible sites would not be required, unless these areas would be disturbed in the future, which is not likely. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not reevaluated in detail in the subsequent joint CEQA/NEPA document. The significant new information would be analyzed as part of this effort. It should also be noted that no further work regarding historic resources at EHOF is required as a result of completing the post-sale mitigation work pursuant to the PA, CRMP, and 1997 SEIS/PEIR.

In contrast, Covered Activities under the proposed ITP, unless mitigated, may result in adverse effects on historic resources within the 2-mile buffer. These potential effects were not analyzed in the 1997 SEIS/PEIR. As a result, additional CEQA analysis of these potential effects is required, and will be developed through a subsequent joint CEQA/NEPA document.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

See the discussion under Section 4.5 (a) above.

1997 SEIS/PEIR

See the discussion under Section 4.5 (a) above.

Proposed Project

EHOF

Following the sale of NPR-1, pursuant to Mitigation Measure 31 of Exhibit B listed above, most remaining significant archaeological resource sites have been incorporated in the EHOF Conservation Area. The proposed ITP would re-adopt Mitigation Measures 31, 32, and 33. Note that the EHOF has developed a comprehensive worker training and awareness program, pursuant to Mitigation Measure 32. EHOF has also developed a program to deal with inadvertent discoveries of any human remains pursuant to Mitigation Measure 33 (see response to Section 4.5(d).

Site activities are strictly limited within the Conservation Area and carefully managed by EHOF to avoid potential impacts to known sites, as well as to preserve the habitat values for which the Conservation Area was established to maintain. Activities that are planned to occur in the vicinity of known archaeological sites within the Conservation Area and elsewhere are carefully pre-screened and reviewed by OEHI staff during the project planning process. This is part of OEHI's comprehensive cultural resources site avoidance program. Under the OEHI site avoidance program, projects are modified to avoid known site areas or mitigation measures are provided to avoid impacts. All project proposals undergo a thorough screening with the OEHI Health, Environment and Safety Department wherein, the project footprints are reviewed against the locations of the known sensitive sites.

2-Mile Buffer

See Response to Section 4.5(a).

Gap Analysis

Significant New Information

Since the release of the 1997 SEIS/PEIR, new information has been obtained during archaeological surveys and construction monitoring for the Elk Hills Power Plant (EHPP) project in 2002-2003. This project and associated monitoring resulted in a determination by the archaeologists that one of the heavily impacted HPA prehistoric sites, CA-KER-5955, previously determined ineligible to the National Register, was determined to be in fact eligible to the California Register of Historic Resources (CRHR) based on additional site testing and data recovery (Gap Analysis p. 78). While a majority of the significant information was recovered from this site during data recovery, additional data likely remains at the site despite the widespread impacts. This site was located along/adjacent to the freshwater supply pipeline ROW for the EHPP. However, further impacts to this site are not anticipated, because the location and status of eligible sites such as this one in the HPA will be incorporated into OEHI's site avoidance program as an integral design feature.

Implementation of this integral design feature during future project activities will avoid future disturbances of the site.

Conclusion

Potentially significant environmental impacts to archaeological resources on EHOF were adequately addressed in the 1997 SEIS/PEIR. Significant environmental effects to archaeological resources have been and will continue to be mitigated to a level of less than significant, or avoided as a result of the 1997 SEIS/PEIR and the findings/mitigation measures adopted in connection with that EIR, or they were examined at a sufficient level of detail to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means. Further work would not be required, unless the areas of NRHP/CRHR eligible sites would be disturbed in the future, which is not likely. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not reevaluated in detail in the subsequent joint CEQA/NEPA document.

In contrast, Covered Activities under the proposed ITP, unless mitigated, may result in adverse effects on archaeological resources within the 2-mile buffer. These potential effects were not analyzed in the 1997 SEIS/PEIR. As a result, additional CEQA analysis of these potential effects is required, and will be developed through a subsequent joint CEQA/NEPA document.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS identified that a broad surface reconnaissance conducted in 1980 found there was limited fossil exposure on the NPR-1 (EHOF) site. The 1996 NOP/IS concluded that the Proposed Action could result in a significant effect on paleontological resources within the NPR-1 (EHOF) site (NOP/IS p. 6-46).

The 1996 NOP/IS also determined there would be no impact to unique geological features as none exist on the NPR-1 (EHOF) site (NOP/IS p. 6-12).

1997 SEIS/PEIR

The 1997 SEIS/PEIR identified only two known exposures of paleontological resources considered as significant paleontological resource sites on the NPR-1 (EHOF) site and these localities are currently exposed in road cuts. These localities were considered significant in the reconstruction of geologic history of the area, and of the history of specific ancient small mammals, primarily cotton rats, pack rats and rabbits (1997 SEIS/PEIR p. 3.6-11). Continued road maintenance is expected to keep the exposures visible and accessible to scientists and there is no expectation that future production activities would destroy these localities. Future work may expose additional localities, but it was not expected to provide exposures of other significant paleontological resources. Hence, no impacts were expected (1997 SEIS/PEIR p. 4.6-4).

Proposed Project

EHOF

As stated in the 1996 NOP/IS, no unique geological features exist on the EHOF. Therefore, there would be no impacts to this resource area.

With respect to potential impacts to paleontological resources, there is significant new information, as described below.

Significant New Information

Since the release of the 1997 SEIS/PEIR, new information was obtained during paleontological surveys and construction monitoring for the Elk Hills Power Plant (EHPP) project in 2002-2003. This project uncovered additional paleontological localities along Skyline Road below the Tulare Formation along the freshwater supply pipeline ROW for the EHPP. Paleontological resources encountered during the construction of the EHPP project were salvaged and curated at a regional museum repository so that the significant information is available for future study. No further impacts to the recovered resources are expected as a result of the mitigation work conducted for the EHPP project.

Future OEHI project activities at the EHOF have the potential to encounter unknown paleontological resources which could be impacted without appropriate mitigation measures. In the event any as yet undetected paleontological resource(s) are discovered or if work is conducted within or close to paleontologically sensitive areas identified along Skyline Road, implementation of the following new mitigation measures that would be adopted under the proposed ITP and would mitigate potential impacts to levels that are less than significant:

Proposed ITP New Mitigation Measures:

a) An employee awareness training program will be developed and provisions for paleontological monitoring and salvage will be implemented if resources are encountered during project activities.

b) If it is determined that paleontological resources are present on a construction site, impacts will be avoided. Preservation in place is the preferred method of mitigation.

2-Mile Buffer

See Response to Section 4.5(a).

Gap Analysis

Refer to the discussion of significant new information above. This information was also identified in the Gap Analysis (Gap Analysis p. 37).

Conclusion

Potential impacts to paleontolological resources were not adequately analyzed in the 1997 SEIS/PEIR for the EHOF as a result of significant new information described above. Also, potential impacts to paleontolological resources were not adequately analyzed in the 1997 SEIS/PEIR for the 2-mile buffer. However, based on the evaluation completed in this Initial Study such impacts are less than significant with mitigation incorporated, and thus the potential impacts will be analyzed in a subsequent joint CEQA/NEPA document.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically discuss potential impacts that could disturb any human remains, except in the generic context of cultural and archaeological resources regulatory requirements in the event of an inadvertent discovery (NOP/IS p. 6-45).

1997 SEIS/PEIR

As reported in the 1997 SEIS/PEIR, there are two known locations containing suspected human remains on or near NPR-1 (EHOF). The DOE believed that all locations likely to contain human remains had been identified because, following an analysis of all previously recorded prehistoric resources, an additional archaeological survey of approximately 3,000 acres was completed in September 1997. This survey included areas that had previously not been surveyed, but which were predicted to be sensitive for prehistoric archaeological resources. No additional suspected human remains were identified during this work. None of the recorded prehistoric resources sites identified by the additional survey appeared to be similar to the two locations where suspected human remains had previously been found (1997 SEIS/PEIR p. 4.6-1, 4.6-2, 4.6-3). Therefore, based on these conditions, it is unlikely that other locations of suspected human remains exist within the additional survey area.

Proposed Project

EHOF

See answer to Section 4.5(a), (b)

Pursuant to Mitigation Measure 31 of Exhibit B listed above, OEHI evaluated inclusion of the two locations of suspected human remains identified by DOE within the Conservation Area to be established pursuant to the 1995 Biological Opinion to the extent possible. Including these locations into the Conservation Area would provide additional protection to the sites from ground disturbing project activities. As of 1999, the Conservation Area contains all sites where suspected human remains have been identified. Therefore, project activities are not expected to result in disturbance of or impacts to these areas of suspected human remains.

While the known areas of suspected human remains on EHOF should not be affected by Covered Activities, the potential exists for impacts to unknown resources to be inadvertently encountered during construction activities. In the event any as yet undetected locations containing human remains are encountered on the project site at a future time, Mitigation Measures 31, 32, and 33 would be re-adopted as part of the proposed ITP to reduce the potential impacts to a less than significant level. Note that the Cultural Resources Training Video was developed pursuant to Mitigation Measure 32 by OEHI in 1998 and will continue to be utilized. Subsequently, the key cultural resources information from this video was incorporated into the Elk Hills Employee Orientation Program that is conducted for all employees and contractor personnel working at the EHOF. Note that the plan to address the discovery of human remains pursuant to Mitigation Measure 33 was developed by OEHI and implemented in 1999. It will continue to be utilized.

2-Mile Buffer

See Response to Section 4.5(a).

Gap Analysis

As discussed above, the existing Conservation Area contains all sites where suspected human remains have been identified. The existing Conservation Area boundaries would be incorporated into the new HCP and associated ITPs to continue affording protection to the areas of suspected human remains (Gap Analysis p. 76).

Conclusion

Potentially significant environmental impacts to human remains resources on EHOF were adequately addressed in the 1997 SEIS/PEIR. Significant environmental effects to areas of suspected and unknown human remains have been and will continue to be mitigated to a level of less than significant, or avoided as a result of the 1997 SEIS/PEIR and the findings/mitigation measures adopted in connection with that EIR, or they were examined at a sufficient level of detail to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means. Further work on these resources would not be required, unless these areas would be disturbed or discovered in the future, which is not likely. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not reevaluated in detail in the subsequent joint CEQA/NEPA document.

In contrast, Covered Activities under the proposed ITP, unless mitigated, may result in adverse effects on human remains resources within the 2-mile buffer. These potential effects were not analyzed in the 1997 SEIS/PEIR. As a result, additional CEQA analysis of these potential effects is required, and will be developed through a subsequent joint CEQA/NEPA document.

4.6 GEOLOGY AND SOILS: *WOULD THE PROJECT:*

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
ii. *Strong seismic ground shaking?*
iii. *Seismic-related ground failure, including liquefaction?*

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS determined that the proposed action has the potential to introduce additional structures, facilities, and people to a site that may experience surface rupture during a seismic event. The 1996 NOP/IS concluded that this would be a potentially significant impact (1996 NOP/IS p. 6-9).

The 1996 NOP/IS also stated that the existing information on NPR-1 (EHOF) does not provide specific data related to the potential for liquefaction or other ground failure during a seismic event. Therefore, based on the lack of existing data it concluded that this would also be a potentially significant impact (1996 NOP/IS p. 6-9).

1997 SEIS/PEIR

The following is a discussion from the 1997 SEIS/PEIR that provides a description of the geologic setting of the project site as well as a discussion of potential impacts. Where relevant, additional information has been included from the 1993 SEIS.

Although NPR-1 (EHOF) is in a seismically active region, no historically active faults within NPR-1 (EHOF) boundaries have been identified by either the State Geologist or the California Division of Mines and Geology (CDMG) (1993 SEIS, p. 3.1-14).

The most important active fault near NPR-1 (EHOF) is the San Andreas fault (located 12 miles west of Elk Hills beyond the Temblor Range), which is an important fault in the formation of the southern Coast Ranges and adjacent structures on the west side of the San Joaquin Valley. Other major faults near NPR-1 (EHOF) are the White Wolf fault (25 miles

southeast of Elk Hills) and the Pond Posso fault (22 miles northeast of Elk Hills). The existence of active faults in the region indicates the potential for earthquake activity at NPR-1 (EHOF) (1997 SEIS/PEIR p. 4.1-3).

The CDMG has designated two special study zones within the boundaries of NPR-2 encompassing the three potentially active faults. The California Special Study Zones are potentially active Holocene fault areas (within the past 11,000 years) that have been well-defined through field studies and geologic analysis. Special Study Zone guidelines required the identification of subsurface geologic features indicating active faulting and displacement prior to construction on a proposed building site located within a Special Study Zone. This requirement applies to the construction of structures that would be occupied 2,000 hours annually (1997 SEIS/PEIR p. 3.1-3).

The 1997 SEIS/PEIR identified two factors related to the potential effects of earthquake events on structures, facilities and personnel for the No Action Alternative. First, the potential for damage due to an earthquake tends to be greatest for facilities located on the alluvial fan and the Buena Vista Valley, where ground cracking, densification and liquefaction are most likely to occur. Second, the elevated portions of Elk Hills would be affected less by an earthquake along the nearby active faults (1997 SEIS/PEIR p. 4.1-3). The 1997 SEIS/PEIR noted that the effects would be similar for the Proposed Action (1997 SEIS/PEIR p. 4.1-7).

Although oil and gas production activities have been related to seismic events, the magnitude of these events has been at the most 4.6 on the Richter scale (DOE SEIS 1993). These induced seismic events are caused by changes in the pressure field of existing faults, especially those that are active. The 1997 SEIS/PEIR concluded that the magnitude of seismic events induced by oil and gas production would not significantly affect structures properly designed according to the California Uniform Building Code (UBC) (1997 SEIS/PEIR p. 4.1-3).

The UBC (Section 2312) defines the area where NPR-1 (EHOF) is located as a seismic zone 4 area (highest potential in a scale from 0 to 4). This category has design implications intended to protect structures from earthquake effects. All critical structures at NPR-1 (EHOF) have been upgraded to conform to design standards. The 1997 SEIS/PEIR further stated that while the larger number of structures (wells) to be constructed under the Proposed Action (Upper Bound Commercial Development Case) would increase the risks slightly, the protection measures incorporated in the DOGGR regulations should make this difference negligible (1997 SEIS/PEIR p. 4.1-7)[24]. In summary, the 1997 SEIS/PEIR

[24] Title 14 CCR Division 2, Chapter 4, Subchapter 1 includes but is not limited to requirements for well casing design and blowout prevention equipment is regulated by the DOGGR. Surface casing would be set, cemented, and blowout prevention equipment would be installed at the wellhead and tested. Intermediate casing may be required to be set for the protection of oil, gas, and freshwater zones, and to seal off anomalous pressure zones. Casing is used to prevent blowouts and also protects

concluded that the impacts would be less than significant, with the implementation of the following mitigation measure:

1997 SEIS/PEIR Mitigation Measure (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 1:** Design and construct new habitable structures, if any, to minimize damage from seismic events to the extent feasible, in compliance with applicable provisions of the Kern County Building Code.

Proposed Project

EHOF and the 2-Mile Buffer

As discussed in Section 2.0 the proposed ITP would include the construction of new production and production related facilities within the EHOF. A complete description of Covered Activities within the EHOF is provided in Section 2.0.

As previously noted, the EHOF is divided into two designations: the High Production Area (HPA) (23,960 acres) and non-HPA (23,924 acres). It is anticipated that 80% to 90% of the new production facilities (e.g. wells, connecting pipelines, roads etc.) under the Proposed ITP would be built within the HPA. The HPA overlies the productive limits of the known hydrocarbon producing reservoirs at the EHOF as designated by the DOGGR. Consequently, major infrastructure and production facilities are already in place and will support continued production. The elevated portions of the EHOF, which essentially comprises the HPA, would be less affected by an earthquake along the nearby faults. The potential for damage due to an earthquake tends to be greatest for facilities located on the alluvial fan and the Buena Vista Valley, where ground cracking, densification and liquefaction are most likely to occur.

Any new structures constructed under the proposed ITP would be built following the standards of the UBC, so that the effects of fault ruptures, seismic ground shaking and seismic ground failure would be significantly reduced. As discussed in the 1997 SEIS/PEIR, continued compliance with other regulatory standards, such as CCR Title 14, Natural Resources, Division 2, would further reduce the potential for seismic related impacts. The proposed ITP would re-adopt Mitigation Measure No. 1 of Exhibit B listed above.

shallower groundwater aquifers. There are additional regulations that specify that the base of fresh water must be protected with cemented casing to prevent any contamination. DOGGR engineers review the drilling and completion operations to ensure these requirements have been met. Finally, stringent requirements are established for environmental protection purposes in Subchapter 2. These requirements include, but are not limited to, sumps, waterways, pipelines, tank settings, oil field facilities and equipment maintenance, oil field wastes, and site restoration.

Proposed activities within the 2-mile buffer would include the operation, maintenance, and repair of production and transmission facilities, such as pipelines associated with existing Rights-of-Way (ROW), limited construction of new facilities, and implementation of conservation program activities. A more detailed description of Covered Activities within the 2-mile buffer is provided in Section 2.0.

The nature of the activities that would take place within the 2-mile buffer would not have the potential to result in seismic related impacts.

Gap Analysis

The Gap Analysis did not specifically address seismic related impacts.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action could potentially result in a significant impact as a result of surface rupture during a seismic event. The 1997 SEIS/PEIR determined that with implementation of mitigation measures (including compliance with the UBC and DOGGR regulations) structures would not be significantly affected by oil and gas induced seismic events. The same conclusion applies to the additional facilities anticipated under the proposed ITP, since they would predominantly occur in the HPA, and thus be able to utilize existing infrastructure, and their installation would comply with the same UBC and DOGGR requirements described in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measure listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

iv. Landslides?

Less Than Significant Impact With Mitigation Incorporated

See answer to Section 4.6(a)(i) above.

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the physical properties of the geologic formation together with the location of strata on the NPR-1 (EHOF) site make the soils portions of the site subject to slope failure. The 1996 NOP/IS concluded that this could result in a potentially significant impact.

1997 SEIS/PEIR

As stated in the 1997 SEIS/PEIR, the potential for landslides in a given area depends on a variety of factors, including soil properties and slopes. A soil survey completed of NPR-1 (EHOF) (U.S. Soil Conservation Service undated) indicated that 35.2 percent of the area contains soil with 30 percent or higher slopes; the survey did not report, however, a high risk of landslides, but it emphasized the potential for erosion and gully formation (1997 SEIS/PEIR p. 4.1-3). The 1997 SEIS/PEIR stated that the selection of new drilling sites would take into consideration stability factors to minimize the potential risk of landslides. The 1997 SEIS/PEIR concluded that while there would be a significant potential for erosion impacts and indirect impacts, these potential impacts would be less than significant with the implementation of the following mitigation measure.

1997 SEIS/PEIR Mitigation Measure (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 2:** Select new drilling sites taking into consideration site-specific soil stability as necessary to mitigate to the extent feasible, the potential for damage to habitable structures from landslides or mudslides.

Proposed Project

EHOF and the 2-Mile Buffer

Refer to the discussion of the Proposed Project in Section 4.6(a) above.

The proposed ITP would be implemented as discussed in the 1997 SEIS/PEIR, with a review of new drilling sites to be based on soil properties and existing slope in addition to other factors to reduce the potential risk of landslides.

Also, the EHOF is located in a region where torrential rains from summer thunderstorms are rare and winter rains are usually gentle (Maher et al. 1975) with a total annual precipitation of about 5 inches. Consequently, the potential for mudflows is low.

The nature of activities that would take place within the 2-mile buffer would not have the potential to expose people or structures to potential substantial adverse effects from landslides.

The proposed ITP would re-adopt Mitigation Measure No. 2 listed above, incorporate best management practices such as conducting regular inspections of structures to assess the

potential for damage occurring as a result of a landslide or mudslide, and comply with the UBC.

Gap Analysis

The Gap Analysis did not specifically address landslide-related impacts.

Conclusion

The 1997 SEIS/PEIR adequately analyzed the potential for impacts and concluded that the Proposed Action would have less than significant impacts with incorporation of the mitigation measure specified above. Under the proposed ITP, additional anticipated facilities are of the same type anticipated in the 1997 SEIS/PEIR. Therefore, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the Proposed Action has the potential to result in construction and operations activities that may increase erosion and possible problems due to unstable soil conditions from excavation. Therefore, the 1996 NOP/IS concluded that the Proposed Action could result in a potentially significant impact (1996 NOP/IS p. 6-10).

1997 SEIS/PEIR

Twenty-six soil map units have been identified at NPR-1 (EHOF). The most common are Elk Hills sandy loam, 15 to 30 percent slopes (12 percent of the area), Torriorthents, thick Elk Hills complex, 15 to 30 percent slopes (11.8 percent of the area) and Torriorthents, thick-Torriorthents, thin Torriorthents, very thin eroded complex, 30 to 60 percent slopes (9.8 percent of the area). In general most soils at NPR-1 (EHOF) have about 5 to 20 percent clay, and a permeability of about 2.0 to 6.0 inches/hour in the surface horizon; they are moderately susceptible to sheet and rill erosion, and have wind erosion potentials ranging from light to very slight (1997 SEIS/PEIR, p. 3.1-5).

The potential for fluvial erosion in certain areas of the EHOF is considered to be high (U.S. Soil Conservation Service undated). The salts in certain areas have become concentrated

as they have been deposited by runoff from upslope areas, and the deposited salts have not been leached because of the low permeability of the underlying soil layers and the low levels of precipitation (1997 SEIS/PEIR p. 4.1-3).

The 1997 SEIS/PEIR projected that the maximum disturbance related to new well development activities, over the period 1997 to 2034, would be approximately 110.8 acres per year (1997 SEIS/PEIR p. 4.1-7).

The 1997 SEIS/PEIR stated that due to the soil erosion potential in the NPR-1 (EHOF) region and the size of the areas that would be disturbed for new well development, there is a significant potential for erosion impacts and indirect impacts if no erosion control and environmental restoration measures are implemented (1997 SEIS/PEIR p. 4.1-8). The 1997 SEIS/PEIR also noted that even with the application of corrective measures and rehabilitation plans, the residual effect of erosion impacts would be larger for the Upper Bound Commercial Development Case as compared to the No Action Alternative. However, the 1997 SEIS/PEIR concluded that if mitigation measures are implemented, the potential impacts would be short-lived and not concentrated in a single area of NPR-1 (EHOF), thereby reducing the potential for significant erosion impacts to a less than significant level (1997 SEIS/PEIR p. 4.1-8).

1997 SEIS/PEIR Existing Legal/Regulatory Requirements, and Mitigation Measures (Exhibit A, p. 12; Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 3:** Conserve and reuse topsoil at new construction sites to the extent feasible to mitigate the potential for erosion.

- **Mitigation Measure 4:** Minimize disturbance of natural drainage ways during construction to the extent feasible to mitigate the potential for topsoil.

- **Mitigation Measure 5:** Contour and stabilize or revegetate disturbed slopes at new construction sites to the extent feasible after construction to mitigate the potential for erosion.

- **Mitigation Measure 6:** Visually inspect habitable structures at least once annually for structural integrity, and in the event significant structural damage is observed due to erosion or subsidence, implement a corrective action plan in an appropriate time.

- **Mitigation Measure 12:** Minimize the area of disturbance at new construction sites to the extent feasible.

- **Mitigation Measure 14:** Minimize the extent of new impervious areas to the extent feasible consistent with the dust control plan for air quality.

- **Mitigation Measure 15:** Restore the topography in disturbed areas to natural or similar contours after new construction to the extent feasible.

- **Mitigation Measure 16:** Reclaim drilling sumps to be abandoned in the future to restore natural or similar drainage patterns to the extent feasible.

Proposed Project

EHOF and the 2-Mile Buffer

For the proposed ITP, projected disturbance over the period 2005 to 2055 from implementation of the proposed ITP, is approximately 85.0 to 100 acres per year. Hence, the yearly rate of disturbance from implementation of the proposed ITP is less than as projected in the 1997 SEIS/PEIR. However, the greater number of wells associated with the proposed ITP would imply an increased potential for erosion related impacts compared to projected impacts analyzed in the 1997 SEIS/PEIR.

The proposed ITP would re-adopt the foregoing erosion control and site-rehabilitation restoration measures. In addition, OEHI would implement best management practices such as conservation and stockpiling of topsoil for use in future reclamation efforts; minimization of impacts to natural drainage ways and rapid re-establishment of their natural conditions and course after construction, if affected; revegetation of areas not needed permanently after construction; and rehabilitation of areas abandoned (including access roads, pipelines and well pads). As a best management practice, OEHI monitors restoration performed by contractors until recovery meets USFWS guidelines. OEHI's Environmental Awareness Guidebook contains the requirements to minimize the area of disturbance at construction sites.

Covered Activities within the 2-mile buffer described in Section 2.0, including maintenance of existing ROW facilities, limited construction of new linear facilities, and habitat restoration and management activities do not have the potential to result in substantial soil erosion or loss of topsoil. No impacts are expected within the 2-mile buffer.

Gap Analysis

The Gap Analysis did not specifically address soil erosion impacts.

Instead, the Gap Analysis evaluated the magnitude of potential impacts by comparing the disturbance amounts projected in the 1997 SEIS/PEIR for the Upper Bound Commercial

Development Case with the proposed ITP. The 1997 SEIS/PEIR projected a permanent disturbance of 766 acres based on a maximum annual disturbance rate of 110.8 acres per year. The potential permanent disturbance projected for the proposed ITP would range from 2,000 up to 4,000 acres based on a maximum annual disturbance rate of 85 acres to 100 acres per year. Based on that comparison, the proposed ITP would result in an additional amount of permanent disturbance ranging from 1,234 to 3,234 to acres above what was evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 6). However, as evaluated in this Initial Study, all major infrastructure is already in place and the majority of new development would occur within the HPA.

Conclusion

The 1997 SEIS/PEIR adequately analyzed the potential for impacts and concluded that the Proposed Action would have less than significant impacts with incorporation of the mitigation measures specified above. Under the proposed ITP, additional surface disturbance and facility construction would occur at a similar rate to that analyzed in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact with Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that subsidence related to oil and gas withdrawal is centered over, and extends beyond, the producing areas. The two major geologic characteristics that control oil-field subsidence are geologic substructure and physical properties of the producing zones. As pore pressure in the oil and gas reservoirs are reduced by fluid withdrawal, the overburden load is gradually transferred to the reservoir rocks, causing the compaction of the poorly consolidated oil bearing strata and subsidence at the surface (1996 NOP/IS p. 6-11). The 1996 NOP/IS also stated that depending on the production zone considered, the geologic structures under NPR-1 (EHOF) are good to fair for self-support. The 1996 NOP/IS concluded that although no land surface subsidence has occurred on NPR-1 (EHOF), the Proposed Action has the potential to introduce structures,

facilities, and people to a site that may experience subsidence, which could result in a potentially significant impact.

1997 SEIS/PEIR

The withdrawal of oil, gas and water at NPR-1 (EHOF) has the potential to induce subsidence. The 1997 SEIS/PEIR stated that the Shallow Oil Zone (SOZ) and the Dry Gas Zone (DGZ) may offer less support and some level of subsidence may be caused as a result of oil and gas extraction. However, the 1997 SEIS/PEIR stated that the waterflood and injection projects to be developed for the SOZ may reduce the potential for subsidence as water and gas fill the voids in the geologic structure (1997 SEIS/PEIR p. 4.1-5).

Table 4.6-1 below (Table 4.1-5 of the 1997 SEIS/PEIR, p. 4.1-9) shows the estimated volumes of oil and gas production (withdrawal) and gas and water injection for the SOZ and DGZ that were projected and evaluated for the Upper Bound Commercial Case in the 1997 SEIS/PEIR.

Table 4.6-1
Total Oil and Gas Production, Total Gas and Water Injection, Period 1997-2034
Shallow Oil Zone (SOZ) and Dry Gas Zone (DGZ)

Fluid	SOZ	DGZ
Production		
Oil (MMB)	413.12	0
Gas (BCF)	120.79	84.12
Injection		
Oil [Gas] (BCF)	61.83	0
Water (MMB)	17.52	0

However, the greatest potential for subsidence immediately followed the peak production period, which was in 1982. No significant land surface subsidence has been reported at NPR-1 (EHOF) (1997 SEIS/PEIR p. 4.1-5, 4.1-8). As a result, the 1997 SEIS/PEIR concluded that with implementation of the Mitigation Measures listed above (2, 6, 12, 15 and 16), monitoring of critical structures at NPR-1 (EHOF) and rapid response to any observed erosion subsidence would reduce the potential for any significant damage to existing structures on the reserve.

Proposed Project

EHOF and the 2-Mile Buffer

See discussion under Section 4.6 (b) above.

Most subsidence in the San Joaquin Valley is the result of pumping water from an underlying confined aquifer system. This hydrocompaction-type subsidence from surface irrigation has occurred in the valley south and southwest of Bakersfield, but is not known to have occurred at the EHOF or former NPR-2 (DOE EA 1985, 1993 SEIS, DOE EA 1994 b).

Land surface subsidence has not been reported at the EHOF. Due to the mature nature of the reservoirs at the EHOF, and the declining production, it is not anticipated that the estimates as evaluated in Table 4.6-1 above will be exceeded during the life of the proposed ITP. Therefore, the continued production of hydrocarbon resources will be at a lower volume than was assessed in the 1997 SEIS/PEIR. Consequently, the potential for subsidence induced by the withdrawal of oil, gas and water will be correspondingly less than that assessed in the 1997 SEIS/PEIR.

On a total produced hydrocarbon measurement basis of "barrels of oil equivalent" (BOE), the following production was achieved from 2003 through 2006 as indicated below:

- 2003 Total Production at 48,650 MBOE
- 2004 Total Production at 47,585 MBOE
- 2005 Total Production at 47,818 MBOE
- 2006 Total Production at 48,562 MBOE

Comparably, the total peak year produced hydrocarbon production on a BOE measurement basis as estimated in the 1997 SEIS/PEIR was 79,000 MBOE for the year 2001. Further, based on the recent rates of annual production and anticipated future annual production rates, the projected total cumulative production that could be realized during the life of the proposed ITP would be below that level assessed in the 1997 SEIS/PEIR.

The proposed ITP would re-adopt Mitigation Measures 2, 6, 12, 15 and 16 of Exhibit B listed in the preceding subsections of Section 4.6 above. For the 2-mile buffer, the nature and extent of Covered Activities do not have the potential to result in landslides, lateral spreading, subsidence, liquefaction or collapse.

Gap Analysis

In the Gap Analysis, the peak production year was estimated at 53,535 MBOE for the year 2002 (Gap Analysis, p. 8). The Gap Analysis evaluated the subsidence potential from the projected production in the 1997 SEIS/PEIR and compared those numbers to the proposed ITP. The Gap Analysis determined that the proposed ITP would not exceed the 1997 SEIS/PEIR estimates as the EHOF reservoirs are mature and in a state of declining production (Gap Analysis, p. 6).

Conclusion

The 1997 SEIS/PEIR adequately analyzed the potential for impacts and concluded that the Proposed Action would have less than significant impacts with incorporation of the mitigation measures specified above. Under the proposed ITP, total hydrocarbon production is anticipated to remain below the levels analyzed in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the soils of Elk Hills and the NPR-1 site (EHOF) are characteristic of a semi-arid region that has hot dry summers and mild, slightly moist winters. The representative soil is a loose, light colored, well-drained loam containing rock fragments. According to the U.S. Soil Conservation Service, two types of soils occur on NPR-1 (EHOF): the Kettleman Series, which occurs on the upland portions; and the Panoche Series, which occurs in the alluvium on the periphery of NPR-1 (EHOF) (NOP/IS p. 6-11, 6-12).

Some of the clays in the soil (particularly in the Kettleman Series) on NPR-1 (EHOF) have a moderate shrink swell potential. The majority of the roads on NPR-1 (EHOF) are dirt roads. In some locations, this can result in problems related to travel on the roadways during the wet season (NOP/IS p. 6-11, 6-12). The 1996 NOP/IS concluded that the Proposed Action would result in a less than significant impact (1996 NOP/IS, p. 6-12).

1997 SEIS/PEIR

Based on the 1996 NOP/IS finding of less than significant impact, this subject was not further analyzed in the 1997 SEIS/PEIR. However, the Lead Agency and CDFG as a Responsible Agency determined either no impact or less than significant impacts would result based on substantial evidence in the record.

Proposed Project

EHOF and the 2-Mile Buffer

See answer to Section 4.6(c).

Expansive soils are soils that undergo volumetric change with change in water content. The soils will swell with increase in moisture content and will shrink with decrease in water content. Soils with high shrink-swell potential generally contain high percentages of certain clay minerals and can cause extensive damage to structures and improvements.

As previously stated, major infrastructure and other facilities are already in place at the EHOF. The construction of new structures and facilities under the proposed ITP would largely occur in the same areas, and would be constructed in accordance with applicable UBC requirements and DOGGR regulations as discussed above. For the 2-mile buffer, Covered Activities includes maintenance of existing ROW facilities, limited construction of new linear facilities, and habitat restoration and management activities. Existing ROW facilities are not located on expansive soils and no physical damage to such facilities has been observed. Any new linear facilities would also be constructed in accordance with UBC requirements and DOGGR regulations. Other activities, such as conservation lands management would not be affected by expansive soils and less than significant impacts would occur.

Gap Analysis

The Gap Analysis did not address expansive soils related impacts.

Conclusion

The potential for impacts was adequately analyzed in the 1996 NOP/IS which concluded that continued and expanded operations at the EHOF would not have a significant impact relating to expansive soils creating a risk to life or property. Operations at EHOF under the proposed ITP would largely be located in the same locations, with the same type of soil conditions as previously analyzed. No substantial changes in circumstances and no new information of substantial importance exist regarding the proposed ITP, thus no further evaluation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact

Discussion

1996 NOP/IS

The NOP/IS stated that no sewer service is provided to NPR-1 (EHOF). The existing sewage treatment facilities at NPR-1 (EHOF) are composed of septic tanks with leach fields (NOP/IS p. 6-41). At the time when the 1996 NOP/IS was prepared, twelve septic systems were in use at NPR-1 (EHOF). The 1996 NOP/IS stated that the Proposed Action would result in an overall net decrease in the number of employees on the NPR-1 (EHOF) site. There would be no need for additional septic systems on NPR-1 (EHOF), therefore, no impact would occur (1996 NOP/IS p. 6-41)

1997 SEIS/PEIR

Soils incapable of supporting use of septic tanks were not evaluated in detail in the 1997 SEIS/PEIR. Kern County as Lead Agency in the 1997 SEIS/PEIR process, and CDFG as a Responsible Agency in connection with the Project as analyzed in the 1997 SEIS/PEIR would not have any septic tank or alternative wastewater disposal system issues.

Proposed Project

EHOF and the 2-Mile Buffer

See the discussion in Section 4.6 (c) and (d) above.

While the 1997 SEIS/PEIR did not expect a need for additional septic systems under the Proposed Action, three more systems were installed subsequent to the close of the sale. Fifteen septic systems are currently in use and additional septic systems can be constructed if required. The septic systems are emptied on an as needed basis by a subcontractor who hauls the wastes off the EHOF for disposal. This occurs six times per year at the most frequently used 11G septic system, twice per year at the most frequently used 35R and 36R septic system, and as needed at the other locations. There has been no indication that the soils at the site are not adequate to support the use of septic systems.

With respect to the 2-mile buffer, no impacts would occur as no sewer service is provided therein, and no septic tanks exist there, and no septic tanks would be installed under the proposed ITP.

Gap Analysis

The Gap Analysis did not address if soils were incapable of supporting the use of septic tanks or alternative wastewater disposal systems.

Conclusion

The 1996 NOP/IS also concluded that there would be no need for additional septic systems. Although OEHI has added three septic systems since that time, there have been no indications that soils at the EHOF are not adequate to support septic systems. Also, no septic systems exist within or are anticipated to be built within the 2-mile buffer. The potential for impacts was adequately analyzed in the previous document. No substantial changes in circumstances and no new information of substantial importance exist regarding the proposed ITP, thus no further evaluation is required.

4.7 GREENHOUSE GAS EMISSIONS

Potentially Significant Impact

Discussion

1997 SEIS/PEIR

Potential greenhouse gas (GHG) emissions impacts were not addressed in the 1997 SEIS/PEIR, but now need to be addressed in response to various regulatory developments.

Proposed Project

EHOF and 2-Mile Buffer

On September 27, 2006, the "California Global Warming Solutions Act of 2006" was enacted by the State of California (Assembly Bill No. 32, or AB 32). The Act requires that California reduce GHG emissions to 1990 baseline levels by 2020. The Act defines GHG emissions to be carbon dioxide, methane, nitrous oxide, hydrofluorcarbons, perfluorocarbons, and sulfur hexafluoride. The CARB is responsible for monitoring and regulating sources of GHG emissions. By 2010, the CARB must complete rulemaking necessary to reduce GHG emissions to 1990 levels by 2020. Subsequently, GHG emissions must be reduced to 80% below 1990 levels by 2050.

On December 6, 2007, the CARB adopted its regulation for mandatory reporting of greenhouse gas emissions. The regulation was codified in Title 17 CCR Sections 95100-95133. The regulation requires facilities, such as the EHOF, that emit over 25,000 metric tons of carbon dioxide equivalent (CO_2e) per year from on-site stationary sources to begin tracking GHG emissions in 2008. Regulated facilities are required to report these emissions beginning in 2009. OEHI will be responsible to report GHG emissions related to all facets of its oil and gas production operations. Beginning in 2010, emissions reports will be subject to third party verification.

Senate Bill 97 (SB 97) which addresses GHG analysis under CEQA was adopted on August 24, 2007. The Act requires the Office of Planning and Research (OPR) to prepare and submit guidelines to the Resources Agency for the mitigation of GHG emissions and their effects by July 1, 2009. The Resources Agency is required to adopt the regulations by January 1, 2010. OPR released a Technical Advisory in June 2008 to provide interim advice to Lead Agencies regarding the analysis of greenhouse gas emissions in environmental documents (OPR June 2008). On January 8, 2009, OPR released for public review and comment its Preliminary Draft CEQA Guideline Amendments for Greenhouse

Gas Emissions (OPR January 2009). On April 13, 2009, OPR submitted its proposed amendments to the state CEQA Guidelines for GHGs to the Secretary for Natural resources.

There are no CEQA thresholds of significance yet adopted for GHG emissions at either project or cumulative levels. No guidance is yet available regarding GHG analysis under NEPA. The federal government does not currently regulate GHG emissions. There are no local regulations yet adopted directly addressing GHG emissions. Since adoption of the 1997 SEIS/PEIR preceded adoption of AB 32, the 1997 SEIS/PEIR does not address and evaluate GHG emissions at the EHOF. The potential environmental impact of GHG emissions thus represents new information that has become available, which was not known, and could not have been known at the time the environmental impact report was certified as complete. Therefore, an analysis of potential GHG emissions impacts of EHOF operations associated with the proposed ITP is warranted. A summary of the level of GHG emissions reduced at EHOF since 1998 when OEHI acquired the EHOF, are provided below. The current levels of GHG emissions experienced at the EHOF are also provided below. This topic will be further addressed in a subsequent joint CEQA/NEPA document for the proposed ITP.

GHG Emission Reductions at EHOF Since 1998

Besides regulatory-based air quality programs, voluntary actions at EHOF have further reduced emission levels from those assessed in the 1997 SEIS/PEIR (See Section 4.3, Air Quality). These voluntary actions have resulted in GHG emission reductions. OEHI signed a Memorandum of Understanding (MOU) with the U.S. EPA in the fall of 2004 to become a participant in the EPA Natural Gas STAR Program. This program is a flexible, voluntary public/private partnership that encourages oil and natural gas companies to develop and/or adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce methane emissions. Occidental Petroleum was selected by EPA as the International Partner of the Year for 2005 for its contributions in reducing greenhouse gas emissions. At the EHOF, OEHI has reduced GHG emissions by nearly 40% since its acquisition of the EHOF from DOE. The U.S. EPA commended OEHI for its contributions in reducing greenhouse gas emissions (U.S. EPA 2005). Cumulative methane emission reductions of 7.1 BCF have been achieved at the EHOF, which has and will continue to contribute to improved air quality in the region. This equates to a cumulative reduction in methane emissions of 2,856,906 metric tons CO_2e. Specific examples of various operations and maintenance projects that have been completed at EHOF are detailed below which comprise a portion of this significant greenhouse gas emissions reduction. Note that these same projects are also discussed in Section 4.18, Energy Conservation, as they relate to reductions in unnecessary waste, and provide greater efficiency, thereby conserving energy.

- 18 natural gas driven, rich burn internal combustion engines (ICEs) have been retrofitted with non-selective catalytic reduction to control VOCs and improve efficiency. The resulting annual methane emissions reductions are equal to 8,966 Million Cubic feet per year (Mcf/yr).

- 338 crude oil tanks ranging in size from 2 bbl to 250,000 bbl have been removed. This number equates to more than **half** of the production and processing tanks in the field. Fewer fixed roof tanks reduce the standing losses due to temperature variations and working losses from changing fluid levels. The resulting annual methane emissions reductions are equal 18,996 Mcf/yr.

- 126 natural gas powered actuators on pipeline condensate traps have been converted to instrument air, eliminating methane emissions. The resulting annual methane emissions reductions are equal to 90,140 Mcf/yr.

- Implementation of "no leak" packers around rod packing and housings of natural gas fired compressor engines to capture the leaks and divert them to a gas gathering system. OEHI has replaced 41 natural gas compressor packing systems with annual methane emissions reductions equal to 144,868 Mcf/yr.

- 212 natural gas driven, 4-stroke rich burn, ICE engines that were used to drive pumps bringing production fluids to the surface were shut down and replaced with electric motor drives. The resulting annual methane emissions reductions are equal to 282,125 Mcf/yr.

- Implementation of a Fugitive Emissions Inspection & Maintenance (I&M) Program. This program conducts more frequent inspections at a lower leak threshold which results in significant emission reductions. With this program in place, leaks are quickly identified, repaired, or the source of the leak replaced. In 2000, OEHI began inspecting more than 900,000 equipment components four times more frequently than required by state air quality regulations with a 7,500 parts per million by volume (ppmv) leak threshold action level. This is equal to 3.6 MM inspections per year. The resulting annual methane emissions reductions (using EPA tables for average leak rates) are equal to 451,765 Mcf/yr.

- Elimination of unnecessary equipment. OEHI eliminated 110 Tank Liquid Gas Boots resulting in annual methane emissions reductions of 758 Mcf/yr. Liquid boots are typically utilized on overflow lines to drain tanks to prevent spillage from overfilled tanks. A liquid boot is utilized at the overflow line's open end to prevent vapor from passing down the line.

- Use of protective coating on storage tanks to reduce fugitive leaks. Annual methane emissions reductions are equal to 108 Mcf/yr.

Current EHOF GHG Emissions Inventory

The California Climate Action Registry (CCAR) is a private non-profit organization originally formed by the State of California. The CCAR serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. The CCAR provides leadership on climate change by developing and promoting credible, accurate, and consistent GHG reporting standards and tools for organizations to measure, monitor, third-party verify and reduce their GHG emissions consistently across industry sectors and geographical borders.

CCAR members voluntarily measure, verify, and publicly report their GHG emissions, and are leaders in their respective industry sectors. In turn, the State of California offers its best efforts to ensure that CCAR members receive appropriate consideration for early actions in light of future state, federal or international GHG regulatory programs. CCAR members are well prepared to address upcoming regulatory requirements.

In August of 2007, CCAR accepted the Occidental of Elk Hills 2005 and 2006 CO_2e emissions inventories. The primary calculation methods were based on the API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry (API 2009) and International Petroleum Industry Environmental Conservation Association (IPIECA) guidelines. In 2005, the EHOF CO_2e emissions totaled 552,331 metric tons and in 2006 the EHOF CO_2e emissions totaled 552,237 metric tons. Included in the evaluation were direct emissions resulting from stationary combustion, process emissions, fugitive emissions, and indirect emissions resulting from purchased electricity. The potential GHG emissions effects of implementing the proposed ITP have not yet been analyzed.

Gap Analysis

Potential GHG emissions impacts were not addressed in the Gap Analysis.

Conclusion

In summary, implementation of the proposed ITP may impact GHG emissions. These potential impacts were not analyzed in the 1997 SEIS/PEIR, and such impacts are potentially significant. These effects will be analyzed in a subsequent joint CEQA/NEPA document for the proposed ITP.

4.8 HAZARDS AND HAZARDOUS MATERIALS: *WOULD THE PROJECT:*

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact

See the response to Section 4.8(b) for a discussion of accidental releases or spills and the response to Section 4.8(h) for a detailed discussion of fires. Section 4.8(a) primarily discusses the impacts of routine transport of hazardous materials, increased generation and disposal of hazardous wastes, risks of explosions, and vehicle accidents.

Discussion

1996 NOP/IS

The 1996 NOP/IS identified that with the Proposed Action, under the high commercial development case, there would be a potential for more intensive practices at the NPR-1 (EHOF) site. This increased activity level would have the potential to increase the risks of accidental releases of hazardous substances that could threaten the environment, or fires and explosions which could threaten personnel and property, as well as oil spills, pipeline and tank leaks, vehicle accidents, etc. Based on the experiences observed at NPR-1 (EHOF) it was predicted that such incidents would continue to occur at the site. However, there are standards and precautions to prevent these types of incidences and there are on-site capabilities to respond to such an event if one should occur. This increased risk was considered a potentially significant impact (NOP/IS p. 6-31).

1997 SEIS/PEIR

As stated in the 1997 SEIS/PEIR, "[a]bout 440,000 gallons/day of natural gas liquid products (NGL) were produced at NPR-1 [EHOF] gas plants in 1996 (35 percent propane, 35 percent butane, and 25 percent natural gasoline, and five percent isobutane). This totals about 160 MMG/year. These NPR-1 [EHOF] products are transported to market in MC-330 and MC-331 tank trucks on public highways. Given that NGL's are highly flammable, this activity represents a potentially significant risk to the public." (1997 SEIS/PEIR p. 3.10-5). An analysis was prepared to determine the number of vehicle accidents that might occur "off-site" while transporting NPR-1 (EHOF) NGLs. The result of that analysis was that

approximately nine vehicle accidents per year could be expected based on an estimated 24,387 one-way tank truck shipments (0.00035 accidents per one-way trip). The 1997 SEIS/PEIR further indicated, based on a severe accident frequency of nine percent, that one of the nine accidents could be severe (i.e., fuel-air detonation). Despite this fact, there are no known cases of spills associated with tank trucks transporting NPR-1 (EHOF) NGLs.

From 1989 to 1995, NPR-1 (EHOF) reported an average of 311 vehicles in use and 2,839,500 miles of travel. For 1994 and 1995, reportable vehicle accidents included 12 involving pickup trucks, 3 involving automobiles, and one involving a heavy truck (1997 SEIS/PEIR p. 3.10-6). It was expected that with the transfer in ownership of NPR-1 (EHOF) that staffing levels could decrease 30 percent or more from current levels (1997 SEIS/PEIR p. 4.10-8). With this drop in personnel, the number of vehicles used, vehicle miles traveled, and the number of associated accidents were expected to fall (1997 SEIS/PEIR p. 4.10-7).

The 1997 SEIS/PEIR predicted that with the increased activity, as a result of private operations, larger amounts of hazardous materials would be used and larger volumes of hazardous waste would be generated. The generation of these larger amounts of hazardous wastes implied a higher probability of spills and accidental releases. Taking a baseline tonnage amount of 151 tons of hazardous waste generated in 1995 at NPR-1 (EHOF), and the average of 351 tons generated per year for the period 1993-1995, the 1997 SEIS/PEIR predicted an average amount of 481 tons per year would be generated by private operation (1997 SEIS/PEIR p. 4.2-5, 4.2-7, 4.2-8). However, the 1997 SEIS/PEIR concluded that the use of hazardous materials and generation of hazardous wastes over the long term was expected to follow the downward trend in hydrocarbon production (1997 SEIS/PEIR p. 4.2-5). Further, the 1997 SEIS/PEIR determined that the protection afforded by existing federal, state, and local regulations would reduce potential impacts caused by the management and generation of hazardous materials and wastes to less than significant levels (1997 SEIS/PEIR p. 4.2-5). Finally the 1997 SEIS/PEIR determined there was adequate capacity for the NPR-1 (EHOF) region to accommodate the slight increase in hazardous waste generated under the Proposed Action sent off-site for disposal treatment, or recycling. In any event, given that the overall level of oil and gas production is past its peak, and is in decline, there will also be a corresponding decrease in hazardous waste generation (1997 SEIS/PEIR p. 4.2-7, 4.2-8).

One of the major hazards associated with oil field operations are fires and explosions (1997 SEIS/PEIR p. 3.10-1). Well blowouts can be a major cause of fires or explosions when the oil or gas is ignited. At NPR-1 (EHOF) since 1992, approximately 82 accidents involving fires or explosions occurred. The calculated blowout rate for new wells drilled is 0.8 blowouts per 1,000 wells drilled and 0.3 blowouts per 1,000 remedials. Between the 1970's and 1993, NPR-1 (EHOF) experienced six blowouts (or similar conditions) per 1,100 wells

drilled. NPR-1 (EHOF) also experienced three blowouts per 15,000 remedials, and two blowouts related to day to day well operations. Since 1993, two additional blowouts occurred at NPR-1(EHOF). The 1997 SEIS/PEIR anticipated that the current and future risks of blowouts would be relatively insignificant compared to the past risk because the reservoir pressures have fallen significantly and will continue to fall (1997 SEIS/PEIR p. 3.10-4).

Given the elevated level of production and site activity projected to occur under the Upper Bound Commercial Development Case, a similar statistical increase in blowouts and explosions was expected to occur as was projected for oil spills and accidental releases. Two to three blowouts could occur over the period 1997-2035, given past experience at NPR-1 (EHOF). A similar increase in fires or explosions could be expected due to the same basis; approximately ten fires or explosions per year could be expected. The 1997 SEIS/PEIR concluded that the private entities assuming ownership of NPR-1 (EHOF) would be expected to have comprehensive accident prevention programs to minimize the occurrence of such risks and address their consequences. Although such accidents are considered likely, the severity of such events is minor (i.e., small level of public risk).

Overall, the 1997 SEIS/PEIR concluded that the impacts caused by increased use of hazardous materials and generation and disposal of hazardous wastes, risks of fires or explosions, and vehicle accidents would be less than significant. This was due to the expectation that a new private owner being bound to comply with all applicable federal, state and local regulations, combined with the anticipated decrease in staffing, which would result in less vehicle miles traveled (1997 SEIS/PEIR p. 4.10-8, 4.2-6).

Proposed Project

EHOF and 2-Mile Buffer

Refer to the 1997 SEIS/PEIR discussion in Section 4.8(a) above and in the Gap Analysis discussion below. The trends discussed therein are expected to continue under the proposed ITP.

In 2001, OEHI installed 3-inch and 4-inch NGL pipelines parallel to the East Gas Sales pipeline from the 35R Gas Plant to Inergy's NGL storage tanks on North Coles Levee. Since these pipelines were put into service, fewer truck trips are now required to transport NGL products off the EHOF. Hence, as the number of truck trips drop, the probability of accidents occurring during transportation of NGLs off-site will be reduced as a result. Less than significant impacts are expected from this activity under the proposed ITP.

Gap Analysis

The estimated volumes of hazardous materials and waste that were analyzed in the 1997 SEIS/PEIR were never realized. Based on data from 1993 to 1995, an average of approximately 351 tons per year of hazardous waste was produced at NPR-1 (EHOF). The 1997 SEIS/PEIR predicted that a total of 481 tons per year of hazardous waste would be generated under private operations. As of 2004, the average amount of hazardous waste produced at EHOF is approximately 300 tons per year, a decrease of 181 tons per year, or 37% less than forecast (Gap Analysis p. 7). Since hydrocarbon production has already peaked at the EHOF, and has since been on the decline, significant increases in the use of hazardous materials or generation and disposal of hazardous wastes are not anticipated from future operations under the proposed ITP. Less than significant impacts are expected.

Compared to the accident scenarios projected in the 1997 SEIS/PEIR, EHOF operations subsequent to the transfer of ownership have been less than was expected. Two to three well blowouts were projected for the period 1997-2034, while there have been none for the period 1998-2004. Ten fires/explosions were projected to occur per year, while 9.2 fires/explosions on average per year have occurred during the same 6 year period (Gap Analysis p. 43). Under the proposed ITP, these reduced trends in risks and number of incidents are expected to continue declining with the overall downward trend in production levels and lower reservoir pressures that have resulted from the temporary increase in production following the sale.

Compared to the vehicle fleet operated by DOE under its tenure, OEHI has a reduced fleet of 275 vehicles and has only experienced an average of 18 vehicle accidents per year compared to the 311 vehicle fleet of DOE which averaged 42 vehicle accidents per year over the period from 1986 to 1997 (Gap Analysis p. 43). OEHI Security personnel monitor traffic on EHOF roadways and progressive discipline is used for violations of traffic rules. This trend is expected to continue under the proposed ITP; therefore less than significant impacts are expected.

Conclusion

As discussed in the 1996 IS/NOP under the change in ownership, and the following intensified level of operations, impacts such as risks of accidental releases of hazardous materials, oil spills, pipeline and tank leaks, explosions, fires and vehicle accidents were considered potentially significant. Potential impacts were adequately analyzed in the 1997 SEIS/PEIR, which concluded that the increased risks from an escalation in site activities would be less than significant given that the new owner would be bound to comply with a suite of federal, state and local regulations and requirements pertaining to hazardous materials and waste management, containment, response and safety. These requirements

afford the protection to reduce potential impacts to less than significant. Given that production levels are declining, significant increases in the use of hazardous materials or generation and disposal of hazardous wastes are not anticipated from future operations under the proposed ITP. Further, these less than significant impacts, as analyzed in the Gap Analysis and this Initial Study, were found to be reduced even further as a result of a change in ownership and changed practices that occurred after the sale of NPR-1. Under the proposed ITP, these programs would continue to provide a similar level of protection to the public and environment for these less than significant impacts. Thus, no further analysis is required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.8(a) above.

1997 SEIS/PEIR

As summarized in Section 4.10.1 of the 1997 SEIS/PEIR, there are certain hazards associated with petroleum production operations including but not limited to: (1) spills (which primarily threatens the environment); and (2) blowouts, fires, and explosions (which primarily threatens personnel and property and, secondarily, the environment). Refer to the discussion in Section 4.8(a) for details on blowouts, fires/explosions, and the discussion in Section 4.8(f) for fires. The discussion below primarily focuses on spills and accidental releases of hazardous materials.

On a historical basis, as described in the 1997 SEIS/PEIR, between 1990 to 1995 the annual number of spills at NPR-1 (EHOF) decreased fairly dramatically (over 30 percent) (1997 SEIS/PEIR p. 3.10-3). Historically, the most common causes of spills (1989 -1995) were corrosion of tanks and piping (42 percent on average), followed closely by mechanical failure (35 percent on average). Spills caused by human error made up a smaller percentage (7 percent on average) of total spill incidents occurring at the NPR-1 (EHOF) site prior to the sale (1997 SEIS/PEIR p. 3.10-3). As noted on page 4.10-6 of the 1997

SEIS/PEIR, the number of oil spills was projected to average 386 spills per year (for the Upper Bound Commercial Development Case) over the period 1997-2034. In addition, a lack of perennial watercourses and other vulnerable receptors in the vicinity of tank settings and pipelines would effectively limit the impact that uncontained oil spills could have on the surrounding environment (1997 SEIS/PEIR p. 4.10-8).

Even though the potential impacts from the increased risks of spills and releases were determined to be less than significant due to the new owner being obligated to comply with all applicable federal, state and local regulations and requirements, the 1997 SEIS/PEIR identified numerous mitigation measures to reduce potential impacts from the release of hazardous materials and wastes into the environment even further. Implementation of these mitigation measures would provide a comparable level of response to the potential impacts associated with the management and generation of hazardous materials and waste. Note that several of these mitigation measures were originally identified in the 1997 SEIS/PEIR to reduce potential impacts to surface and groundwater. However, as they all relate to reducing potential impacts from oil spills and accidental releases of hazardous materials and wastes, and proper management of hazardous materials and wastes, all of the mitigation measures are addressed here for clarity. These mitigation measures are identified below.

1997 SEIS/PEIR Mitigation Measures (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors Resolution No. 97-375, 1997)**:**

- **Mitigation Measure 7:** Implement an asbestos management plan that complies with applicable laws.

- **Mitigation Measure 8:** Implement a waste minimization plan that complies with applicable laws.

- **Mitigation Measure 9:** Implement an environmental training plan that complies with applicable laws

- **Mitigation Measure 10:** Implement a radiological control plan that meets the intent of the program implemented by DOE.

- **Mitigation Measure 11:** Implement an emergency response plan that complies with applicable laws.

- **Mitigation Measure 17:** Visually inspect the berm abutting the California Aqueduct on the Elk Hills Unit Lands at least once annually and, if warranted by the inspection, prepare and implement a plan to maintain the berm as necessary

to mitigate the potential for a discharge of oil or hazardous materials by surface runoff into the California Aqueduct.

- **Mitigation Measure 18:** Conduct future construction activities in the vicinity of the California Aqueduct in appropriate locations, or otherwise use appropriate techniques, to mitigate the potential for a discharge of oil or hazardous materials by surface runoff into the California Aqueduct.

- **Mitigation Measure 19:** Maintain necessary emergency overflow catchment basins to mitigate the potential impact of a discharge of oil or hazardous materials.

- **Mitigation Measure 20:** Visually observe stormwater entering Buena Vista Creek from the direction of the nearest oil field structure at least once annually during a heavy precipitation event for an oil sheen. If an oily sheen is observed, investigate the source of the sheen and, if the source of the sheen is found to be oil field operations on the Elk Hills Unit Lands, promptly take feasible actions to contain or remove the sheen to reduce further discharge of stormwater containing an oily sheen to Buena Vista Creek.

- **Mitigation Measure 25:** Prohibit the use of chromium additives in drilling fluids.

- **Mitigation Measure 27:** Implement a hazardous materials spill prevention control and countermeasures plan that complies with applicable laws.

Proposed Project

EHOF

The proposed ITP would re-adopt the Mitigation Measures (7, 8, 9, 10, 11, 17, 18, 19, 20, 25, and 27) of Exhibit B listed above which would guarantee the continuation of these protective programs. Under the proposed ITP, operations and the protective programs discussed above are not expected to differ significantly from that experienced at EHOF since the transfer in ownership. OEHI has continued to implement a Spill Prevention, Control and Countermeasures (SPCC) plan that complies with applicable laws that would reduce releases to the environment. Additionally, with the downward trend in production, there would be a corresponding decrease in the use of hazardous materials in support of ongoing operations.

In addition to the practices evaluated in the 1997 SEIS/PEIR, the nature of the proposed ITP would require compliance with all applicable regulations and appropriate American Petroleum Institute Best Management Practices.

Given the foregoing analysis, less than significant impacts are anticipated under the proposed ITP for continued operations with the implementation of the mitigation measures, best management practices and compliance with all applicable regulatory requirements described above.

2-Mile Buffer

Given the benign nature of Covered Activities such as acquisition and management of Conservation Lands within the 2-mile buffer, less than significant impacts are expected. For other Covered Activities including operation and maintenance of facilities associated with existing facility ROWs, such ROWs will be actively maintained in accordance with applicable regulations and corrosion protection systems will be provided. While the likelihood of releases from these facilities is low, any release would be responded to and remediated in accordance with applicable response plans and regulations. Therefore, operation of off-site facilities should not create a significant hazard to the public or environment through upset or accident conditions involving a release of hazardous materials into the environment. Less than significant impacts are expected.

Gap Analysis

As of 2004, the EHOF has experienced an average of 43 oil spills per year (Gap Analysis p. 7, 43). Since the sale of EHOF, oil spill frequency is approximately 11% of the total level predicted in the 1997 SEIS/PEIR (343 less oil spills per year). Two hazardous waste spills have occurred since OEHI acquired the EHOF in February 1998 (Gap Analysis p. 7). One spill occurred in 1998 and the last reported spill occurred in 2004. The Gap Analysis concluded that, due to the implementation of Best Management Practices, the number of spills would be minimal from continued operations at EHOF (Gap Analysis p. 7).

Conclusion

The 1996 NOP/IS concluded that the risk of spills and accidental releases was a potentially significant impact due to the increased level of activity predicted to occur under private ownership. As evaluated in the 1997 SEIS/PEIR, these impacts were determined to be less than significant due to the new owner being obligated to comply with all applicable federal, state and local regulations and requirements. These requirements would afford the protection to reduce potential impacts to a less than significant level. Even though these impacts were less than significant, mitigation measures were adopted to afford a similar level of protection as that provided by prior DOE programs. These less than significant impacts, as analyzed in the Gap Analysis and this Initial Study, were found to be further reduced as a result of a change in ownership and changed practices that occurred after the

sale of NPR-1. Given that production levels are declining, significant increases in the use of hazardous materials or generation and disposal of hazardous wastes are not anticipated from future operations under the proposed ITP. Operations under the proposed ITP are not expected to be significantly different than what has been experienced since the transfer of ownership. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address if the Proposed Action would emit hazardous materials within one-quarter mile of an existing or proposed school. However, the 1996 NOP/IS noted that the Proposed Action would have the potential to increase the exposure of people to existing sources of potential health hazards due to incidences that were predicted to occur on the NPR-1 (EHOF) site (1996 NOP/IS p. 6-34). This was considered to be a potentially significant impact.

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion in Section 4.8 (a) above.

The 1997 SEIS/PEIR did not specifically address if the Proposed Action would emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school.

Proposed Project

EHOF

There is one school, Elk Hills Elementary, located within one-quarter mile of the eastern boundary of the EHOF. The school is located in the Northwest ¼ of Section 25, T.30S., R.24E., MDB&M. (Figure 4.8a). Hazardous emissions or handling of hazardous materials and waste would not occur within one-quarter mile of this school as a result of operations on

EHOF. With proper management of hazardous materials as identified in Section 4.8(b), and continued training of people handling hazardous materials and wastes in accordance with applicable regulatory requirements and industry best management practices, impacts would be at a less than significant level.

2-Mile Buffer

McKittrick Elementary school is located within the 2-mile buffer, approximately 2 miles west of the EHOF (Figure 4.8a). Covered Activities such as Conservation Lands management within the 2-mile buffer would not result in hazardous emissions, and do not involve handling of hazardous or acutely hazardous substances. No off-site facilities are located within one-quarter mile of this school. No impacts are expected.

Gap Analysis

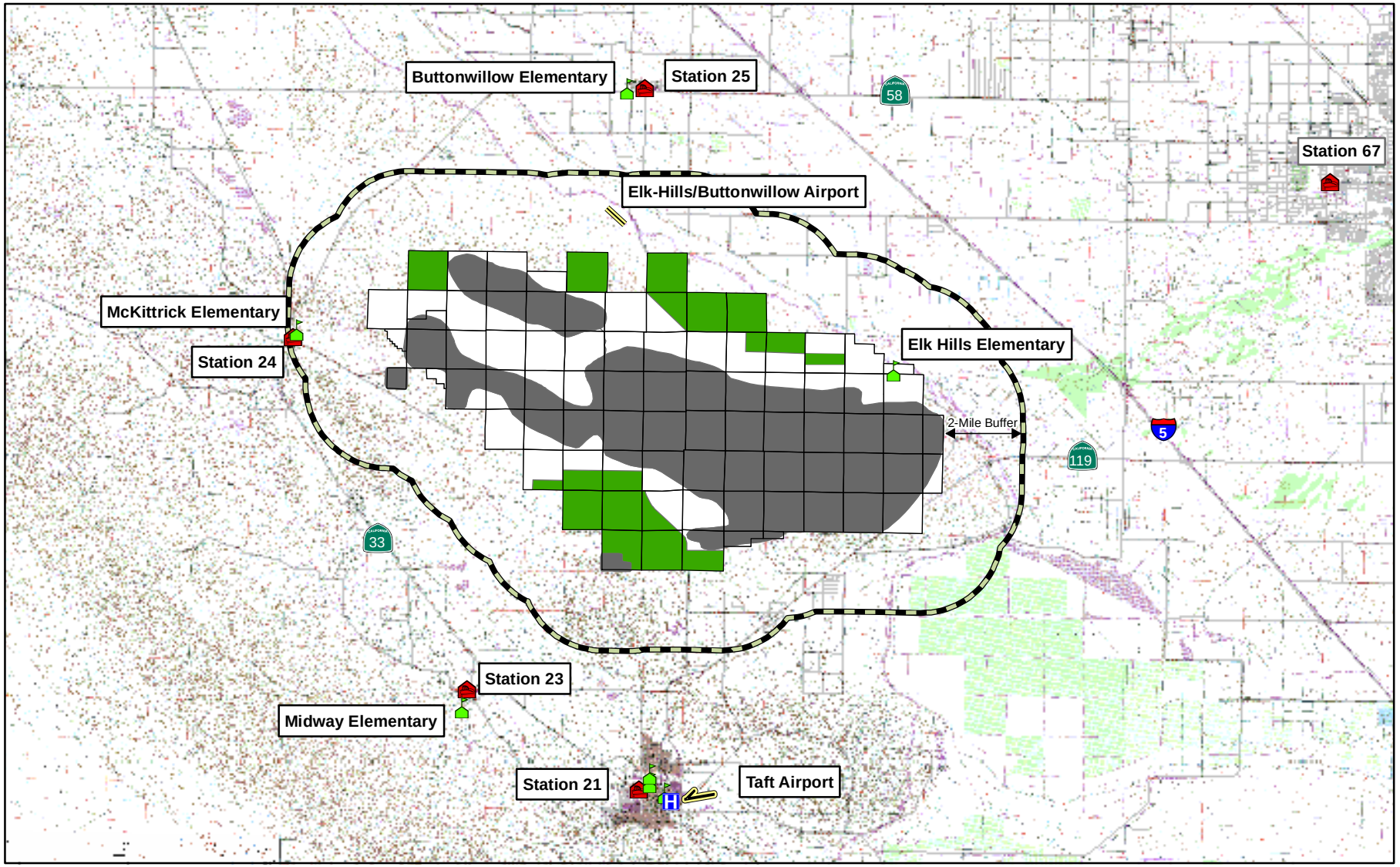
Emissions of or the handling of hazardous materials within one-quarter mile of an existing or proposed school were not evaluated in the Gap Analysis.

Conclusion

Neither the 1996 NOP/IS nor the 1997 SEIS/PEIR evaluated the potential for impacts occurring as a result of emissions of or the handling of hazardous materials within one-quarter mile of an existing school. However, as evaluated in this Initial Study, the proposed ITP would not emit hazardous emissions, or handle hazardous materials within one-quarter mile of an existing or proposed school. The proposed ITP would also be required to comply with all applicable federal, state and local regulations pertaining to the handling and management of hazardous materials and waste. Less than significant impacts would occur, thus no further analysis is required. However, as the proposed ITP would re-adopt the mitigation measures listed above under Section 4.8(b), such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

Occidental of Elk Hills

Public Facilities Map



0 3 6
Miles
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Fire-Station School Airport Hospital

Quad Knopf

FIGURE 4.8a

060008

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not address the issue of potential environmental impacts related to Government Code 65962.5 listed hazardous materials sites.

1997 SEIS/PEIR

A number of hazardous and non-hazardous waste sites were created during the operation of the NPR-1 (EHOF) by the DOE. No National Priorities List sites are located on the property (DOE 1997b). The 1997 SEIS/PEIR and 1993 SEIS (DOE 1993) included information regarding the remediation of existing hazardous and non-hazardous waste sites at the NPR-1 (EHOF) site; however, not all inactive waste sites had achieved formal closure through the issuance of No Further Action determinations from the appropriate regulatory agency(ies) prior to the sale of NPR-1 (EHOF). These sites included: an inactive hazardous waste site (27R) undergoing final closure, four contaminated sites (23S saltwater disposal sumps, 1A-6M well pad, 27R truck washout station sumps, and 4G disposal area) recommended for remediation and closure, only one of which was remediated (4G disposal area). Characterization and closure of other nonhazardous waste sites, including several inactive solid waste landfills and a number of produced wastewater sumps, was also ongoing (1997 SEIS/PEIR p. 3.2-2, 3.2-3). The DOE developed a program (discussed in greater detail below) to identify, review, investigate, characterize, evaluate, remediate and formally close all waste disposal sites in accordance with applicable regulations (1997 SEIS/PEIR p. A.2-3, 4). Agreements regarding the DOE's obligations with respect to inactive waste site remediation were being negotiated at the time the 1997 SEIS/PEIR was being finalized; and therefore, were not discussed in detail in the final 1997 SEIS/PEIR document.

As discussed in the 1997 SEIS/PEIR, the DOE stated its intention to conduct all necessary remedial action on federally owned lands prior to the transfer of NPR-1 to a private entity. In the event this was not possible, DOE might submit a request to defer this requirement until after the transfer date. Any deferral was not expected to have a significant impact on the environment because assessment and remediation would still occur under any of the alternatives discussed in the 1997 SEIS/PEIR (1997 SEIS/PEIR p. 4.2-4). The 1997 SEIS/PEIR concluded that the protection afforded by federal, state and local regulations

would reduce the potential impacts caused by the management and generation of hazardous materials and wastes (including disposal) to less than significant levels (1997 SEIS/PEIR p. 4.2-5, 6).

Proposed Project

EHOF

No Government Code Section 65962.5 listed hazardous materials sites exist on EHOF (DTSC 2009). The following discussion provides an update of significant new information that has become available since the completion of the 1997 SEIS/PEIR, which confirms whether the conclusions of the 1997 SEIS/PEIR remain valid with respect to waste management and their potential environmental impacts.

Characterization and formal closure of waste sites at the EHOF are requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), and state and local statutes and regulations. Usually, pursuant to CERCLA's provisions, these activities must be completed prior to the Federal Government's transfer of property to another entity. However, the Congressionally-mandated divestiture schedule did not leave sufficient time to complete all clean-up actions before the property was transferred to OEHI.

A Covenant Deferral was requested by the DOE pursuant to CERCLA Section 120(h)(3)(c) from the State of California to demonstrate the site was suitable for early transfer and to address those site assessment and/or remediation actions that may extend beyond the transfer date (DOE 1997b). The State of California concurred with the DOE's request for a CERCLA Section 120(h)(3)(c) Covenant Deferral and issued a Finding of Suitability for Early Transfer on December 2, 1997 (State of California 1997a). This Finding of Suitability for Early Transfer allowed the DOE's remediation obligations to be deferred until after the transfer of the property. A Covenant required by CERCLA Section 120(h)(3)(A)(ii)(II) was also included in the Purchase and Sale Agreement between the Federal Government and OEHI as well as the property deed to ensure protection of human health and the environment, and to ensure that remediation activities would not be disrupted (DOE 1998a).

As part of the DOE's Covenant Deferral Request to the State of California, the DOE also entered into an Agreement for Site Assessment with the State of California, Department of Toxic Substances Control (DTSC) to review the DOE's waste site closure administrative records for 21 Areas of Concern and issue a Site Assessment identifying any remaining/additional Areas of Concern that required further action to achieve formal closure (State of California 1997b). Thus, the DOE contractually obligated itself to remediate those inactive waste sites requiring corrective action pursuant to the terms and conditions of the Purchase and Sale Agreement with OEHI.

The remaining deferred waste site characterization and remediation activities required to achieve formal site closures, that the DOE proposed to perform at the EHOF, were included in the mitigation measures adopted as part of the Record of Decision (ROD) for the Final 1997 SEIS/PEIR (DOE 1997c), as well as the DOE's Mitigation Action Plan (MAP) (DOE 1998d). Specifically, the DOE committed to "remediate all known hazardous waste sites using appropriate remediation technology" and to "continue to work with these agencies [relevant regulatory agencies] to achieve final closure on the sites, including any additional mitigation work if required."

The DTSC completed its Site Assessment report in 1998 and identified 131 Areas of Concern that required further evaluation to achieve formal site closure (State of California 1998). These Areas of Concern primarily consisted of a variety of inactive sites that included surface trash scatters, produced wastewater sumps, inactive/closed landfills, and other inactive waste sites. Several active operational areas were also identified for further investigation; such as: two permitted landfarms, waste water disposal sumps in Section 10G, the Section 10G waste water disposal facilities, the OEHI 45 MW Cogeneration Facility in Section 35R, the 27R Naturally Occurring Radioactive Materials Storage Facility, septic tank facilities, electrical transformers, cathodic protection system wells, etc.

Waste remediation activities for the inactive waste sites and other identified Areas of Concern were estimated to only affect approximately 75 acres of the entire 47,409-acre EHOF property. Most of the inactive waste sites are: of limited extent in size, located in widely scattered, remote areas, are not near any sensitive receptors, and occur within a secure facility perimeter that is fenced, patrolled, and not open to public access. Due to the nature of the EHOF and the underlying formations (i.e. the arid environment, and absence of shallow groundwater), there are minimal risks to groundwater posed by any contaminants in place at the inactive waste sites. This is particularly true due to the lack of a usable groundwater aquifer at the EHOF. The majority of the EHOF overlies an aquifer that was designated exempt pursuant to the Safe Drinking Water Act when the DOGGR assumed primacy for the U.S. EPA's Underground Injection Control Program for Class II Injection Disposal Wells.

Pursuant to the CERCLA Covenant, OEHI has established a comprehensive program to avoid inadvertently disturbing the inactive waste site locations during operational and facility construction and development activities. As part of this comprehensive program, all project proposals undergo a thorough screening by the OEHI Health, Environment and Safety Department. Project footprints are reviewed against the locations of the inactive waste sites. Project revisions are made to avoid disturbing these areas until they have achieved final site closure, so that waste remediation activities are not impeded, and that workers are not inadvertently exposed to potential contaminants at these locations.

The DOE completed an Environmental Assessment (EA) in September 1999. The EA examined the potential for environmental impacts that might result from characterization and closure of waste sites to determine whether the conclusions of the 1997 SEIS/PEIR with respect to waste management remain valid. The EA updated and expanded the discussion of waste clean-up issues in the 1997 SEIS/PEIR with new information obtained since that document was finalized. The DOE then issued a Finding of No Significant Impact (FONSI) in November 1999 for the EA (DOE 1999a, 1999b).

This EA and FONSI evaluated the environmental impacts of the proposed waste remediation activities that would be conducted at the EHOF by the DOE to achieve formal site closure. The EA evaluated the following environmental media areas: air quality, land, surface water, groundwater, biological resources, cultural resources, and occupational health and safety. As part of the EA, the DOE completed a Biological Assessment, initiated formal Section 7 consultation with the Service and obtained a BO and ITS for the waste remediation activities (DOE 1998b, USFWS 1998). In consultation with the DOE, the CDFG determined that the proposed waste remediation activities could be treated as a "Federal Project" and therefore, would be beyond the California Endangered Species Act jurisdiction (DOE 1998c, 1999c). This eliminated the need for the DOE to complete a formal consultation with CDFG and obtain a Section 2081 ITP for state listed species.

Waste remediation activities would also be bound by the provisions of the Programmatic Agreement executed by the DOE with the State Historic Preservation Officer, and Advisory Council on Historic Preservation (DOE 1998e) to avoid impacting significant cultural resource sites found on the EHOF (See Section 4.5).

Pursuant to the Agreement for Site Assessment with the DTSC, the DOE also committed to provide all information to facilitate the DTSC's CEQA analysis to determine if the waste remediation activities under the Agreement for Site Assessment were projects subject to CEQA. Should these activities be determined to not be exempt from CEQA, the DTSC would prepare an Initial Study and determine if a Negative Declaration or Environmental Impact Report should be prepared.

Based on the foregoing discussion, the DOE's waste remediation activities pursuant to the Covenant Deferral and associated Agreement for Site Assessment with the DTSC were determined to be federal actions that would occur at the EHOF to satisfactorily achieve formal site closure under all applicable regulatory requirements. Completion of the waste remediation activities are necessary to:

- Execute the CERCLA Covenant Certificate that was deferred by the CERCLA Section 120(h) (3) (c) Covenant Deferral.

- Implement the mitigation measures identified in the 1997 SEIS/PEIR, ROD and MAP, as well as to meet the provisions of the agreements entered into by DOE with DTSC and OEHI.

Pursuant to the 1999 EA/FONSI, the DOE's waste remediation activities are bound by the terms and conditions of the Biological Opinion (USFWS 1998) to avoid incidental take and minimize the effects of the waste remediation activities on federally listed species and their habitat. As noted above, these waste remediation activities will be required to comply with the provisions of the Programmatic Agreement (DOE 1998e). Under the EA/FONSI, mitigation measures have been provided to comply with all applicable air quality regulations administered by the San Joaquin Valley Air Pollution Control District to avoid significant air quality impacts from the waste remediation activities; as well as, occupational and public health and safety mitigation measures to provide for worker and public health and safety.

Implementation of these DOE mitigation measures, the foregoing CERCLA Covenant, Purchase and Sale Agreement terms and conditions, and Agreements with the State of California and State Historic Preservation Officer ensures that any potential environmental impacts associated with site remediation and closure activities will be reduced to a level of less than significant. Following completion of the waste remediation activities, any required supplemental CEQA evaluations determined to be necessary to support the DTSC's formal site closure determinations would be conducted in accordance with the provisions of the Agreement for Site Assessment with the DOE. Upon completion of final site closure actions, the DOE can then execute the deferred CERCLA Certification Covenant that all remedial actions necessary to protect human health and the environment have been taken. Therefore, less than significant impacts are expected from these site closure activities.

2-Mile Buffer

OEHI is not aware of the existence of any listed hazardous materials sites within the 2-mile buffer. Consequently, Covered Activities within the 2-mile buffer would not affect any such sites, and no impacts are expected to occur.

While no impacts are expected, the potential presence of listed hazardous waste sites on Future Conservation Lands that may be acquired within the 2-mile buffer would nevertheless need to be formally evaluated during subsequent implementation of the proposed ITP. The following integral design feature described below, is a required component of any proposed realty action to dedicate Future Conservation Lands with a conservation easement to the resource agencies. This design feature would be utilized to formally determine the potential presence/absence of listed hazardous waste sites on potential Future Conservation Lands within the targeted compensation area of the 2-mile buffer. The design feature would also ensure that appropriate corrective actions are taken.

Pursuant to due diligence requirements, for specific Future Conservation Lands being considered for acquisition or dedication, OEHI would conduct a baseline Phase I Environmental Site Assessment (ESA) on potential properties to determine if listed hazardous waste sites may be present on a particular parcel. Affected areas would either be excluded from further consideration, or appropriate corrective action would be taken dependent upon the findings of the baseline Phase I ESA. If appropriate, a supplemental Phase I ESA shall be prepared at the time of the proposed dedication of such properties to demonstrate the suitability of the property to the resource agencies for use as Conservation Lands. Implementation of this integral design feature would reduce the level of impacts to a less than significant level.

Gap Analysis

The Gap Analysis did not address the issue of potential environmental impacts related to Government Code 65962.5 listed hazardous materials sites.

Conclusion

The 1996 NOP/IS and Gap Analysis did not address potential environmental impacts to this resource area. However, the 1997 SEIS/PEIR concluded that the protection afforded by all applicable federal, state, and local regulations would reduce any potential impacts to a less than significant level. As analyzed in this Initial Study, existing programs are in place to complete any remaining site characterization, remediation and ultimate closure on identified EHOF hazardous waste sites pursuant to the CERCLA Covenant Deferral. These programs are designed to ensure that no significant impacts would occur from these activities. Similarly, existing programs are in place to deal with the inadvertent discovery of an unknown waste site in the 2-mile buffer that might be located on Future Conservation Lands. Therefore, such impacts were adequately analyzed in the 1997 SEIS/PEIR, and determined to be at a level of less than significant. Finally, as analyzed in this Initial Study, such impacts were again confirmed to be not significant. Thus, no further analysis is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact

Discussion

1996 NOP/IS

See discussion under Section 4.16(c).

The 1996 NOP/IS did not specifically address potential safety hazards from projects located within an airport land use plan.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address potential safety hazards from projects located within an airport land use plan.

Proposed Project

EHOF

See response to Section 4.12 (e).

Kern County has adopted an Airport Land Use Compatibility Plan (ALUCP) and alternative process to comply with the State Aeronautics Act (California Public Code Section 21670 et seq.). As encroachment of incompatible uses can adversely affect airports, including curtailment of their use, it is imperative that properties be developed with compatible uses and that there be clear guidance and information for affected property owners.

As seen on Figure 4.8b, the EHOF is barely within the Elk Hills – Buttonwillow Airport Land Use Compatibility Map. The following three zones in Table 4.8-1 are depicted on the map specifying the following criteria:

Table 4.8-1
Airport Land Use Compatibility Plan Zones and Definitions

Zone	Location	Impact Elements	Maximum Densities		Required Open Land
			Residential (du/ac)	Other Uses (people/ac)	
A	Runway protection Zone or within Building Restriction Zone and Adjacent to Runway	• High risk • High noise levels	0	10	All Remaining
B1	Approach/Departure Zone and Adjacent to Runway	• Substantial risk – aircraft commonly below 400 ft. AGL or within 1,000 ft. of runway • Substantial noise	0.1	60	30 %
C	Common Traffic Pattern	• Limited risk – aircraft at or below 1,000 ft. AGL • Frequent noise intrusion	15	150	15%

du = Dwelling unit(s)
ac = Acre
AGL = Above ground level

Zone	Additional Criteria		Examples	
	Prohibited Uses	Other Development Conditions	Normally Acceptable Uses	Uses Not Normally Acceptable
A	• All structures except ones with location set by aeronautical function • Assemblages of people • Objects exceeding FAR Part 77 height limits • Hazards to flights	• Dedication of avigation easement	• Aircraft tiedown apron • Pastures, fields, crops, vineyards • Automobile parking	• Heavy poles, signs, large trees, etc.
B1 and B2	• Schools, day care centers, libraries • Hospitals, nursing homes • Highly noise-sensitive uses (e.g. amphitheaters(• Storage of highly flammable materials • Hazards to flight	• Local structures maximum distance from extended runway centerline • Dedication of avigation easement	• Uses in Zone A • Any agricultural use except ones attracting bird flocks • Warehousing, truck terminals • Two-story offices • Single-family homes on an existing lot	• Residential subdivisions • Intensive retail uses • Intensive manufacturing or food processing uses • Offices with more than two stories • Hotels and motels
C	• Schools Hospitals, nursing homes • Hazards to flight	• Dedication of overflight easement for residential uses	• Uses in Zone B • Parks, playgrounds • Most retail uses • Duplexes and medium-density apartments • Two story motels	• Large shopping malls • Theaters, auditoriums • Large sports stadiums • Hi-rise office buildings with more than four stories

Source: Airport Land Use Compatibility Plan, adopted September 1996, Amended June 2003, Amended March 2004

The EHOF (limited to parts of Sections 10R and 12R) barely lies within Zone C. Sections 10R and 12R are part of the EHOF existing Conservation Area. Proposed activities that may occur within the two areas that overlap the Zone C area would not adversely affect the airport or be classified as incompatible uses. Therefore, no impacts are expected to occur as a result of the proposed ITP.

2-Mile Buffer

Refer to the EHOF discussion under Section 4.8(e) above.

The project site is located within two miles of the Elk Hills-Buttonwillow Airport. The airport is located less than a mile north of the EHOF boundary, with the majority of the runway located primarily in Section 2, T.30S., R.23E., M.D.B.&M. inside the 2-mile buffer. The airport is owned by Kern County and is open to the public. This is a low frequency use airport and no conflicts are expected as a result of the proposed ITP. The nature of the Covered Activities under the proposed ITP within the 2-mile buffer would not be incompatible with the Elk Hills – Buttonwillow Airport, and would not adversely affect the use of the airport. Less than significant impacts are expected.

Gap Analysis

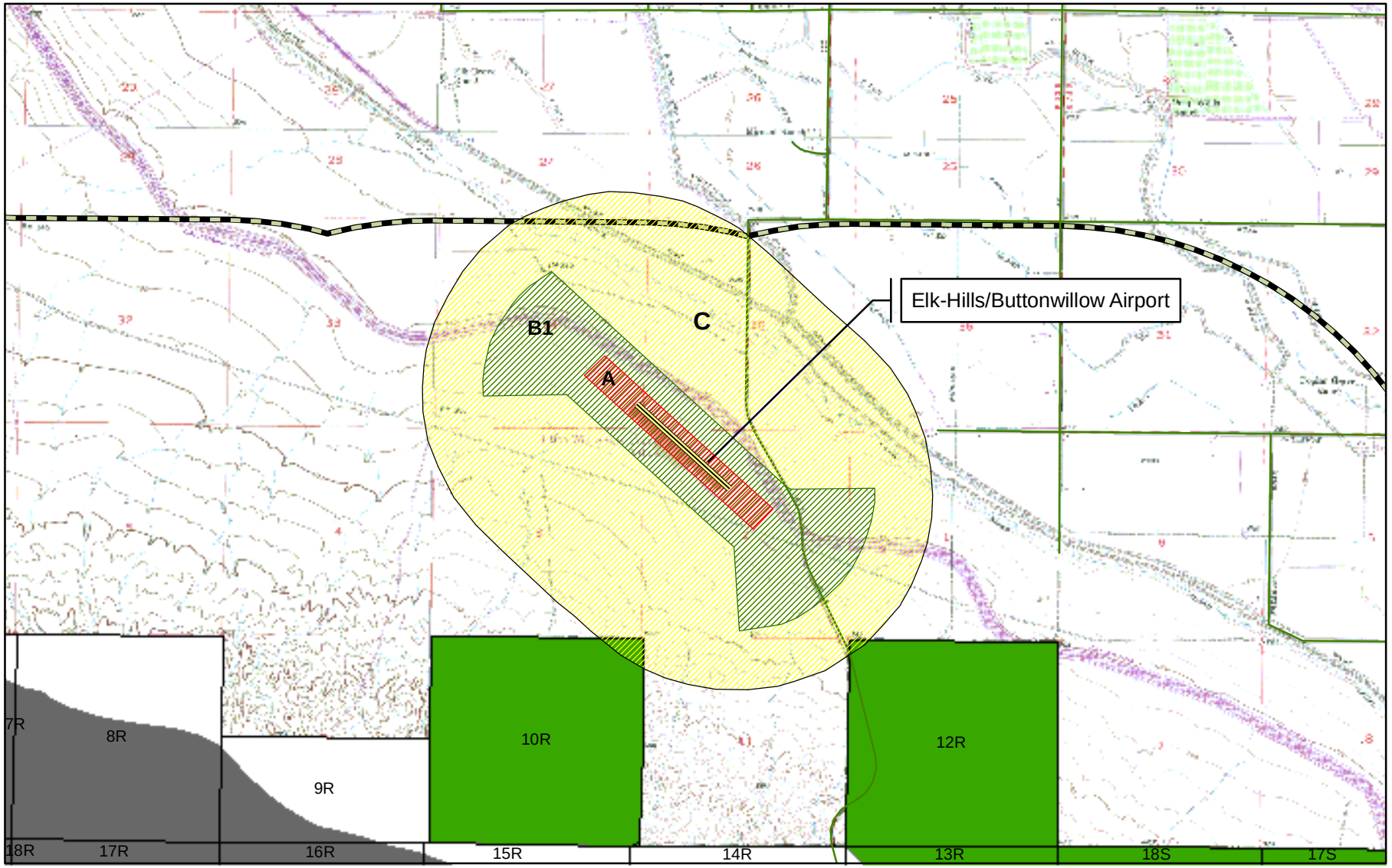
The Gap Analysis did not specifically address potential safety hazards from projects located within an airport land use plan.

Conclusion

The 1996 NOP/IS, 1997 SEIS/PEIR, and Gap Analysis did not specifically address potential safety hazards from projects located within an airport land use plan. However, as analyzed in this Initial Study, the proposed ITP would result in less than significant impacts. Thus, no further analysis is required.

Occidental of Elk Hills

Airport Compatibility Land Use Map



0 0.5 1
Miles
1:45,000

Compatibility Criteria:

A Runway Protection Zone

B1 Approach/Departure Zone and Adjacent to Runway

C Common Traffic Pattern

Airport

2-Mile Buffer

EH Step-Out-Zone

EH Existing Conservation Area

EH High Production Area

Quad Knopf

FIGURE 4.8b

060008

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address potential safety hazards from private airstrips for people residing or working in the project area.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address potential safety hazards from private airstrips for people residing or working in the project area.

Proposed Project

EHOF and the 2-Mile Buffer

The project site is not located within the vicinity of a private airstrip; therefore, no impacts would occur as a result of the proposed ITP. (Kern County Public Use Airports Map Packet, Amended 2004).

Gap Analysis

The Gap Analysis did not specifically address potential safety hazards from private airstrips for people residing or working in the project area.

Conclusion

The 1996 NOP/IS, 1997 SEIS/PEIR, and Gap Analysis did not specifically address potential safety hazards within the vicinity of a private airstrip. However, as analyzed in this Initial Study, the project site is not located within the vicinity of a private airstrip, thus no impacts would occur. No further analysis is required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact with Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS concluded that the Proposed Action, with the selection of the high commercial development case, has the potential to result in commercial practices that are more intensive than the existing condition. The addition of new facilities and infrastructure could result in possible interference with emergency response plans and emergency evacuation plans. This was determined to be a potentially significant impact (NOP/IS p. 6-33 to 6-33).

1997 SEIS/PEIR

The 1997 SEIS/PEIR identified that the change in ownership was not expected to interfere with emergency response or evacuation plans (1997 SEIS/PEIR p. 4.10-1). This expectation was based on the assumption that any private entities which would assume ownership of NPR-1 (EHOF) would be expected to have comprehensive accident prevention programs to minimize the occurrence of such risks and address their consequences. As a result the 1997 SEIS/PEIR concluded that less than significant impacts would occur. However, as explained in the 1997 SEIS/PEIR response in Section 4.8(b) above, a mitigation measure was nevertheless adopted to provide a comparable level of protection as that provided by prior DOE programs that would be replaced under a transfer in ownership.

1997 SEIS/PEIR Mitigation Measure (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 11:** Implement an emergency response plan that complies with applicable laws.

Proposed Project

EHOF and the 2-Mile Buffer

Implementation of the proposed ITP would not alter any of the existing and/or adopted emergency response plans or emergency evacuation plans. The proposed ITP would re-adopt Mitigation Measure 11 of Exhibit B listed above. Note that OEHI has implemented an Emergency Response Plan that complies with applicable laws and company policy, and its continued implementation would reduce impacts to a level of less than significant.

Gap Analysis

The Gap Analysis concluded that there would be no change in future operations under the proposed ITP that could be expected to interfere with emergency response or evacuation plans (Gap Analysis p. 43).

Conclusion

The 1996 NOP/IS concluded that the Proposed Action could result in potentially significant impacts to this resource area. The 1997 SEIS/PEIR adequately evaluated potential impacts resulting from interference with emergency response plans and determined that less than significant impacts would occur with implementation of the mitigation measure. The proposed ITP, as re-evaluated in the Gap Analysis and in this Initial Study, shows that with continued implementation of the mitigation measure listed above, less than significant impacts would occur. However, as the proposed ITP would re-adopt the mitigation measure listed above, such impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact

See the response to Section 4.14(a)(i).

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the Proposed Action would have the potential to introduce facilities and infrastructure into areas of high fire hazard. This was considered to be a potentially significant impact (1996 NOP/IS p. 6-34).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.8 (a) above and Section 4.14 (a)(i) below.

The 1997 SEIS/PEIR did not specifically address if the Proposed Action would expose people or structures to a significant risk of loss, injury or death involving wildland fires. However, the 1997 SEIS/PEIR projected that the Upper Bound Commercial Development Case would not require additional public services (including fire protection) as compared to existing conditions (1997 SEIS/PEIR p. 4.9-8).

Further, the 1997 SEIS/PEIR estimated that 10.3 fires per year would occur as a result of continued operations (1997 SEIS/PEIR p. 4.10-2, 4.10-7).

The 1997 SEIS/PEIR found that less than significant impacts would occur from potential fires at NPR-1 (EHOF). Under private ownership, response and safety capabilities would be established in compliance with all applicable federal, state, and local regulations (1997 SEIS/PEIR p. 4.10-8).

Proposed Project

EHOF and the 2-Mile Buffer

The proposed ITP is a continuation of ongoing oil and gas exploration and development activities. This has the potential to introduce facilities and infrastructure into areas of high fire hazard.

OEHI maintains an emergency response capability to handle smaller fires. However, larger fires require the use of outside resources. In the event of a wildland fire, the Kern County fire stations at Buttonwillow, McKittrick, and Taft would provide initial response fire protection services for the EHOF. The Kern County Fire Department (KCFD) and the City of Taft Fire Department provide additional fire protection services. The KCFD operates 46 year-round stations.

In addition to the rural community of Tupman, the closest urban developments are the communities of Buttonwillow located approximately four miles to the north, Dustin Acres located approximately one mile to the southeast, Valley Acres located approximately three miles to the south along the southern boundary of what was previously NPR-2, Taft located approximately five miles to the southwest, and McKittrick located approximately two miles to the west. The following information is presented to identify the more recent fire history, following the transfer of the EHOF to OEHI, and historical trends while under DOE management.

Table 4.8-2
Occidental of Elk Hills Fires

Year	Number of Fires	Acres	Causes
1998	15	637	• Unknown (4) • Electric (8) • Welding • Mechanical Failure • Arson
1999	12	599	• Electric (5) • Flare (2) • Other (3) • Unknown • Welding
2000	15	1427	• Electric (6) • Unknown (5) • Welding (2) • Flare (2)
2001	3	788	• Welding • Unknown • Other
2002	1	5	• Unknown
2002	Number of Fires	Acres	• Causes
2003	18	0.38	• Unknown (4) • Electric (4) • Welding (7) • Mechanical Failure (3)
2004	11	8	• Unknown (2) • Electric (7) • Welding (2)
2005	24	87	• Unknown (2) • Electric (6) • Welding (7) • Mechanical Failure • Other (3) • Flare (3) • Nature (2)

The EHOF has experienced several large burns over the past 26 years (1979 – 2005). The two most notable being the 4,800-acre wildfire which occurred in 1995 in the northwest portion of the EHOF, and the 1997 Lokern wildfire that originated off of the EHOF, which burned 60,000 acres (approximately 26,500 acres of which occurred on the north flank of the EHOF).

The typical response to these fires consists of extinguishing these fires when detected. The KCFD is the primary responder to fires at the EHOF. KCFD generally uses backfires as a

normal fire fighting tactic. While effective in controlling the spread of fires, backfiring extends the burn area and therefore contributes to the total acreage burned. The EHOF also has a 20-member Emergency Response Team (ERT) and a brush truck capable of hauling 250 gallons of water, with pumping capabilities of 120 gallons per minute at 80 pounds per square inch (psi). Although OEHI's policy requires the KCFD to be notified in case of fire, most small fires are usually extinguished or contained before the arrival of the KCFD.

Based on the foregoing, the proposed ITP would not expose the public or public/private structures outside of the EHOF to significant risks involving wildland fires. Urban areas and private residences do not occur on the EHOF, where the major development exists. The EHOF is a secured, private access facility with the majority of facilities and infrastructure already in place in the HPA. Modifications to or the construction of additional facilities is not expected to be considerable such that significant risks from wildland fires would be created. Adjacent to the EHOF, within the 2-mile buffer, urban areas and residences are intermixed with wildlands. However, Covered Activities that may occur in the 2-mile buffer would not significantly increase the risk of wildland fires.

Within the EHOF, while wildland fires, both small and large, have historically occurred, the risk of loss to employees, contractors, structures and associated infrastructure has been minimal. The risk from wildland fires is expected to continue to remain low. This is the result of adherence to County and OEHI fire safety regulations and policies, OEHI and accepted industry best management practices, a comprehensive emergency response plan, as well as on-site and off-site fire suppression resources being readily available to respond to wildland fires. These fire prevention and suppression measures have been effective in reducing the loss of facilities and associated infrastructure, as well as personal risks due to wildland fires to a less than significant level.

Gap Analysis

Refer to the Gap Analysis discussion in Section 4.8 (a) above.

The Gap Analysis did not evaluate if the proposed ITP would expose people or structures to a significant risk of loss, injury or death involving wildland fires.

However, the Gap Analysis observed that the actual rate of fires experienced at the EHOF following the sale were 9.2 fires per year through 2004, compared to the 1997 SEIS/PEIR estimate of 10.3 fires per year occurring as a result of continued operations (Gap Analysis p. 43). This lower risk is expected to continue under the proposed ITP.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action could result in potentially significant impacts to this resource area. The 1997 SEIS/PEIR did not specifically address if the Proposed Action would expose people or structures to a significant risk of loss, injury or death involving wildland fires. However, the 1997 SEIS/PEIR concluded that less than significant impacts would occur as a result of fires on NPR-1 (EHOF). As evaluated in this Initial Study, although wildland fires have occasionally occurred, the risk of loss to employees, contractors, structures and associated infrastructure has been minimal. The proposed ITP, with continued adherence to best management practices, compliance with a comprehensive emergency response plan and the use of on-site and off-site fire suppression resources would result in less than significant impacts from wildland fires. Thus, no further analysis is required.

4.9 HYDROLOGY AND WATER QUALITY: *WOULD THE PROJECT*:

a) Violate any water quality standards or waste discharge requirements?

f) Otherwise substantially degrade water quality?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS concluded that the Proposed Action would have the potential to result in discharge into surface waters following a major accidental release of contaminants. This was determined to be a potentially significant impact (1996 NOP/IS p. 6-15). The 1996 NOP/IS further noted that the quality of groundwater on NPR-1 (EHOF) is variable and generally poor. Consequently, the 1996 NOP/IS concluded that the Proposed Action could result in a potentially significant impact to groundwater quality (1996 NOP/IS p. 6-17 to 6-18).

1997 SEIS/PEIR

The 1997 SEIS/PEIR identified two important surface water features near NPR-1 (EHOF); the Kern River and the California Aqueduct. NPR-1 (EHOF) itself has limited surface water resources and there are no naturally occurring springs located within its boundaries as there are no sources of continuous natural recharge available (1997 SEIS/PEIR p. 3.4-2 to 3.4-3).

The 1997 SEIS/PEIR noted that surface water quality data for NPR-1 (EHOF) was very limited and that a single surface water sample collected from the northeast flank of Elk Hills reported a total dissolved solids (TDS) of 1,300 mg/l which indicated that the water would be unsuitable for most uses (1997 SEIS/PEIR p. 3.4-4).

Produced water (water produced from the formation along with oil and gas) is one of the more significant waste streams generated in the operation of NPR-1 (EHOF) which could adversely impact water quality (1997 SEIS/PEIR p. 3.2-2). Management of this waste stream is subject to stringent controls established to maintain surface and ground water quality standards, such as the issuance of waste discharge requirements to regulate the surface disposal of this waste stream, or the issuance of Class II Injection Disposal Well permits to regulate the underground disposal of this waste stream. NPR-1 (EHOF) produced water is not discharged into surface water bodies (1997 SEIS/PEIR p. 4.4-3). There are no live streams on or adjacent to NPR-1 (EHOF). Therefore, water quality standards and waste discharge requirements primarily relate to the protection of groundwater quality, since there

are no surface water resources that could be affected. Most produced water from NPR-1 (EHOF) is either:

1) Injected into the Tulare Zone or deeper formations, the majority of which have been designated as exempt aquifers pursuant to the Safe Drinking Water Act, for the purpose of Class II underground injection (meaning that Class II injection can occur without having to 1) protect the Tulare Zone or deeper exempted zones as an underground source of drinking water, and 2) meet the water quality standards associated with this type of groundwater resource); or injected into the 27R air sands (1997 SEIS/PEIR p. 4.4-13, 4.4-18);

2) Reused as a source of waterflood supply for secondary [petroleum] recovery; or reservoir pressure maintenance (1997 SEIS/PEIR p. 4.4-15,16; 4.4-19 to 21);

3) Disposed of in four active surface sumps, in accordance with Waste Discharge Requirements issued by the RWQCB (1997 SEIS/PEIR p. 4.4-15, 4.4-19 to 21).

Further, the information presented in hydrogeologic reports on NPR-1 (EHOF) indicated that the alluvium is isolated from the Tulare Formation, and that potential groundwater quality impacts outside of NPR-1 (EHOF), due to injection of produced water, would be minimal (1997 SEIS/PEIR p. 4.4-15). The 1997 SEIS/PEIR also assumed, unless properly managed, that greater volumes of drilling fluids, use and generation of hazardous materials and wastes could pose a significant threat to surface and groundwater quality as a result of spills (1997 SEIS/PEIR p. 4.4-4, 4.4-5, 4.4-18, 4.4-19).

The 1997 SEIS/PEIR also discussed the development of a Groundwater Management Protection Plan (GMPP) which was completed in 1995. The plan includes monthly source well sampling; monitoring and well design siting; design and monitoring criteria; and methods to be applied in defining an NPR-1 (EHOF) hydrologic regime. As part of this monitoring program, monthly samples of the Tulare Formation water source wells are taken to measure the water quality of the formation downgradient from the produced wastewater disposal well system. The plan recommends active pursuit of alternate wastewater disposal zones, and building new wastewater disposal wells to handle excess volumes. The 1997 SEIS/PEIR further observed that the monitoring of groundwater in the south flank would reduce the potential for off-site impacts, as any water quality decrease below standards can be detected early, and the appropriate remediation measures can be taken promptly.

In summary, the 1997 SEIS/PEIR concluded that the impacts would be less than significant, with the implementation of the following mitigation measures:

1997 SEIS/PEIR Mitigation Measures (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 22:** Implement a groundwater management plan that meets the intent of the relevant elements of the program implemented by DOE taking into account whether or not the underlying groundwater is used a source of drinking water.

- **Mitigation Measure 24:** Filter and recycle produced water (reinject for waterflooding) to the extent feasible.

- **Mitigation Measure 25:** Prohibit the use of chromium additives in drilling fluids.

- **Mitigation Measure 26:** Design hydrostatic test activities for new pipelines to minimize to the extent feasible, the generation of wastewater.

- **Mitigation Measure 28**: Minimize discharges of produced water to surface sumps to the extent feasible.

Proposed Project

EHOF

See responses to Sections 4.8 (b) and 4.9 (b), (c).

As discussed in the previous documents, there are no surface waters or live streams on EHOF. The types of operations and potential impacts to water quality associated with implementation of the proposed ITP are the same as those analyzed in the 1997 SEIS/PEIR.

The proposed ITP would continue to comply with existing Waste Discharge Requirements, applicable DOGGR (Class II Injection Disposal Well permits, and Title 14 CCR) and RWQCB (Title 27 CCR), water quality protection requirements, and industry best management practices. OEHI now produces and disposes of smaller volumes of produced water than the amounts evaluated in the 1997 SEIS/PEIR.

Further, OEHI has identified the areas for useable fresh groundwater, and facility development is restricted to the extent feasible in these groundwater areas. OEHI has continued to implement the GMPP and is evaluating the plan for updating and has reduced the use of production sumps for produced water disposal to the extent possible. The proposed ITP would also re-adopt Mitigation Measures (22, 24, 25, 26 and 28) of Exhibit B listed above.

2-Mile Buffer

Covered Activities within the 2-mile buffer, such as Conservation Lands management and maintenance and limited construction of off-site facilities would not result in any discharges to surface waters or impact any areas of usable groundwater. Consequently, such activities would not violate any water quality standards or waste discharge requirements.

Gap Analysis

The evaluation completed for the Gap Analysis found that the 1997 SEIS/PEIR estimated increase in volumes of hazardous materials and waste were conservative and that such volumes were never realized. The Gap Analysis also found that although the total amount of land areas cleared for construction would be greater under the proposed ITP than what was estimated in the 1997 SEIS/PEIR, the amount per year disturbed would be in the same range as for the Upper Bound Commercial Development Case (Gap Analysis p. 13). The Gap Analysis concluded that with implementation of standard erosion control practices and minimizing the amount of disturbance, this in combination with the areas low rainfall, would reduce potential residual soil erosion impacts to water quality to a level below significant.

The Gap Analysis also compared the expected volumes of drilling fluid waste for the Upper Bound Commercial Development Case with the proposed ITP. The 1997 SEIS/PEIR projected a total production of drilling fluids for the period 1997 to 2034 to be 6.1 MMB. The Gap Analysis concluded that while total cumulative volume estimates may be exceeded, the management and disposal practices for drilling fluid waste would preclude any potential significant environmental impacts to groundwater quality (Gap Analysis p. 14 and 15).

As discussed in the 1997 SEIS/PEIR, four active surface sumps with a total capacity of 875,223 bbls are located within Section 10G of the EHOF:

- Sump 1: 70,313 bbls
- Sump 2: 301,339 bbls
- Sump 3: 235,714 bbls, and
- Sump 4: 267,857 bbls.

Note that even smaller volumes of produced water than those evaluated in the 1997 SEIS/PEIR are currently disposed of in these sumps. The Gap Analysis concluded that the proposed ITP would not be expected to exceed existing sump capacity and noted that the sumps are only used in emergency or upset conditions.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action could result in a potentially significant impact to groundwater quality. The 1997 SEIS/PEIR completed a more extensive evaluation and concluded that with implementation of mitigation measures, compliance with state regulations, and continued implementation of the GMPP, potential impacts would be reduced to less than significant. Such impacts were adequately analyzed in the 1997 SEIS/PEIR. Under the proposed ITP, the types of EHOF operations and their potential impacts on water quality would be the same as those analyzed in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the Proposed Action would have the potential to result in commercial practices that could cause a change in the quantity of the groundwater through direct additions and withdrawals as a result of more intense recovery operations and the continued production of a mature oil field. It was further concluded that the use of new technology to achieve the production levels of the Proposed Action, could result in a change in the quantity of groundwater. This was considered to be a potentially significant impact (1996 NOP/IS p. 6-17).

1997 SEIS/PEIR

NPR-1 (EHOF) has a guaranteed purchase agreement with the West Kern Water District of a minimum of 987,000 gallons of water per day, and a maximum of 1,974,000 gallons per day. This source of supply supports other oil field operations besides injection for enhanced oil recovery, such as the fire water and utility systems, and potable water system. The average purchase (1988 to 1995) has been 1,275,900 gallons per day (1997 SEIS/PEIR p. 4.4-9).

Water is required for normal operations at NPR-1 (EHOF). Waterflooding is the operation that would require the largest volume of water. Other activities such as gas processing,

cogeneration and well remediation would also require process water but in significantly smaller amounts (1997 SEIS/PEIR p. 4.4-17).

As discussed in the 1997 SEIS/PEIR, the Upper Bound Commercial Development Case would experience a continuous decrease in annual water requirements for the NPR-1 (EHOF) water injection programs after 2007 (1997 SEIS/PEIR p. 4.4-8). Water for the injection programs for enhanced oil recovery comes from produced water which is treated and reinjected, as well as groundwater which is extracted from wells developed along the southern boundary of NPR-1 (EHOF) which is not suitable for potable water supplies (1997 SEIS/PEIR p. 4.4-9).

Most produced water is either injected for disposal or reused for enhanced oil recovery and reservoir pressure maintenance. This produced water would continue to be injected into the same zone from which most of the produced water is extracted, thereby compensating water withdrawals from the producing formation (1997 SEIS/PEIR p. 4.4-9). Additional water required for enhanced oil recovery above that provided from produced water would be obtained from the southern boundary groundwater wells. Static water levels at these wells have shown no significant change in levels from continued extraction (1997 SEIS/PEIR p. 3.4-12). Produced water not required for enhanced oil recovery would be injected for disposal.

The maximum annual water requirement for the injection program (comprised of voidage replacement, reservoir pressure maintenance, enhanced oil recovery and disposal volumes) in the Upper Bound Commercial Development Case was projected to be 120 MMB in 2007 (1997 SEIS/PEIR p. 4.4-18). The cumulative water demand predicted for the period 1997 to 2034 was approximately 2,082 MMB (1997 SEIS/PEIR p. 4.4-17).

Overall the 1997 SEIS/PEIR concluded that, although the Upper Bound Commercial Development Case would result in a need for larger volumes of fresh water, a larger number of wells, larger volumes of produced water and fluid injection, as well as a higher risk of spills, the specific conditions at NPR-1 (EHOF) along with the implementation of specified mitigation measures (listed below) and standard environmental protection practices, and compliance with existing regulations, would reduce potential impacts to a less than significant level (1997 SEIS/PEIR p. 4.4-20).

1997 SEIS/PEIR Mitigation Measures (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 21:** Comply with the requirements of water purchase agreements with the West Kern Water District or similar water provider.

- **Mitigation Measure 22:** Implement a groundwater management plan that meets the intent of the relevant elements of the program implemented by DOE taking into account whether or not the underlying groundwater is used as a source of drinking water.

- **Mitigation Measure 23:** Monitor static groundwater levels annually at remaining groundwater wells at the South Flank of NPR-1 and, if necessary, evaluate feasible alternative produced water disposal options.

Proposed Project

EHOF

See the response to Section 4.9(a).

Over time, as an oil field matures, continued hydrocarbon production results in producing proportionally larger quantities of wastewater, or "produced water". This is commonly referred to in the industry as an increasing water cut that is experienced over time with the hydrocarbon production streams that are withdrawn from the reservoirs. The produced water is typically cycled back into the producing reservoirs to manage fluid withdrawal voidage volumes, maintain reservoir pressures for primary recovery, and is also utilized in enhanced oil recovery operations. Waterflooding is a form of secondary oil recovery which is achieved by injecting water into injection wells that are perforated at or near oil-producing intervals. The water sweeps through the reservoir in a pattern, or front, and displaces the oil towards producing wells. Waterflooding can recover significant incremental amounts of oil that otherwise would be left in place.

In 2003, the volume of produced water production was 83.4 MMB. In 2006 the volume of produced water production was 106 MMB. The average daily injection rate for waterflood (enhanced oil recovery) operations for 2006 was 125,000 barrels per day which equates to an annual level of 46 MMB. The remaining volume of produced water (approximately 60 MMB) was injected for disposal.

Under the proposed ITP, OEHI would continue to purchase between a minimum of 987,000 to a maximum of 1,974,900 gallons of potable water per day. In 2004, the average amount purchased was 1,488,000 gallons per day. The monthly average purchase during 2006 was 1,512,000 gallons per day for the utility/fire water system and 126,000 gallons per day for the potable water system (Total = 1,638,000 gallons per day). This trend is expected to continue under the proposed ITP and remain within the limits assessed in the 1997 SEIS/PEIR.

The proposed ITP would re-adopt Mitigation Measures 21, 22 and 23 of Exhibit B listed above.

2-Mile Buffer

The nature of Covered Activities within the 2-mile buffer, such as Conservation Lands management and maintenance and limited construction of off-site facilities does not require the use of any substantial amounts of groundwater and would therefore not substantially deplete groundwater supplies or substantially interfere with groundwater recharge.

Gap Analysis

At the current rate, the cumulative predicted water demand of approximately 2,082 MMB could be exceeded by 2024, but production operations are not expected to exceed the maximum annual amount of 120 MMB (Gap Analysis p. 13). However, injection of produced water volumes for disposal purposes at cumulative levels greater than anticipated in the 1997 SEIS/PEIR over the long term is not expected to result in any significant impacts. This is due to stringent environmental controls, and the majority of produced water is treated and re-injected back into the reservoir it was taken from for secondary recovery waterflood where it compensates for the withdrawal.

As discussed under the Proposed Project directly above, potable water demand increased with the increase in production activities at EHOF, compared to that experienced under government operations. However, as production has peaked and is on the decline at EHOF, and based on the current water demand, long-term usage under the proposed ITP is not expected to exceed the maximum potable water entitlement amount (Gap Analysis p. 14).

Conclusion

Both the 1996 NOP/IS and the 1997 SEIS/PEIR determined that the Proposed Action could result in potentially significant impacts to groundwater supplies. However, the 1997 SEIS/PEIR concluded that compliance with existing regulations and standard environmental protection practices, along with mitigation measures could reduce those potential impacts to less than significant. Such impacts were adequately analyzed in the 1997 SEIS/PEIR. Under the proposed ITP, the types of EHOF operations and their potential impacts on groundwater supplies would be the same as, and within the ranges analyzed in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the Proposed Action would not change the currents, course, or direction of water movements in any water body. No impact was identified (1996 NOP/IS p. 6-15).

1997 SEIS/PEIR

NPR-1 (EHOF) is situated within the boundaries of the Tulare Lake Basin, which is a closed, hydrologic system. Surface and groundwater flows within the basin converge toward the basin's central valley floor. Two important surface water features near NPR-1 (EHOF) are the Kern River and the California Aqueduct. The Kern River is the southernmost of the major streams that rises in the Sierra Nevada and flows into the San Joaquin Valley. The California Aqueduct, a major conduit of freshwater for Los Angeles and southern California, borders NPR-1 (EHOF) to the north, east and south, and is located within NPR-1 (EHOF) boundaries in Sections 12R, 17S, 22S, 23S, 24S and 25S (1997 SEIS/PEIR p. 3.4-3) .

NPR-1 (EHOF) has relatively limited surface water resources and the terrain is characterized by numerous, rounded divides and smooth slopes. A drainage divide follows the crest of the NPR-1 (EHOF), causing runoff to flow generally to the north and south. There are no naturally occurring springs located within the boundaries of the NPR-1 (EHOF) as there are no sources of continuous natural recharge available (1997 SEIS/PEIR p. 3.4-3).

The primary drainage channels do not merge into an integrated network. The natural course of some of the channels in the northern flank is interrupted by the California Aqueduct; many terminate naturally due to infiltration, and others terminate in gully plugs. Drainage channels in the central portion of the southern flank join Buena Vista Creek in Buena Vista Valley. Watersheds draining the western part of the NPR-1 (EHOF) convey runoff in the direction of McKittrick Valley (1997 SEIS/PEIR p. 3.4-3).

The absorption rates, and hence the amount of surface runoff, may be affected by the construction of large new impervious areas, such as roads, parking lots, buildings, equipment storage and portions of well pads. Compacted areas of well pads may also influence infiltration and runoff rates. However, total average annual rainfall in the region is only 5.72 inches, 90 percent of which falls during the months of October through April. Monthly precipitation ranges from 0.01 inches in July to 1.07 inches in February. As a result, water is rarely observed in streams at NPR-1 (EHOF) and, except for a few days each year, stream channels draining the flanks of the hills do not carry natural runoff (1997 SEIS/PEIR p. 4.4-2).

The potential for impacts to drainage patterns would be minimized with good construction practices. Careful consideration of drainage patterns in the design of pipelines would

minimize any negative effects (1997 SEIS/PEIR p. 4.4-3). In summary, the 1997 SEIS/PEIR concluded that the impacts would be less than significant, with the implementation of the following mitigation measures:

1997 SEIS/PEIR Mitigation Measures (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 4:** Minimize disturbance of natural drainage ways during construction to the extent feasible to mitigate the potential for erosion.

- **Mitigation Measure 15:** Restore the topography in disturbed areas to natural or similar contours after new construction to the extent feasible.

- **Mitigation Measure 16:** Reclaim drilling sumps to be abandoned in the future to restore natural or similar drainage patterns to the extent feasible.

Proposed Project

EHOF

See the response to Section 4.6(b).

The proposed ITP would, as discussed in Section 4.6(b), re-adopt mitigation measures that would minimize disturbance of natural drainage ways during construction and any disturbed slopes would be re-contoured and stabilized or revegetated after construction. The proposed ITP would also re-adopt Mitigation Measures 4, 15, and 16 of Exhibit B listed above.

In combination with Mitigation Measure 16 listed above, as a best management practice, OEHI would inspect all drilling sumps at abandonment to insure that restoration is complete to the extent feasible.

2-Mile Buffer

The nature of Covered Activities within the 2-mile buffer would not result in alteration of the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation.

Gap Analysis

The Gap Analysis did not specifically address alteration of existing drainage ways leading to erosion control impacts. However, the Gap Analysis did conclude that, as stated in the 1997

SEIS/PEIR, soil erosion impacts as a result of the proposed ITP would also be localized and short term if erosion control and environmental restoration measures are implemented (Gap Analysis p. 6).

Conclusion

The 1997 SEIS/PEIR concluded that the Proposed Action would result in less than significant impacts with implementation of mitigation measures. Potential impacts were adequately analyzed in the 1997 SEIS/PEIR. Under the proposed ITP, the types of EHOF operations and their potential impacts on drainage patterns and drainage features would be the same as in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the runoff from the NPR-1 (EHOF) site drains north into elongated channels that individually terminate on the valley floor. Where the California Aqueduct interrupts the natural course of some of the channels, the flows are redirected. The runoff to the south drains similarly, with the central channels joining Buena Vista Creek, which drains southeast to the Buena Vista Lake. Due to the arid conditions of the area, only a small amount of surface runoff leaves the NPR-1 (EHOF) site. The 1996 NOP/IS concluded that the Proposed Action would not change the current, course, or direction of water movements in any water body. No impact was identified (1996 NOP/IS p. 6-15).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.9 (a) and (c) above. Overall, the 1997 SEIS/PEIR concluded that with good construction practices and with careful consideration of drainage pattern in the design of pipelines, any negative effects would be minimized (1997 SEIS/PEIR p. 4.4-3).

Proposed Project

EHOF and 2-Mile Buffer

See response to Section 4.9(c). Further, the proposed ITP would not result in a significant increase in the rate and amount of surface runoff given the arid climate and because significant changes to topography are not expected.

Gap Analysis

The Gap Analysis did not address the alteration of drainage pattern of the project site.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would not impact the existing drainage pattern or substantially increase the amount of surface runoff. Further, any potential impacts were adequately analyzed in the 1997 SEIS/PEIR, which concluded that less than significant impacts would occur with careful consideration of the existing drainage pattern. No substantial changes in circumstances and no new information of substantial importance exist regarding the proposed ITP, thus no further evaluation is required.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.9 (d) above.

The 1996 NOP/IS did not specifically address if the Proposed Action would produce runoff water in excess of the capacity of existing or planned stormwater drainage systems. However, the 1996 NOP/IS concluded that due to the arid conditions of the area, only a small amount of surface runoff leaves the NPR-1 (EHOF) site (1996 NOP/IS p. 6-15). No impact was identified.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address potential impacts occurring as a result of the Proposed Action contributing runoff water which could exceed the capacity of existing or planned stormwater drainage systems. However, it was discussed that even with the larger area to be permanently disturbed by new wells and additional facilities in the period 1997 to

2034 for the Upper Bound Commercial Development Case, the very low rainfall levels and previously discussed mitigation measures (MMs 4, 15, 16) would reduce the magnitude of the potential impacts in the amount of surface runoff to levels below significance in producing areas of NPR-1 (EHOF) (1997 SEIS/PEIR p. 4.4-5).

Proposed Project

EHOF

See response to Section 4.9 (c) and (d). There are no existing or planned stormwater drainage systems on EHOF. The limited amount of runoff that would occur under the proposed ITP would not require the installation of stormwater drainage systems on EHOF.

2-Mile Buffer

There are no existing or planned stormwater drainage systems in the 2-mile buffer which could be affected by Covered Activities. The benign nature of Covered Activities within the 2-mile buffer such as Conservation Lands management and maintenance of off-site facilities would not result in significant impacts to runoff water or provide substantial additional sources of polluted runoff. Other Covered Activities such as limited construction of new linear ROWs will generally be confined to existing ROWs and would therefore not create substantial sources of polluted runoff.

Gap Analysis

The Gap Analysis did not specifically address impacts related to the contribution of runoff water from the proposed ITP.

Conclusion

Both the 1996 NOP/IS and the 1997 SEIS/PEIR did not directly evaluate if the Proposed Action would exceed the capacity of existing or planned stormwater drainage systems, but determined that only limited amounts of runoff would occur. Under the proposed ITP, the types of EHOF operations and their potential impacts on runoff would be the same as that analyzed in the 1997 SEIS/PEIR. Further, based on the information provided above for the proposed ITP, there are no existing or planned stormwater drainage systems within the EHOF or the 2-mile buffer. Such impacts are less than significant impacts with mitigation. However, as the proposed ITP would re-adopt the mitigation measures listed above, such impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

f) Otherwise substantially degrade water quality?

This question is evaluated together with Section 4.9 (a) above.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the Federal Emergency Management Agency (FEMA) has not analyzed the NPR-1 (EHOF) site to determine the flood potential. FEMA has not designated a flood boundary or prepared floodway maps that include zone designations for the NPR-1 (EHOF) site (1996 NOP/IS p. 6-14). Therefore, the 1996 NOP/IS concluded that due to the unavailability of data, this could be a potentially significant impact.

1997 SEIS/PEIR

As the FEMA had not analyzed the NPR-1 (EHOF) site to determine its flood potential, the Corps of Engineers was contracted to perform a floodplain study of NPR-1 (EHOF) to comply with DOE Orders. This study, completed in November 1993, delineates the 100-year floodplain boundaries on U.S. Geological Survey quadrangle (7.5 minute) maps (Army COE 1993). These maps show that the 100-year floodplain boundaries on NPR-1 (EHOF) are confined to isolated areas immediately adjacent to a few drainage channels. For example, on the northern flank of NPR-1 (EHOF) 100-year floodplains exist along the banks of North Elk Hills Tributaries No. 1 through 11 (Figure 4.9). In every instance, the floodplain boundaries follow the drainage channel and are, with only four exceptions, approximately 100 feet wide. The exceptions are the very northern stretches of North Elk Hills Tributaries No. 6, 7, 10 and 11, where the floodplain boundaries fan out to widths ranging from 440 to 1,600 feet. Similarly, along the southern flank of NPR-1 (EHOF), narrow floodplains follow the channels of Buena Vista Creek Tributary No. 2 as well as South Elk Hills Tributaries No. 1,2, 2-A, 3, 3-A, 4 and 5. The 100-year floodplain of Buena Vista Creek, which is approximately 1,000 feet wide, cuts across the extreme southwestern tip of the NPR-1 (EHOF) (1997 SEIS/PEIR p. 3.4-3, 3.4-4).

Within the drainage basin on NPR-2 (now managed by BLM), which comprises a portion of the 2-mile buffer south of EHOF, several areas have been identified that potentially would be inundated during a 100-year flood. About 1,250 acres, representing approximately 12 percent of NPR-2 Lands, (BLM), were estimated to be part of a 100-year floodplain (DOE EA 1994). The 100-year floodplains are mapped on nine of the 15 Sections within NPR-2 (BLM) (8B, 18B, 34B, 32G, and 18H, covering a majority of these sections). The remaining six

Sections within NPR-2 (BLM) (22B, 26B, 30G, 4D, 14D and 12D) do not have 100-year floodplains (1997 SEIS/PEIR p. 3.4-4).

The 1997 SEIS/PEIR concluded that as there were not expected to be any floodplain impacts, no effects on lives or property were expected to occur (1997 SEIS/PEIR p. 4.4-5).

Proposed Project

EHOF and the 2-Mile Buffer

See response to Section 4.4 (c) above.

The proposed ITP does not involve housing.

Gap Analysis

The Gap Analysis did not specifically address potential impacts related to placing housing within a 100-year flood hazard area.

Conclusion

Based on the absence of data, the 1996 NOP/IS concluded that the Proposed Action could result in a potentially significant impact. With the additional information provided by the study completed by the Corps of Engineers, the 1997 SEIS/PEIR concluded that the Proposed Action would result in less than significant impacts. Potential impacts were adequately analyzed in the 1997 SEIS/PEIR. However, as discussed above, the proposed ITP does not include housing; therefore, no impacts would occur and no further analysis is required.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Less Than Significant Impact With Mitigation Incorporated

See response to Section 4.9 (g) above.

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.9 (g) above. Potential impacts related to placing structures within a 100-year flood hazard area could not be evaluated due to the absence of a FEMA floodplain analysis (1996 NOP/IS p. 6-14).

1997 SEIS/PEIR

Direct impacts to floodplains on NPR-1 (EHOF) would occur only if new well pads or new structures are constructed either within or very near existing drainage channels, which fall within the boundaries of 100-year floodplains. The 1997 SEIS/PEIR concluded that new construction in such areas would be unlikely and would be minimized by careful siting of new wells and structures (1997 SEIS/PEIR p. 4.4-3). The 1997 SEIS/PEIR concluded that the impacts would be less than significant, with the implementation of the following mitigation measure:

1997 SEIS/PEIR Mitigation Measure (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 4:** Minimize disturbance of natural drainage ways during construction to the extent feasible to mitigate the potential for erosion.

Proposed Project

EHOF and the 2-Mile Buffer

As was evaluated in the 1997 SEIS/PEIR, the proposed ITP would minimize the placement of new construction within the boundaries of a 100-year floodplain. As explained in Section 4.9 (g) above, the 100-year floodplain boundaries on EHOF are confined to isolated areas immediately adjacent to a few drainage channels. Consequently, any direct impacts are unlikely, as the majority of the oil and gas development and related activities have historically occurred within the HPA and the vast majority of new surface disturbance and facilities associated with the proposed ITP would also be located in the HPA.

The proposed ITP would re-adopt Mitigation Measure 4 of Exhibit B listed above.

The nature of Covered Activities within the 2-mile buffer, such as management of Conservation Lands and maintenance and limited construction of off-site facilities would not impede or redirect flood flow.

Gap Analysis

The Gap Analysis showed no significant difference between the Upper Bound Commercial Development Case and the proposed ITP. It was determined that any potential impacts of the proposed ITP would be less than significant as the majority of disturbance would occur in the upland HPA (Gap Analysis p. 16).

Conclusion

The 1997 SEIS/PEIR concluded that there would be no direct, indirect, long-term or short-term impacts to floodplains. Such impacts were adequately analyzed in the 1997 SEIS/PEIR, which concluded that potential impacts would be less than significant with mitigation. Under the proposed ITP, the types of EHOF operations and their potential impacts on flood flows would be the same as analyzed in the 1997 SEIS/PEIR. However, as the proposed ITP would re-adopt the mitigation measure listed above, such impacts will be addressed in a focused manner, but not revaluated in detail in the subsequent joint CEQA/NEPA document.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address potential impacts related to the failure of a levee or a dam. However, the 1996 NOP/IS discussed a 1965 U.S. Army Corps of Engineers evaluation of potential flood conditions in several drainages intersected by the California Aqueduct in western Kern County. The evaluation determined that there are two types of floods which produce damaging flows: rain floods resulting from general winter storms, and floods resulting from local thunderstorms occurring during summer or early fall (1996 NOP/IS p. 6-14). However, due to the infrequency of major runoff-producing storms and the limited ability of the surface water system to transmit water and materials any distance, no exposure of people or property was anticipated.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address any potential impacts occurring as a result of the failure of a levee or a dam. However, as it was concluded that there would be no floodplain impacts; there would be no effects on lives or property (1997 SEIS/PEIR p. 4.4-5).

Proposed Project

EHOF and the 2-Mile Buffer

There are no State Division of Dam structures, or levees, located within the project vicinity that would affect the project area.

Gap Analysis

The Gap Analysis did not specifically evaluate potential impacts occurring as a result of the failure of a levee or a dam.

Conclusion

Although impacts were not specifically addressed in the 1997 SEIS/PEIR, it was determined that there would be no impacts to lives or property occurring as a result of floodplain impacts. As evaluated in this Initial Study, the proposed ITP project area is not located near any State Division of Dam structures or levees. Therefore, no impacts would occur as a result of the proposed ITP, and no further analysis is required.

j) Inundation by seiche, tsunami, or mudflow?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS stated that the NPR-1 (EHOF) site is not within the range of the coast or a body of water which could produce a seiche or a tsunami. Therefore, the 1996 NOP/IS concluded that there would be no impacts as a result of a seiche or tsunami (1996 NOP/IS p. 6-10).

Further, the 1996 NOP/IS concluded that as there were no existing data on the potential for mudflows to occur, this was considered to be a potentially significant impact (1996 NOP/IS p. 6-10).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion in Section 4.6 (a) (iv). It was concluded that as the total annual precipitation is about 5 inches, the potential for mudflows would be low (1997 SEIS/PEIR p. 4.1-3).

Proposed Project

EHOF and the 2-Mile Buffer

See response to Section 4.6 (a)iv. There is no potential for inundation by seiche or tsunami due to the lack of a significant water body near the project. Further, no evidence of past mudflows has been observed at the project area or vicinity.

Gap Analysis

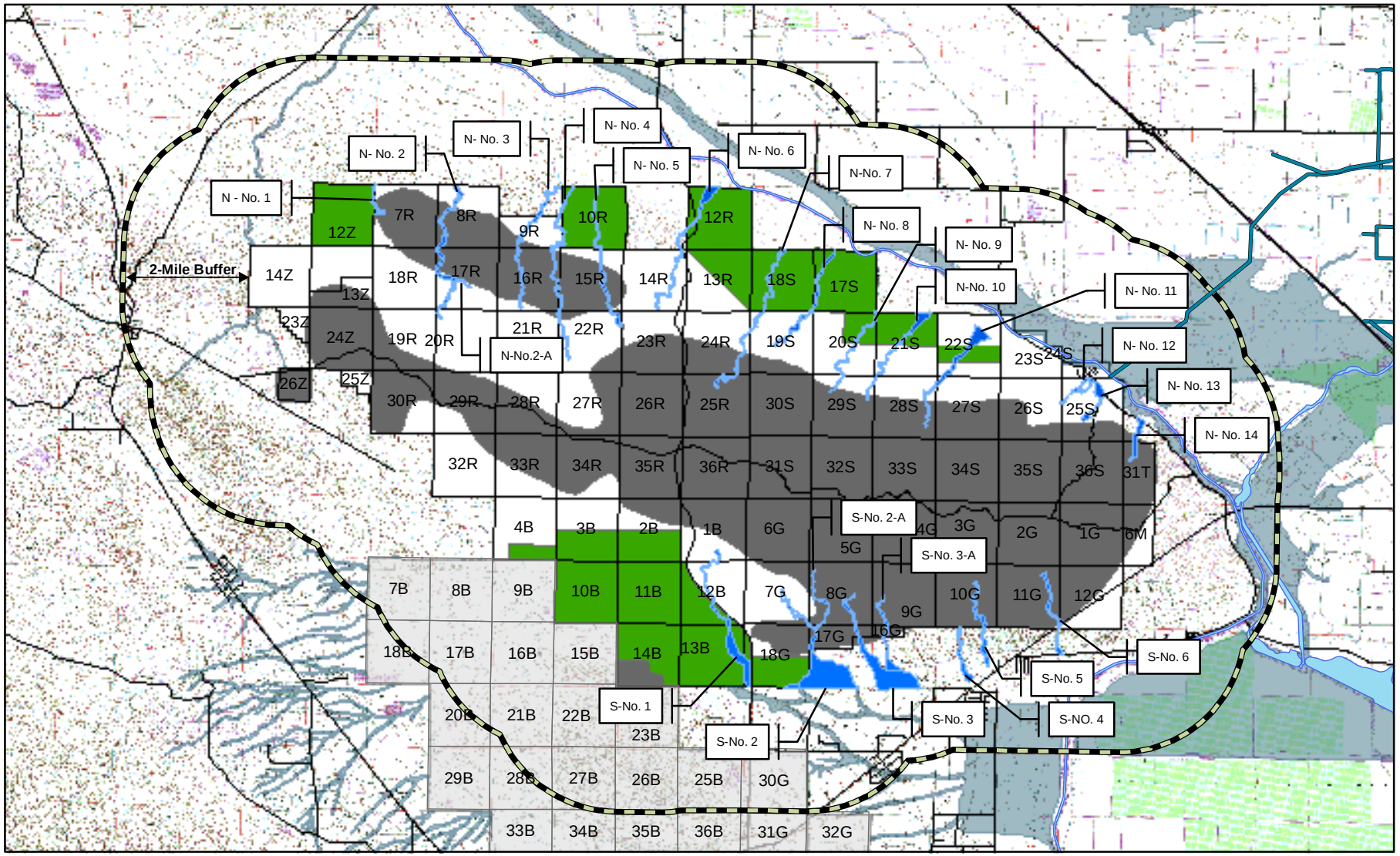
The Gap Analysis did not specifically evaluate potential impacts related to the inundation by seiche, tsunami, or mudflow.

Conclusion

The 1996 NOP/IS concluded that there would be no impacts as a result of a seiche or tsunami. Further, the 1997 SEIS/PEIR concluded that the potential for mudflows was low. The potential for impacts were adequately analyzed in the previous documents. There have been no changes in conditions and no new significant impact has been identified for the proposed ITP, thus no further evaluation is required.

Occidental of Elk Hills

Floodplain Map



0 8,000 16,000
Feet
1:150,000

100- Year Flooplain | Tributaries | BLM (NPR-2) | 2-Mile Buffer

Quad Knopf

FIGURE 4.9

060008

4.10 LAND USE AND PLANNING: *WOULD THE PROJECT*:

a) Physically divide an established community?

No Impact

Refer to the background land use discussions in Section 4.2.

Discussion

1996 NOP/IS

As discussed in the 1996 NOP/IS, the Proposed Action (at that time) would not change the zoning for the NPR-1 (EHOF) site, as the then present zoning accommodated mineral resource extraction as a permitted use (NOP/IS p. 6-2 to 6-4). The 1996 NOP/IS stated, "The [P]roposed [A]ction will intensify the existing land uses on the NPR-1 [EHOF] site. This will not alter the physical arrangement of the surrounding communities in the vicinity of the NPR-1 [EHOF] site." (NOP/IS p. 6-6). Further an integral part of the Proposed Action was the approval of a General Plan Amendment from Map Code 1.1 Nonjurisdictional Land (State or Federal Land) to Map Code 8.4 Resource (Mineral and Petroleum) for the federally-owned portions of NPR-1 (EHOF). The approval of the Proposed Action would amend the Kern County General Plan, eliminating any inconsistency with the General Plan designation for the NPR-1 (EHOF) site (NOP/IS p. 6-2, 6-3). Moreover, the 1996 NOP/IS concluded that the Proposed Action would not result in conflicts with the Kern County General Plan designation and zoning designations; conflict with the environmental goals or policies of the Kern County General Plan; incompatibility with existing land uses in the vicinity of EHOF; changes to status of agricultural resources of operations; or disrupt or divide the physical arrangement of the surrounding communities. No impacts were identified in the Initial Study (NOP/IS p. 6-6).

1997 SEIS/PEIR

The 1997 SEIS/PEIR concluded land use impacts from continued use of NPR-1 (EHOF) for petroleum development would be less than significant because the Proposed Action does not conflict with adopted environmental plans and goals of the community or disrupt or divide the physical arrangement of an established community (1997 SEIS/PEIR p. 4.7-3).

Proposed Project

EHOF and the 2-Mile Buffer

Refer to the discussion and graphics under Section 4.2 (b).

The Kern County General Plan land use designations for the EHOF are Mineral and Petroleum (Map Code 8.4) and Extensive Agriculture (Map Code 8.3) (Figure 4.2b and Figure 4.2b-1). The EHOF is currently zoned as A (Exclusive Agriculture), and A-1 (Limited Agriculture) (Figure 4.2c and Figure 4.2c-1). The majority of the land use designations within the 2-mile buffer are classified as various Resource designations (Map Code 8x) (Figure 4.2b). The majority of the land within the 2-mile buffer is zoned as A (Exclusive Agriculture) and A-1 (Limited Agriculture) (Figure 4.2d). As seen on Figure 4.2c-1, the 2-mile buffer also includes a Mineral Resource Zone (MRZ) in the Buena Vista Valley. The Kern County General Plan land use designations within the MRZ includes 1.1 (State and Federal Land), 8.4 (Mineral and Petroleum) and 3.4 (Solid Waste Disposal Facilities). The 3.4 land use designation within the 2-mile buffer is the Taft Sanitary Landfill which is located in the Northeast ¼, Section 25, T31S, R23E.

Much of the area surrounding the EHOF consists of agricultural land and open space, with oil extraction occurring as a compatible land use. Intensively irrigated agriculture occurs to the north and east of the project site near the California Aqueduct. Numerous canals, ditches, drains and wells serve the farms in this area. The Bureau of Land Management's land holdings in the area are leased for grazing. Cattle and sheep are grazed to the south and west of the EHOF on lands that are not irrigated for crop production. In addition, numerous oil extraction facilities coexist with these agricultural activities.

Implementation of the proposed ITP would result in a continuation of existing land uses, both on the EHOF and within the 2-mile buffer; and therefore, would not divide an established community or result in any zoning conflicts that could create significant impacts to this resource category.

Gap Analysis

The Gap Analysis did not specifically address zoning conflicts, such as physically dividing an established community; however, the Gap Analysis concluded that the proposed ITP would not result in any significant new impacts to land use not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 39). No changed circumstances or significant new information exists that could result in significant environmental impacts to this resource category.

Conclusion

The 1996 NOP/IS concluded that operations at the EHOF would result in no impact as a result of a conflict with existing zoning to the physical arrangement of an established community. The 1997 SEIS/PEIR concluded that land use impacts (including impacts to an existing community) would be less than significant. Implementation of the proposed ITP would merely constitute a continuation of the land use analyzed in the 1997 SEIS/PEIR. The impacts were adequately analyzed in the 1997SEIS/PEIR, and no new impact has been identified, thus no further analysis is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact

Refer to the discussions under Section 4.2(b) and Section 4.10 (a) above.

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.10 (a) above. Furthermore, the 1996 NOP/IS concluded that, upon approval of the Proposed Action, there would be no conflict with general plan designations or zoning for the EHOF site (NOP/IS p. 6-3).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.10 (a) above.

Proposed Project

EHOF and the 2-Mile Buffer

Refer to the discussions under Section 4.2(b), Section 4.10 (a) and Section 4.11. Furthermore, there are no designated MRZs within the EHOF identified in the Kern County General Plan. There is a designated MRZ within the 2-mile buffer; however, the MRZ area would be excluded from consideration for Future Conservation Lands. There would be no impacts to land use and/or this MRZ as a result of the proposed ITP.

Gap Analysis

Refer to the Gap Analysis discussion under Section 4.10 (a) above.

Conclusion

Refer to the discussion in Section 4.10(a) above. The 1997 SEIS/PEIR concluded land use impacts would be less than significant because the Proposed Action does not conflict with adopted environmental plans and goals of the community or disrupt or divide the physical arrangement of an established community (1997 SEIS/PEIR p. 4.7-3). Based on the discussion above, implementation of the proposed ITP would not change or conflict with existing zoning or general plan designations. The impacts were adequately analyzed in the 1997SEIS/PEIR, and no new impact has been identified, thus no further analysis is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less Than Significant Impact

Refer to discussion under Section 4.4 (f).

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address conflicts with HCPs or NCCPs. However, the 1996 NOP/IS concluded that the Proposed Action would not result in a conflict with the environmental goals or policies of the Kern County General Plan (NOP/IS p. 6-6). Therefore, no impact was identified.

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.4 (f). The 1997 SEIS/PEIR did not identify any conflict with the provisions of any HCP or NCCP or any other such conservation plan. Therefore, no impact was identified.

Proposed Project

EHOF and the 2-Mile Buffer

There are no applicable HCPs or NCCPs in place or in effect for the Project area. However, three HCPs or NCCPs are now in effect which cover lands located adjacent to the EHOF and the 2-mile buffer, including the Kern Water Bank HCP/NCCP, Kern County Waste Management Department's HCP, and the Plains Exploration and Production Company HCP. In addition, several additional HCP's are being prepared or amended which cover other lands in the vicinity of the EHOF, including the California Department of Water Resources (DWR) - San Joaquin Field Division HCP, Chevron's Lokern HCP, the Kern County Valley Floor HCP, and the Kern County Waste Management Department's HCP. The proposed ITP would not conflict with any of these existing or proposed HCPs/NCCPs. Indeed, implementation of the proposed ITP would result in an increase of habitat under protection and establish large, contiguous blocks of habitat lands; and thus would be complementary to such HCPs/NCCPs by linking the proposed ITP's Conservation Lands to lands being conserved through these other HCPs/NCCPs, for the overall benefit of species conservation and recovery. Hence, the implementation of the proposed ITP could help restore historic wildlife linkages and connectivity areas. As a result, less than significant impacts to this resource category would occur.

Gap Analysis

The 1997 SEIS/PEIR did not include an evaluation of a potential impact occurring as a result of a conflict with an HCP or NCCP, therefore no comparison of impacts could be identified in the Gap Analysis.

Conclusion

The 1997 SEIS/PEIR did not identify any impacts that would be created as a result of a conflict with an HCP or NCCP. Since the time of the 1997 SEIS/PEIR, several HCPs/NCCPs have been established, and others are in various states of preparation, for lands in the vicinity of the EHOF. The proposed ITP would not conflict with these HCPs/NCCPs, but instead would be structured to complement and link up to surrounding HCPs/NCCPs to facilitate the continued protection, conservation and movement of special-status species and their habitats. Such impacts were not adequately analyzed in the 1997 SEIS/PEIR, but such impacts as evaluated in this Initial Study are not significant, and thus no further analysis is required. Consequently, impacts to any HCP or NCCP are considered less than significant; and thus no further analysis is required.

4.11 MINERAL RESOURCES: *WOULD THE PROJECT*:

a) ***Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

No Impact

Refer to discussion and graphics under Section 4.2.

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that the Proposed Action would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State (NOP/IS p. 6-30). Due to this, the 1996 NOP/IS concluded that there would be no impact to this resource area (NOP/IS p. 6-30).

1997 SEIS/PEIR

The 1997 SEIS/PEIR stated that all oil and gas production activities are regulated by the Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) under the authority of the California Public Resource Code and Chapter 4 of Title 14 of the California Code of Regulations. These requirements include financial responsibility, well activity approval and well closure approval (1997 SEIS/PEIR p. 3.11-1).

As indicated in the 1997 SEIS/PEIR, "The oil produced at the EHOF is one of the few sources of light oil in California. The Stevens zone produces a 36° [American Petroleum Institute] (API) crude and the shallow oil zone (SOZ) produces a slightly heavier 26° crude. Most of the oil produced in California outside of the NPR-1 site [EHOF] is a 15° or heavier oil. Heavy crude oil is processed by refineries; however, it does not produce as many (of the lighter, more valuable, products as can the lighter oils) products." (1997 SEIS/PEIR p. 4.11-5).

Finally, the 1997 SEIS/PEIR stated that the Proposed Action is expected to have a positive impact on the production of energy, as the privatization of EHOF is expected to result in the fullest possible development of the reserve. The 1997 SEIS/PEIR further indicated that valuable energy resources may be lost if adequate capital investment is not made in the development of the reserve (1997 SEIS/PEIR p. 4.11-1). The 1997 SEIS/PEIR further

indicated that the Proposed Action would allow continued access to this important mineral estate (1997 SEIS/PEIR p. 4.11-5).

Proposed Project

EHOF

The continuation of oil exploration and production activities under the proposed ITP would allow continued access to the mineral estate at EHOF. Therefore, the proposed ITP would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

2-Mile Buffer

Covered Activities within the 2-mile buffer include the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs. Therefore, given the benign nature of the Covered Activities under the proposed ITP, they will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Gap Analysis

The Gap Analysis did not specifically address the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Conclusion

In summary, the 1996 NOP/IS determined that the Proposed Action would not result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the State. The 1997 SEIS/PEIR determined that the Proposed Action would allow continued access to this important mineral estate. No substantial changes in circumstances and no new information of substantial importance exist regarding potential effects to loss of availability of a known mineral resource of value that would result in a new significant impact since the preparation of the 1997 SEIS/PEIR. No further analysis is required.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact

Refer to discussion and graphics under Sections 4.2 and 4.10.

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address locally-important mineral resource recovery sites delineated on a local general plan, specific plan, or other land use plans.

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address locally-important mineral resource recovery sites delineated on a local general plan, specific plan, or other land use plans.

Proposed Project

EHOF

Refer to the EHOF discussion under Section 4.11 (a) above. There are no designated MRZs within the EHOF identified in the Kern County General Plan. Therefore, no impacts are expected.

2-Mile Buffer

There is a designated MRZ within the 2-mile buffer (see Figure 4.2c-1). The MRZ is located in Sections 24 and 25, Township 31 South, Range 23 East, and in Sections 19 and 30, Township 31 South, Range 24 East, MDB&M. The MRZ is a gravel pit and covers an area of approximately 960 acres. MRZs are established based upon a geologic appraisal of the mineral resource potential of the land. Given that the MRZ would be excluded from any future designated Conservation Lands as an integral design feature and no off-site facilities are near the MRZ, no impacts are expected.

Gap Analysis

The Gap Analysis did not specifically address the loss of availability of a locally-important mineral resource recovery site.

Conclusion

The 1996 NOP/IS and the 1997 SEIS/PEIR did not specifically address the loss of availability of a locally-important mineral resource recovery site; however, based on the evaluation completed in this Initial Study, implementation of the proposed ITP would not result in any significant impacts to a locally important mineral resource recovery site. Therefore, no further analysis is required.

4.12 NOISE: *WOULD THE PROJECT RESULT IN:*

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that the Proposed Action, with the selection of the high commercial development case, has the potential to result in commercial practices that may be more intensive than the existing conditions. However, the 1996 NOP/IS further indicated that, "based on acoustical assumptions and analysis prepared for the 1993 SEIS, no noticeable increases in the noise levels are anticipated" (NOP/IS p. 6-36). Due to this, the 1996 NOP/IS concluded that the Proposed Action would not result in noticeable increases in existing noise levels and/or the exposure of the general public to severe noise levels (NOP/IS p. 6-36).

1997 SEIS/PEIR

Noise impacts were analyzed in 1997 SEIS/PEIR in terms of effects of activities on nearest residential receptors. For NPR-1 (EHOF), the only expected noise impact that might occur during the initial ten years is under the higher levels of commercial development (i.e., the Upper Bound Commercial Development Case), but that impact was anticipated to be less than significant. The Proposed Action at NPR-1 (EHOF) was not expected to contribute to a significant increase in cumulative impacts of ongoing petroleum production projects because of the effects that distance between noise source and residential receptor has on attenuation of noise levels (1997 SEIS/PEIR p. 4.8-1).

The major audible-noise sources within NPR-1 (EHOF) include compressors, steam generators, drilling rigs, heavy-duty vehicles and miscellaneous engines. In areas of the NPR-1 (EHOF) that are remote from these noise sources, the acoustic environment is characteristic of a rural location with typical residual sound levels of 30-35 dBA. However, closer to the noise generating facilities the residual environmental noise levels rise to those typical of industrial and construction sites, i.e., on the order of 60-80 decibels (1997 SEIS/PEIR p. 3.8-1).

The nearest residential areas to existing major noise sources within NPR-1 (EHOF) are in towns situated along bordering roads, such as Tupman, Dustin Acres, and Valley Acres. If NPR-1 (EHOF) was not present, these residences would have residual nighttime sound levels typical of rural communities near a lightly traveled highway (30-40 decibels). However, acoustic emissions from the multitude of sources such as compressors, drilling rigs, and well pumps at the NPR-1 (EHOF) raise the residual background environmental noise level in these residential areas to the range of 40-50 decibels. These levels are consistent with the Kern County General Plan Noise Element and are still low enough to not be generally noticeable to the community; no complaints have been recorded (1997 SEIS/PEIR p. 3.8-1).

As indicated in the 1997 SEIS/PEIR, impacts from noise associated with the Proposed Action would not be significant as NPR-1 (EHOF) production is in decline and is not expected to return to past levels of production. It was assumed that in the initial five to ten years, the new audible-noise sources at NPR-1 (EHOF) would be one to two additional drilling rigs plus an additional compressor. It was also assumed that some drilling could potentially be located closer to residential communities, although it was expected that the majority of drilling activity would remain in the central uplands in the area of previously developed infrastructure (i.e. the HPA). Locating new facilities closer to residential communities was also presumed to be unlikely (1997 SEIS/PEIR p. 4.8-4). Therefore, since production and exploration activities in the area were expected to decrease after the initial increase of activity associated with the privatization of operations at the NPR-1 (EHOF) site, exposure of persons to or generation of noise levels in excess of established standards would gradually lessen from those evaluated in the 1997 SEIS/PEIR, which concluded that the Proposed Action would result in less than significant noise impacts (1997 SEIS/PEIR p. 4.8-4).

Analyses were conducted for the 1993 SEIS of both the baseline (existing) ambient noise environments and worst-case intrusive (future) noise emissions to the residential communities nearest to the NPR-1 (EHOF) property lines for steamflood enhanced oil recovery expansion then planned through the year 1996. Those analyses were utilized for the 1997 SEIS/PEIR because the sensitive receptors surrounding NPR-1 (EHOF) were (in 1997) still the same distance from the operations and the noise generated under the Proposed Action would involve the same services analyzed in the 1993 SEIS. The probability of hearing increased drilling, steam injection, gas-compression, power-generation and associated trucking activities was investigated using the Fidell probabilistic detectability model. It was determined that these were the only major noise-producing sources that would be audible at the residential communities. Noise from other, smaller sources was determined not be audible at the distances under consideration. Variables in the acoustic model included terrain effects, as well as the fundamental attenuation mechanisms of spreading, atmospheric absorption and scattering losses due to air turbulence (1997

SEIS/PEIR p. 4.8-1). Three community locations were selected for analysis: Tupman, Dustin Acres, and Valley Acres. These locations were (in 1997) the residential sites closest to the areas within NPR-1 (EHOF) where the greatest concentration of noise-producing activities would occur during any phase of the Proposed Action (1997 SEIS/PEIR p. 4.8-1). The 1997 SEIS/PEIR concluded that the Proposed Action would result in less than significant noise impacts as 1) no major new facilities were expected to be located near residential receptors, and 2) the distance between noise source and the nearest residential receptor attenuates noise levels to acceptable levels (1997 SEIS/PEIR p. 4.8-4).

Proposed Project

EHOF

As described previously, the vast majority of additional EHOF activities anticipated under the proposed ITP would occur in the HPA, well removed from the same residential areas analyzed in the 1997 SEIS/PEIR. Thus, while the additional activities would create additional noise, no increase in noise impacts is expected.

With respect to the Kern County General Plan, its Energy Element explains that most drilling activities are operated within or adjacent to existing oil fields, and as a result the associated noise will not significantly impact existing land use. According to the Noise Element of the General Plan, "[T]he predominant areas where oil and gas production occurs are located in agricultural and industrially zoned areas which are generally separated from sensitive noise receptors." The General Plan classifies the EHOF project area as a Category 1 land use type ("Insensitive Land Uses") which is not adversely affected by any higher noise levels and which therefore does not require noise controls.

As was the case with the 1997 SEIS/PEIR, the basis for determining potential noise impacts that might occur under that Proposed Action remain the same under the proposed ITP. Similar operations and distances from noise sources would occur with the proposed ITP. Temporary noise levels in excess of the maximum desired ambient noise standard of 65 dBA for the "Insensitive Uses" land use category would be generated intermittently; however, no moderately sensitive land uses are located nearby. Therefore, the impacts would be at a level of less than significant.

2-Mile Buffer

Covered Activities within the 2-mile buffer include the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs. Therefore, given the benign nature of the Covered Activities under the proposed

ITP, they would not result in the generation of noise levels in excess of standards established in the General Plan or noise ordinance, or applicable standards of other agencies. Any impacts would be less than significant.

Gap Analysis

The Gap Analysis indicated that drilling activity was temporarily higher than anticipated in the 1997 SEIS/PEIR (Gap Analysis p. 40). Additionally, the Gap Analysis indicated that residential receptors were located at distances (1.3 to 5.2 miles away) sufficient enough to attenuate noise levels to acceptable levels and that the majority of facilities are already constructed in the central uplands of the HPA, well away from residential receptors. Major new facilities located near residential receptors are not anticipated under the proposed ITP. Finally, the Gap Analysis concluded that, "no cumulative rise in ambient noise levels would occur above acceptable levels." (Gap Analysis p. 40).

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would not result in noticeable increases in existing noise levels and/or the exposure of the general public to severe noise levels. The 1997 SEIS/PEIR concluded that the production peak has been reached, the majority of facilities and drilling activities occur in the HPA, and that overall noise impacts would be less than significant as the nearest residential receptors are located from 1.3 to 5.2 miles away from the noise generating sources, thus attenuating noise levels to acceptable levels over that distance. Based on the discussion above, implementation of the proposed ITP would expose residents to greater noise levels than analyzed in the 1997 SEIS/PEIR, and would not result in generation of noise levels in excess of standards established in the General Plan, noise ordinances, or applicable standards of other agencies. The impacts were adequately analyzed in the 1997SEIS/PEIR, and no new significant impact has been identified. Thus, no further analysis is required.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS does not specifically address the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

1997 SEIS/PEIR

The 1997 SEIS/PEIR does not specifically address the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Refer to the 1997 SEIS/PEIR discussion under Section 4.12 (a) above. The 1997 SEIS/PEIR concluded that overall noise impacts would be less than significant.

Proposed Project

EHOF

See response to Section 4.12 (a). As of 2006, OEHI had 12 active drilling rigs with the majority of the drilling occurring in the HPA. Hence, drilling activity was temporarily higher than estimated in the 1997 SEIS/PEIR and Gap Analysis (1997 SEIS/PEIR p. 4.8-4, Gap Analysis p. 40). Drilling activity and the total number of drill rigs utilized at any point in time is highly dependent upon market conditions. Thus, fluctuations in drilling activity are typical in an oil field over time. As the nearest residential receptors are located from 1.3 to 5.2 miles away from the source, noise levels (and groundborne vibration) would be naturally attenuated over this distance. It should also be noted that the increase in steamflood operations assumed under the 1993 SEIS acoustical analysis was never realized. Consequently, this analysis of future increases in ambient noise levels which was determined to be at a less than significant level, was conservative. No significant noise impacts are anticipated, and for the same reasons, no significant impacts from groundbourne vibrations are expected.

2-Mile Buffer

Covered Activities within the 2-mile buffer include the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs. Therefore, given the benign nature of the Covered Activities under the proposed ITP, they would not result in generation of excessive groundborne vibration or groundborne noise levels.

Gap Analysis

Refer to the Gap Analysis discussion under Section 4.12 (a) above. The Gap Analysis did not specifically address exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels; however, the Gap Analysis indicated that residential receptors were located at distances sufficient enough to attenuate noise levels to acceptable levels. Consequently, the effects that distance between noise source and residential receptor has on attenuation of noise levels would be similar for the effects of attenuation on any groundborne vibration.

Conclusion

Refer to the Conclusion discussion under Section 4.12 (a) above. In summary, the 1997 SEIS/PEIR did not identify any impacts that would be created by the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. For the reasons discussed above, no significant impacts from groundborne vibration or groundborne noise levels are expected. Such impacts, as evaluated in this Initial Study, are not significant, and thus no further analysis is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.12 (a) above.

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.12 (a) above.

Proposed Project

EHOF

Refer to the EHOF discussion under Section 4.12 (a) above.

2-Mile Buffer

Refer to the 2-mile buffer discussion under Section 4.12 (a) above.

Gap Analysis

Refer to the Gap Analysis discussion under Section 4.12 (a) above. The Gap Analysis concluded that, "no cumulative rise in ambient noise levels would occur above acceptable levels." (Gap Analysis p. 40).

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would not result in noticeable increases in existing noise levels and/or the exposure of the general public to severe noise levels. The 1997 SEIS/PEIR concluded that temporary noise levels in excess of the maximum desired ambient noise standard of 65 dBA for the "Insensitive Uses" land use category would be generated intermittently; however, no moderately sensitive land uses are located nearby; and therefore, the impacts would be at a level of less than significant. The type and location of future activities and operations under the proposed ITP would be the same as analyzed under the 1997 SEIS/PEIR. The proposed ITP would not result in any new significant impacts or substantially more severe impacts, and therefore no further analysis is required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.12 (a) above. The 1996 NOP/IS did not specifically address temporary or periodic increases in ambient noise levels in the project vicinity above levels existing without the Proposed Action; however, the 1996 NOP/IS concluded that the Proposed Action would have no significant noise impacts.

1997 SEIS/PEIR

The nearest residential areas to existing major noise sources within NPR-1 (EHOF) are in towns situated along bordering roads, such as Tupman, Dustin Acres, and Valley Acres. If NPR-1 (EHOF) was not present, these residences would have residual nighttime sound levels typical of rural communities near a lightly traveled highway (30-40 decibels). However, acoustic emissions from the multitude of sources such as compressors, drilling rigs, and well pumps at the NPR-1 (EHOF) raise the residual background environmental noise level in these residential areas to the range of 40-50 decibels. These levels are consistent with the Kern County General Plan Noise Element and are still low enough to not be generally noticeable to the community; no complaints have been recorded (1997 SEIS/PEIR p. 3.8-1). Therefore, the 1997 SEIS/PEIR concluded that impacts resulting from a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the Project were not significant.

Proposed Project

EHOF

Refer to the EHOF discussion under Section 4.12 (a) and (b) above.

2-Mile Buffer

Refer to the 2-mile buffer discussion under Section 4.12 (a) above.

Gap Analysis

Refer to the Gap Analysis discussion under Section 4.12 (a) and (c) above.

Conclusion

Refer to the Conclusion discussions under Section 4.12 (a) and (c) above. As discussed therein, production has peaked, the majority of facilities and drilling activities occur in the HPA, and the distance from these noise sources to the nearest residential receptors are sufficient to attenuate noise levels to acceptable levels over that distance. The proposed ITP would not result in any new significant impacts or substantially more sever impacts. Therefore, no further analysis is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a public airport or public use airport.

1997 SEIS/PEIR

The 1997 SEIS/PEIR does not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a public airport or public use airport.

Proposed Project

EHOF and the 2-Mile Buffer

See discussion under Sections 4.0, 4.8(e) and 4.12 above.

The project site is located within two miles of the Elk Hills-Buttonwillow Airport. The airport (Figure 4.8b) is located less than a mile north of the EHOF boundary, with the runway located primarily in Section 2, T.30S., R.23E., MDB&M, inside the 2-mile buffer. The airport is owned by Kern County and is open to the public. This airport is a low frequency use airport and is not a source of excessive noise levels. Less than significant impacts are expected from this activity.

Gap Analysis

The Gap Analysis did not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a public airport or public use airport.

Conclusion

The 1996 NOP/IS and the 1997 SEIS/PEIR did not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a public airport or public use airport. However, based on the evaluation completed in this Initial Study, implementation of the proposed ITP would not result in any significant impacts to people residing or working in the project area to excessive noise levels from a public airport or public use airport. While there is a public use airport nearby, it is a low frequency use airport and is not a source of excessive noise levels. No impacts are expected, and no further analysis is required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a private airstrip.

1997 SEIS/PEIR

The 1997 SEIS/PEIR dids not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a private airstrip.

Proposed Project

EHOF and the 2-Mile Buffer

The project site is not located within the vicinity of a private airstrip (Kern County Mapping Program). No impacts would occur.

Gap Analysis

The Gap Analysis did not specifically address if the Proposed Action would expose people residing or working in the project area to excessive noise levels from a private airstrip.

Conclusion

The 1996 NOP/IS and 1997 SEIS/PEIR did not specifically address if the Proposed Action would expose people residing or working in the project area to potential noise impacts within the vicinity of a private airstrip. However, as analyzed in this Initial Study, the project site is not located within the vicinity of a private airstrip, thus no impacts would occur. No further analysis is required.

4.13 POPULATION AND HOUSING: *WOULD THE PROJECT:*

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the Proposed Action would result in an overall net decrease in the number of employees due to the efficiencies associated with privatization of operations at the NPR-1 (EHOF) site (NOP/IS p. 6-7). Moreover, the 1996 NOP/IS concluded that the Proposed Action would not contribute to the cumulative population and would not cause the official regional or local population projections, as indicated in the Kern County General Plan, to be exceeded (NOP/IS p. 6-7). Overall, the 1996 NOP/IS concluded that the Proposed Action would result in no impact to this resource area.

1997 SEIS/PEIR

As indicated in the Upper Bound Commercial Development scenario of the 1997 SEIS/PEIR, impacts to housing and population were expected to be small due to an actual decline in job positions (1997 SEIS/PEIR p. 4.9-2). Therefore, since the population in the area was expected to decrease, inducement of substantial population growth was not considered significant. The 1997 SEIS/PEIR also concluded that the Proposed Action would not result in any significant growth inducing impacts (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

As indicated by both the 1996 NOP/IS and the 1997 SEIS/PEIR, the Proposed Action would result in an overall net decrease in the number of employees employed at the EHOF due to the efficiencies associated with privatization of operations at the NPR-1 (EHOF) site.

Production peak at the EHOF has been reached and is on the decline. Consequently, the number of people employed at the EHOF has shown a steady downward trend, as a direct

result of declining hydrocarbon production and monetary investment. Further, activities associated with the proposed ITP would be undertaken by existing OEHI and contract support staff. Additionally, there would be no homes and no indirect growth inducing components such as extension of infrastructure that could serve homes involved with the proposed ITP. Therefore, the proposed ITP would not induce substantial population growth in an area, either directly or indirectly.

2-Mile Buffer

Covered Activities within the 2-mile buffer such as management activities on Conservation Lands and maintenance and limited construction of off-site facilities would be undertaken by existing OEHI and contract support staff. The proposed ITP would therefore not induce substantial population growth either directly or indirectly.

Gap Analysis

The Gap Analysis concluded that the proposed ITP would not result in any significant new cumulative or growth-inducing impacts not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 41). This conclusion was based on the fact that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35). Following the sale of NPR-1 in 1998, the number of people employed at the EHOF has shown a steady downward trend, as a direct result of declining hydrocarbon production and monetary investment (Gap Analysis p. 41-43).

Conclusion

The 1996 NOP/IS determined that the Proposed Action would result in no impacts to this resource area. The potential impacts to this resource were adequately analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would not result in substantial population growth. Under the proposed ITP the projected number of employees would remain within or below levels analyzed in the 1997 SEIS/PEIR.

Therefore, the proposed ITP would not induce substantial population growth in an area, either directly or indirectly. No new significant impact to this resource area is identified, thus requiring no further evaluation.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Less Than Significant Impact

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Less than Significant Impact

Discussion

1996 NOP/IS

As indicated in the 1996 NOP/IS, the implementation of the Proposed Action would not displace existing housing (NOP/IS p. 6-8). Moreover, the 1996 NOP/IS concluded that there would be no impacts to housing (NOP/IS p. 6-8). See also response to Section 4.13 (a).

1997 SEIS/PEIR

The 1996 NOP/IS found that there would be no impacts to population and housing from the Proposed Action. Therefore, these issues did not require further analysis in the 1997 SEIS/PEIR.

Proposed Project

EHOF

The area within the EHOF contains no housing.

2-Mile Buffer

The area within the 2-mile buffer contains very little housing. Habitat acquisition and management activities would not require the destruction of any existing housing and would likely preclude the development of future housing within such areas in order to protect the integrity of conservation lands. The town of Tupman lies within the buffer area, but potential habitat acquisitions should not affect this unincorporated community as the area is highly disturbed from current urban and adjacent oil field land uses. These conditions would make the area unsuitable for conservation lands.

Gap Analysis

Potential impacts in regards to the displacement of people and/or housing were not addressed in the Gap Analysis.

Conclusion

The 1996 NOP/IS concluded that the proposed ITP would not result in the displacement of existing housing, especially affordable housing. Furthermore, based on the discussion above, implementation of the proposed ITP would not result in displacement of substantial numbers of people or housing at the EHOF and the 2-mile buffer, and thus would not require the construction of replacement housing elsewhere. As a result, there are no housing-related impacts associated with the proposed ITP. Such impacts were adequately analyzed, and thus no further analysis is required.

4.14 PUBLIC SERVICES:

a) ***Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:***

i. *Fire protection?*

Less Than Significant Impact

See the discussion under Section 4.8(h).

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that the Proposed Action may result in a potentially significant impact on local fire protection resources due to the possible additional facilities and infrastructure at the NPR-1 site (EHOF) from intensified commercial development (NOP/IS p. 6-37). Due to this, the 1996 NOP/IS concluded that the Proposed Action may require increased fire protection services, including additional personnel and equipment (NOP/IS p. 6-39).

1997 SEIS/PEIR

As indicated in the 1997 SEIS/PEIR, "[Q]uick-response fire protection services at the NPR-1 site [EHOF] are provided by on-site safety personnel during working hours. Additional fire protection services are provided by the Kern County Fire Department, and the City of Taft Fire Department. The Buttonwillow station employs three fire captains, three fire engineers and three fire fighters. The McKittrick station employs a fire captain and one fire engineer. The Taft station would provide an initial response force consisting of three fire engines, two patrol vehicles and up to nine firefighting personnel. Currently, the Taft Fire Department employs three Battalion chiefs, three fire captains, three fire engineers and three fire fighters." (1997 SEIS/PEIR p. 3.9-7).

The 1997 SEIS/PEIR concluded that impacts to fire protection were not significant because the Proposed Action projected no significant new facilities and infrastructure which would require more services than the existing conditions. While the level of demand for public

services under the Proposed Action was projected to temporarily increase, ultimately the level of demand was projected to decline and in any event would not increase above the previous production peak. Consequently, the 1997 SEIS/PEIR concluded that the Proposed Action would not significantly affect the level of demand for public services, including fire protection services (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

See response to Section 4.8(h). OEHI maintains an emergency response capability to handle smaller fires. However, larger fires require the use of outside resources. Currently, the Kern County Fire Department operates 46 year-round stations and has over 546 uniformed firefighters. As was identified in the 1997 SEIS/PEIR, the Kern County stations at Buttonwillow, McKittrick, and Taft would provide initial response fire protection services for the EHOF. Consistent with the evaluation in the 1997 SEIS/PEIR, under the proposed ITP, the majority of infrastructure is already in place, and no new significant facilities are expected that would require more services than that evaluated in the 1997 SEIS/PEIR.

2-Mile Buffer

Covered Activities within the 2-mile buffer would not necessitate the need for additional fire protection services as this area would be used primarily for habitat acquisition and management purposes and for maintenance and limited construction of off-site facilities.

Gap Analysis

The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts to public services not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 40). This is supported by the Gap Analysis conclusion that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35).

Conclusion

The 1997 SEIS/PEIR concluded that the Proposed Action would not significantly affect the level of demand for public services, including fire protection services. Based on the discussion above, implementation of the proposed ITP would not result in significant impacts that could require additional fire protection services above what was analyzed in the 1997 SEIS/PEIR, thus necessitating the construction of new or physically altered fire protection facilities. Consequently, impacts to fire protection services associated with the EHOF were

adequately analyzed in the 1997 SEIS/PEIR. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. Thus, no further analysis is required.

ii. *Police protection?*

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS indicted that the Proposed Action may result in a potentially significant impact on local police protection and private security services due to the possible additional facilities and infrastructure at the NPR-1 site (EHOF) from intensified commercial development (NOP/IS p. 6-37). Due to this, the 1996 NOP/IS concluded that the Proposed Action may require increased police protection and private security services, including additional personnel and equipment (NOP/IS p. 6-39).

1997 SEIS/PEIR

As indicated in the 1997 SEIS/PEIR (p. 3.9-7), "Police services are provided in the unincorporated areas of Kern County by the county sheriff." The 1997 SEIS/PEIR concluded that impacts to police protection were not significant because the Proposed Action projected no significant new facilities and infrastructure which would require more services than existing conditions. Consequently, the 1997 SEIS/PEIR concluded that the Proposed Action would not significantly affect the level of demand for public services, including police protection (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

The Kern County Sheriff's Department has approximately 1,330 positions. In Bakersfield, the city police department has over 400 officers and staff (City of Bakersfield, 2009). In Taft, the city police department has twelve sworn officers and three reserve officers (City of Taft, 2009). In addition, the EHOF is a private access facility that is fenced and patrolled by private security staff.

Consistent with the evaluation in the 1997 SEIS/PEIR, under the proposed ITP, the majority of infrastructure is already in place, and no new significant facilities are expected that would require more services than existing conditions evaluated in the 1997 SEIS/PEIR.

2-Mile Buffer

As indicated in the project description, future activities associated with the 2-mile buffer would primarily consist of habitat acquisition and management, as well as maintenance and limited construction of off-site facilities. For such activities demand for police protection services would be very limited, as the majority of situations would be handled by OEHI private security staff; therefore, causing impacts to police protection services for Covered Activities to be less than significant.

Gap Analysis

The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts to public services not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 40). This is supported by the Gap Analysis conclusion that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35).

Conclusion

The 1997 SEIS/PEIR concluded that the Proposed Action would not significantly affect the level of demand for public services, including police protection. Based on the discussion above, implementation of the proposed ITP would not result in significant additional police protection services above what was analyzed in the 1997 SEIS/PEIR, thus necessitating the construction of new or physically altered police protection facilities. Consequently, impacts to police protection services associated with the EHOF were adequately analyzed in the 1997 SEIS/PEIR. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. Thus, no further analysis is required.

iii. *Schools?*

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the Proposed Action would result in an overall net decrease in the number of employees due to the efficiencies associated with privatization of operations at the NPR-1 (EHOF) site (NOP/IS p. 6-7). The Proposed Action was not anticipated to generate a significant number of new students requiring enrollment in schools in the

Bakersfield area or the westside of the County. The 1996 NOP/IS concluded that there would be a less than significant impact to this resource area (NOP/IS p. 6-38).

1997 SEIS/PEIR

As indicated in the 1997 SEIS/PEIR, "Although children of NPR-1 (EHOF) employees are concentrated somewhat in the Panama Elementary School District in southwestern Bakersfield, the general distribution of students throughout the city schools means that the effects of NPR [EHOF]-related population growth are small relative to the capacities of the school systems" (1997 SEIS/PEIR p. 3.9-9). The 1997 SEIS/PEIR concluded that impacts to schools were not significant because the Proposed Action projected no significant new facilities and infrastructure which would require more services than existing conditions. As indicated in the Upper Bound Commercial Development scenario of the 1997 SEIS/PEIR, inducement of substantial population growth was not considered significant as impacts to population were expected to be small due to an actual decline in job positions (1997 SEIS/PEIR p. 4.9-2). The 1997 SEIS/PEIR also concluded that the Proposed Action would not result in any significant growth inducing impacts (1997 SEIS/PEIR p. 4.9-8). Consequently, the 1997 SEIS/PEIR concluded that the Proposed Action would not significantly affect the level of demand for public services, including schools (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

It remains the case that the majority of EHOF employees reside in Bakersfield and their children attend school there, with the remainder spread throughout the westside of the County. Education services are provided in Kern County by 35 elementary school districts, eight unified districts, four high school districts and two community college districts. California State University, Bakersfield, is the region's four-year university.

Moreover, indirect impacts associated with activities within the EHOF were addressed in the 1997 SEIS/PEIR which concluded that the sale of NPR-1 (EHOF) would actually result in a decrease in the number of people employed at the project site (NOP/IS p. 6-38, 1997 SEIS/PEIR p. 4.9-2). This reduced need in workforce would require fewer public services. It is not anticipated that this situation would significantly differ in the future with the proposed ITP. Potential impacts of the proposed ITP are therefore consistent with and within the ranges analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would not result in a significant impact to schools.

2-Mile Buffer

Covered Activities within the 2-mile buffer would not necessitate the need for additional services as this area would be used primarily for habitat acquisition and management purposes and maintenance and limited construction of off-site facilities. Existing OEHI personnel and contract support staff would handle Covered Activities within the 2-mile buffer. Less than significant impacts would occur.

Gap Analysis

The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts to public services, including schools, not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 40). This is supported by the Gap Analysis conclusion that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35).

Conclusion

Impacts associated with the proposed ITP both within the EHOF and within the 2-mile buffer would not increase local populations or create new housing beyond levels analyzed in the 1997 SEIS/PEIR. Given this situation, no significant increase in the need for educational public services is anticipated. Consequently, impacts to school services related to EHOF were adequately analyzed in the 1997 SEIS/PEIR. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. No substantial changes in circumstances and no new information of substantial importance exist regarding potential effects to schools that would result in a new significant impact since the preparation of the 1997 SEIS/PEIR. Therefore, less than significant impacts would occur and no further analysis is required.

iv. *Parks?*

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the Proposed Action would result in an overall net decrease in the number of employees due to the efficiencies associated with privatization of operations at the NPR-1 (EHOF) site (NOP/IS p. 6-7). The Proposed Action would not result in an increase in the demand for neighborhood regional parks or other recreational facilities; or

affect existing recreational opportunities (NOP/IS p. 6-48). No parks exist on the NPR-1 (EHOF) site. The 1996 NOP/IS concluded that there would be no impacts to this resource area (NOP/IS p. 6-49).

1997 SEIS/PEIR

As stated in the 1997 SEIS/PEIR, "[S]ite activities are not expected to affect adversely the surrounding recreational resources (e.g. Buena Vista Aquatic Recreation Area, Tule Elk State Reserve) because activities will be away from site boundaries" (1997 SEIS/PEIR p. 4.7-2). The 1997 SEIS/PEIR concluded that overall land use impacts, which included recreational resources, would be less than significant (1997 SEIS/PEIR p. 4.7-3).

Proposed Project

EHOF

The EHOF does not include housing or provide park facilities to the public. Moreover, the nature of uses associated with the proposed ITP within the EHOF does not support recreational activities. Therefore, the proposed ITP would not require the use of parks and would not create the need for new parks. No significant impacts would occur.

2-Mile Buffer

Covered Activities within the 2-mile buffer (i.e. Habitat acquisition, management of Conservation Lands, and maintenance and limited construction of off-site facilities), would not result in an increase in the use of parks. The acquisition of land for habitat would not cause an increase in the use of parks because such lands would be set aside for habitat/open space, prohibiting uses (i.e. housing) which would induce an increased use of park facilities. Moreover, as the workforce associated with the activities within the 2-mile buffer are not anticipated to significantly increase in number, users of area parks would not significantly increase beyond current conditions.

Gap Analysis

Potential impacts to parks were not addressed in the Gap Analysis.

Conclusion

In summary, the 1996 NOP/IS determined that the Proposed Action would result in no impacts to parks. The potential impacts to this resource were adequately analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would not result in significant

impacts to recreational resources, including parks. Consistent with that evaluation, the proposed ITP would not have any new impacts on parks. No substantial changes in circumstances and no new information of substantial importance exist regarding potential effects to parks that would result in a new significant impact since the preparation of the 1997 SEIS/PEIR. Consequently, impacts related to EHOF were adequately analyzed in the 1997 SEIS/PEIR. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. Thus, no further analysis is required.

v. *Other public facilities?*

Less Than Significant Impact

Discussion

1996 NOP/IS

As indicated in the 1996 NOP/IS, the Proposed Action does not assume the use of any other governmental services (NOP/IS p. 6-38). Moreover, the 1996 NOP/IS concluded that there would be no impact to other governmental services (NOP/IS p. 6-38).

1997 SEIS/PEIR

Impacts to public services were found not to be significant under the 1997 SEIS/PEIR. The 1997 SEIS/PEIR concluded that impacts to other public services were not significant because the Proposed Action projected no significant new facilities and infrastructure which would require more services than existing conditions. Furthermore, the 1997 SEIS/PEIR concluded that, "the Proposed Action would not significantly affect the level of demand for public services" (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

See response to Section 4.14 (a) (i) (ii) (iii) and (iv) above. The proposed ITP would not significantly affect the level of demand for other public services/facilities.

2-Mile Buffer

Covered Activities associated with the 2-mile buffer would primarily consist of habitat acquisition and management and maintenance and limited construction of off-site facilities.

For such activities other public services not already addressed above are not required. Less than significant impacts would occur.

Gap Analysis

The Gap Analysis concluded that the proposed ITP would not result in any significant new impacts to public services not previously analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 40). This is supported by the Gap Analysis conclusion that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35).

Conclusion

In summary, the proposed ITP would be a continuation of ongoing activities where the majority of new development would occur within the HPA. The proposed ITP would not increase demands on other public facilities beyond the levels analyzed in the 1997 SEIS/PEIR. No substantial changes in circumstances and no new information of substantial importance exist regarding other public services and facilities within the EHOF or the 2-mile buffer that would result in a new significant impact since the preparation of the 1997 SEIS/PEIR. Potential impacts to this resource on EHOF were adequately analyzed in the 1997 SEIS/PEIR, which concluded that the Proposed Action would result in less than significant impacts. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. Thus, no further analysis is required.

4.15 RECREATION: *WOULD THE PROJECT:*

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the proposed action would result in an overall net decrease in the number of employees due to the efficiencies associated with privatization of operations at the NPR-1 (EHOF) site (NOP/IS p. 6-7); therefore, the proposed action would not result in an increase in the demand for neighborhood regional parks or other recreational facilities; or affect existing recreational opportunities. The 1996 NOP/IS concluded that there would be no impacts to this resource area (NOP/IS p. 6-49).

1997 SEIS/PEIR

As stated in the 1997 SEIS/PEIR, "[S]ite activities are not expected to affect adversely the surrounding recreational resources (e.g. Buena Vista Aquatic Recreation Area, Tule Elk State Reserve) because activities will be away from site boundaries" (1997 SEIS/PEIR p. 4.7-2). The 1997 SEIS/PEIR concluded that overall land use impacts, which included recreational resources, would be less than significant.

The 1997 SEIS/PEIR also indicated that transfer of ownership to the private sector, could reduce staffing levels by 30 percent or more from existing levels (a reduction of approximately 250-350 jobs) (1997 SEIS/PEIR p. 4.9-7).

Proposed Project

EHOF and 2-mile Buffer

The proposed ITP which includes the EHOF and the 2-mile buffer does not include housing or provide recreational facilities to the public. Moreover, the nature of uses associated with the proposed ITP (i.e. oil exploration and production) within the EHOF does not support recreational activities. Covered Activities for lands within the 2-mile buffer (i.e. habitat acquisition and management and limited construction of off-site facilities) would not result in an increase in the use of recreational facilities. Lands acquired within the 2-mile buffer would be set aside for habitat/open space, thus, prohibiting uses (i.e. housing) which would induce an increased use of recreational facilities. Further, the projected number of employees under the proposed ITP would remain within the levels analyzed in the 1997 SEIS/PEIR; therefore, the proposed ITP would not increase the use of recreational resources and would not create the need for new recreational facilities.

Gap Analysis

Potential impacts to recreational resources were not addressed in the Gap Analysis. However, the Gap Analysis indicated that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35). Following the sale of NPR-1 in 1998, the number of people employed at the EHOF has shown a steady downward trend, as a direct result of declining hydrocarbon production and monetary investment (Gap Analysis p. 41-43).

Conclusion

The 1996 NOP/IS determined that the Proposed Action would result in no impacts to recreational resources. The potential impacts to this resource related to EHOF were adequately analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would result in less than significant impacts. The 1997 SEIS/PEIR further concluded that the number of personnel would be reduced with the privatization of operations at the EHOF. The evaluation completed for the Gap Analysis confirmed this projected decline in staffing levels. As analyzed in this Initial Study, potential impacts within the 2-mile buffer are also less than significant. Therefore, no new significant impact to recreational resources is identified, thus requiring no further evaluation.

4.16 TRANSPORTATION/TRAFFIC: *WOULD THE PROJECT:*

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that the Proposed Action, with the selection of the high commercial development case, has the potential to result in commercial practices that may be more intensive than the existing conditions. However, the 1996 NOP/IS further indicated that, the number of employees and vehicle trips would be less than existing levels, due to the efficiencies associated with privatization of the operations at the NPR-1 site (EHOF) (NOP/IS, p. 6-23). The 1996 NOP/IS concluded that changes in existing levels of service (LOS) were not anticipated, and thus no impact was identified (NOP/IS, p. 6-23).

1997 SEIS/PEIR

Based on the 1996 NOP/IS finding of no impact, this subject was not further analyzed in the 1997 SEIS/PEIR. However, potential impacts were partially addressed within Section 4.10 (Hazard Risk Assessment), and relevant information from this section is provided where appropriate.

The 1997 SEIS/PEIR did indicate that transfer of ownership to the private sector, could reduce staffing levels by 30 percent or more from existing levels (a reduction of approximately 250-350 jobs). It was anticipated that, along with this drop in the number of personnel, the number of vehicle miles traveled and associated accidents would also be expected to fall (1997 SEIS/PEIR p. 4.10-1).

Proposed Project

EHOF

The project area has adequate internal circulation capacity including several entrance and exit routes. The EHOF has various State, County and private roads located on site. State Route 119 extends through the southeastern portion of the EHOF. Elk Hills Road is a

County road that extends through the center of the site in a north-south direction. Skyline Road is a private road that extends through the center of the site in an east-west direction. The intersection at Elk Hills Road and Skyline Road was recently upgraded to a 4-way stop unsignalized intersection to provide for improved traffic safety at this location. In addition, many paved and unpaved access roads are located throughout the EHOF project site. The EHOF is a private access facility. All ingress/egress points are controlled and restrict public access.

As of 2006, OEHI had 12 active drilling rigs with the majority of the drilling occurring in the HPA. Hence, drilling activity was temporarily higher than estimated in the 1997 SEIS/PEIR and Gap Analysis (1997 SEIS/PEIR p. 4.8-4, Gap Analysis p. 40). Drilling activity and the total number of drill rigs utilized at any point in time is highly dependent upon market conditions. Thus, fluctuations in drilling activity are typical in an oil field over time. Despite temporary increases in drilling activity, over the long term, no significant increase in vehicle trips is expected to occur. This is due to a combination of factors including the greater overall decrease in the number of employees, a decrease in vehicle miles traveled, a reduced vehicle fleet that has occurred since the sale of NPR-1, and fewer truck trips as explained below that more than offset any temporary increase. This trend is expected to continue under the proposed ITP.

In 2001, OEHI installed 3-inch and 4-inch NGL pipelines parallel to the East Gas Sales pipeline from the 35R Gas Plant to Inergy's NGL storage tanks on North Coles Levee. Since these pipelines were put into service, fewer truck trips are now required to transport natural gas liquid products off the EHOF. See the discussion in Section 4.8 (a).

2-Mile Buffer

Covered Activities within the 2-mile buffer include the acquisition/management of Future Conservation Lands and the operation and maintenance of facilities associated with existing facility ROWs and limited construction of new linear ROWs generally confined to existing ROWs. Additionally, portions of the 2-mile buffer are/will be fenced and/or patrolled to restrict public access. Therefore, the benign nature of the Covered Activities under the proposed ITP would not cause a significant increase in traffic. Less than significant impacts would occur.

Gap Analysis

The Gap Analysis indicated that production has peaked at the EHOF, and is declining past the peak investment and expenditure period evaluated in the 1997 SEIS/PEIR (Gap Analysis p. 35). Following the sale of NPR-1 in 1998, the number of people employed at the EHOF has shown a steady downward trend, as a direct result of declining hydrocarbon production

and monetary investment, resulting in a reduced vehicle fleet and traffic levels (Gap Analysis p. 43, 45).

Conclusion

The 1996 NOP/IS anticipated no changes in existing LOS for the Proposed Action and thus no impact was identified. The 1997 SEIS/PEIR further concluded that as the number of personnel would be reduced with the privatization of operations at NPR-1 (EHOF); the number of vehicle miles traveled and associated accidents would also be reduced. Further, the evaluation completed for the Gap Analysis confirmed this projected decline in staffing levels and the reduced vehicle fleet and traffic levels. Thus, no new significant impact has been identified for the proposed ITP, and no further analysis is required.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Less Than Significant Impact

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.16 (a) above.

The 1996 NOP/IS concluded that changes in existing LOS were not anticipated, and thus no impact was identified (NOP/IS, p. 6-23).

1997 SEIS/PEIR

Based on the 1996 NOP/IS finding of no impact, this subject was not further analyzed in the 1997 SEIS/PEIR.

Proposed Project

EHOF

See response to Section 4.8(a).

Level of Service (LOS)

For analysis purposes, the Highway Capacity Manual (HCM*) 2000* defines six LOS for various facility types. The six levels are given letter designations ranging from "A" to "F", with "A" representing the best operating conditions and "F" the worst. Quantifiable measures of effectiveness that best describe the quality of operation on the subject facility type are used to determine the facilities level of service. For signalized and unsignalized intersections, the quantifiable measure of effectiveness is average control delay.[25]

Table 4.16-1 below shows the six LOS and their corresponding ranges of average control delay for both signalized and unsignalized intersections. Table 4.16-1 also contains a brief traffic flow description for signalized intersections for each level of service category.

The Kern County General Plan Circulation Element has adopted a minimum LOS of "D" for the unincorporated area of the County.

[25] Control delay, according to the *2000 Highway Capacity Manual*, page 16-1, includes initial acceleration delay, queue move-up time, stopped delay, and final acceleration delay. Unsignalized intersections include Two Way Stop Controlled ("TWSC") and All-way Stop Controlled ("AWSC").

Table 4.16-1
Intersection Level of Service Description

Level of Service	Conditions	Signalized Intersection Description	Intersections	
			Signalized	Unsignalized[25] FN on previous page
			Delay (secs/veh)	Delay (secs/veh)
"A"	Free Flow	*Users experience very low delay. Progression is favorable and most vehicles do not stop at all.*	≤ 10.0	≤ 10.0
"B"	Stable Operations	*Vehicles travel with good progression. Some vehicles stop, causing slight delay.*	> 10.0 to 20.0	> 10.0 to 15.0
"C"	Stable Operations	*Higher delays result from fair progression. A significant number of vehicles stop, although many continue to pass through the intersection without stopping.*	> 20.0 to 35.0	> 15.0 to 25.0
"D"	Approaching Unstable	*Congestion is noticeable. Progression is unfavorable, with more vehicles stopping rather than passing through the intersection.*	> 35.0 to 55.0	> 25.0 to 35.0
"E"	Unstable Operations	*Traffic volumes are at capacity. Users experience poor progression and long delays.*	> 55.0 to 80.0	> 35.0 to 50.0
"F"	Forced Flow	*Intersection's capacity is oversaturated, causing poor progression and unusually long delays.*	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual, Transportation Research Board.

State Route 119 passes directly through Valley Acres and Dustin Acres and connects Taft to Bakersfield. One of the goals of the Kern County Circulation Element is to realign and upgrade Route 119 from Freeway 99 west to Taft. Policy 1 of the Kern County Circulation Element provides that "California Department of Transportation (Caltrans) should upgrade State Route 119 to a freeway. This project should include constructing a bypass around the communities of Dustin Acres and Valley Acres." An EIR/EIS is currently being prepared to assess the environmental issues associated with widening State Route 119 to four lanes.

The proposed ITP, as evaluated in the Gap Analysis has a reduced vehicle fleet as compared to the number of vehicles that were in use under DOE management. Further, as the proposed ITP is expected to show a continued decline in job positions, the resulting reduced vehicle fleet and traffic levels is not expected to exceed the LOS "D" established by Kern County.

2-Mile Buffer

Refer to the 2-Mile Buffer discussion under Section 4.16 (a) above. Due to their intermittent and infrequent periods of occurrence, Covered Activities within the 2-mile buffer would not have a significant impact on established County LOS standards.

Gap Analysis

Refer to the Gap Analysis discussion under Section 4.16 (a) above. The Gap Analysis did not specifically address impacts to LOS standards established by the county congestion management agency for designated roads or highways; however, evaluation in the Gap Analysis confirmed that the number of people employed at the EHOF has shown a steady downward trend, as a direct result of declining hydrocarbon production and monetary investment, resulting in a reduced vehicle fleet and traffic levels (Gap Analysis p. 43).

Conclusion

The 1996 NOP/IS anticipated no changes in existing LOS for the Proposed Action and thus no impact was identified. As discussed above, the proposed ITP, with an expected decline in actual job positions would result in even fewer vehicle miles traveled; and therefore, potential impacts on established LOS standards would also be reduced. Less than significant impacts would occur, thus no further analysis is required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS identified the Taft airport as the closest airport to the NPR-1 (EHOF) site (located approximately five miles to the southwest); and concluded that the Proposed Action would not result in utilization of airport facilities which would exceed their operating

capacities (NOP/IS, p. 6-24). The 1996 NOP/IS also indicated that, any new or modified roadway alignments and improvements (associated with the Proposed Action) that would be utilized by the public would be reviewed by the appropriate State and County agencies prior to implementation, and thus would not result in hazards to safety from design features or incompatible uses (NOP/IS, p. 6-23).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion under Section 4.16 (a) above.

The 1997 SEIS/PEIR did not specifically address if implementation of the Proposed Action would result in a change in air traffic patterns that would result in substantial safety risks.

Proposed Project

EHOF

See discussion under Section 4.8(e).

The project site is located within two miles of the Elk Hills-Buttonwillow Airport. The airport (Figure 4.8b) is located less than a mile north of the EHOF boundary, with the runway located primarily in Section 2, T.30S., R.23E., M.D.B.&M. inside the 2-mile buffer. The airport is owned by Kern County and is open to the public. This airport is a low frequency use airport. Kern County has adopted an Airport Land Use Compatibility Plan (ALUCP) and alternative process to comply with the State Aeronautics Act (California Public Code Section 21670 et seq.). As encroachment of incompatible uses can adversely affect airports, including curtailment of their use, it is imperative that properties be developed with compatible uses and that there be clear guidance and information for affected property owners.

As seen on Figure 4.8b, the EHOF is barely within the Elk Hills – Buttonwillow Airport Land Use Compatibility Map.

The EHOF (limited to parts of Sections 10R and 12R) barely lies within Zone C. Sections 10R and 12R are part of the EHOF existing Conservation Area. Proposed activities such as management, monitoring and habitat enhancement activities that may occur within the two areas that overlap the Zone C area would not adversely affect the airport or be classified as incompatible uses as shown in Table 4.8-1. In addition, the proposed ITP does not involve air traffic in any way. Therefore, implementation of the proposed ITP would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

2-Mile Buffer

Refer to the 2-Mile Buffer discussion under Section 4.16 (a) above.

The project site is located within two miles of the Elk Hills-Buttonwillow Airport. The airport is located less than a mile north of the EHOF boundary, with the majority of the runway located primarily in Section 2, T.30S., R.23E., M.D.B.&M. inside the 2-mile buffer. The airport is owned by Kern County and is open to the public. This is a low frequency use airport and no conflicts are expected as a result of the proposed ITP. The nature of the Covered Activities within the 2-mile buffer would not be incompatible with the Elk Hills – Buttonwillow Airport, and would not adversely affect the use of the airport.

Gap Analysis

The Gap Analysis did not specifically evaluate if the proposed ITP would cause a change in air traffic patterns, such as an increase in traffic levels that could result in substantial safety risks.

Conclusion

The 1996 NOP/IS, the 1997 SEIS/PEIR, and the Gap Analysis did not specifically address changes in air traffic patterns that would result in substantial safety risks from the implementation of the Proposed Action. However, based on the evaluation completed in this Initial Study, implementation of the proposed ITP would not cause a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks. Therefore, no further analysis is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that, any new or modified roadway alignments and improvements (associated with the Proposed Action) that would be utilized by the public would be reviewed by the appropriate State and County agencies prior to implementation;

and thus concluded that the Proposed Action would not result in hazards to safety from design features or incompatible uses (NOP/IS, p. 6-23).

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address substantial increases of hazards due to a design feature or incompatible use resulting from the implementation of the Proposed Action. However, the 1997 SEIS/PEIR did identify, based on analysis, that despite the heavy traffic at NPR-1 (EHOF), the "on-site" and "off-site" safety record is excellent; accidents have been few and very minor (1997 SEIS/PEIR p. 3.10-5). Furthermore, the 1997 SEIS/PEIR stated that NPR-1 (EHOF) reported an average of 311 vehicles in use and 2,839,500 miles of travel during the period 1989-1995. For this period, NPR-1 (EHOF) experienced an average of 2.95 reportable vehicle accidents per million vehicle miles driven. For 1994 and 1995, reportable vehicle accidents included 12 involving pickup trucks, three involving automobiles, and one involving a heavy truck (1997 SEIS/PEIR p. 3.10-6).

Proposed Project

EHOF and the 2-Mile Buffer

Refer to the Proposed Project discussion in Section 4.16 (a) above. Briefly, the project area has adequate internal circulation capacity including several controlled entrance and exit routes.

No public roads would be constructed or improved as a part of the proposed ITP.

Gap Analysis

The Gap Analysis did not address substantial increases of hazards due to a design feature or incompatible use resulting from the implementation of the Proposed Action; however, the Gap Analysis confirmed that the number of people employed at the EHOF has shown a steady downward trend, as a direct result of declining hydrocarbon production and monetary investment, resulting in a reduced vehicle fleet and traffic levels (Gap Analysis p. 43, 45). The Gap Analysis concluded that vehicle accidents have been reduced by an average of 24 per year, as compared to the average number of annual vehicle accidents reported in the 1997 SEIS/PEIR.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would not result in a significant impact from design features or incompatible uses. As evaluated in this Initial Study, the proposed ITP has adequate internal circulation capacity including several controlled entrance and exit routes and does not include the construction or improvement of a public road. No new significant impact due to a design feature has been identified, thus no further evaluation is required.

e) Result in inadequate emergency access?

No Impact

Refer to the discussion under Section 4.8 (g).

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion under Section 4.16 (a) above.

The 1996 NOP/IS concluded that the Proposed Action would not result in inadequate emergency access or access to nearby uses (NOP/IS p. 6-24).

1997 SEIS/PEIR

The 1997 SEIS/PEIR did not specifically address if the proposed Action would result in inadequate emergency access; however, the 1997 SEIS/PEIR anticipated that a change in NPR-1 (EHOF) ownership would not interfere with emergency response plans or emergency evacuation plans (1997 SEIS/PEIR p. 4.10-1).

Proposed Project

EHOF and the 2-Mile Buffer

Refer to the EHOF discussion in Section 4.16 (a) above.

Implementation of the proposed ITP would not alter any of the existing and/or adopted emergency response plans or emergency evacuation plans.

Gap Analysis

The Gap Analysis concluded that there would be no change in future operations under the proposed ITP that would interfere with emergency response or evacuation plans (Gap Analysis p. 43).

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would not result in inadequate emergency access. Further, the 1997 SEIS/PEIR noted that a change in ownership would not interfere with emergency response plans or emergency evacuation plans As evaluated in this Initial Study, the proposed ITP would not alter any of the existing and or adopted emergency evacuation plans, and would not result in inadequate emergency access. No impact has been identified, thus no further evaluation is required.

f) Result in inadequate parking capacity?

No Impact

Discussion

1996 NOP/IS

As discussed in the 1996 NOP/IS, adequate parking is provided throughout the NPR-1 (EHOF) site. The 1996 NOP/IS further concluded that the Proposed Action would provide parking required for future facilities or operations and that off-site parking would not be required. No impact was identified (NOP/IS p. 6-24).

1997 SEIS/PEIR

Based on the 1996 NOP/IS finding of no impact, this subject was not further analyzed in the 1997 SEIS/PEIR.

Proposed Project

EHOF and the 2-Mile Buffer

The proposed ITP would provide parking as required for future facilities. The project area currently provides adequate parking, and with a recent decline in staffing, no new additional parking is required No off-site parking would be required. No impacts would occur.

Gap Analysis

The Gap Analysis did not address if the proposed ITP would result in inadequate parking capacity.

Conclusion

The 1996 NOP/IS concluded that the Proposed Action would have adequate parking capacity for future facilities and no impact was identified. Similarly, the proposed ITP would provide parking for any future facilities if and when needed. As analyzed in this Initial Study, no impact has been identified, and no further analysis is required.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS did not specifically address if the Proposed Action would conflict with adopted policies, plans, or programs supporting alternative transportation.

The 1996 NOP/IS indicated that due to the type of land use, the NPR-1 (EHOF) site does not provide public access to pedestrians or bicyclists. Portions of the perimeter of NPR-1 (EHOF) are fenced and/or patrolled to restrict public access. The 1996 NOP/IS concluded that the Proposed Action would continue to restrict public access, including access to busses or other forms of alternative transportation to the NPR-1 (EHOF) site; and thus no impact was identified (NOP/IS p. 6-24).

1997 SEIS/PEIR

Based on the 1996 NOP/IS overall finding of no impact to this resource area, this subject was not further analyzed in the 1997 SEIS/PEIR.

Proposed Project

EHOF and the 2-Mile Buffer

The proposed ITP, including the EHOF and the 2-mile buffer, would not conflict with adopted policies, plans, or programs supporting alternative transportation. The project is a restricted access facility/area. No impacts would occur.

Gap Analysis

The Gap Analysis did not address transportation impacts that would conflict with adopted policies, plans, or programs supporting alternative transportation.

Conclusion

The 1996 NOP/IS did not specifically address if the Proposed Action would result in a conflict with adopted policies, plans or programs supporting alternative transportation. However, the 1996 NOP/IS concluded that as the project site is a restricted access facility, no impacts would occur. The same is true for the proposed ITP, and as analyzed in this Initial Study, no new impact has been identified. Thus, no further analysis is required.

4.17 UTILITIES AND SERVICE SYSTEMS: *WOULD THE PROJECT:*

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b) Require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion in Section 4.9 (a).

The 1996 NOP/IS stated that the Proposed Action would have the potential to result in commercial practices that are more intensive than the existing condition. It was projected that the guaranteed purchase agreement with the West Kern Water District and the on-site wells would adequately meet the water demand of the Proposed Action. The 1996 NOP/IS concluded that the Proposed Action would not have an affect on the local or regional water treatment or distribution facilities (1996 NOP/IS p. 6-41, 6-42).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion in Section 4.9 (a).

The 1997 SEIS/PEIR identified four permitted produced wastewater percolation sumps located in Section 10G of NPR-1 (EHOF) which are permitted and regulated by the RWQCB (1997 SEIS/PEIR p. 4.4-19). Most of this produced wastewater is re-injected back into existing wells as part of a continued enhanced oil recovery project (waterflood), and smaller amounts are either injected into the Section 27R Air Sands as permitted by DOGGR, or re-injected back into an exempt aquifer, (the Tulare Formation) per DOGGR permit (1997 SEIS/PEIR p. 4.4-13, 4.4-18, 4.4-19). The remainder of produced water is disposed of in the sumps in accordance with waste discharge requirements issued by the RWQCB. No wastewater would be discharged to unlined sumps located in alluvial areas where it could percolate and potentially impact drinking water aquifers (1997 SEIS/PEIR p. 4.4-15).

Proposed Project

EHOF

See the Proposed Project discussion in Section 4.9 (a) above.

In addition to the four sumps identified in the 1997 SEIS/PEIR, several other produced wastewater sumps occur at the EHOF, but are not used on a regular basis. As previously discussed in Section 4.9, OEHI has minimized the discharge of produced water to sumps at the EHOF by using additional volumes for injection in enhanced oil recovery. Based on the evaluation completed for the Gap Analysis, and with continued compliance with RWQCB waste discharge requirements, the proposed ITP would not exceed RWQCB wastewater treatment requirements. Most of the wastewater which occurs as a result of operations within the EHOF is produced water from oil production wells. Any remaining non-hazardous wastewater from operational facilities (i.e. office buildings) is sent to one of 15 septic systems on site. Further, EHOF obtains its potable water from the West Kern Water District, which has guaranteed potable water to service the EHOF up to 1,974,900 GPD. In addition to reuse of produced wastewater, additional sources of groundwater to support enhanced oil recovery are obtained from the Tulare Formation down slope from the re-injection wells which do not require treatment.

Since operational buildings within the EHOF send water to on-site septic systems, and produced wastewater is re-injected into underground permitted formations/storage reservoirs, no new wastewater treatment facilities are required. Moreover, since groundwater obtained from the Tulare Formation to support enhanced oil recovery operations does not require treatment and the project area receives ample supplies of potable water from the West Kern Water District, as future potable water demand is expected to decline, no new water treatment facilities are required. Consequently, existing produced wastewater treatment facilities on EHOF are adequate to meet the demand for the proposed ITP.

2-Mile Buffer

Covered Activities within the 2-mile buffer would consist of primarily habitat acquisition and management. These activities would not generate wastewater that would exceed treatment requirements or require treated potable water. New water or wastewater treatment facilities would not be required in support of the existing off-site facilities, nor would they be required for the limited construction of off-site facilities.

Gap Analysis

Refer to the Gap Analysis discussion in Section 4.9 (a) and (f) above.

The 1997 SEIS/PEIR projected that produced water would peak in 2007 at 120 MMB per year. As evaluated in the Gap Analysis the total amount of produced water was 83.4 MMB in 2003, and the proposed ITP is not expected to exceed the maximum annual volume predicted in the 1997 SEIS/PEIR. Further, the 1997 SEIS/PEIR assumed that new wastewater disposal wells would be built to handle excess volumes when wells are shut-in, thereby reducing the need to use surface sumps. The Gap Analysis concluded that the proposed ITP would not exceed existing sump capacity and that sumps are used only in emergency or upset conditions (Gap Analysis p. 15).

All four sumps are fenced/ netted, and as predicted in the 1997 SEIS/PEIR, since the 1997 SEIS/PEIR, the use of these sumps has decreased (Gap Analysis p. 15).

Conclusion

The potential impacts on EHOF were adequately analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would not exceed existing sump capacity and disposal would occur in accordance with the RWQCB waste discharge requirements. As evaluated in the Gap Analysis and based on the discussion above, the proposed ITP would not result in any new significant impact not previously identified, and less than significant impacts would occur on either the EHOF or 2-mile buffer. New activities and operations under the proposed ITP would not require the construction of new water or wastewater treatment facilities. Thus, no further analysis is required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the NPR-1 (EHOF) site has existing storm drainage facilities, but that data on the adequacy of those facilities were unavailable at that time. Consequently, the 1996 NOP/IS concluded that this could be a potentially significant impact (1996 NOP/IS p. 6-41).

1997 SEIS/PEIR

The 1997 SEIS/PEIR noted that even though the size of areas which would be disturbed and/or covered with impermeable surfaces as part of oil production within the NPR-1 (EHOF) site would be larger for the Upper Bound Commercial Development Case, the very low rainfall levels means that the potential impacts would be less than significant (1997 SEIS/PEIR p. 4.4-5).

Proposed Project

EHOF

See the response to Section 4.9(e).

The 1996 NOP/IS incorrectly noted that there are storm drainage facilities on EHOF.

Due to the extremely low rainfall in the area, and OEHI's implementation of standard erosion control practices, storm water drainage facilities have not been required and would not be required in the future.

2-Mile Buffer

See the response to Section 4.9(e).

The majority of activities within the 2-mile buffer would consist of habitat acquisition and management activities which would not result in the creation or alteration of storm water volumes or flows. Therefore, no impacts would occur from new or expanded storm water drainage facilities. Other Covered Activities such as maintenance and limited construction of off-site facilities would not affect any storm water drainage facilities within the 2-mile buffer.

Gap Analysis

The Gap Analysis indicated that while the total amount of land areas cleared for construction is greater than estimated in the 1997 SEIS/PEIR, the amount per year disturbed would be in the same range as the worst case scenario estimated as part of the 1997 SEIS/PEIR (Gap Analysis p. 12-13, 1997 SEIS/PEIR p. 4.4-5). Therefore erosion related stormflows would not be any greater than forecast in the 1997 SEIS/PEIR.

Conclusion

The 1997 SEIS/PEIR adequately analyzed potential impacts on EHOF and concluded that with the area's low rainfall, less than significant impacts would occur. As evaluated in the Gap Analysis, erosion related stormflows for the proposed ITP would be less than what was evaluated in the 1997 SEIS/PEIR. As evaluated in this Initial Study, potential impacts would also be less than significant in the 2-mile buffer. Overall, less than significant impacts would occur, thus no further analysis is required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less Than Significant Impact With Mitigation Incorporated

Discussion

1996 NOP/IS

Refer to the 1996 NOP/IS discussion in Section 4.9 (b).

The 1996 NOP/IS concluded that the Proposed Action could affect available groundwater supplies due to more intense recovery operations and the continued operation of a mature oil field. This was considered to be a potentially significant impact (1996 NOP/IS p. 6-17 and 6-42).

1997 SEIS/PEIR

Refer to the 1997 SEIS/PEIR discussion in Section 4.9 (b).

The 1997 SEIS/PEIR noted that NPR-1 (EHOF) has a guaranteed purchase agreement with the West Kern Water District of a minimum of 987,000 gallons of potable water per day (approximately 8.6 MMB/year). NPR-1 (EHOF) also extracts groundwater from wells on the southern boundary, for use in an enhanced oil recovery program (1997 SEIS/PEIR p. 3.4-2).

The water extracted from the Tulare formation is injected into oil production wells in order to supply water for enhanced oil recovery. After use, it is re-injected back into 27R Air Sands and the Tulare formation, which is an exempt aquifer per the Underground Injection Control Program of the Safe Drinking Water Act. The combination of these two water sources were found to satisfy needed water supplies for NPR-1 (EHOF) (1997 SEIS/PEIR p. 4.4-17).

Further, the 1997 SEIS/PEIR projected that overall need for groundwater supplies to support enhanced oil recovery operations would peak in 2007 under the Upper Bound Commercial Development Case and continuously decrease thereafter (1997 SEIS/PEIR p. 4.4-18).

The 1997 SEIS/PEIR concluded that the impacts to this resource area would be less than significant with the implementation of the following mitigation measures.

1997 SEIS/PEIR Mitigation Measures (Exhibit B, Adoption and Certification of the Final Program Environmental Impact Report, Kern County Board of Supervisors, Resolution No. 97-375, 1997):

- **Mitigation Measure 21:** Comply with the requirements of water purchase agreements with the West Kern Water District or similar water provider.

- **Mitigation Measure 22:** Implement a groundwater management plan that meets the intent of the relevant elements of the program implemented by DOE taking into account whether or not the underlying groundwater is used as a source of drinking water.

- **Mitigation Measure 23:** Monitor static groundwater levels annually at remaining groundwater wells at the South Flank of NPR-1 and, if necessary, evaluate feasible alternative produced water disposal options.

Proposed Project

EHOF

See the responses to Sections 4.9(b) and 4.17(b).

Under the proposed ITP, OEHI would continue to purchase between a minimum of 987,000 to a maximum of 1,974,900 gallons of potable water per day. In 2006 the volume of produced water production was 106 MMB. The average daily injection rate for waterflood (enhanced oil recovery) operations for 2006 was 125,000 barrels per day which equates to an annual level of 46 MMB. The remaining volume of produced water (approximately 60 MMB) was injected for disposal. As discussed below under the Gap Analysis, this annual level of produced water production and the volumes required to support enhanced recovery operations occurred several years past the peak production year. It is well below the maximum annual level evaluated in the 1997 SEIS/PEIR. Therefore, it is not expected that future rates under the proposed ITP would exceed the levels previously analyzed given the mature nature of the oil field, and that production is on the decline.

The proposed ITP would re-adopt Mitigation Measures 21, 22 and 23 of Exhibit B listed above.

2-Mile Buffer

Covered Activities within the 2-mile buffer would consist primarily of habitat acquisition and management, and maintenance and limited construction of off-site facilities, which would only require minimal amounts of water resources.

Gap Analysis

A reassessment of water needs completed in 2004 for the Gap Analysis indicated water requirements would not exceed the 120 MMB/year forecast in the 1997 SEIS/PEIR (Gap Analysis p. 13). In 2003, the volume of produced water production was 83.4 MMB. In 2006, the volume of produced water production was 106 MMB, still well under the predicted peak of 120 MMB in 2007. Future operations are expected to remain below the levels previously assessed.

Conclusion

The 1997 SEIS/PEIR adequately evaluated potential impacts on available water supplies and determined that less than significant impacts would occur with incorporation of mitigation measures. Activities and operations under the proposed ITP, as re-evaluated in the Gap Analysis and in this Initial Study shows that with continued implementation of the mitigation measures listed above, less than significant impacts would occur. Future operations would not result in any new impacts or any increase in the severity of previously analyzed impacts. As the proposed ITP would re-adopt those mitigation measures, such impacts will be addressed in a focused manner, but not re-evaluated in detail in the subsequent joint CEQA/NEPA document.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS noted that the three largest types of waste streams are nonhazardous and include produced water, spent drilling fluids, and solid wastes. The majority of the produced water generated by oil and gas production is reinjected into the ground at the NPR-1 (EHOF) site. The remainder of produced water is placed in lined and unlined evaporation/percolation sumps. The 1996 NOP/IS noted that the Proposed Action, as a result of more intense development practices, would have the potential to generate increased amounts of liquid wastes (excluding domestic sewage) and solid waste that would require the expansion of on-site and off-site disposal facilities and services. This was considered to be a potentially significant impact (1996 NOP/IS p. 6-42).

1997 SEIS/PEIR

In addition to the information provided in Section 4.17 (a) and (b) above, the 1997 SEIS/PEIR noted that there is an on-site filtration plant with a design capacity of 50,000 to 72,000 barrels of water per day to treat produced wastewater for use in waterflood.

The 1997 SEIS/PEIR did not specifically address any potential impacts occurring as a result of inadequate capacity of a wastewater treatment provider to serve the Proposed Action.

Proposed Project

EHOF and the 2-Mile Buffer

See response to Section 4.17(b). The project area, both within the EHOF as well as the proposed 2-mile buffer, does not require a wastewater treatment provider. No impacts would occur.

Gap Analysis

The Gap Analysis did not specifically evaluate the need for a wastewater treatment provider. However, when comparing the Proposed Action as evaluated in the 1997 SEIS/PEIR with the proposed ITP, the annual levels of produced water reinjected would not exceed the maximum amounts analyzed in the 1997 SEIS/PEIR (Gap Analysis p. 13). Further, the cumulative volumes of produced wastewater to be reinjected over the long term under the proposed ITP would not generate any significant environmental impacts due to the stringent environmental controls and that most of the produced water is treated and reinjected back into the reservoir it was taken from for secondary recovery waterflood (Gap Analysis p. 14).

Conclusion

The 1997 SEIS/PEIR provided information which showed that most produced water is treated and reused therefore not requiring disposal and treatment in off-site facilities. Similarly, as evaluated in the Gap Analysis and as discussed in this Initial Study, the proposed ITP would not require a wastewater treatment provider in connection with implementing the proposed ITP activities. Therefore, no impacts would occur and no further analysis is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS indicated that the Proposed Action could potentially result in a significant impact on on-site and off-site solid waste disposal needs (NOP/IS p. 6-41, 6-42, 6-43).

1997 SEIS/PEIR

As indicated in the 1997 SEIS/PEIR, the volumes of hazardous materials, wastes, and solid wastes are expected to follow the pattern of oil and gas production levels. Peak production occurred in 1982 and the future trend is generally downward (1997 SEIS/PEIR p. 4.2-2). Further, as discussed in the 1997 SEIS/PEIR, the three largest waste streams at NPR-1 (EHOF) are nonhazardous. These waste streams consist of produced water, drilling fluid, and solid wastes (1997 SEIS/PEIR p. 3.2-2). The management and disposal of produced water and drilling fluids are evaluated in Sections 3.2 and 4.2 of the 1997 SEIS/PEIR. Briefly, produced water is treated and reused for waterflood operations at NPR-1 (EHOF) or reinjected into the exempt aquifers of the oil producing formations at NPR-1 (EHOF). Drilling fluids are reused to the extent practical and disposed of at on-site permitted facilities. The management and disposal of solid wastes are evaluated in Sections 4.2, 4.4, and 4.9 of the 1997 SEIS/PEIR.

This evaluation concluded that the Proposed Action would not significantly impact solid waste disposal services, because current capacity is available to meet maximum project requirements which would be expected to decrease as production continues to decline (1997 SEIS/PEIR p. 4.9-8).

Proposed Project

EHOF

The Taft Landfill serves the project area. As of January 1, 2005, the Taft Sanitary Landfill had 3,750,561 tons of remaining capacity and an expected landfill completion date of 2067. The permitted maximum disposal is 419 tons per day (California Integrated Waste Management Board 2006).

Consistent with the 1997 SEIS/PEIR evaluation, EHOF solid waste production would continue to decline under the proposed ITP as hydrocarbon production continues to decline. Also, with implementation of waste stream reduction technologies, the amount of hazardous waste as well as nonhazardous solid waste expected to be generated under the proposed ITP would continue to decrease. Therefore, based on the above discussion, the proposed ITP would be adequately served by the Taft Landfill.

2-Mile Buffer

Covered Activities within the 2-mile buffer would include primarily habitat acquisition and management, and maintenance and limited construction of off-site facilities, all of which generate little to no solid waste.

Gap Analysis

The overall tonnage of hazardous operations and maintenance waste for the EHOF has decreased by approximately 181 tons per year since the 1997 SEIS/PEIR to approximately ±300 tons/year (~0.82 tons/day) from routine operations and maintenance (O&M) (Gap Analysis p. 7).

Conclusion

Potential impacts are consistent with and within the ranges analyzed in the 1997 SEIS/PEIR which concluded that the Proposed Action would not result in a significant impact to solid waste disposal services. Similarly, the Taft Landfill has adequate capacity to meet the proposed ITP's projected disposal needs, and less than significant impacts would occur. No further analysis is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact

Discussion

1996 NOP/IS

Waste disposal at NPR-1 (EHOF) is conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Federal Superfund Amendment Reauthorization Act (SARA), but is specifically exempted from certain Federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA) (1996 NOP/IS p. 6-42). The 1996 NOP/IS did not provide a significance statement with respect to compliance with such regulations.

1997 SEIS/PEIR

The 1997 SEIS/PEIR noted that private operation of NPR-1 (EHOF) would be governed by the same set of federal, state and local regulations and guidance. The 1997 SEIS/PEIR concluded that potential impacts would be less than significant.

Proposed Project

EHOF

Refer to the Proposed Project discussion in Sections 4.8 (a) and 4.9 (a) above.

All solid waste created on site not recycled or beneficially reused, is transported to Taft Sanitary Landfill, which, as indicated in Section 4.17(f), has sufficient permitted capacity to accommodate solid waste generated within the EHOF. Moreover, with a decline in production expected in the future along with advances in recycling, reuse, and diversion technologies, reduced amounts of solid waste will likely be generated. All proposed ITP activities would comply with all federal, state and local regulations pertaining to the management and disposal of solid waste.

2-Mile Buffer

Covered Activities within the 2-mile buffer would consist of habitat acquisition and management, and maintenance and limited construction of off-site facilities. Little to no solid waste is expected to be generated from these activities. Additionally, any small amounts of solid waste generated from these activities would comply with all solid waste regulations.

Gap Analysis

The Gap Analysis did not specifically address compliance with federal, state and local waste management regulations.

Conclusion

Potential impacts were adequately analyzed in the 1997 SEIS/PEIR which concluded that no significant impacts would occur. That document also noted that the new owner would have to comply with federal, state and local solid waste regulations. As discussed above, the proposed ITP would continue to comply with such regulations thereby affording the protection to reduce potential impacts to less than significant. Implementation of the proposed ITP would not result in any new significant impacts or substantially more severe impacts. Thus, no further analysis is required.

4.18 ENERGY CONSERVATION:

The Public Resources Code section 21100(b)(3) and CEQA Guidelines Section 15126.4 require environmental impact reports (EIRs) to describe, where relevant, the inefficient, wasteful, and unnecessary consumption of energy caused by a project. The State Resources Agency created Appendix F to the CEQA Guidelines, as an advisory document to assist EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F provides that the goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:

- Decreasing overall per capita energy consumption,
- Decreasing reliance on natural gas and oil, and
- Increasing reliance on renewable energy resources.

In addition, though not described as thresholds for determining the significance of impacts, Appendix F seeks inclusion of information in the EIR addressing the following:

- Measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, and maintenance of the project;
- The siting and orientation of buildings and structures to minimize energy consumption, including transportation energy;
- Measures for reducing peak energy demand;
- Incorporation of alternative fuels (particularly renewable ones) or energy systems; and
- Incorporation of recycling of non-renewable resources

While there is not a specific checklist question, or threshold provided in Appendix G of the CEQA Guidelines with regard to energy conservation, Appendix F infers that a project may have a significant effect on the environment if it would:

Encourage activities which result in the use of large amounts of fuel, water, or energy; or use fuel, water or energy in an inefficient, wasteful, and unnecessary manner?

Less Than Significant Impact

Discussion

1996 NOP/IS

The 1996 NOP/IS determined that the Proposed Action would not conflict with any adopted energy conservation plans, and therefore no impacts were identified (NOP/IS p. 6-30). The 1996 NOP/IS further evaluated whether the Proposed Action would use non-renewable resources in a wasteful and inefficient manner. The 1996 NOP/IS determined that while the Proposed Action has the potential to increase the use of water resources (identified as a non-renewable resource) for NPR-1 (EHOF), all efforts would be made in the operation of NPR-1 (EHOF) to minimize inefficiencies and waste of water. The potential impact was therefore determined to be less than significant (NOP/IS p. 6-30 to 31).

1997 SEIS/PEIR

The 1997 SEIS/PEIR identified that energy consumption at NPR-1 (EHOF) is primarily used to maintain staff facilities, operate field vehicles, and operate the equipment necessary for oil and gas production, transportation, processing and sale. Energy demand was associated with internal combustion powered gas compressors, electric powered gas compressors, the vehicle fleet, instrumentation of all equipment, pumping units on well sites, and pumping and measurement equipment for the oil and gas pipelines and sales facilities (1997 SEIS/PEIR p. 3.11-1).

The 1997 SEIS/PEIR concluded that while NPR-1 (EHOF) is both a large producer and large consumer of energy, the energy being produced significantly exceeded the energy being consumed. Most of the energy used at NPR-1 (EHOF) is non-renewable, being comprised of gasoline and diesel fuel for vehicles/equipment, and natural gas for compressor engine fuel, natural gas for electricity production from the Elk Hills Cogeneration Plant, and natural gas for reservoir pressure maintenance. Energy conservation programs at NPR-1 (EHOF) are based upon minimal use of equipment and facilities that consume energy as a fuel or energy source; continuous redesign of equipment and facilities to conserve fuel and resources as an energy source; and the design of new projects with conservation of energy as a major consideration.

It was concluded that there would be an increase in the consumption of non-renewable energy under the Upper Bound Commercial Development Case. An increase in the amount of diesel fuel would be necessary to support the increased level of drilling activity. A net decrease in the amount of gasoline use would occur due to the reduction in the number of employees utilized at the site. An increase in the amount of electric power consumption would also occur due to the conversion of natural gas powered engines to electric power to address air quality compliance requirements. However, the 1997 SEIS/PEIR determined

that this increase in energy use would have a less than significant impact on energy conservation (1997 SEIS/PEIR p. 4-11.1 to 4.11-4).

Proposed Project

EHOF and the 2-Mile Buffer

Energy conservation is embodied in many federal, state, and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g. the EnergyStar™ program) and transportation (e.g. fuel efficiency standards). At the state level, Title 24 of the California Code of Regulations sets forth energy standards for buildings. Title 24, which was promulgated by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, provides energy efficiency standards for residential and nonresidential buildings.

In 2005, the CEC adopted new energy efficiency standards[26]. All projects that apply for a building permit on or after October 2005 must adhere to the new 2005 standards. Adherence to Title 24 is deemed sufficient to ensure that no significant impacts would occur with respect to energy efficiency. The CEC's Title 24 program has played a vital and perhaps one of the most important roles in maximizing energy efficiency and preventing the wasteful, inefficient and unnecessary use of energy throughout the State.

Pursuant to the California Building Standards Code and the Title 24 Energy Efficiency Standards, the County Building Department will review the design and construction components of the proposed ITP's Title 24 compliance should specific nonresidential building plans or alterations in production facilities be proposed in future years. The proposed ITP includes other construction and operational design features that have resulted in, or will result in energy efficiency as described below.

OEHI Energy Conservation Design Features:

The following is a summary of the operations and maintenance activities that have led to reductions in unnecessary waste, greater efficiency, and recycling of materials, thereby conserving energy at EHOF.

- 18 natural gas driven, rich burn internal combustion engines (ICEs) have been retrofitted with non-selective catalytic reduction to control VOCs and improve efficiency. The resulting annual methane emissions reductions are equal to 8,966 Million Cubic feet per year (Mcf/yr).

[26] California Energy Commission, October 2005. *2005 Building Energy Efficiency Standards*.

- 338 crude oil tanks ranging in size from 2 bbl to 250,000 bbl have been removed. This number equates to more than **half** of the production and processing tanks in the field. Fewer fixed roof tanks reduce the standing losses due to temperature variations and working losses from changing fluid levels. The resulting annual methane emissions reductions are equal 18,996 Mcf/yr.

- 126 natural gas powered actuators on pipeline condensate traps have been converted to instrument air, eliminating methane emissions. The resulting annual methane emissions reductions are equal to 90,140 Mcf/yr.

- Implementation of "no leak" packers around rod packing and housings of natural gas fired compressor engines to capture the leaks and divert them to a gas gathering system. OEHI has replaced 41 natural gas compressor packing systems with annual methane emissions reductions equal to 144,868 Mcf/yr.

- 212 natural gas driven, 4-stroke rich burn, ICE engines that were used to drive pumps bringing production fluids to the surface were shut down and replaced with electric motor drives. The resulting annual methane emissions reductions are equal to 282,125 Mcf/yr.

- Implementation of a Fugitive Emissions Inspection & Maintenance (I&M) Program. This program conducts more frequent inspections at a lower leak threshold which results in significant emission reductions. With this program in place, leaks are quickly identified, repaired, or the source of the leak replaced. In 2000, OEHI began inspecting more than 900,000 equipment components four times more frequently than required by state air quality regulations with a 7,500 parts per million by volume (ppmv) leak threshold action level. This is equal to 3.6MM inspections per year. The resulting annual methane emissions reductions (using EPA tables for average leak rates) are equal to 451,765 Mcf/yr.

- Elimination of unnecessary equipment. OEHI eliminated 110 Tank Liquid Gas Boots resulting in annual methane emissions reductions of 758 Mcf/yr. Liquid boots are typically utilized on overflow lines to drain tanks to prevent spillage from overfilled tanks. A liquid boot is utilized at the overflow line's open end to prevent vapor from passing down the line.

- Use of protective coating on storage tanks to reduce fugitive leaks. Annual methane emissions reductions are equal to 108 Mcf/yr.

- OEHI has implemented a "9/80" alternative work schedule for OEHI staff and large contractor office staff. This practice reduces employee commutes to EHOF one day per two week period, given the alternating Fridays off with this work schedule.

- OEHI retrofitted all lighting at EHOF facilities to electronic ballast and energy efficient 30 watt T-8 bulbs.

- Installation of a pseudo-cryogenic unit at the Low Temperature Separation Gas Plant No. 1 which achieved greater efficiency at recovering natural gas liquids (NGL's) from the natural gas production stream.

- Installation of two NGL sales pipelines which has reduced the historical level of truck traffic for transporting these products.

- Reduction in the number of the EHOF vehicle fleet by 36 vehicles.

- All drilling muds are reconditioned, and re-used to the extent practicable at EHOF.

- Paper recyclable items and excess office furniture are recycled at EHOF through arrangements with the Bakersfield Association of Retarded Citizens (BARC).

- All tires from the OEHI fleet vehicles are recycled.

- Fluorescent light bulbs, and toner cartridges from all copy machines are recycled at EHOF.

- Approximately 500 gallons of used motor oil, and approximately 300 gallons of waste ethylene and triethylene glycol are recycled annually at EHOF.

- Approximately 400 gallons of cleaning solvents from parts washers are recycled annually at EHOF.

- Recycling bins are used in all office facilities at EHOF to recycle aluminum cans.

The proposed ITP would have only minor, unsubstantial impacts on energy resources. Management and monitoring activities anticipated under the proposed ITP, such as wildlife surveys, fencing, security patrols, habitat enhancements and restoration would require use of petroleum products for access and minor construction. These generally benign activities would be of an intermittent and short-term nature, and of very low scale and intensity. The

corresponding demand for energy resources would be minor. Energy conservation impacts from such activities would therefore be at a less than significant level.

Gap Analysis

The Gap Analysis determined that due to the mature nature of the hydrocarbon reservoirs and their continued decline in production, less *energy resources* would be produced under the proposed ITP than estimated in the 1997 SEIS/PEIR. The Gap Analysis also concluded there would be an increased level of *energy consumption* under the proposed ITP as did the 1997 SEIS/PEIR for the Proposed Action. While the additional drilling activity would result in an increase in diesel fuel use over time, as it would take place over many years, the increase in use was expected to have minimal impacts on the environment. Under the proposed ITP, electrification trends would continue and use of natural gas as an energy source would decline as a result (Gap Analysis p. 45-46).

Subsequent to the Gap Analysis, as part of this Initial Study, a comparison of the projected versus actual energy usage/load was made and is provided in the following discussion. While energy consumption did increase following the close of the sale, the energy usage/load realized to date from EHOF operations is well below the level assessed in the 1997 SEIS/PEIR which was found to not have a significant impact on energy conservation. As discussed in the 1997 SEIS/PEIR (p. 4.11-1 to 4.11-5), the annual electric power usage, or load (i.e. factor of load), at the EHOF in 1995-97 was 29 MW. Electric power supplied by the Elk Hills Cogeneration Plant was 47 MW[27] as discussed in the 1997 SEIS/PEIR, making EHOF a net exporter of energy.

Electric power usage/load was projected to reach 44 MW by 2000 from both increased production, and operations demand (expanded waterflood, gas-lift compression, as well as from adding electric power to existing oil pumping units). This increase in electric power usage/load, corresponds to an increase of 15 MW (29 MW + 15 MW = 44 MW). Annual electric power usage/load was projected to increase an additional 78 MW above the 44 MW level, due to the planned electrification of 60 internal combustion natural gas-fired compressor engines to meet the more stringent air quality requirements. This increase of up to 78 additional MW was forecast to be realized by 1999. Therefore, electric power usage/load was forecast to rise from 29 MW annually to 122 MW annually by 1999 (44 MW + 78 MW = 122 MW).

[27] It should be noted that the Elk Hills Cogeneration Plant's actual nominal capacity is 45 MW, not 47 MW as described in the 1997 SEIS/PEIR.

Note that the foregoing discussion is related to the No-Action alternative, as opposed to the Upper Bound Commercial Development Case alternative, which would have a correspondingly higher energy demand. As of the end of 2006, annual electric power usage/load at EHOF was at an average level of 83.57 MW. Therefore, electric power energy consumption is well below the level previously assessed (122 MW – 83.57 MW = 38.43 MW) in the 1997 SEIS/PEIR for the No-Action alternative. This trend is expected to continue under the proposed ITP and it is unlikely that the predicted levels of energy consumption would ever be reached.

Conclusion

The proposed ITP is tied into existing energy facilities serving the EHOF project site, and no new energy producing facilities would be necessary to serve the site. Approximately one-half of the electric power demand is supplied by the OEHI Cogeneration Plant that went on-line in November 1994. The level of current electric power consumption is well below the level previously assessed and is expected to remain so in the future. The proposed ITP would be designed to comply with all applicable state-of-the-art Title 24 Energy Efficiency Standards, as well as a host of other energy-efficient design features as discussed above.

Therefore, based on the existing energy conservation design features, the relatively minor energy demand from implementation of the proposed ITP, and compliance with existing Energy Efficiency Standards, the proposed ITP would not result in the inefficient, wasteful, or unnecessary consumption of energy and would not have a significant impact on energy conservation The potential impacts of the proposed ITP were adequately analyzed in the 1997 SEIS/PEIR. This conclusion was reconfirmed in the Gap Analysis and this Initial Study. Thus, no further analysis is required.

4.19 MANDATORY FINDINGS OF SIGNIFICANCE:

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Yes. The Initial Study indicates that potentially significant impacts could occur, and applicable mitigation measures from prior environmental documents, as well as additional mitigation measures have been identified for implementation that would reduce impacts to important examples of California history or prehistory areas other than biological resources to less than significant levels. With the additional oil wells and related surface disturbance projected in the proposed ITP, issuance of the incidental take permit under CESA has the potential to result in new significant or substantially more severe impacts on biological resources than identified in the 1997 SEIS/PEIR.

These potentially significant impacts, and less than significant impacts with mitigation incorporated will be reviewed and evaluated in a subsequent joint CEQA/NEPA document for the proposed ITP.

b) Does the project have impacts that are individually limited, but cumulatively considerable (cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The potential cumulatively considerable impacts of the proposed ITP in combination with other projects in the vicinity will be reviewed and evaluated in a subsequent joint CEQA/NEPA document.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As proposed and with application of identified mitigation measures, and other mitigation measures to be developed in a subsequent joint CEQA/NEPA document necessary to meet CESA's "fully mitigate" standard, the proposed ITP is not expected to have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. This assumption will be confirmed in a subsequent joint CEQA/NEPA document.

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