

**San Joaquin Valley Unified
Air Pollution Control District**

**Chevron USA, Inc.
Steam Generators Project**

Project Number S-1144548

**Cymric Oil Field
Kern County**

**Initial Study and Draft
Mitigated Negative Declaration**

April 6, 2016

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GOVERNING BOARD 2016**

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INITIAL STUDY AND DRAFT MITIGATED NEGATIVE DECLARATION

Chevron USA, Inc. Steam Generators Project

Project Number: S-1144548

April 2016

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A. INTRODUCTION

Chevron USA, Inc. (Chevron USA) is a Title V oil production company with facilities located in Kern County, California. The San Joaquin Valley Unified Air Pollution Control District (District) has received an Authority to Construct (ATC) application package from Chevron USA to install eight (8) new 85.0 MMBtu/hr natural gas-fired steam generators at the 7Z Steam Plant within the Cymric Oil Field (also known as Cymric-McKittrick Oil Field or McKittrick Oil Field) (Project). The Project is consistent with current operations and will allow for continued oil and gas related activities within the Cymric Oil Field Project area. As presented in this environmental document, the District has conducted an Initial Study and concludes that, with mitigation, the Project will have a less than significant environmental impact.

B. PURPOSE AND AUTHORITY

The District has discretionary approval power over the Project, pursuant to District Rule 2010 (Permits Required) and District Rule 2201 (New and Modified Stationary Source Review Rule). As such, the District is the public agency having principal responsibility for approving the project and serves as Lead Agency (CCR §15367).

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The ERG was prepared to comply with this requirement and is an internal document used to comply with CEQA.

The basic purposes of CEQA are to:

- a) Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- b) Identify the ways that environmental damage can be avoided or significantly reduced.
- c) Prevent significant, avoidable damage to the environment by requiring changes in projects through use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- d) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Under CEQA the Lead Agency is required to:

- Conduct preliminary reviews to determine if applications are subject to CEQA [CCR §15060].
- Conduct review to determine if projects are exempt from CEQA [CCR §15061].



-
- Prepare Initial Studies for projects that may have adverse environmental impacts [CCR §15063].
 - Determine the significance of the environmental effects caused by the project [CCR §15064].
 - Prepare Negative Declarations or Mitigated Negative Declarations for projects with no significant environmental impacts [CCR §15070].
 - Prepare, or contract to prepare, EIRs for projects with significant environmental impacts [CCR §15081].
 - Adopt reporting or monitoring programs for the changes made to projects or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment [PRC §21081.6 & CCR §15097].
 - Comply with CEQA noticing and filing requirements.

C. PROJECT BACKGROUND INFORMATION

Project Description

The District has received an Authority to Construct (ATC) application package from Chevron USA proposing to install eight (8) new 85.0 MMBtu/hr natural gas-fired steam generators at the 7Z Steam Plant within the Cymric Oil Field in Kern County, California.

Chevron USA is an oil production company that operates oil and gas production facilities across California, including the Cymric Oil Field in Kern County, California. Chevron USA has a Title V Operating Permit with the District for its operations at this location and is classified as a major source as defined in Section 3.24 of District Rule 2201 (New and Modified Stationary Source Review). As such, the installation and operation of stationary source equipment (i.e., steam generators) for this Project is subject to District permit requirements. One major requirement is that new and modified stationary source equipment that has air contaminant emissions must satisfy the requirements of New Source Review (NSR). The main requirements of NSR are to require the use of Best Available Control Technology (BACT) to minimize emission increases over certain thresholds from such equipment and to mitigate emission increase over certain thresholds by providing emission reductions either by limiting the use of existing equipment or by providing emission offsets.

Process Description

Chevron USA operates permitted equipment within their oil fields, utilized for thermally enhanced production of crude oil and natural gas. In thermally enhanced oil recovery (TEOR), natural gas is combusted in steam generators to produce steam for injection into heavy crude oil bearing strata via injection wells to reduce viscosity of crude oil, thereby facilitating thermally enhanced oil production.



Project Location

The proposed steam generators will be located at the 7Z Steam Plant within the Cymric Oil Field (Section 7, Township 30S, and Range 22E). The Cymric Oil Field is located in Kern County, California which is in the San Joaquin Valley Air Basin (see Figure 1). In addition, Figures 2 through 4 present the location and boundaries of Chevron USA's operation within the Cymric Oil Field.

Figure 1: The San Joaquin Valley Air Basin

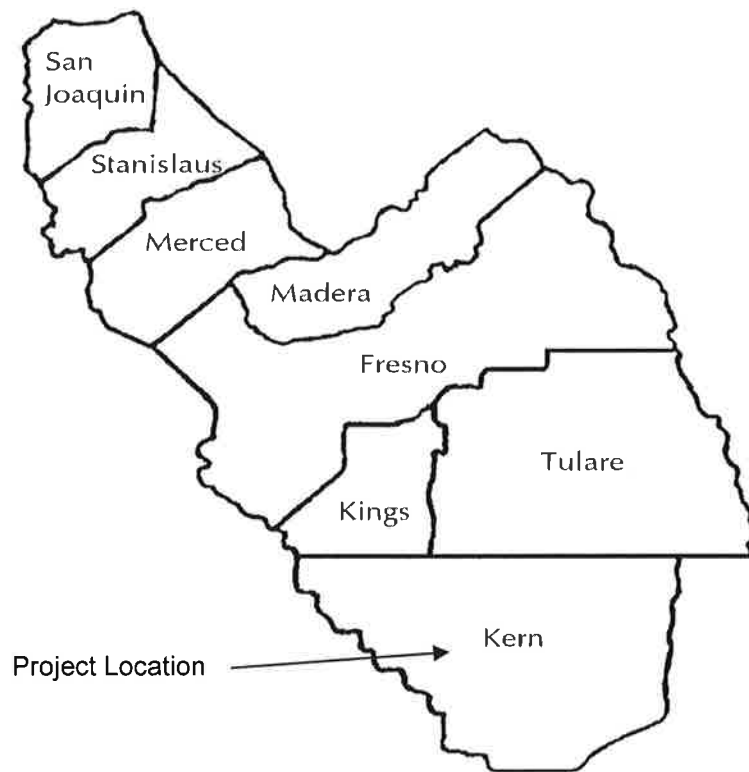
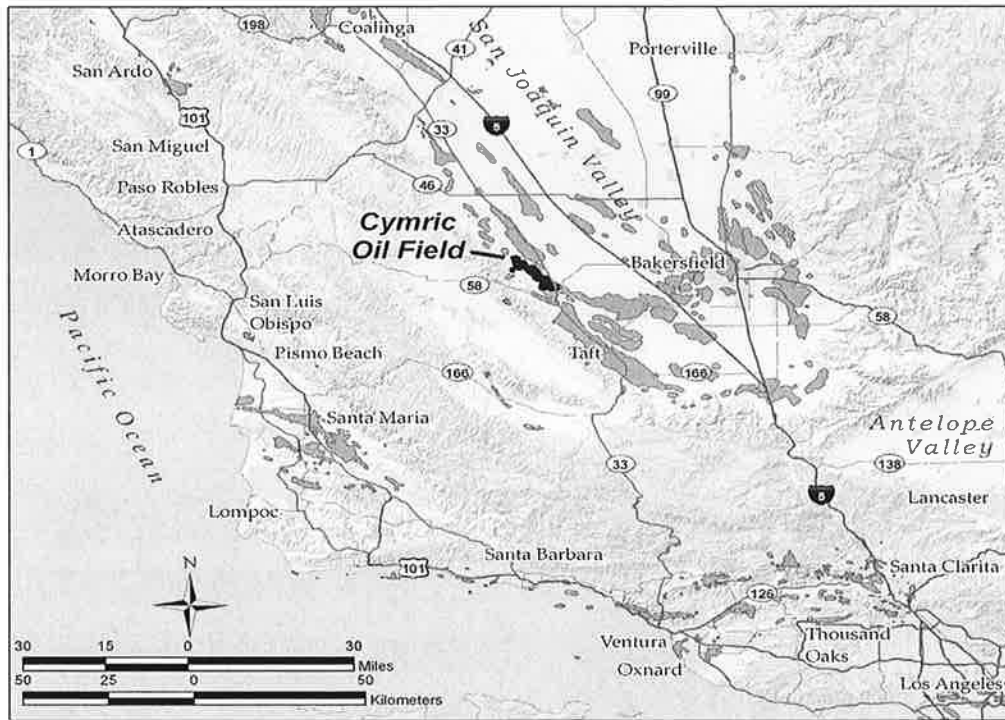


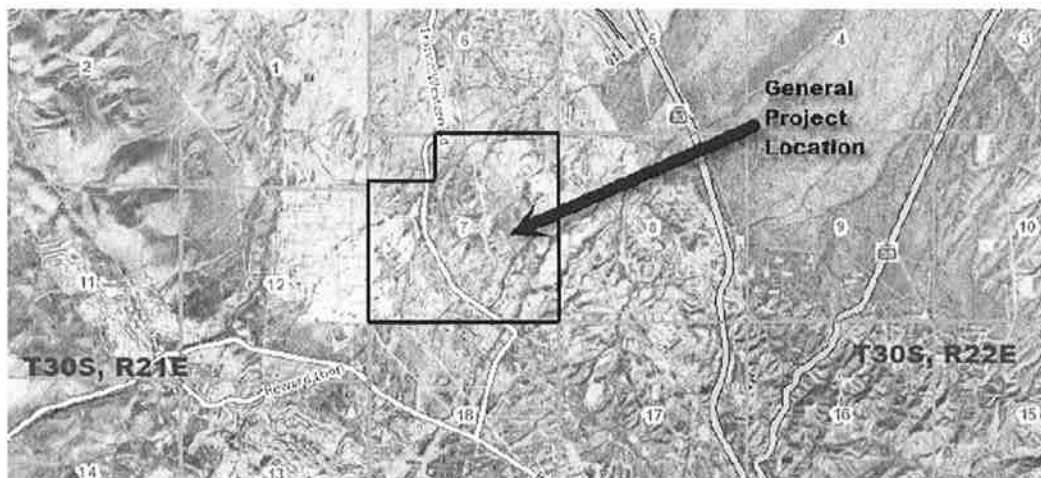


Figure 2: Cymric Oil Field Location



Source: Wikipedia. March 2015. Website: http://en.wikipedia.org/wiki/Cymric_Oil_Field

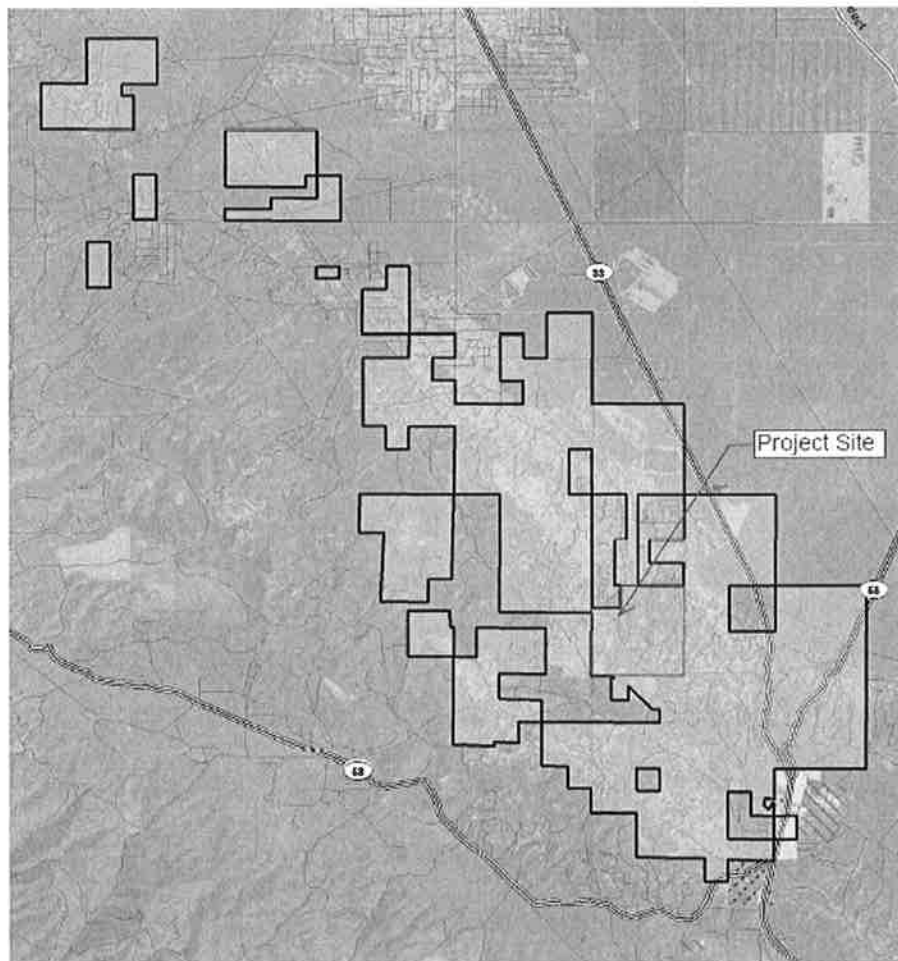
Figure 3: Cymric Oil Field Project Site



Source: Chevron USA



Figure 4: Cymric Oil Field Boundaries & Project Site



Source: Chevron USA

General Plan Designation and Zoning

The Project site is currently designated in the Kern County General Plan as Extensive Agriculture (Code 8.3) and Mineral and Petroleum (Code 8.4). The Project site is currently zoned Exclusive Agriculture (Zone A). Pursuant to Section 19.12.020(E) of the Kern County Zoning Ordinance, steam generators (excluding coal fired) are a permitted use, by right in Zone A.

Surrounding Land Uses and Setting

The Project site is within the existing Cymric Oil Field which is currently used for oil production by Chevron, USA. The area immediately surrounding the Project site is zoned for agricultural and is designated as extensive agriculture and mineral and petroleum land use. These uses include general agricultural operations and oil field production.



Other Public Agencies Whose Approval Is Required

The District has identified the following agencies as having approval authority for the Project.

US Environmental Protection Agency (US EPA)

The Project is classified as a Title V minor modification to be processed with a Certificate of Conformity (COC), and its ATC application will be submitted to the US EPA for a 45-day comment period. Chevron must apply to administratively amend the Title V operating permit to include the requirements of the ATCs issued with the Project.

US Fish and Wildlife Service (USFWS)

The USFWS has regulatory authority over projects that could result in the “take” of any species identified as threatened or endangered. If the Project would result in the incidental take of any federally identified species, an Incidental Take Permit and/or a Habitat Conservation Plan would be required.

California Department of Fish and Wildlife (CDFW)

The CDFW has regulatory authority over projects that could result in the “take” of any species identified by the State of California as threatened or endangered. If the Project would result in the “take” of any identified species, an Incidental Take Permit would be required.

California Regional Water Quality Control Board (RWQCB)

The Project will result in no waste or water discharge; hence no approvals from the RWQCB will be required. Also, no streambed or lake alterations will occur as a result of the Project.

D. DECISION TO PREPARE A MITIGATED NEGATIVE DECLARATION

Consistent with CEQA requirements the District prepared an Initial Study that evaluated potential environmental effects of the Project. The District has determined that with mitigation, the Project would have a less than significant impact on the environment. The District concludes that a Mitigated Negative Declaration would be appropriate for the Project. Project design elements and mitigation measures that reduce the Project's impact on environment would be enforced through mitigation and District permits.



E. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

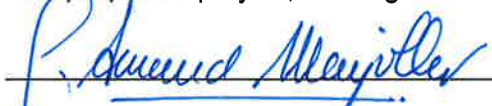
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

F. DETERMINATION

I certify that the Project was independently reviewed and analyzed and that this document reflects the independent judgment of the District.

- 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 has been 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: 
 Printed Name: Arnaud Marjollet

Date: Apr 27, 2016

Title: Director of Permit Services



G. ENVIRONMENTAL IMPACT CHECKLIST

I. Aesthetics Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 buildings 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?				✓

I. AESTHETICS

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

No Impact

There are no designated scenic vistas on the Project site or adjacent properties. The absence of these features on or nearby the Project site precludes the possibility of potential adverse impacts. Therefore, the Project will have no impact on scenic vista.

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

No Impact

There are no scenic resources such as trees, rock outcroppings, or historic buildings on the Project site or adjacent properties. The absence of these features on or nearby the Project site precludes the possibility of potential adverse impacts. Therefore, the Project will have no impact on scenic resources.



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

No Impact

The Project site is currently designated in the Kern County General Plan as Extensive Agriculture (Code 8.3) and Mineral and Petroleum (Code 8.4) and is zoned Exclusive Agriculture (Zone A). Pursuant to Section 19.12.020(E) of the Kern County Zoning Ordinance, steam generators (excluding coal fired) are a permitted use, by right in Zone A. The Project site and its surroundings are currently developed for oil and gas production activities. As such, the Project will not degrade the existing visual character or quality of the site and its surroundings. Therefore, the Project will have no impact on visual character.

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

No Impact

Ground preparation activities such as site preparation, grading of the area, and pouring foundation for each steam generator unit will be conducted prior to installation of the steam generators. Construction activities will occur during daylight hours only. As such, no lighting impacts associated with construction are anticipated. There are existing safety and security lightings that currently exist throughout the Project site area and are consistent with the existing operations. Once construction has commenced and the new steam generators have been installed, no new lighting would be needed. Therefore, the Project will have no impact on light or glare.



II. Agricultural Resources	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>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 agricultural and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resource Board.</p> <p>Would the Project</p>				
<p>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?</p>				✓
<p>b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>				✓
<p>c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)), timberland (as defined by Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))?</p>				✓
<p>d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>				✓



e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓
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II. AGRICULTURAL RESOURCES

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?*

No Impact

The California Department of Conversation prepared the Farmland Mapping and Monitoring Program (FMMP) designating important farmland in California. Based on the FMMP, the Project site is not designated as Prime Farmland, Unique Farmland, or of Statewide importance. Therefore, the Project will have no impact on farmland.

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

No Impact

The Project site is zoned Exclusive Agriculture (Zone A). Pursuant to the Kern County Zoning Ordinance Section 19.12.020(E), steam generators (excluding coal fired) are a permitted use in Exclusive Agriculture zoning designation. The Project is consistent with current and surrounding land uses. The Project site is not designated as an active Williamson Act contract. As such, the Project will not conflict with existing zoning or a Williamson Act contract. Therefore, the Project will have no impact.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220 (g)), timberland (as defined by Public Resource Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104 (g))?*

No Impact

The Project site is located within the Cymric Oil Field which historically has been allowed for the exploration and production of oil. No forest lands exist on the Project site or within the oil field. Therefore, the Project will have no impact on forest lands.



d) *Result in the loss of forest lands or conversion of forest land to non-forest use?*

No Impact

As discussed above, the Project is not located on forest lands. As such, implementation of the Project will not result in the loss of forest lands or conversion of forest land to non-forest use. Therefore, the Project will have no impact on loss of forest lands.

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

No Impact

As discussed above, the Project is consistent with current and surrounding land uses for oil production activities and will not convert farmland or forest lands to non-farmland or non-forest use. Therefore, the Project will have no impact.



III. Air Quality Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			✓	
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?				✓

III. AIR QUALITY

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

Less Than Significant with Mitigation Incorporated

The District is tasked with implementing programs and regulations by the Federal Clean Air Act and the California Clean Air Act and has prepared plans to attain federal and state Ambient Air Quality Standards (AAQS). The District has established thresholds of significance for criteria pollutant emissions, which are based on federal and District New Source Review (NSR) offset requirements for stationary sources. Stationary sources in the District are subject to some of the toughest regulatory requirements in the nation.

The significance of the impacts of the emissions from construction, operational non-permitted equipment and activities, and operational permitted equipment and activities are evaluated separately. The thresholds of significance are based on a calendar year basis. For construction emissions, the annual emissions are evaluated on a consecutive 12-month period. A project would be determined to have a significant impact on air quality if the emissions sum for any criteria pollutant exceeds its respective threshold of significance. The District's thresholds of significance for criteria pollutant emissions are presented below in Table 1.



Table 1: District Thresholds of Significance for Criteria Pollutants

Pollutant	Construction Emissions Threshold (*tpy)	Permitted Operational Emissions Threshold (*tpy)	Non-Permitted Operational Emissions Threshold (*tpy)
NOx	10	10	10
SOx	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15
CO	100	100	100
ROG (VOC)	10	10	10

*tpy = tons per year
Note: For construction emissions, the annual emissions are evaluated on a consecutive 12 month period.

Project Details

Chevron USA is an oil production company that operates oil and gas production facilities across California, including the Cymric Oil Field in Kern County. Chevron USA is proposing to install eight (8) new 85.0 MMBtu/hr natural gas-fired steam generators at the 7Z Steam Plant within the Cymric Oil Field.

Construction Emissions

Construction of the Project is expected to begin as soon as year 2016 and will be constructed over a 3 year period. Construction will include site preparation, grading of the area, pouring concrete foundation for each steam generator unit, worker trips, and installation of eight (8) new 85.0 MMBtu/hr steam generators. Upon installation of the steam generators, new pipelines for water and fuel gas will be installed primarily along the existing piping right of ways to support operational activities. The Project will utilize existing roads and the project area is flat. As such, no new roads will be necessary and constructed.



Table 2: Project Construction Emissions

12-month Construction Period	Annual Emissions (tons)			
	NO _x	PM ₁₀	ROG (VOC)	CO
Year 1	8.5	3.8	0.8	4.2
Year 2	8.5	3.8	0.8	4.2
Year 3	8.5	3.8	0.8	4.2
District Threshold of Significance	10	15	10	100
Exceed Thresholds?	No	No	No	No

This schedule is based on construction equipment needs and calculations for emissions rooted in the California Sacramento AQMD Road Construction Emissions Model that are then pro-rated across major equipment installations within the project scope. The table above reflects the most aggressive execution plan of 3 years of construction for the 8 units. Note that the construction window may exceed this time frame based on business drivers and/or environmental conditions (weather, etc.) which reduces actual annual emissions moving project further from the thresholds of significance. The table above reflects generic execution years by row instead of specific years of execution given the project start is variable due to business conditions.

As shown in Table 2, construction emissions will not exceed the District’s thresholds of significance for criteria pollutants. Therefore, the District concludes that Project construction emissions will have a less than significant impact on air quality and mitigation measures are not required.

Operational Emissions

Operational Non-Permitted Activities – Mobile Source Emissions: The Project will be maintained and manned by existing Chevron USA personnel and contractors. Therefore, the Project will not result in any new mobile source emissions.

Operational Permitted Equipment – Stationary Source Emissions: The Project consists of the installation of eight (8) new 85.0 MMBtu/hr natural gas-fired steam generators. The District has conducted an engineer evaluation for the Project and determined that Best Available Control Technology (BACT) is triggered for NO_x, CO, VOC, PM₁₀ and



SOx. Chevron USA is an existing Major Source and is in compliance with New Source Review requirements. Also, offsets are required for the Project and the District has imposed permit conditions consistent with New Source Review requirements.

Table 3 below presents the operational permitted stationary source emissions at full build-out for the eight (8) new 85.0 MMBtu/hr natural gas-fired steam generators. Table 4 below presents the Emission Reduction Credits (ERCs) required for the eight (8) new steam generators. As presented in Table 3 and Table 4 below, compliance with District Rule 2201 (New Source Review Rule) will ensure Project related criteria pollutant emissions be offset through the surrendering of ERCs. The requirement for offsets will be enforced through permit conditions. Therefore, the District concludes that through a combination of project design features and permit conditions, Project related stationary source emissions will have a less than significant impact on air quality.

Table 3: Project Operational Stationary Source Emissions

	Annual Emissions (tons/year)				
	NOx	SOx	PM ₁₀	CO	VOC
Total Emissions for 8 Steam Generators	21.74	8.49	9.53	55.10	16.38
Emission Reduction Credits (ERCs) to be Surrendered per Rule 2201	32.62	12.73	14.30	0	24.57
Final Project Stationary Source Emissions	(10.88)	(4.24)	(4.77)	55.10	(8.19)
Significance Thresholds	10	27	15	100	10
Exceed Thresholds	No	No	No	No	No



Table 4: Project Stationary Source Offset Requirements

	Offsets Required *				
	NOx	SOx	PM ₁₀	CO ‡	VOC
Total Emission Reduction Credits (ERCs) to be Surrendered per Rule 2201 (tpy) 8 Steam Generators	32.62	12.73	14.30	0	24.57
Emission Reduction Credits (ERCs) to be Surrendered per Rule 2201 (lbs/quarter**) Each Steam Generator	2,039	796	894	0	1,536
Emission Reduction Credits (ERCs) to be Surrendered per Rule 2201 (lbs/year) Each Steam Generator	8,154	3,183	3,575	0	6,143
<p>*Offset requirements were calculated at the ratios identified in District Rule 2201 (New and Modified Stationary Source Review)</p> <p>**Due to rounding, the lbs/quarter emissions in this table may not match exactly the lbs/quarter in MM AIR-1.</p> <p>‡Pursuant to District Rule 2201, § 4.6.1 CO offsets were not required in attainment areas provided that federal AAQS are not violated in the areas to be affected. The District performed an AAQA which demonstrates that the Project will not violate the federal AAQS for CO. Therefore, the Project CO emissions impact is less than significant, and no mitigation is required for CO.</p>					

Air Quality Plans

As summarized in Table 2, Project related construction emissions are below the District's thresholds of significance. Furthermore as summarized in Tables 3 and 4, operational stationary source emissions will be mitigated to below the District's thresholds through the surrendering of Emission Reduction Credits (ERCs). The ERCs must be surrendered to the District prior to commencement of operation of the equipment proposed under the ATC. As such, the Project does not conflict with the implementation strategy of the District's air quality plans (*2008 PM 2.5 Plan; 2007 8-Hour Ozone Plan and Request for Redesignation; 2007 PM₁₀ Maintenance Plan; 2012 PM_{2.5} Plan, 2013 Plan for the Revoked 1-hour Ozone Standard, 2015 Plan for the 1997 PM_{2.5} Standard*). Therefore, the Project will have a less than significant impact with mitigation measures.



Mitigation: To ensure compliance with District New Source Review (NSR) requirements for offsetting operational emissions, Chevron USA shall surrender ERCs sufficient to completely offset operational emissions as required by District NSR requirements. The following measures will be made conditions of Project approval and will be included in the Project ATCs:

AIR-1: To ensure compliance with District New Source Review (NSR) requirements for offsetting operational emissions, the following measures will be made conditions of Project approval (S-1144548) and will be included in the Project ATCs:

- Prior to operating equipment under this Authority to Construct, permittee shall surrender NO_x emission reduction credits for the following quantity of emissions: 1st quarter – 2,038 lb., 2nd quarter – 2,038 lb., 3rd quarter – 2,039 lb., and 4th quarter – 2,039 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,535 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and 4th quarter - 1,536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- Prior to operating equipment under this Authority to Construct, permittee shall surrender SO_x and PM₁₀ emission reduction credits for the following quantity of emissions: 1st quarter – 1,689 lb, 2nd quarter – 1,689 lb, 3rd quarter – 1,690 lb, and 4th quarter – 1,690 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201]
- ERC Certificate Numbers S-3208-2(NO_x), S-3869-1 (VOC), and S-3154-5(SO_x and PM₁₀) (or certificates split from these certificates) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

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

Less Than Significant Impact

Determination of whether project emissions would violate any ambient air quality standard is largely a function of air quality dispersion modeling. If project emissions would not exceed State and Federal ambient air quality standards at the project's



property boundaries, the project would be considered to not violate any air quality standard or contribute substantially to an existing or projected air quality violation. The District performed an AAQA for both the national and state AAQS to determine whether Project related criteria pollutant emissions have the potential to contribute to the possible violation of existing air quality standards. The AAQA indicates that Project related criteria pollutant emissions will not cause or contribute to an exceedance of either national or state AAQS. Therefore, the Project is not expected to result in a violation of an air quality standard and the impact will be less than significant.

- 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

By its very nature, air pollution has a cumulative impact. The District's nonattainment status is a result of past and present development within the San Joaquin Valley Air Basin (SJVAB). Furthermore, attainment of ambient air quality standards can be jeopardized by increasing emissions-generating activities in the region. No single project would be sufficient in size, by itself, to result in nonattainment of the regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development within the San Joaquin Valley Air Basin.

The District's thresholds of significance for criteria pollutants are based on District Rule 2201 (New Source Review) offset requirements. Furthermore, New Source Review (NSR) is a major component of the District's attainment strategy. NSR provides mechanisms, including emission trade-offs, by which Authorities to Construct such sources may be granted, without interfering with the attainment or maintenance of ambient air quality standards. District implementation of NSR ensures that there is no net increase in emissions above specified thresholds from new and modified Stationary Sources for all nonattainment pollutants and their precursors. In fact, permitted emissions above offset thresholds equivalent to the District's thresholds of significance for criteria pollutants are mitigated to below the thresholds, and the District's attainment plans show that this level of emissions increase will not interfere with attainment or maintenance of ambient air quality standards.

The District's attainment plans demonstrate that project-specific net emissions increase below New Source Review (NSR) offset requirements will not prevent the District from achieving attainment. Consequently, emission impacts from sources permitted consistent with NSR requirements are not individually significant and are not cumulatively significant.



As discussed above, the Project construction is short term and will not exceed any significance threshold. The Project operation will comply with all District rules and regulations including the surrendering of ERCs. Therefore, Project related emissions will have a cumulatively less than significant impact on air quality.

d) *Expose sensitive receptors to substantial pollutant concentrations?*

Less Than Significant Impact

Under the Clean Air Act, toxic air contaminants (TACs) are airborne pollutants that may be expected to result in an increase in mortality or serious illness or which may pose a present or potential hazard to human health. Potential health impacts from TACs include long-term health effects such as cancer, birth defects, neurological damage, or genetic damage; or short-term effects such as eye watering, respiratory irritation, throat pain and headaches. TACs may also be referred to as hazardous air pollutants (HAPs). There are currently more than seven hundred (700) substances classified by the US EPA and California Air Resources Board (CARB) as TACs. Air Quality problems occur when sources of TACs and sensitive receptors are located in proximity to one another.

TACs can be separated into carcinogens and non-carcinogens based on the nature of the physiological degradation associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold below which health impacts would not occur. Cancer risk is expressed as excess cancer cases per one million exposed individuals.

Non-carcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact would occur. These levels are determined on a pollutant-by-pollutant basis. Acute and chronic exposure to non-carcinogens is expressed by using a Hazard Index, which is the ratio of expected exposure levels to acceptable health-acceptable exposure levels.

The Air Toxics “Hot Spots” Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987, and requires stationary sources to report the type and quantities of certain substances routinely released into the air. The goals of AB 2588 are to collect emission data, to identify facilities having localized impacts, to ascertain risks to acceptable levels. AB 2588 requires air districts to establish the prioritization score threshold at which facilities are required to prepare a health risk assessment (HRA). In establishing priorities, an air district must consider potency, toxicity, quantity, and volume of hazardous materials released from the facility, the proximity of the facility to potential receptors, and any other factors that the district determines may indicate that the facility may pose a significant risk.

In implementing its responsibilities under AB 2588, the District Governing Board adopted notification procedures, including prioritization score thresholds, for notifying the public of significant carcinogenic and non-carcinogenic health risks. The District



concludes that use of the existing prioritization score thresholds to establish thresholds of significance under CCR §15064.7 is an appropriate and effective means of promoting consistency in significance determinations within the environmental review process. The District's thresholds of significance for determining whether project emissions would expose sensitive receptors to substantial pollutant concentrations are:

- Carcinogens: Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds ten (20) in one million.
- Non-Carcinogens: Ground Level concentrations of non-carcinogenic TACs would result in a Hazard Index greater than one (1) for the MEI.

The HRA demonstrates that for each unit, the acute and chronic hazard indices are both below one (1) and the maximum individual cancer exposure risk associated with each unit is less than the 1 in a million threshold. Specific conditions will be placed into the permit to ensure that human health risks will not exceed the District allowable levels. Therefore, the District concludes that there is no substantial evidence of record to support a conclusion that the project would expose sensitive receptors to significant health risks. Therefore, the Project will have a less than significant impact on sensitive receptors.

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

No Impact

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the District. Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there is no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Rather, projects must be assessed on a case-by-case basis.

Diesel exhaust from construction activities may generate odors. However, construction emissions are temporary in nature and, due to the distance from the nearest sensitive receptor (approximately 13,300 feet) the project is not expected to affect a substantial number of people.

The District's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) defines a significant odor impact as either:

- More than one (1) confirmed complaint per year averaged over a three (3) year period, or



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- Three (3) unconfirmed complaints per year averaged over a three (3) year period.

A review of the District's compliant database revealed no received odor complaints against the Chevron USA Cymric Oil Field. Therefore, the Project will have no impact on odors.



IV. Biological Resources Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 Wildlife 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 Wildlife 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?				✓



IV. BIOLOGICAL RESOURCES

- 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 Wildlife or U.S. Fish and Wildlife Service?*

Less Than Significant with Mitigation Incorporated

Construction activities associated with the Project will include: site preparation, grading of the area, pouring concrete foundation for each steam generator unit, worker trips and installation of eight (8) new 85.0 MMBtu/hr steam generators. Upon installation of the new steam generators, new pipelines for water and fuel gas piping will be installed primarily along the existing piping right of ways to support operational activities. The Project will be implemented utilizing existing roads and therefore, no new roads will be constructed. The Project has the potential to result in injury, mortality, harassment, and/or displacement of special status species and degradation of their habitat. Project operational activities typically involve maintenance activities, oil and gas production and minimal vehicle travel within the Project site. The following operational activities have the potential to directly or indirectly impact sensitive or special status species:

1. Operation and maintenance of steam generators.
2. Use, storage, transportation, and management of chemicals related to steam generators.
3. Travel on existing roadways.
4. Vegetation, mowing and clearing for maintenance purposes.

Although the types of direct and indirect impacts would be similar to the impacts of construction-related activities described above, the intensity of the impact and area of effect would be less because most activities associated with operations are expected to occur in previously disturbed areas (i.e. – travel on existing roadways, routine operation and maintenance of steam generators.)

To minimize impacts during construction and operation of the Project on candidate, sensitive and special status species, Chevron USA has precautionary measures in place to avoid “take” of threatened and endangered species on property due to construction and operational activities ongoing by Chevron. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct of endangered species. “Take” includes the modification or degradation of habitat that could result in death or injury to listed species through the interference of behavioral patterns of those species. The precautionary measures in place include the requirement of a biological survey to determine the presence or absence of candidate, sensitive, and special status species identified prior to all ground-disturbing activities.



Chevron USA maintains a practice of take avoidance for all species that are listed as threatened and/or endangered under *California Endangered Species Act (CESA)* and *Federal Endangered Species Act (FESA)*. Under this practice, Chevron USA performs pre-activity biological surveys by using qualified biological consultants for any proposed Project activity requiring ground disturbance in previously undisturbed areas. Chevron USA complies with all U.S. Fish and Wildlife (USFWS); and/or California Department of Fish and Wildlife (CDFW) recommendations for assessment, analysis, and protection of biological resources. With precautionary measures in place, it is reasonable to conclude the Project will not result in direct or indirect impacts to threatened or endangered species. In addition, Chevron USA has incorporated mitigation measures to ensure potential impacts on biological resources will be mitigated to less than significant.

Mitigations:

- **BIO-1** – A Qualified Biologist will conduct a focused pre-construction survey to determine the presence/absence of potential impacts on sensitive species prior to the onset of ground disturbance. The survey shall be conducted in accordance with appropriate standard protocols of the USFWS and CDFW. If more than 30 days pass before the onset of ground disturbance, an additional survey shall be conducted by a Qualified Biologist within 30 days prior to the onset of ground disturbance. Permittee shall make all biological surveys available to District staff upon request. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-2** – During construction activities, standardized avoidance measures shall be implemented to preclude take of special status species. If standardized avoidance measures cannot be achieved Permittee will consult with the CDFW and USFWS to develop alternative avoidance measures and/or obtain appropriate state and federal endangered species act permits. If standardized avoidance measures are inadequate and there is take of a threatened or endangered species, Permittee will notify USFWS, CDFW, and the District immediately. Permittee shall make available to the District any documentation required by USFWS and CDFW. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-3** – A biological monitor will be present during ground disturbing activities that will result in impacts to sensitive species habitat as determined by the qualified biologist during pre-construction surveys. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-4** – Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all Project areas, except on county roads and State and Federal highways. In the event that construction activities should occur during night time, a 10-mph speed limit shall be observed from dusk until dawn. Off-road traffic



outside of designated project areas should be prohibited. [*Public Resources Code 21000-21177: California Environmental Quality Act*]

- **BIO-5** – During construction activities, all excavated, steep-walled holes or trenches more than two (2) feet deep shall be covered at the close of each working day by plywood or similar materials to exclude wildlife. If the holes or trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for wildlife. If at any time wildlife is trapped or an injured wildlife is discovered, the USFWS and the CDFW shall be contacted as noted in Measure BIO-15. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-6** – All construction pipes, culverts, or similar structures with a diameter of 1.5 inches or greater that are stored at a construction site for one (1) or more overnight periods should be thoroughly inspected for wildlife before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If wildlife is discovered inside a pipe, that section of pipe should not be moved until a qualified biologist has monitored the pipe and determine that it is not occupied by wildlife. If the pipe is occupied by San Joaquin kit fox, the pipe will remain in place and not moved until the USFWS has been consulted. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-7** – All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction sites. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-8** – No firearms shall be allowed on the Project sites. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-9** – No pets, such as dogs or cats, shall be permitted on the Project sites. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-10** – Use of herbicides in the Project sites shall be restricted. If use of these compounds is deemed necessary, Permittee shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency (US EPA), California Department of Food and Agriculture (CDFA), and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. No rodenticides shall be used on site unless approved by CDFW and USFWS. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-11** – Permittee shall appoint a representative to be the contact source for any employee or contractor who might inadvertently kill or injure threatened or endangered wildlife species or who finds a dead, injured or entrapped threatened or



endangered wildlife species. [*Public Resources Code 21000-21177: California Environmental Quality Act*]

- **BIO-12** – An employee education program shall be implemented. The program should consist of a brief presentation by persons knowledgeable in threatened and endangered species that occur in the project vicinity, their biology, and legislative protection to explain threatened and endangered species concerns to all personnel involved in the Project. The program should include the following: descriptions of project relevant threatened and endangered species and their habitat needs; occurrence of threatened and endangered species in the project area; an explanation of the status of project relevant threatened and endangered species and their protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-13** – Upon completion of the Project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and will be allowed to return to its natural state. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with local botanists experienced in reclamation method that are affective in the southern San Joaquin Valley. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-14** – In the case of trapped wildlife, escape ramps or structures shall be installed immediately to allow wildlife to escape, or CDFW should be contacted for guidance. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-15** – Any contractor, employee, or agency personnel who are responsible for inadvertently killing or injuring threatened or endangered wildlife shall immediately report the incident to their representative identified in Measure BIO-11 above. This representative shall contact the CDFW and the USFWS immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden. Contact information for CDFW and USFWS is provided below in Measure BIO-16: [*Public Resources Code 21000-21177: California Environmental Quality Act*]



- **BIO-16** – The Sacramento branch of USFWS and Region 4CDFW shall be notified in writing within three (3) working days of the accidental death or injury to any threatened and endangered species during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured wildlife and any other pertinent information. Contact information is provided below. [*Public Resources Code 21000-21177: California Environmental Quality Act*]

CDFW: Ms. Reagen O’Leary, Environmental Scientist
1234 E. Shaw Avenue
Fresno, CA 93710
Phone: (559) 243-4014

CDFW: Ms. Vicky Monroe, Wildlife Biologist
3801 Pegasus Drive
Bakersfield, CA 93308
(661) 391-6087

USFWS: Chief of the Division of Endangered Species
2800 Cottage Way, Suite W2605
Sacramento, CA 95825-1846
(916) 414-6620 or (916) 414-6600

- **BIO-17** – New sightings of sensitive species shall be reported to the California Natural Diversity Database (CNDDDB).
- **BIO-18** – If habitat for, and/or the presence of sensitive species are documented in the pre-construction surveys, additional focused biological surveys will be conducted by a Qualified Wildlife Biologist for the appropriate survey periods as identified in the CDFW and USFWS protocols identified below. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
 - Blunt-nosed leopard lizard – Approved Survey Methodology for the Blunt-nosed Leopard Lizard (CDFG, 2004)
 - San Joaquin kit fox – Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance (USFWS, 2011)
 - Burrowing owl – Staff Report on Burrowing Owl Mitigation dated March 7, 2012 (CDFG, 2012)
- **BIO-19** – In the event that special status species are discovered on or near the Project site, said staff/contractor shall immediately contact the Company’s biological representative identified in the biological training. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-20** – In areas representing potential blunt-nosed leopard lizard habitat, blunt-nosed leopard lizard surveys following current CDFW guidelines shall be completed no more than one year prior to initiation of Project construction activities. Potential



habitat includes areas that have not been previously disturbed or that have recovered to support vegetation and small mammal burrows that represent potential shelter for blunt-nosed leopard lizard. If at any time blunt-nosed leopard lizards are observed during these surveys, no disturbance of areas that could be occupied by this species should occur within 500 feet of the observation without prior approval from CDFW. [*Public Resources Code 21000-21177: California Environmental Quality Act*]

- **BIO-21** - The limits of Project site grading shall be clearly delineated prior to construction activities by posting stakes, flags and/or rope or cord, as necessary. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-22** - Traffic restraints and signs shall be established and issued to minimize temporary disturbances. All Project-related vehicle traffic shall be restricted to established roads, designated access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries shall be prohibited. All equipment storage and parking during Project activities shall be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species. [*Public Resources Code 21000-21177: California Environmental Quality Act*]
- **BIO-23** - Traffic restraints and signs shall be established and issued to minimize temporary disturbances. All Project-related vehicle traffic shall be restricted to established roads, designated access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries shall be prohibited.
- **BIO-24** - All equipment storage and parking during Project activities shall be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species. If vegetation clearing is conducted between February and mid-September, a survey targeting identification of nesting birds shall be conducted. This survey may be conducted in conjunction with the pre-activity survey. If any nesting birds covered by the Migratory Bird Treaty Act are identified, nests shall be avoided by an appropriate distance such that nesting activities are not interrupted until the young have fledged. Determination of when young have fledged from active nests will be determined by a qualified biologist. If any nesting birds are found during vegetation clearing activities, a qualified biologist shall be contacted to determine appropriate avoidance measures. If any burrowing owl burrows are observed, avoidance measures should be consistent with those included in "Staff Report on Burrowing Owl Mitigation," CDFG (2012) taking into account existing disturbances such as roads and structures. Absolutely no disturbance to active nests shall occur without a permit pursuant to the Migratory Bird Treaty Act. For nesting sites, based on the level of disturbance, the following buffer distances shall apply and be adequately delineated around active nests.



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- April 1 – Aug 15: low disturbance, 200 meters; medium disturbance, 500 m; and high disturbance, 500 m.
 - Aug 16 – Oct 15: low disturbance, 200 meters; medium disturbance, 200 m; and high disturbance, 500 m.
 - Oct 16 – Mar 31: low disturbance, 50 meters; medium disturbance, 100 m; and high disturbance, 500 m.
 - All power poles and electrical facilities should be designed to minimize the potential for electrocution of migratory and resident birds, including consideration of birds with a wingspan of up to 9 feet.
- **BIO-25** - To reduce potential impacts to the San Joaquin kit fox, Permittee shall implement the following avoidance measures:
- For San Joaquin kit fox dens observed within 200 feet of the construction area, avoidance zones shall be identified by wooden or metal stakes connected by flagging or by other similar fencing material. Each avoidance zone shall have the following distance measured outward from the den or burrow entrances.
 - Potential den: 50 feet
 - Atypical den: 50 feet
 - Known den: 100 feet
 - Natal/pupping den (occupied and unoccupied): Contact CDFW
 - Potential kit fox dens shall be monitored until they can be shown to be unoccupied based on the procedures outlined in Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance (USFWS, 2011), and then covered with plywood that is firmly secured to prevent access by kit foxes during Project activities. The covers shall not be installed more than 14 days prior to the start of construction. The covers shall remain in place for the duration of construction, after which time they shall be removed.
 - If avoidance of any potential kit fox den within the Project site is not practicable, and the den may be unavoidably damaged or destroyed by Project actions, the following procedure shall be implemented: Prior to surface-disturbing activities, any such potential kit fox den shall be monitored based on the procedures outlined in Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance (USFWS, 2011) and completely excavated and then backfilled to preclude later use by kit foxes during the construction period. If, at any time during monitoring or excavation, any sign that the den may be or has been occupied is found, the den's status changes to "known".



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- Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den classification is determined by a qualified wildlife biologist; and (2) the excavation is conducted by or under the direct supervision of a qualified wildlife biologist.
 - Dens identified by a qualified biologist as either a “known” den or as a “suspected” pupping den shall not be excavated unless the appropriate California Endangered Species Act (CESA) and Federal Endangered Species Act (FESA) permits authorized such excavations.
 - Avoidance zones shall be maintained until all construction activities have been completed, and then shall be removed by a qualified biologist.
 - **BIO-25** - To reduce potential impacts to San Joaquin antelope squirrel and giant kangaroo rat, Permittee shall implement the following avoidance measures:
 - For burrows within 200 feet of the construction area, avoidance zones shall be identified by wooden or metal stakes connected by flagging or by other similar fencing material.
 - Avoidance zones for San Joaquin antelope squirrels shall be a minimum of 50 feet outward from the burrow entrances.
 - Avoidance zones for giant kangaroo rat shall be a minimum of 50 feet outward from the burrow entrance.
 - If burrows cannot be avoided, no Project activities shall occur until the appropriate CESA and FESA permits have been issued.
 - 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 Wildlife or U.S. Fish and Wildlife Service?*

Less Than Significant Impact

The Project site is not located near riparian or sensitive natural communities; therefore, activities related to the Project will not impact riparian habitats or other sensitive natural communities. In order to minimize potential impacts to riparian and sensitive natural communities, Chevron USA has implemented best management practices (BMPs) to minimize any potential impacts to such communities. BMPs implemented by Chevron USA will include, but not limited to the following:

- *Management Practices:* Oil and gas operators and their contractors shall adhere to practices which conform to environmental protections for preserving the landscape of the Chevron oil fields. Many provisions for environmental protection are



established in existing regulations in California Code of Regulations (CCR), Title 14, Division 2, Chapter 4, Subchapter 2, entitled “Environmental Protection and Other State and Federal Regulations.”

- *Channels:* Open, unlined channels and ditches shall not be used to transport waste water (CCR Section 1771).
- *Tank Settings:* Provisions for containment of spilled fluids from tank facilities shall conform to DOGGR requirements for spill prevention and control (CCR Section 1773).
- *Well Cellars:* Well cellars shall be covered and kept drained. Grating or flooring shall be maintained to prevent wildlife entry (CCR Section 1774).
- *Production Facilities:* Production facilities, including tanks, pipes, wellheads, and separators shall not have excessive leakage (CCR Section 1774).
- *Spills:* Leaks and spills which occur shall be promptly repaired and cleaned up (CCR Section 1722).
- *Oil Field Waste and Refuse:* Oil field wastes, including oil, water, chemicals, mud, and cement shall be disposed in a manner so as not to cause damage to wildlife or plants and in accordance with State and local regulations. Idle equipment, scrap, trash, or other oil field materials shall not be disposed of or stored in a disorganized manner or create a hazard (CCR Section 1774). Trash receptacles shall be covered in a manner that prohibits access by animals.
- *Well and Facility Restoration:* Upon well abandonment, holes and cellars shall be removed or filled with earth, and cleared of equipment and trash. Unstable slopes shall be corrected where collapse would result in severe erosion or safety hazard (CCR Section 1776). Unless considered necessary for safety or cleanup purposes, buried flowlines will be left in place. Aboveground lines will be removed. Roads no longer needed for access will not be used following abandonment. The discontinuance of use will allow natural revegetation.
- *Wildlife Awareness Education:* Operators shall provide training to workers to educate them on issues of working around special status species. Awareness training materials (developed by Chevron in consultation with Qualified Biologists) will be provided to workers to educate them on issues of working around sensitive plants and animals. Awareness training materials shall be updated at a frequency not to exceed every 2 years to ensure material reflects current biological information.
- *Herbicides and Pesticides:* Herbicide and pesticide chemicals shall be used only in accordance with existing law, according to manufacturer’s instructions and the Kern County Bulletin produced by the California Department of Pesticide Regulation.



Herbicide use is limited to existing facility footprints for fire prevention purposes around such facilities as pumping units, power poles, and electrical combustion equipment.

- *Firearms:* Operators shall establish policies prohibiting the use of firearms on oil and gas properties.
- *Vehicle Speed Limits:* Vehicle speed shall be limited to 20 miles per hour on oilfield unpaved roadways.
- *Producing Well Pads:* The size of producing well pads shall be allowed to naturally restore to a smaller working area after the larger area initially graded to drill the well is no longer needed.
- *New Facility Construction:* New construction shall be designed and implemented to minimize surface site disturbance to the extent practicable to maintain site safety and operation. Construction shall utilize existing disturbed sites and/or facilities wherever practicable.
- *Erosion Control Measures:* Standard erosion control measures shall be implemented, as necessary.
- *Off-Road Travel:* Vehicle travel for operation and maintenance purposes shall be limited to existing roadways. Construction of new roads shall be avoided if existing roads can be used.
- *Drainage Washes:* New wells and facilities shall be constructed at least 50 feet from the banks of any drainage. Construction of new wells and facilities in proximity to streams must independently comply with Section 1602 of the Fish and Game Code, Section 404 of the Clean Water Act, and CFGC sections 100 et seq.
- *Pipeline Covers:* Pipe stored on site shall have their ends covered prior to use. The ends of pipes stored on site will have ends capped before or immediately after off-loading. In all cases, pipes shall be inspected for presence of wildlife before moving or use. If a special status species has taken occupancy in a section of pipe, a Qualified Biologist shall remove it prior to the pipe being used.
- *Escape Ramps:* Wildlife escape ramps, sized and sited for special status species found in the vicinity of the work site shall be installed after any trench is dug that cannot be covered and must remain open overnight. While work is occurring in the vicinity, monitors will check for animal presence daily before work begins and at the end of the work day.



- *Avian Protective Measures:* It is against Federal and State law to “take” nesting birds, their eggs, or young (MBTA [16 United States Code], CFGC Section 3503). The only exceptions are European starlings (*Sturnus vulgaris*), house sparrows (*Passer domesticus*), and rock doves (*Columba livia*). Take includes killing the birds directly, and/or destroying, moving or disturbing a nest with eggs or young present (thereby resulting in the death of young from abandonment or exposure). It is only necessary to stop work in an active nesting area if it is not possible to perform the work in a manner that will protect the nesting birds.
 - Active nests on idled equipment that need to be relocated or restarted cannot be disturbed until the young have fledged (flown from the nest).
 - Appropriate buffer distances will be established by a qualified biologist for tasks that can be performed in the vicinity of an active nest.
 - If a nest must be removed, work must be postponed until the young have fledged (flown from the nest). For most small birds, it is approximately 4 weeks from egg laying to fledging.

Based on the above, the District concludes that the Project will have a less than significant impact on riparian habitat or other sensitive natural communities.

- 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?*

Less Than Significant Impact

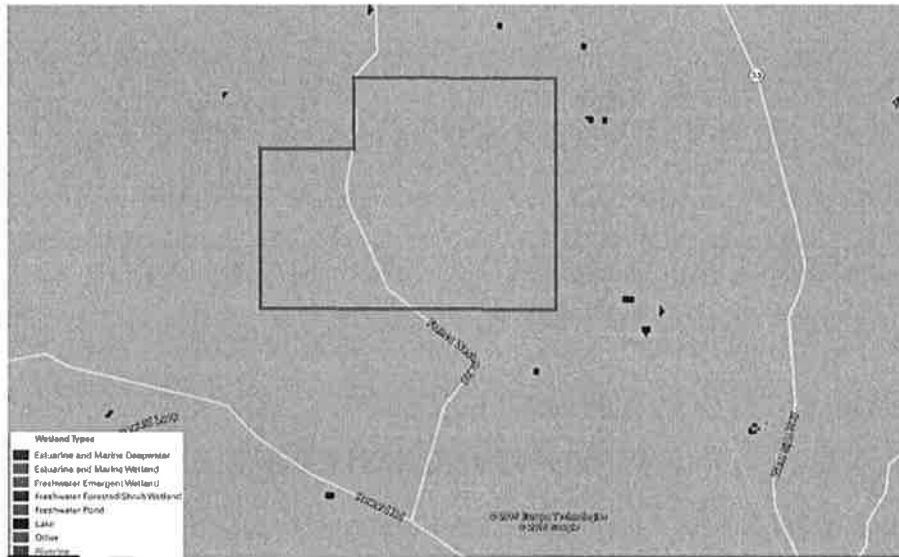
Section 404 of the Clean Water Act defines wetlands as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

In more common language, wetlands are areas where the frequent and prolonged presence of water at or near the soil surface drives the natural system meaning the kind of soils that form, the plants that grow, and the fish and/or wildlife communities that use the habitat. Swamps, marshes, and bogs are well-recognized types of wetlands. However, many important specific wetland types have drier or more variable water systems than those familiar to the general public. Some examples of these are vernal pools (pools that form in the spring rains but are dry at other times of the year), playas (areas at the bottom of undrained desert basins that are sometimes covered with water), and prairie potholes.



The U.S. Department Fish and Wildlife Services National Wetlands Inventory identified several wetlands (small freshwater ponds) around in the vicinity of the Project site (see Figure 5 below). However, no wetlands exist on the Project site. As such, the Project is not expected to have an adverse impact on wetlands. Therefore, the Project will have a less than significant impact.

Figure 5: Wetlands Inventory



Source: U.S. Fish and Wildlife Services, National Wetlands Inventory.
Website: www.fws.gov/wetlands/Data/Mapper.html

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?*

Less Than Significant Impact

The traditional pattern of development in oil and gas production results in patches of disturbance. Generally, vegetation between existing stationary sources equipment and facilities which is present in oil and gas fields is commonly left undisturbed. Additional vegetation is allowed to recover in these areas that are not continuously disturbed. When vegetation is allowed to recover, many native wildlife species recolonize areas between stationary sources from existing patches of habitat that were not part of the initial ground disturbance. The Project is located in an area that is historically disturbed and ground disturbance resulting from construction activities will result in minimal impacts to vegetation. As such, the small area that will be impacted by the Project is expected to add minimal increase, if any, to much more extensive, impassible, and permanent barriers that already exist.



The Project would result in no native resident or migratory fish species impacts and it would not impede or adversely affect the use of any native wildlife nursery sites. Based on the above, the District concludes that construction and operational impacts regarding the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors associated with the Project will be less than significant.

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

No Impact

The Kern County General Plan Land Use, Open Space, and Conservation Element outlined policies for tree conservation. The policy requires protection of oak woodlands and large oak trees. There are no trees present on the Project site or surrounding areas. Therefore, the Project will have no impact.

- 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?*

No Impact

The Cymric Oil Field overlaps satellite areas identified in the USFWS Recovery Plan for Upland Species of the San Joaquin Valley, California (Recovery Plan) which outlined conservation and recovery objectives for certain species listed under the FESA. There is a relatively high level of existing disturbance from oil and gas development in production areas of the oil field. Similarly, the Project site does not contain any significant blocks of natural lands that would provide contiguous high-quality habitat for any of the species addressed in the Recovery Plan. The Project will be consistent with the Recovery Plan goals and ecosystem-level strategy. Furthermore, Chevron USA is currently developing the Draft Lokern Habitat Conservation Plan (LHCP) to address current and future oil and gas exploration in the southern San Joaquin Valley. The LHCP includes a permit area consisting of those lands where Chevron's covered activities would occur. The permit area is subdivided into three subsections including (a) 13,333 acres of Chevron Lokern Lands, (b) 204,618 acres encompassing Chevron's Four Fields (Cymric-McKittrick, Kern River, Lost Hills, and Midway Sunset), and (c) 14,522 acres in the Lokern Contiguous Area. The purpose of the LHCP is to fulfill the requirements of Section 10(a)(1)(B) of the FESA and Section 2081(b) of the California Fish and Game Code as authorized under the CESA for obtaining permits authorizing the "take" of the specified endangered and threatened species incidental to otherwise lawful activities (Incidental Take Permits or Permits). Chevron's business purpose in developing a large scale HCP is to provide operational flexibility and to avoid uncertainty, risks, delays, and unexpected costs as a result of activities permitted through this HCP associated with project-by-project permitting. It is anticipated that this



HCP will contribute to many of the conservation and recovery objectives set forth in the Recovery Plan.

In December of 2006, Kern County issued a Draft Valley Floor Habitat Conservation Plan (VFHCP). The VFHCP is a long-term comprehensive strategy that provides means of addressing compliance with the California and Federal Endangered Species Acts for Kern County's oil and gas production industry, urban development, water district development and maintenance, and public infrastructure activities. Overall, the Project is consistent with the objectives in the Recovery Plan, Lokern HCP, and VFHCP which encourages protection of sensitive species. Therefore, the Project will have no impact on conservation plans.



V. Cultural Resources Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?		✓		

V. CULTURAL RESOURCES

a) *Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?*

Less Than Significant Impact

Chevron USA has conducted a Cultural Resources Assessment and Historic Sites and Architectural Resources Analysis Technical Report for the Cymric Oil Field to identify impacts associated with historical resources. The Cultural Resources Assessment and Historical Sites and Architectural Resources Analysis Technical Report indicate that the Project site and Cymric Oil Field has low sensitivity for historical architectural resources. The Project construction and operation activities have the potential to affect a cultural resource if the associated ground disturbance will directly disturb, destroy, or remove all or part of a resource. In addition, some resources may be affected if activity adjacent to their location may directly affect the setting, feeling, or association of the resource. The historical development in the Project area is tied to the development of oil and gas. Therefore, the Project is not expected to change or adversely affect the aesthetic or contextual significance of existing historical-age resources.

Chevron USA has adopted standard precautionary measures for the protection of cultural resources, referred to as Project Development Features (PDFs). PDFs are standard protection measures designed to reduce or eliminate impacts on known and previously unrecorded resources that may be encountered during construction and operation of the Project. These PDFs are characterized as a new Cultural and Paleontological Resources Management (CPRM) program and includes the following elements:



-
- The identification and retention of key personnel;
 - Preconstruction geoarchaeological and paleontological assessments;
 - A comprehensive cultural and paleontological resources management plan and resource inventory;
 - Worker awareness training and in-field updates;
 - Standard cultural and paleontological resources protection procedures; and
 - Reporting standards and responsibilities to the lead agency and other agencies and repositories.

To minimize impacts on known and unidentified historical resources, implementation of PDFs will ensure the protection, through identification and avoidance, of significant surface-visible historical resources 50 years of age and older. Therefore, the Project will have a less than significant impact.

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

Less Than Significant with Mitigation Incorporated

Ground-disturbing work such as site preparation and grading in the Project area may have the potential to impact archaeological resources. The Cultural Resources Assessment and Historical Sites and Architectural Resources Analysis Technical Report indicate that the Project site and the Cymric Oil Field has moderate sensitivity for historical archaeological resources. To minimize impacts to archaeological resources, implementation of PDFs ensure the protection through identification and avoidance of significant surface-visible archaeological resources 50 years of age and older. In addition, mitigation measure CUL-1 has been incorporated into the Project to address the possibility that archaeological resources might be unearthed during any Project related ground disturbance activities. Therefore, the Project will have a less than significant impact with mitigation.

Mitigation:

- **CUL-1** – In the event that archaeological resources are discovered during ground-disturbing activities, all work within 100 feet of the find shall cease and the Permittee shall notify and retain a qualified archaeologist to assess and provide an evaluation of the significance of the find. A qualified archaeologist shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and the Native American Heritage Commission (NAHC). In addition, should archaeological resources be discovered, Permittee shall provide the District a written report in relation to the nature of the find. [*Public Resources Code 21000-21177: California Environmental Quality Act*]



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- c) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Less Than Significant with Mitigation Incorporated

Ground-disturbing work such as site preparation and grading in the Project area underlain by proven fossil-bearing deposits has the potential to impact paleontological resources. Previous research by Chevron USA consultants assessed the paleontological sensitivity of the Cymric Oil Field and classed it as having low and high sensitivity for paleontological resources. To minimize impacts to paleontological resources, implementation of PDFs will require a paleontological monitoring plan to be developed. In addition, mitigation measure CUL-2 has been incorporated into the Project to address the possibility that paleontological resources might be unearthed during any Project related ground disturbance activities. Therefore, the Project will have a less than significant impact with mitigation.

- **CUL-2** – In the event that paleontological resources are discovered during ground-disturbing activities, all work within 100 feet of the find shall cease and the Permittee shall notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. A qualified paleontologist shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and the Native American Heritage Commission (NAHC). In addition, should paleontological resources be discovered, Permittee shall provide the District a written report in relation to the nature of the find. [*Public Resources Code 21000-21177: California Environmental Quality Act*]

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

Less Than Significant with Mitigation Incorporated

No cemeteries, burial sites, or archaeological deposits containing human remains have been definitively identified on the Project site or within the Cymric Oil Field. Therefore, although it's highly unlikely, there could be a potential to disturb human remains. To minimize any potential impacts on unidentified human remains and burials, implementation of PDFs as part of the comprehensive CPRM program with standard protection measures will reduce or eliminate impacts on known and previously unrecorded resources that may be encountered during construction and operation of the Project. The standard protection measures would ensure the protection, through identification, and avoidance of surface-visible burials or human remains, including cairns suspected of being burial markers.

In the event of an unanticipated discovery of human remains during the construction or operation of the Project, the PDFs developed to legally and respectfully respond to the



discovery of unanticipated human remains will be implemented. In addition, mitigation measure CUL-2 has been incorporated into the Project to address the possibility that human remains might be unearthed during any Project related ground disturbance activities. Therefore, the Project will have a less than significant impact with mitigation.

Mitigation:

- **CUL-3** – In the event that human remains are discovered during ground-disturbing activities, all work within 100 feet of the find shall cease and the discovery shall immediately be reported to the County Coroner (CC) and Native American Heritage Commission (NAHC) for further assessment. Permittee shall identify appropriate measures for treatment or disposition of the remains in consultation with the CC and NAHC. In addition, should human remains be discovered during ground-disturbing activities, Permittee shall provide the District a written report in relation to the nature of the find. [*Public Resources Code 21000-21177: California Environmental Quality Act*]



VI. Geology / Soils Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> 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. 				✓
<ul style="list-style-type: none"> ii) Strong seismic ground shaking? 			✓	
<ul style="list-style-type: none"> iii) Seismic-related ground failure, including liquefaction? 				✓
<ul style="list-style-type: none"> 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 wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓

VI. GEOLOGY/SOILS

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.*

No Impact

The Project is not located within an Alquist-Priolo Earthquake Fault Zone, as published by the California Department of Conservation. The nearest active earthquake fault to the Cymric Oil Field is the San Andreas Fault and is located approximately 10 miles from the Project site. Therefore, the Project will have no impact.

- ii. *Strong seismic ground shaking?*

Less Than Significant Impact

According to the Safety Element of the Kern County General Plan, Kern County is susceptible to moderate-to-extreme ground shaking from a number of seismic sources. This hazard exists because elastic strains that accumulate deep within the earth become so great that the rock can no longer be contained. When this happens, movement along a fracture zone occurs, releasing enormous amounts of energy. At any given location, the amount of the resulting shaking motion caused by the sudden movement depends to a large extent on local ground condition. The Kern County Safety Element has policies and implementing measures in place to minimize concerns from ground shaking. The Project is not located within an Alquist-Priolo Earthquake Fault Zone, as published by the California Department of Conservation. The nearest active earthquake fault to the Cymric Oil Field is the San Andreas Fault and is located approximately 10 miles from the Project site. Therefore, the Project will have a less than significant impact.

- iii. *Seismic-related ground failure, including liquefaction?*

No Impact

According to the Safety Element of the Kern County General Plan, land subsidence is a type of ground failure that can be aggravated by ground shaking. It is most often caused by the withdrawal of large volumes of fluids from underground reservoirs, but it can also occur by the addition of surface water to certain types of soil. There are four types of subsidence occurring in Kern County:

- Tectonic subsidence: a long-term, very slow sinking of the valley, which is significant only over a geologic time period.
- Subsidence caused by the extraction of oil and gas: this type of subsidence is still too small to be of serious concern. The State Division of Oil, Gas, and Geothermal



Resources monitors subsidence in oil and gas fields and regulates oil and gas withdrawal and repressurizing of the fields.

- Subsidence caused by withdrawal of groundwater: in quantities much larger than replacement can occur, causing a decline of water level. This type of subsidence is of major concern and should be regulated and reduced, especially in urbanizing areas. This practice has lowered the ground level over a large area south of Bakersfield and in other areas of the County.
- Subsidence caused by hydrocompaction of moisture – deficient alluvial deposits: this is a one-time densification from collapse of the soil structure in near surface strata where the rainfall of other moisture has not penetrated during a long period of time.

As noted in the Kern County Safety Element, subsidence caused by the extraction of oil and gas is too small to be of serious concerns. As such, ground failure is not expected to occur at the Project site.

Liquefaction can occur in certain types of soil that are associated with shallow water table. It has been observed in many areas of the world that ground shaking produced by earthquakes tends to cause liquefaction to the extent that buildings have fallen over on their sides due to the lack of ground support. Some buildings designed to withstand earthquake shock waves, have been deemed inhabitable due to earthquake-triggered liquefaction. The Department of Conservation has mapped liquefaction hazard areas in Los Angeles County. As such, no liquefaction hazard area are located within the Project area.

The Project site is consistent with current land use and will be designed in accordance with all building code requirements including those pertaining to excavations, grading, and foundations. Adherence to California Buildings Standards Code (CBSC) requirements and compliance with California seismic design requirements would ensure that the Project would not expose persons or property to substantial risk of loss, injury, or death resulting from seismic activity. Therefore, the Project will have no impact.

iv. Landslides?

No Impact

According to the Safety Element of the Kern County General Plan, Kern County is susceptible to small landslides in mountainous areas of the county as loose material moves naturally down slope or fires have caused loss of soil-stabilizing vegetative cover. The Project is located on flat terrain away from any mountains and is not expected to experience any landslides. Therefore, the Project will have no impact.



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

Less Than Significant Impact

The steam generators will be manufactured and assembled off-site and be delivered to the Project site for installation. Construction activities will be minimal in nature. Any potential impacts to soil erosion will be reduced by compliance with the Kern County Planning and Building Department requirements. Therefore, the Project will have a less than significant impact.

c) *Be located on a geological 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?*

No Impact

The Project is located on Mineral and Petroleum land designated for oil production activities and will be used for such purpose. Per the Kern County General Plan Safety Element, subsidence caused by the extraction of oil and gas is deemed too small to be of serious concern and subject to monitoring and regulation by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources. The Project is not located near mountainous areas where there is a potential for landslides and is not located in a liquefaction area. Therefore, the Project will have no impact.

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

No Impact

Expansive soils are soil that swell and contract depending on the amount of water that is present. Expansive soils contain minerals such as smectite clays that are capable of absorbing water. When they absorb water they increase in volume. The more water they absorb the more their volume increases. Expansions of ten percent or more are not uncommon. This change in volume can exert enough force on a building or other structure to cause damage.

According to the United States Geological Survey, *Swelling Clays Map of the Conterminous United States* identified geologic units that contain swelling clays, and within broad limits, categorized the units according to their swelling potential (see Figures 6 and 7).



Figure 6: Swelling Clays Map of the Conterminous United States



Source: United States Geological Survey
Website: http://ngmdb.usgs.gov/Prodesc/proddesc_10014.htm

Figure 7: Swelling Clays Map of the Conterminous United States (Project Area)

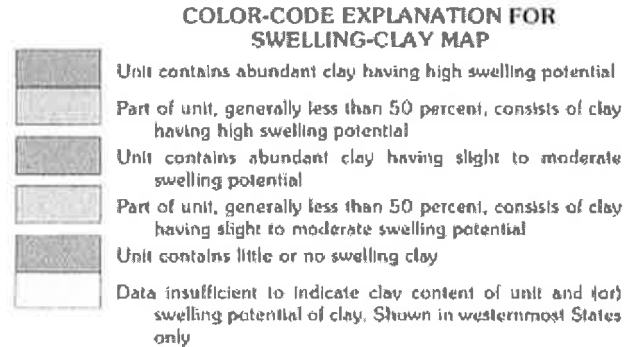


Source: United States Geological Survey
Website: http://ngmdb.usgs.gov/Prodesc/proddesc_10014.htm



The color coded explanation for the swelling-clay map is shown in Figure 8 below:

Figure 8: Color-Coded Explanation for Swelling Clay Map



Source: United States Geological Survey
Website: http://ngmdb.usgs.gov/Prodesc/proddesc_10014.htm

Based on the *Swelling Clays Map of the Conterminous United States* prepared by the United States Geological Survey, the soil in Kern County contains little or no swelling potential. Therefore, there will be no impact on expansive soil.

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

No Impact

The Project does not include or require new septic tanks or additional wastewater disposal systems. During construction and operation, portable chemical unit restrooms will be maintained by an outside service company or existing facilities will be used. As such, the Project will not impact the soil or its capacity to support potential wastewater disposal. Therefore, the Project will have no impact.



VII. Greenhouse Gas Emissions Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

VII. GREENHOUSE GAS EMISSIONS

GHGs are gases that absorb and emit radiation within the thermal infrared range, trapping heat in the earth's atmosphere. There are no "attainment" concentration standards established by the Federal or State government for GHGs. In fact, GHGs are not generally thought of as traditional air pollutants because GHGs, and their impacts, are global in nature, while traditional "criteria" air pollutants affect the health of people and other living things at ground level, in the general region of their release to the atmosphere. Some GHGs occur naturally and are emitted into the atmosphere through natural processes. Other GHGs are created and emitted solely through human activities. The principal GHGs that enter the atmosphere because of human activities are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated carbons. Additional information on GHG and global climate change can be found in the District staff report titled: *Addressing Greenhouse Gas Emissions Impacts Under the California Environmental Quality Act*.

Assembly Bill 32 (AB 32)

Assembly Bill 32 (California Global Warming Solutions Act of 2006) is a key piece of California's effort to reduce its GHG emissions. AB 32 was adopted establishing a cap on statewide greenhouse gas emissions and sets forth the regulatory framework to achieve the corresponding reduction in statewide emissions levels. AB 32 requires the CARB to establish regulations designed to reduce California's GHG emissions to 1990 levels by 2020. In executing its legislative mandate under AB 32, the CARB developed a Scoping Plan that contains the main strategies California will use to reduce GHG from Business-as-Usual (BAU) emissions projected from 2020 levels back down to 1990 levels. BAU is the projected emissions caused by growth, without any GHG reduction measures. CARB determined that a 29% reduction from BAU is necessary to achieve the 1990 GHG emissions level. On December 11, 2008, ARB adopted its AB 32 Scoping Plan, setting forth a framework for future regulatory action on how California will achieve the goal of reducing GHG emissions to 1990 levels.



Cap & Trade

The AB 32 Scoping Plan identifies a Cap and Trade program as one of the strategies California will employ to reduce the GHG emissions that cause climate change. The Cap and Trade program is implemented by the California Air Resources Board (CARB) and caps GHG emissions from the industrial, utility, and transportation fuels sectors – which account for roughly 85% of the state’s GHG emissions.

The program works by establishing a hard cap on about 85% of total statewide GHG emissions. The cap starts at expected BAU emissions levels in 2012, and declines 2-3% per year through 2020. Fewer and fewer GHG emissions allowances are available each year, requiring covered sources to reduce their emissions or pay increasingly higher prices for those allowances. The cap level is set in 2020 to ensure California complies with AB 32’s emission reduction target of returning to 1990 GHG emission levels.

The scope of GHG emission sources subject to Cap and Trade in the first compliance period (2013-2014), includes:

- All electricity generated and imported into California. The first deliverer of electricity into the state is the capped entity (the one that will have to purchase and surrender allowances).
- Large industrial facilities emitting more than 25,000 metric tons of GHG pollution/year. Examples include oil refineries and cement manufacturers.

The scope of GHG emission sources subject to Cap and Trade during the second compliance period (2015-2017), expands to include distributors of transportation fuels (including gasoline and diesel), natural gas, and other fuels. The regulated entity will be the fuel provider that distributes the fuel upstream (not the gas station). In total, the Cap and Trade program is expected to include roughly 350 large businesses, representing about 600 facilities. Individuals and small businesses will not be regulated. Under the program, companies do not have individual or facility-specific reduction requirements. Rather, all companies covered by the regulation are required to turn in allowances in an amount equal to their total greenhouse gas emissions during each phase of the program. The program gives companies the flexibility to either trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more will have to turn in more allowances. Companies that can cut their emissions will have to turn in fewer allowances. Furthermore, as the cap declines, total emissions are reduced.

On October 20, 2011, CARB’s Board adopted the final Cap and Trade regulation and Resolution 11-32. As part of finalizing the regulation, the Board considered the related environmental analysis and, consistent with CEQA requirements, approved CARB’s functionally equivalent document (FED).



CEQA Requirements

In December, 2009, the California Natural Resources Agency (NRA) amended the CEQA Guidelines to include Global Climate Change, which is now generally accepted by the scientific community to be occurring and caused by GHG emissions. The amendments address analysis and mitigation of the potential effects of GHG emissions in CEQA documents. In their *Final Statement of Reasons for Regulatory Action*, NRA recognizes that the analysis of GHG emissions in a CEQA document presents unique challenges to lead agencies. NRA amended section 15064(h)(3) of the CEQA guidelines to add compliance with plans or regulations for the reduction of GHG emissions to the list of plans and programs that may be considered in a cumulative impacts analysis. In their *Final Statement of Reasons for Regulatory Action*, NRA discusses that AB 32 requires CARB to adopt regulations that achieve the maximum technologically feasible and cost effective GHG reductions to reach the adopted state-wide emissions limit. NRA goes on to state that a lead agency may consider whether CARB's GHG reduction regulations satisfy the criteria in existing subdivision (h)(3).

District CEQA Policy

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. On December 17, 2009, the District adopted the policy "*District Policy (APR 2005) – Addressing GHG Emissions Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*" and approved the District's guidance document for use by other agencies when addressing GHG impacts as lead agencies under CEQA. The policy applies to all District permitting projects that have an increase in GHG emissions, regardless of the magnitude of the increase. Under this policy, the District's determination of significance of project-specific GHG emissions is founded on the principal that projects with GHG emission reductions consistent with AB 32 emission reduction targets are considered to have a less than significant impact on global climate change.

As illustrated in Figure 9, the District's board-adopted policy for determining significance of project-specific GHG emissions employs a tiered approach. Of specific relevance to Cap and Trade is the provision that: "Projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency. Projects complying with an approved GHG emission reduction plan or GHG mitigation program would not be required to implement best performance standards BPS." Projects that do not comply with such a plan or program must incorporate BPS or undergo a project-



specific analysis demonstrating that GHG emissions would be reduced by at least 29%, as compared to BAU.

Determination of Significance of GHG Emissions for Projects Subject to an Approved GHG Emissions Reduction Plan

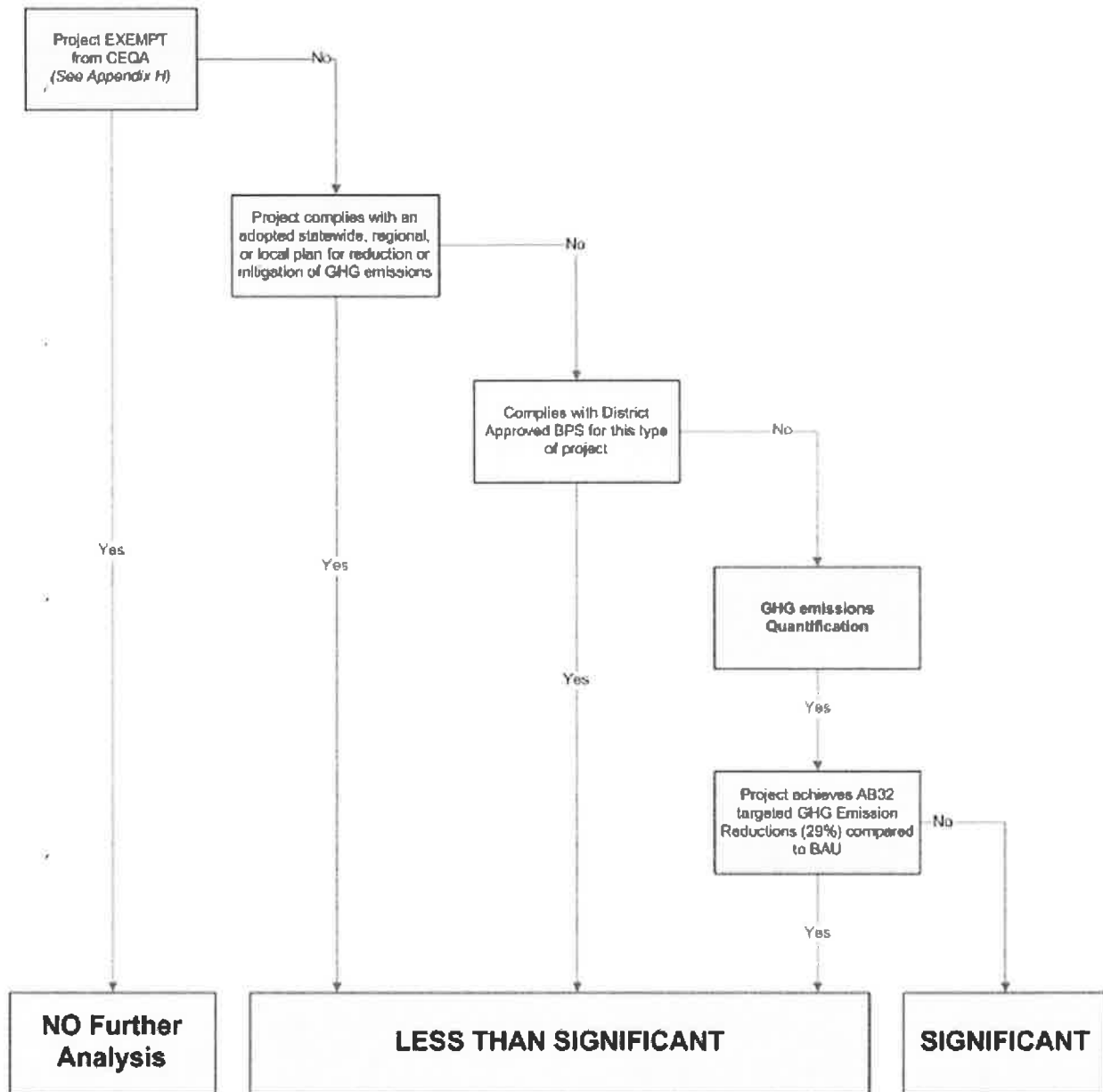
The NRA amended the CEQA Guidelines to include Global Climate Change and added compliance with plans or regulations to reduce GHG emissions to the list of plans and programs that should be considered in a cumulative impacts analysis. In their *Final Statement of Reasons for Regulatory Action*, NRA discusses that AB 32 requires the CARB to adopt regulations that achieve the maximum technologically feasible and cost effective GHG reductions to reach the adopted state-wide emissions limit. NRA goes on to state that a lead agency may consider whether CARB's GHG reduction regulations satisfy the criteria in section 15064(h)(3).

The District's board-adopted policy determines that: "Projects complying with an approved GHG emission reduction plan or GHG mitigation program, which avoids or substantially reduces GHG emissions within the geographic area in which the project is located would be determined to have a less than significant individual and cumulative impact for GHG emissions. Such plans or programs must be specified in law or approved by the lead agency with jurisdiction over the affected resource and supported by a CEQA compliant environmental review document adopted by the lead agency."

AB 32, and the AB 32 scoping plan adopted by CARB, is a GHG reduction plan for CEQA purposes. It is directly and wholly responsible for meeting the GHG reduction targets of the State of California and is supported by an environmental review process that has been successfully defended in court as equivalent to, and compliant with, CEQA requirements. However, there are some sources of GHG emissions that are discussed in the AB 32 scoping plan that are not required to mitigate emissions via implementation of the plan, and some of the plan is devoted to implementing regulations that address existing emissions, and will have only minimal impact on increases in emissions. Since it is these increases that must be addressed under CEQA, the District conducts its own analysis to determine whether compliance with AB 32 and its scoping plan are adequate to conclude that a particular GHG emissions increase is less than significant.



Figure 9: Determination of Significance for Stationary Source Projects



Source: San Joaquin Valley Air Pollution Control District, *Climate Change Action Plan: Addressing GHG Emissions Impacts under CEQA*. Website: <http://www.valleyair.org>

Determination of Significance of GHG Emissions for Projects Subject to CARB's GHG Cap and Trade Regulation

One regulation proposed in the AB 32 scoping plan that does address increases in GHG emissions is the Cap and Trade regulation discussed above. Facilities subject to the Cap and Trade regulation are subject to an industry-wide cap on overall GHG



emissions, and any growth in emissions must be accounted for under that cap, so that a corresponding and equivalent reduction in emissions must occur to allow any increase. Further, the cap decreases over time, resulting in an overall decrease in GHG emissions. It is therefore reasonable to conclude that facilities subject to and in compliance with CARB's Cap and Trade requirements will not, and in fact, cannot, contribute significantly towards any global GHG emissions growth. While this inherent mitigation process is not a necessary component of a finding that compliance with a plan for the reduction of greenhouse gas emissions may be considered in a cumulative impacts analysis [(CCR §15064(h)(3)], the fact that all growth in emissions at covered sources is mitigated provides a certainty that compliance with the Cap and Trade program eliminates any potential for significant impacts from those GHG emissions.

Determination of Significance of GHG Emissions for Projects Implementing BPS

BPS for stationary source projects is – for a specific class and category source of GHG emissions – the most effective, District approved, achieved-in-practice means of reducing or limiting GHG emissions from that source, which is also economically feasible per the definition of achieved-in-practice. BPS includes equipment type, equipment design, and operational and maintenance practices for the identified service, operation, or emissions unit class and category, and is developed by the District in a public process that considers and addresses input from all interested parties. Consistent with the District's adopted policy for assessing significance of project-specific GHG emission increases when serving as Lead Agency, projects implementing BPS will be determined to have a less than significant impact on global climate change.

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less Than Significant Impact

Compliance with an Approved GHG Emission Reduction Plan

Chevron USA is an oil production company that operates oil and gas production facilities within the State of California. As such, its facilities are subject to CARB's Cap and Trade regulation. As discussed above, CARB's Cap and Trade regulation is an adopted statewide plan for reducing or mitigating GHG emissions from targeted industries and is supported by an environmental review process that has been successfully defended in court as equivalent to, and compliant with, CEQA requirements.

Consistent with CCR §15064(h)(3), the District finds that compliance with CARB's Cap and Trade regulation would avoid or substantially lessen the impact of project-specific GHG emissions on global climate change. The District therefore concludes that the Project would have a less than significant individual and cumulative impact on global climate change.



Mitigation of GHG Increases under the Cap and Trade Regulation

As outlined above, facilities subject to the Cap and Trade regulation are subject to an industry-wide cap on overall GHG emissions. As such, any growth in emissions must be accounted for under that cap, such that a corresponding and equivalent reduction in emissions must occur to allow any increase. Therefore, it is reasonable to conclude that implementation of the Cap and Trade program would fully mitigate project-specific GHG emissions.

Regardless of, and independent to, the above determination that the project is subject to a state-wide GHG emissions reduction plan, the District finds that, through compliance with the Cap and Trade regulation, Project-specific GHG emissions would be fully mitigated. Thus, the District concludes that the Project will have a less than significant individual and cumulative impact on global climate change.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact

As discussed above, the Project is subject to CARB's Cap and Trade regulation and is required to reduce or mitigate GHG emissions. As such, the Project will not conflict with an applicable plan, policy, or regulation for the purpose of reducing greenhouse gas emissions. Therefore, the Project will have a less than significant impact.



VIII. Hazards and Hazardous Materials Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 compiled 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 safety 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?			✓	



VIII. HAZARDS & HAZARDOUS MATERIALS

- 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

Potential hazardous materials are not expected to be associated with the steam generator sites at this time. However, in the event that hazardous materials are needed or result from the steam generators, the materials and waste will be transported in placarded vehicles in packaging or containers. The closest sensitive receptor is a business located approximately 700 meters from the Project site. The District has conducted a risk screening analysis indicating that the operation of the steam generators would not pose a significant risk to the nearest receptor. As such, the Project will not expose the public to hazardous materials from the transport, use, or disposal of hazardous materials. Therefore, the Project will have a less than significant impact.

- 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

As a standard practice and prior to the installation of new equipment or modifications to existing equipment, Chevron USA conducts a rigorous and thorough hazard analysis. This analysis is a best management practice (BMP) and is in addition to any regulatory requirements Chevron USA is required to comply with. The hazard analysis evaluates the potential impacts and risks to the physical environment, social environment, public health, and existing operations.

Chevron has the subject matter experts, training, and resources to fully evaluate the hazards associated with construction of the Project and to mitigate risks to protect the environment and public health. Each project component will be evaluated for applicable hazards, such as the transport, use, and disposal of hazardous materials; will be reviewed and recommended for approval by a board of senior Chevron technical and managerial staff members; and will be approved by a Chevron executive. Should any hazards be present, Chevron will engineer safety controls to reduce risks. In the event hazardous materials are needed or result from the construction or operations of the steam generators, the materials will be handled and disposed of in accordance with Federal, State, and local regulations (such as the Solid Waste Management Act, the Hazardous Materials Transportation Act, and the Hazardous Waste Control Act). Also, the California Department of Industrial Relations Division of Occupational Safety and



Health (Cal/OSHA) is responsible for developing and enforcing safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA obligates many businesses prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle, if need be. Therefore, the impacts will be less than significant.

- 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

As discussed, potentially hazardous materials are not expected to be associated with this Project. The nearest school is McKittrick Elementary School which is located approximately 4 miles south of the Project site. Therefore, the Project will have a less than significant impact.

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

No Impact

The Project is not located on a site that meets the definition of Government Code Section 65962.5, which requires specific hazardous waste facilities to submit required information to the Department of Toxic Substances Control (DTSC). Therefore, the impact is less than significant.

- 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?*

No Impact

The Project site is not located within 2 miles of a public airport. The nearest public airport is the Elk Hills-Buttonwillow Airport located approximately 4.5 miles from the Project site. Therefore, the Project will have no impact on people residing or working in the Project area.



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- 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

The Project site is not located within the vicinity of a private airport. The nearest private airport is the Belridge Strip Airport located approximately 9.5 miles from the Project site. Therefore, the Project will have no impact on 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?*

No Impact

The Safety Element within the Kern County General Plan outlines the requirement for an emergency plan. In accordance with the General Plan, the circulation systems surrounding the proposed Project are adequate for emergency access and evacuation. No County or State designated emergency evacuation routes were identified near the Project.

Construction of the Project will be minimal and temporary in nature and is not expected to impact public roads. However, should construction activities span out to a public road causing temporary lane closure, Chevron USA will coordinate with the local jurisdiction so as not to cause closure of a public roadway. Flaggers may briefly hold traffic back for construction equipment, but emergency vehicles would be provided access in the event of a temporary road closure. For operations, since existing Chevron USA personnel will only intermittently be present at the sites for routine maintenance and emergency repair, the Project will not impair or physically interfere with the implementation of adopted emergency response and evacuation plans. The Project will not demolish any existing public roadways and would not interfere with existing emergency response or evacuation plans. Therefore, the Project will have no impact on emergency response 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?*

Less Than Significant Impact

According to the California Department of Forestry and Fire Protection (Cal FIRE), fire hazards within the Cymric Oil Field are primarily designated as a State Responsibility



Area (SRA) and Local Responsibility Area (LRA). Throughout the Project site, fire hazard severity is primarily moderate. Potential fire risks associated with the proposed Project for construction will be very low because the Project site will be slightly graded, and concrete will be poured as a foundation for each steam generator unit. A fire hazard may be associated with operations if vegetation or other obstructions come into contact with energized electrical equipment. Chevron implements Fire Prevention and Control Measures to reduce the risk of a potential fire. Chevron implements the following measures to enhance fire protection at the Cymric Oil Field:

- Manuals and guides for fire prevention and response (for employees and contractors).
- Fire response training (for employees and contractors).
- Fire extinguishers on vehicles.
- Fire extinguishers and appliances at oil and gas storage facilities.
- Hazard identification and appropriate design for containment and management as part of Chevron's internal permit process for hot work.
- Weed abatement programs along pipe runs and facilities.
- Management training for incident response.
- Annual fire department inspections.
- Code-compliant construction of hazardous materials tanks and other facilities (e.g., crude oil and natural gas tanks and facilities).
- Vapor control on front-line tanks to reduce explosive mixtures.
- Spill-control berms and basins.
- Spill-response plans and training.
- Blowout prevention devices, mud circulation, and mud logging to mitigate fire risk during drilling.
- Compliance with applicable fire regulations and standards.

The Project would not expose people or structures to significant risk of loss due to a potential wildfire fire. Therefore, the Project will have a less than significant impact on wildfires.



IX. Hydrology / Water Quality Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 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 storm water 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				✓



IX. HYDROLOGY / WATER QUALITY

a) *Violate any water quality standards or waste discharge requirements?*

Less Than Significant Impact

Operation of the Project will require the use of water to generate steam that will then be injected into the ground to enhance oil recovery. Approximately 80% of the water used at the Project site will be produced water from the formations that produce oil and gas. The remaining 20% will be comprised under contract of water from the West Kern Water District and Buena Vista Water Storage District. The term “formations” refers to the oil, water, and gas-bearing zones within the subsurface geology of the Cymric Oil Field. The term “produced water” refers to water that is co-produced with oil and gas from the same formation. Approximately 70% of the water is treated and reused for steam injections and approximately 20% of the water is sent for subsurface disposal. The water that is not recyclable is disposed of via pipelines to DOGGR approved injection wells. Construction and operation of the Project is not subject to waste discharge requirements from the Regional Water Quality Control Board. As such, the Project is not expected to violate any water quality standards. Therefore, the Project will have a less than significant impact.

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

Operation of the Project will require the use of water to generate steam that will then be injected into the ground to enhance oil recovery. Approximately 80% of the water used at the Project site will be produced water from the formations that produce oil and gas. The remaining 20% will be comprised under contract of water from the West Kern Water District and Buena Vista Water Storage District. As such, there will be sufficient water supplies and will not deplete ground water supplies. Therefore, the Project will have a less than significant impact.

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?*

No Impact



At the Project site, stormwater generally flows into localized drainage swales, dry washes, and depressions. Critical areas of the Cymric Oil Field, such as production wells, storage areas, tank facilities, and steam generator plants, are generally bermed, and earth dikes and drainage swales are used to control runoff and divert it to a desired location. The Project site is drained by natural flow and percolation and does not rely on constructed stormwater drainage systems, aside from the perimeter berms, dikes, and drainage swales. The existing drainage pattern will not be altered and no stream or river exists on the Project site. Additional standard stormwater Best Management Practices (BMPs) are implemented as required. Therefore, there will be no impact on drainage pattern.

- 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?*

No Impact

The existing Project site is currently developed for oil and gas production activities and will not be altered enough to have a negative effect on surface runoff or increase flooding potential. Water activities occurring during construction activities or precipitation at the Project site is rarely sufficient to cause flooding. The Project would not introduce a new flood hazard and would not necessitate any new flood control projects. Therefore, there will be no impact.

- e) *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant Impact

As discussed above, the Project site is currently developed for oil and gas production activities and will not be altered enough to create or contribute surface runoff. Water activities occurring during construction activities or precipitation at the Project site is rarely sufficient to cause runoff. Therefore, the impact will be less than significant impact.

- f) *Otherwise substantially degrade water quality?*

Less Than Significant Impact

Construction and operational activities associated with the Project may potentially affect water quality. However, best management practices (BMPs) have been established by Chevron USA to minimize any potential impact to water quality. Therefore, the impact will be less than significant impact.



Construction-specific BMPs that will be implemented by Chevron USA will include, but not limited to the following:

- **Preservation of Existing Vegetation:** Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses to protect soil from erosion. This BMP is also used in conjunction with minimizing the total disturbed area, which reduces the potential for soil erosion by wind or stormwater.
- **Erosion Control:** Areas where surface soil is contaminated or susceptible to erosion will employ erosion control construction BMPs to prevent excessive erosion or contaminated soil migration. Erosion controls that may be implemented during construction include soil binders, geotextiles and mats, earth dikes and drainage swales, silt fence, fiber rolls, gravel bag berms, sandbag barriers, placement of gravel on exposed soil areas, such as access roads and laydown areas.
- **Wind Erosion Control:** Wind erosion control measures, such as covering soil stockpiles or application of water will be used in areas subject to soil erosion caused by wind.
- **Housekeeping Practices:** General good housekeeping practices, such as trash and debris removal, and drainage systems maintenance will be conducted during construction activities.
- **Vehicle and Equipment Cleaning, Fueling, and Maintenance:** Vehicle and equipment cleaning, fueling and maintenance will be conducted off-site when possible and will be restricted to designated areas onsite.
- **Material Delivery and Storage:** Outdoor material delivery activities will be performed properly, and only in designated areas to reduce the potential for contaminating stormwater. Any materials stored outdoors will be stored properly in designated areas. Liquids stored outdoors will be stored in proper containers and only in designated areas to reduce the potential for contaminating stormwater.
- **Spill Prevention, Control, and Cleanup:** Spill prevention and control measures will be implemented during construction to minimize the potential for spills to occur. Spills that may occur will be contained and cleaned up properly. These procedures are documented in the existing facility Spill Prevention, Control, and Countermeasures (SPCC) Plan. The SPCC Plan is reviewed and approved by the Department of Oil, Gas and Geothermal Resources (DOGGR). The same BMPs that are currently in use at the Cymric Oil Field are incorporated into the Project and used during construction activities.



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- **Solid Waste Management:** Solid waste generated during construction activities will be handled, containerized, covered, and disposed of per applicable regulatory guidelines.
 - **Hazardous Waste Management:** Hazardous waste generated during construction activities will be handled, containerized, covered, and disposed of in accordance with applicable regulatory guidelines.
 - **Contaminated Soil Management:** Contaminated soils will be handled, stored, covered, and disposed of in accordance with applicable regulatory guidelines.
 - **Sanitary/Septic Waste Management:** Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal. Temporary sanitary facilities should be located away from drainage facilities, watercourse, and from traffic circulation. If site conditions allow, portable facilities should be placed at minimum of fifty (50) feet from drainage conveyance and traffic areas.
 - **Liquid Waste Management:** Liquid waste generated during construction activities will be handled, stored, and disposed of in accordance with regulatory guidelines. This includes minimization of non-stormwater discharges, such as water produced during drilling activities and hydrostatic test water.
 - **Clear Water Diversion:** Clear water diversions such as berms and other systems of structures and measures will be used to divert clean runoff from entering contaminated or storage areas.

Post-construction BMPs that will be implemented by Chevron USA include, but not limited to the following:

- **Non-Stormwater Discharges:** Non-stormwater discharges, such as hydrostatic test water, well produced water, and process water will be minimized and retained on-site.
- **Building & Grounds Maintenance:** Building and grounds maintenance will be performed using procedures that minimize stormwater contamination.
- **Parking/Storage Area Maintenance:** Parking and storage areas shall be kept clean through good housekeeping and training to prevent stormwater contamination.
- **Drainage System Maintenance:** Drainage systems should be maintained on a regular basis to minimize stormwater contamination.



- **Water Quality Treatment:** Water quality treatment systems, such as oil water separators, and sedimentation/infiltration basins, will be used as needed in areas to prevent contaminated runoff.
- **Earth Dikes and Drainage Swales:** Earth dikes and drainage swales will be used to control runoff and divert it to a desired location.

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

The Project does not include the construction of any housing units and is not located within the 100-year flood zone as mapped on the Flood Insurance Rate Maps (FIRMs); nor is the Project located in a Flood Hazard Safety Zone (FHSZ) as designated by Kern County. Therefore, there Project will have no impact.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact

The Project includes the construction and installation of steam generators. The Project site is not located within the 100-year flood zone as mapped on the Flood Insurance Rate Maps (FIRMs); nor is the Project located in a Flood Hazard Safety Zone (FHSZ) as designated by Kern County. Therefore, the Project will have no impact.

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

The Project does not propose to place people or structures within any area that is subject to flooding through any cause, including as a result of failure of a levee or dam nor will there be habitable structures proposed for construction of the Project. Therefore, the Project will have no impact.

j) Inundation by seiche, tsunami, or mudflow?

No Impact

The Project site is not within a county that is identified in the Tsunami Inundation Maps prepared by the California Geological Survey. Therefore, the Project will have no impact.



X. Land Use / Planning Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
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?				✓

X. LAND USE/PLANNING

a) *Physically divide an established community?*

No Impact

The Project site is currently zoned Exclusive Agriculture (Zone A). Pursuant to Section 19.12.020(E) of the Kern County Zoning Ordinance, steam generators (excluding coal fired) are a permitted use, by right in Zone A. The Project is consistent with current and surrounding land uses. There is no established community that will be physically divided. Therefore, the District concludes that there is no substantial evidence of record to support a conclusion that the Project will physically divide an established community. Therefore, the Project will have 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 mitigation an environmental effect?*

No Impact

The Project site is currently designated in the Kern County General Plan as Extensive Agriculture (Code 8.3) and Mineral and Petroleum (Code 8.4). The Project site is currently zoned Exclusive Agriculture (Zone A). Pursuant to Section 19.12.020(E) of the Kern County Zoning Ordinance, steam generators (excluding coal fired) are a permitted use, by right in Zone A. Therefore, the Project is consistent with current and



surrounding land uses and will not conflict with an applicable land use plan. Therefore the Project will have no impact.

c) Conflict with an applicable habitat conservation plan or natural community conservation plan?

No Impact

In December of 2006, Kern County issued a Draft County Valley Floor Habitat Conservation Plan (VFHCP). The VFHCP divides Kern County program area into three separate habitat zone categories based on the habitat value as follows: Red Zone (the highest valued conservation habitat), Green Zone (area with some disturbance but important for movement of covered habitat species), and White Zone (limited importance due to intensive land uses). In addition to the three habitat quality zone areas, the VFHCP identifies an Oil Zone as part of the Oil strategy. According to Figure 3-1 (Habitat Zones) and Figure 5-1 (Existing Land Uses) of the VFHCP, the Project is located within the "White Zone" and "Oil Field-High Intensity Zone." As such, the Project is consistent with the VFHCP. As such, the District concludes that there is no substantial evidence of record to support a conclusion that the Project would conflict with an applicable habitat conservation plan. Therefore, the Project will have no impact on habitat conservation plan.



XI. Mineral Resources Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓

XI. MINERAL RESOURCES

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

The Surface Mining and Reclamation Act of 1975 (SMARA) mandated the initiation by the State Geologist of mineral land classification in order to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB) to designate lands containing mineral deposits of regional or statewide significance. Construction aggregate was selected by the SMBG to be the initial commodity target for classification because of its importance to society, its unique economic characteristics, and the imminent threat that continuing urbanization poses to that resource.

According to the California Geological Survey's Aggregate Availability Map, the Project is not located in or within the vicinity of a site being used for aggregate production. As such, the Project has no potential to result in the loss of availability of a known mineral resource. Therefore, the Project will have no impact.

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

As discussed above, the Project site is not located in an area that contains aggregate production. As such, the Project will not result in the loss of important mineral resource recovery site. Therefore, the Project will have no impact.



XII. Noise Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓

XII. NOISE

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

The Kern County General Plan Noise Element identifies the following land uses as noise sensitive:

- Residential areas
- Schools
- Convalescent and acute care hospitals
- Parks and recreational areas
- Churches



The Project may result in a permanent increase in ambient noise levels. However, future noise types and volumes will be consistent with current land use and existing oil production operations. The nearest sensitive receptor (McKittrick Elementary School) to the Project is located approximately 13,300 feet from the Project site. As such, the Project would not expose persons to noise level in excess of standards. Therefore, the Project will have a less than significant impact.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact

The Project may result in a slight increase in groundborne vibration or groundborne noise levels during construction and operation within 50 feet of the proposed steam generators site. Groundborne vibration and noise levels associated with these activities are expected to be minor. Construction will occur for only a short-term duration. Therefore, the Project will have a less than significant impact.

c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Less Than Significant Impact

The Project may result in a permanent increase in ambient noise levels. However, future noise types and volumes will be consistent with current land use and existing oil production operations. State and federal standards set by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulate the amount of time workers may be exposed to sound levels above 90 dB. If the Project results in noise levels exceeding 85 dB, Chevron USA will comply with all OSHA regulations for the protection against the effects of noise exposure (CCR §5095-5100). Therefore, the Project will have a less than significant impact.

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

During construction activities, noise levels are expected to be elevated. However, the increase in noise is temporary and will subside once construction of the Project is complete. Therefore, the Project will have a less than significant impact.



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- e) *For a Project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?*

No Impact

The Project site is not located within 2 miles of a public airport. The nearest public airport is the Elk Hills-Buttonwillow Airport located approximately 4.5 miles from the Project site. Therefore, the Project will have no noise impact on people residing or working in the Project area.

- 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

The Project site is not located within the vicinity of a private airport. The nearest private airport is the Belridge Strip Airport located approximately 9.5 miles from the Project site. Therefore, the Project will have no noise impact on people residing or working in the Project area.



XIII. Population / Housing Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?				✓

XIII. POPULATION AND HOUSING

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extensions of roads or other infrastructure)?

No Impact

The Project does not include the development of homes or businesses, nor does it include the extension of roads or infrastructure. As such, the Project will not induce substantial population growth in the area. Therefore, the Project will have no impact.

b) Displace a substantial number of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact

There is no housing on the Project site. As such, the Project will not displace a substantial number of existing housing, necessitating the construction of replacement housing elsewhere. Therefore, the Project will have no impact.

c) Displace substantial number of people necessitating the construction of replacement housing elsewhere?

No Impact

There are no workers living on-site. As such, the Project will not displace a substantial number of people, necessitating the construction of replacement housing elsewhere. Therefore, the Project will have no impact.



XIV. Public Services Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) 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?				✓
ii) Police protection?				✓
iii) Schools?				✓
iv) Parks?				✓
v) Other public facilities?				✓

XIV: PUBLIC SERVICES

a) *Result in substantial adverse physical impacts associated with the provisions 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?*

No Impact

The Project is located in a Local Responsibility Area (LRA) and State Responsibility Area (SRA) for fire protection. As such, CAL Fire has determined that the Project site is designated as Other Moderate Fire Hazard Severity Zones in the LRA and Moderate Fire Hazard Severity Zones in the SRA. The Project will be designed to conform to current California Fire Code and Federal safety standards. Therefore, installation and operation of Project in accordance with these standards will minimize the potential for a fire. Fire protection for this property is currently under the jurisdiction of the Kern County Fire Department. The nearest fire station to the Project is Station 24 – McKittrick located approximately two (2) miles south of the Project site. This fire station covers approximately 218 square miles and would be adequate to cover the Project. No new or altered fire protection facility would be necessary. No additional increase in



fire protection demand is anticipated. Therefore, the Project will have no impact on fire protection.

ii. Police protection?

No Impact

The nearest police station to the Project is the Kern County Sherriff's Office located in Buttonwillow, California. This police station is adequate to cover the Project. No new or altered police protection facility would be necessary and no additional increase in police protection demand is anticipated. Therefore, the Project will have no impact on police protection.

iii. Schools?

No Impact

The Project will not increase population in the surrounding areas necessitating the need for new schools. Therefore, the Project will have no impact on schools.

iv. Parks?

No Impact

The Project will not increase population in the surrounding areas necessitating the need for new parks. Therefore, the Project will have no impact on parks.

v. Other public facilities?

No Impact

The Project will not increase population in the surrounding areas necessitating the need for other public facilities. Therefore, the Project will have no impact.



XV. Recreation Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

XV. RECREATION

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

The Project area does not currently contain any recreational facility. As such, no increase in the use of existing recreational facilities or deterioration would occur. Therefore, the Project will have no impact.

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact

Construction and operation of the Project will not increase population of the surrounding area. As such, the Project will not require the construction or expansion of recreational facilities. Therefore, the Project will have no impact.



XVI. Transportation / Traffic Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation systems, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				✓
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards 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?				✓
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) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				✓



XVI. TRANSPORTATION / TRAFFIC

- a) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation systems, including but not limited to intersections streets, highways, and freeways, pedestrian and bicycle paths, and mass transit?*

No Impact

The Kern County General Plan Circulation Element considers Level of Service (LOS) D as acceptable within the general plan area for County maintained roads. California State Highway 33 is located to the east of the Project site. California State Highway 58 is located to the south and east of the Project site. Both highways serve as the main access roadway to the Project site. Franco Western Rd bisects the Project site and is a main local access road that provides access to the existing Cymric Oil Field. The local roadways are both paved and unpaved and provide access for oil and gas production employees. The Project will be maintained and manned by existing Chevron USA personnel and contractors. As such, the Project will not substantially increase delays at intersections. There are no pedestrian, bicycles, or mass transit circulation as no new public roadways will be altered during Project activities. The Project will have restricted access; accordingly, bicyclist and pedestrians will not have access to the existing oil and gas site. Therefore, the Project will have no impact.

- b) *Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

No Impact

The Kern Council of Government's (COG's) 2014 Preliminary Regional Transportation Plan (RTP) established Level of Service (LOS) E as the minimum system-wide LOS traffic standard in the Kern County Congestion Management Program (CMP). LOS is a qualitative measure that represents the collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs provided by a highway facility under a particular volume condition. LOS is ranked from A to F, with A being the best and F being the worst. Kern COG's RTP indicates that there are no designated CMP corridor near State Routes 33 and 58, and Interstate 5 that would be at or exceed the CMP standard of LOS E. State Routes 58 is located to the south and east of the Project site and State Route 33 is located to the east of the Project site. Both highways serves as the main access roadways to the Project site. As such, the Project will not conflict with the Kern County Congestion Management Program. Therefore, there will be no impact.



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- 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

The Project site is not located within two (2) miles of a private or public airport. The nearest airports are the Elk Hills-Buttonwillow Airport (public airport) located approximately 4.5 miles from the Project site and the Belridge Strip Airport (private airport) located approximately 9.5 miles from the Project site. Project construction and operation will not result in a change in air traffic pattern and thus would not result in safety risk. Therefore, the Project will have no impact on air traffic patterns.

- d) *Substantially increase hazards due to design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

No Impact

The Project will not include the construction of new public roads or alterations to existing public roads or intersections. Temporary equipment staging areas may become part of the Project site and may be set aside for employee and visitor vehicle parking. As such, the Project will not result in hazards due to sharp curves, dangerous intersections, or incompatible uses. Therefore, the Project will have no impact.

- e) *Result in an inadequate emergency access?*

No Impact

The Project site and surrounding roadway network do not have any conditions that would restrict or delay emergency vehicle access to the Project site. California State Highway 33 is located to the east of the Project site. California State Highway 58 is located to the south and east of the Project site. Both highways serve as the main access roadway to the Project site. Franco Western Rd bisects the Project site and is a main local access road that provides access to the existing Cymric Oil Field. The Kern County Safety Element requires new development of properties have sufficient access for emergency vehicles. Therefore, the Project will have no impact on emergency access.

- f) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*

No Impact

There are no pedestrian or bicycle circulation as no new public roadways will be constructed for the proposed Project and no existing roadways will be altered during



Project activities. The Project will have restricted access; accordingly, bicyclists and pedestrians will not have access to the existing oil and gas site. Therefore, the Project will have no impact.



XVII. Utilities / Service Systems Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 that 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?				✓

XVII. UTILITIES / SERVICE SYSTEMS

- a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

Less Than Significant Impact



Operation of the Project will require the use of water to generate steam that will then be injected into the ground to enhance oil recovery. Approximately 80% of the water used at the Project site will be produced water from the formations that produce oil and gas. The remaining 20% will be comprised under contract of water from the West Kern Water District and Buena Vista Water Storage District. The term “formations” refers to the oil, water, and gas-bearing zones within the subsurface geology of the Cymric Oil Field. The term “produced water” refers to water that is co-produced with oil and gas from the same formation.

Approximately 70% of the water is treated and reused for steam injections and approximately 20% of the water is sent for subsurface disposal. The water that is not recyclable is disposed of via pipelines to DOGGR approved injection wells. Construction and operation of the Project will not require waste discharge requirements from the Regional Water Quality Control Board. As such, the Project is not expected to exceed wastewater treatment requirements. Therefore, the Project will have a less than significant impact.

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?

No Impact

The Project will not generate any water or wastewater that would require treatment at a water or wastewater treatment facility. As such, the Project will not require the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, the Project will have no impact.

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?

No Impact

The Project will be sited in an area where there will be minimal “new” disturbance of soil. All of the surface area disturbed by construction is to remain as part of the existing Cymric Oil Field after construction is complete. Precipitation at the Project site is rarely sufficient to cause runoff. The Project site is drained by natural flow and percolation and does not rely on constructed stormwater drainage systems. The following additional standard storm water Best Management Practices (BMPs) are implemented as required to reduce runoff:

- **Preservation of Existing Vegetation:** Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses to protect soil from erosion. This BMP is also used in



conjunction with minimizing the total disturbed area, which reduces the potential for soil erosion by wind or stormwater.

- **Erosion Control:** Areas where surface soil is contaminated or susceptible to erosion will employ erosion control construction BMPs to prevent excessive erosion or contaminated soil migration. Erosion controls that may be implemented during construction include soil binders, geotextiles and mats, earth dikes and drainage swales, silt fence, fiber rolls, straw bale binders, gravel bag berms, sandbag barriers, velocity dissipation devices, placement of gravel on exposed soil areas, such as access roads and laydown areas.
- **Housekeeping Practices:** General good housekeeping practices, such as trash and debris removal, and drainage systems maintenance will be conducted during construction activities.
- **Clear Water Diversion:** Clear water diversions such as berms and other systems of structures and measures will be used to divert clean runoff from entering contaminated or storage areas.
- **Earth Dikes and Drainage Swales:** Earth dikes and drainage swales will be used to control runoff and divert it to a desired location.

As such, the existing Project site will not require the construction of new storm water drainage facilities. Therefore, there will be no impact.

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

Operation of the Project will require the use of water to generate steam that will then be injected into the ground to enhance oil recovery. Approximately 80% of the water used at the Project site will be produced water from the formations that produce oil and gas. The remaining 20% will be comprised under contract of water from the West Kern Water District and Buena Vista Water Storage District. Therefore, there will be sufficient water supplies to serve the Project. Therefore, the Project will have a less than significant impact.

e) Result in a determination by the wastewater treatment provider that 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



The Project is for the construction and installation of steam generators and does not involve wastewater treatment facilities. Therefore, the Project will have no impact.

f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?

No Impact

The Cymric Oil Field operations are currently served by the Taft Sanitary Landfill. Only minimal short-term impacts to this landfill are anticipated during construction from temporary increase in construction. No long term impacts are expected during the operation phase. As such, the Taft Sanitary Landfill is sufficient to accommodate the Project's solid waste disposal needs. Therefore, the Project will have no impact.

g) Comply with federal, state, and local statutes and regulations related to solid wastes?

No Impact

Solid wastes generated during construction and operation will be stored and handled in accordance with all federal or state regulation for solid wastes. Therefore, the Project will have no impact.



XVIII. Mandatory Findings of Significance Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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, 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?		✓		

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

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, 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?*

Less Than Significant with Mitigation Incorporated

With the incorporation of required permit conditions, the surrendering of Emission Reduction Credits (ERCs), and the incorporation of mitigation measures as outlined in



the Initial Study, the Project will have a less than significant impact with mitigation on the environment and special status species.

Mitigation: See Mitigation Measures AIR-1, BIO-1 through BIO-25, CUL-1 through CUL-3.

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)?*

Less Than Significant with Mitigation Incorporated

CEQA Guidelines state that a Lead Agency shall consider whether the cumulative impact of a Project is significant and whether the effects of the project are cumulatively considerable (CCR §15065). The assessment of the significance of the cumulative effects of the Project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. Due to the nature and location of the Project and consistency with environmental policies, incremental contributions to impacts are considered less than cumulatively considerable. The Project is not a part of any larger planned developments. Therefore, the Project would not contribute substantially to adverse cumulative conditions, or create any substantial indirect impacts (i.e., an increase in population that could lead to an increase need to housing, increase in traffic, air pollutants, etc.). The Project will have a less than significant impact with mitigation.

Mitigation: See Mitigation Measures AIR-1, BIO-1 through BIO-25, CUL-1 through CUL-3.

c) *Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less Than Significant with Mitigation Incorporated

The analyses of environmental issues contained in this Initial Study indicate that the Project is not expected to have a substantial impact on human beings, either directly or indirectly. Project design elements and mitigation measures have been incorporated into the Project to reduce all potentially significant impacts to less than significant.

Mitigation: See Mitigation Measures AIR-1, BIO-1 through BIO-25, CUL-1 through CUL-3.



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I. APPENDICES

- Appendix A. Acronyms and Abbreviations
- Appendix B. Mitigation Monitoring and Reporting Program
- Appendix C. Construction Emissions
- Appendix D. Engineering Evaluation
- Appendix E. Risk Management Review



Appendix A. Acronyms and Abbreviations

AAQA	Ambient Air Quality Analysis
AAQS	Ambient Air Quality Standards
AB 2588	Assembly Bill 2588 – Air Toxics “Hot Spots” Information and Assessment Act
AB 32	Assembly Bill 32 – California Global Warming Solutions Act of 2006
ATC	Authority to Construct
BACT	Best Available Control Technology
dB	Decibel
BAU	Business as Usual
BMP	Best Management Practice
BPS	Best Performance Standards
Cal/OSHA	California Department of Industrial Relations - Division of Occupational Safety and Health Administration
CARB	California Air Resources Board
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CH ₄	Methane
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COC	Certificate of Conformity
dB	Decibel
District	San Joaquin Valley Unified Air Pollution Control District
DOGGR	California Division of Oil, Gas, and Geothermal Resources
DTSC	California Department of Toxic Substances Control
DVFHCP	Draft County Valley Floor Habitat Conservation Plan
ERC	Emission Reduction Credit
ERG	Environmental Review Guidelines
FESA	Federal Endangered Species Act
FIRM	Flood Insurance Rate Map
FHSZ	Flood Hazard Safety Zone
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
GHG	Greenhouse Gas
HAP	Hazardous Air Pollutant
HCP	Habitat Conservation Plan
HRA	Health Risk Assessment
LOS	Level of Service
LRA	Local Responsible Agency



MBHCP	Metropolitan Bakersfield Habitat Conservation Plan
MEI	Maximally Exposed Individual
MMBtu/hr	Million British Thermal Units Per Hour
N ₂ O	Nitrous Oxide
NO _x	Oxides of Nitrogen
NRA	California Natural Resources Agency
NSR	New Source Review
PM ₁₀	Particulate Matter 10 microns in diameter
PM _{2.5}	Particulate Matter 2.5 microns in diameter
RMR	Risk Management Review
ROG	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SIP	State Implementation Plan
SPCC	Spill Prevention, Control, and Countermeasures
SO _x	Sulfur Oxides
SRA	State Responsibility Area
TAC	Toxic Air Contaminant
TEOR	Thermally Enhanced Oil Recovery
TPY	Tons Per Year
US EPA	US Environmental Protection Agency
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
VOC	Volatile Organic Compound



Appendix B. Mitigation Monitoring and Reporting Program

Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
Project operational emissions may exceed the District's thresholds of significance.	Potentially Significant	AIR-1	<p>For ATC Project S-1144548:</p> <ul style="list-style-type: none"> Prior to operating equipment under this Authority to Construct, permittee shall surrender NOx emission reduction credits for the following quantity of emissions: 1st quarter – 2,038 lb., 2nd quarter – 2,038 lb., 3rd quarter – 2,039 lb., and 4th quarter – 2,039 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,535 lb., 2nd quarter - 1,536 lb., 3rd quarter - 1,536 lb., and 4th quarter - 1,536 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] Prior to operating equipment under this Authority to Construct, permittee shall surrender SO_x and PM₁₀ emission reduction credits for the following quantity of emissions: 1st quarter – 1,689 lb, 2nd quarter – 1,689 lb, 3rd quarter – 1,690 lb, and 4th quarter – 1,690 lb. These amounts include the applicable offset ratio specified in Rule 2201 Section 4.8 (as amended 4/21/11) for the ERC specified below. [District Rule 2201] ERC Certificate Numbers S-3208-2(NOx), S-3869-1 (VOC), and S-3154-5(SO_x and PM₁₀) (or certificates split from these certificates) shall be used to supply the 	San Joaquin Valley Air Pollution Control District	Less than Significant



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
The project could result in take of a candidate, sensitive, or special status species.	Potentially Significant	BIO-1	<p>required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]</p>	San Joaquin Valley Air Pollution Control District	Less than Significant
		BIO-2	<p>A Qualified Biologist will conduct a focused pre-construction survey to determine the presence/absence of potential impacts on sensitive species prior to the onset of ground disturbance. The survey shall be conducted in accordance with the standard protocol of the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW). If more than 30 days pass before the onset of ground disturbance, an additional survey shall be conducted by a Qualified Biologist within 30 days prior to the onset of ground disturbance. Permittee shall make all biological surveys available to District staff upon request. [Public Resources Code 21000-21177: California Environmental Quality Act]</p> <p>During construction activities, standardized avoidance measures shall be implemented to preclude take of special status species. If standardized avoidance measures cannot be achieved Permittee will consult with the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS) to develop alternative compliance measures and/or obtain an Incidental Take Permit. If standardized avoidance measures fail and there is a take of a threatened or endangered species Permittee will notify USFWS, CDFW, and District immediately. Permittee shall make available to the District any documentation required by USFWS and CDFW. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		



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Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-3	<p>A biological monitor will be present while ground-disturbing activities are occurring based on the sensitivity of the habitat in which a project occurs. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-4	<p>Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all Project areas, except on county roads and State and Federal highways. In the event that construction activities should occur during night time, a 10-mph speed limit shall be observed from dusk until dawn. Off-road traffic outside of designated project areas should be prohibited. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-5	<p>During construction activities, all excavated, steep-walled holes or trenches more than two (2) feet deep shall be covered at the close of each working day by plywood or similar materials. If the holes or trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) shall be contacted as noted in Measure BIO-15. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-6	<p>All construction pipes, culverts, or similar structures with a diameter of four (4) inches or greater that are stored at a construction site for one (1) or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the U.S. Fish and Wildlife Service (USFWS) has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity.</p>		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-7	<p>until the fox has escaped. [Public Resources Code 21000-21177: California Environmental Quality Act]</p> <p>All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in securely closed containers and removed at least once a week from the construction sites. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-8	<p>No firearms shall be allowed on the Project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-9	<p>No pets, such as dogs or cats, shall be permitted on the Project sites. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-10	<p>Use of rodenticides and herbicides in the Project sites shall be restricted. If use of these compounds is deemed necessary, Permittee shall observe label and other restrictions mandated by the U.S. Environmental Protection Agency (US EPA), California Department of Food and Agriculture (CDFA), and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the U.S. Fish and Wildlife Service (USFWS). If rodent control must be conducted, zinc phosphide shall be used. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-11	<p>Permittee shall appoint a representative to be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the U.S. Fish and Wildlife Service (USFWS). [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-12	<p>An employee education program shall be conducted for any Project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the Project. The program should include the following: a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-13	<p>Upon completion of the Project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and revegetation experts. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-14	<p>In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance. [Public Resources Code 21000-21177: California Environmental</p>		



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Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-15	<p><i>Quality Act</i></p> <p>Any contractor, employee, or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative identified in Measure BIO-10 above. This representative shall contact the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden. Contact information for CDFW and USFWS is provided below in Measure BIO-17: [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p>		
		BIO-16	<p>The Sacramento Fish and Wildlife Office and California Department of Fish and Wildlife (CDFW) shall be notified in writing within three (3) working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. Contact information is provided below. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p> <p>CDFW: Ms. Reagen O'Leary, Environmental Scientist 1234 E. Shaw Avenue Fresno, CA 93710 Phone: (559) 243-4014</p> <p>CDFW: Mr. Paul Hoffman, Wildlife Biologist 1701 Nimbus Road, Suite A Rancho Cordova, CA 95670 (530) 934-9309</p> <p>USFWS: Chief of the Division of Endangered Species 2800 Cottage Way, Suite W2605</p>		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-17	<p>Sacramento, CA 95825-1846 (916) 414-6620 or (916) 414-6600.</p> <p>New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the U.S. Fish and Wildlife Service (USFWS) at the following address: Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, CA 95825-1846. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p>		
		BIO-18	<p>If habitat for, and/or the presence of sensitive species are documented in the pre-construction surveys, additional focused biological surveys will be conducted by a Qualified Wildlife Biologist for the appropriate survey periods as identified in the CDFW and USFWS protocols identified below. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p> <ul style="list-style-type: none"> o Blunt-nosed leopard lizard – Approved Survey Methodology for the Blunt-nosed Leopard Lizard (CDFG, 2004) o San Joaquin kit fox – Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance (USFWS, 2011) o Burrowing owl – Staff Report on Burrowing Owl Mitigation dated March 7, 2012 (CDFG, 2012) 		
		BIO-19	<p>Permittee shall retain at least one staff or contractor representative that has successfully completed the applicant's Biological Awareness training program on-site during all ground disturbing activities and Project construction. In the event that special status species are discovered on or near the Project</p>		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-20	<p>site, said staff/contractor shall immediately contact the Company's biological representative identified in the biological training. [Public Resources Code 21000-21177: California Environmental Quality Act]</p> <p>Blunt-nosed leopard lizard surveys following current CDFG guidelines shall be completed no more than one year prior to initiation of Project if construction activities will impact potential habitat for the species. Potential habitat includes areas that have not been previously disturbed or that have recovered to support vegetation and small mammal burrows that represent potential shelter for blunt-nosed leopard lizard. If at any time blunt-nosed leopard lizards are observed during these surveys, no disturbance of areas that could be occupied by this species should occur within 500 feet of the observation without prior approval from CDFG and USFWS. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-21	<p>The limits of Project site grading shall be clearly delineated prior to construction activities by posting stakes, flags and/or rope or cord, as necessary. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-22	<p>Traffic restraints and signs shall be established and issued to minimize temporary disturbances. All Project-related vehicle traffic shall be restricted to established roads, designated access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries shall be prohibited. All equipment storage and parking during Project activities shall be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species. [Public Resources Code 21000-21177: California Environmental Quality Act]</p>		
		BIO-23	<p>Traffic restraints and signs shall be established and issued to minimize temporary disturbances. All Project-related vehicle traffic shall be restricted to established roads, designated</p>		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
			<p>access roads and routes, Project site, storage areas, and staging and parking areas. Off-road traffic outside designated Project boundaries shall be prohibited.</p> <p>All equipment storage and parking during Project activities shall be confined to the designated construction area or to previously disturbed offsite areas that are not habitat for listed species. If vegetation clearing is conducted between February and mid-September, a survey targeting identification of nesting birds shall be conducted. This survey may be conducted in conjunction with the pre-activity survey. If any nesting birds covered by the Migratory Bird Treaty Act are identified, nests shall be avoided by an appropriate distance such that nesting activities are not interrupted until the young have fledged. Determination of when young have fledged from active nests will be determined by a qualified biologist. If any nesting birds are found during vegetation clearing activities, a qualified biologist shall be contacted to determine appropriate avoidance measures. If any burrowing owl burrows are observed, avoidance measures should be consistent with those included in "Staff Report on Burrowing Owl Mitigation," CDFG (2012) taking into account existing disturbances such as roads and structures. Absolutely no disturbance to active nests shall occur without a permit pursuant to the Migratory Bird Treaty Act. For nesting sites, based on the level of disturbance, the following buffer distances shall apply and be adequately delineated around active nests.</p> <ul style="list-style-type: none"> o April 1 – Aug 15: low disturbance, 200 meters; medium disturbance, 500 m; and high disturbance, 500 m. o Aug 16 – Oct 15: low disturbance, 200 meters; medium disturbance, 200 m; and high disturbance, 500 m. o Oct 16 – Mar 31: low disturbance, 50 meters; medium disturbance, 100 m; and high disturbance, 500 m. 		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-24	<ul style="list-style-type: none"> o All power poles and electrical facilities should be designed to minimize the potential for electrocution of migratory and resident birds, including consideration of birds with a wingspan of up to 9 feet. <p>To reduce potential impacts to the San Joaquin kit fox, Permittee shall implement the following avoidance measures:</p> <ul style="list-style-type: none"> o For San Joaquin kit fox dens within 200 feet of the construction area, avoidance zones shall be identified by wooden or metal stakes connected by flagging or by other similar fencing material. Each avoidance zone shall have the following distance measured outward from the den or burrow entrances or the edge of the plant population. <ul style="list-style-type: none"> o Potential den: 50 ft o Atypical den: 50 ft o Known den: 100 ft o Natal/pupping den (occupied and unoccupied): Contact CDFW o San Joaquin antelope squirrel: 50 ft o Potential kit fox dens shall be monitored until they can be shown to be unoccupied based on the procedures outlined in Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior To or During Ground Disturbance (USFWS, 2011), and then covered with plywood that is firmly secured to prevent access by kit foxes during Project activities. The covers shall not be installed more than 14 days prior to the start of construction. The covers shall remain in place for the duration of construction, after which time they shall be 		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-25	<ul style="list-style-type: none">○ removed.○ If avoidance of any potential kit fox den within the Project site is not practicable, and the den may be unavoidably damaged or destroyed by Project actions, the following procedure shall be implemented: Prior to surface-disturbing activities, any such potential kit fox den shall be completely excavated and then backfilled to preclude later use by kit foxes during the construction period. If, at any time during monitoring or excavation, any sign that the den may be or has been occupied is found, the den's status changes to "known".○ Potential kit fox dens may be excavated provided that the following conditions are satisfied: (1) the den classification is determined by a qualified wildlife biologist; and (2) the excavation is conducted by or under the direct supervision of a qualified wildlife biologist. <p>To reduce potential impacts to the San Joaquin kit fox, antelope squirrel and giant kangaroo rat, Permittee shall implement the following avoidance measures:</p> <ul style="list-style-type: none">○ If dens or nest burrows are located outside of the construction area but within the avoidance zone designated for the resource type (listed above), the boundary of the avoidance zone shall be drawn to include all areas within the radius stated above, except those falling within the construction area. If the construction area encroaches on an avoidance area, potential dens shall not be excavated unless a qualified biologist determines that excavation is		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
		BIO-26	<p>absolutely necessary.</p> <ul style="list-style-type: none"> o Avoidance zones shall be maintained until all construction activities have been completed, and then shall be removed by a qualified biologist. o Dens identified by a qualified biologist as either a "known" den or as a "suspected" pupping den shall not be excavated unless the appropriate California Endangered Species Act (CESA) and Federal Endangered Species Act permits authorized such excavations. In addition, any occupied natal or pupping dens cannot be destroyed until the pups and adults have vacated. <p>To reduce potential impacts to Nelson's antelope squirrel and the giant kangaroo rat, Permittee shall implement the following avoidance measures:</p> <ul style="list-style-type: none"> o For burrows within 200 feet of the construction area, avoidance zones shall be identified by wooden or metal stakes connected by flagging or by other similar fencing material. Each avoidance zone shall be a minimum of 50 ft outward from the den or burrow entrances or the edge of the plant population. o If burrows cannot be avoided, no Project activities shall occur until the appropriate CESA permit has been issued by CDFW. The following measures are required to minimize and mitigate for impacts to antelope squirrel and the giant kangaroo rat: <ul style="list-style-type: none"> o Burrows will be avoided to the maximum extent 		



Impact	Significance Prior to Mitigation	Measure Number	Mitigation Measure	Enforcement Agency	Significance After Mitigation
The project could have an impact on archaeological resources, paleontological resources, or human remains.	Potentially Significant	CUL-1	<p>practicable.</p> <ul style="list-style-type: none"> o If occupied burrows cannot be avoided, a trapping effort will be conducted by a properly permitted wildlife biologist for the purpose of either relocation or holding and releasing individuals back into temporarily disturbed portions of the Project site. o CDFW will be provided with a notification at least 30 days prior to trapping and relocation with a plan that includes at least the following information: 1) approximate number of San Joaquin antelope squirrels to be affected; 2) previous experience of the wildlife biologist conducting the trapping and relocation; 3) description of trapping effort; 4) description of relocation plans; 5) whether individuals will be temporarily held for release; 6) off-site release locations; 7) artificial burrow placement; and 8) proposed results reporting schedule. If CDFG does not respond within 30 days of receiving the notification, trapping and relocation will proceed as stated in the notification. San Joaquin antelope squirrels should not be relocated greater than 500 feet from capture location without prior approval from CDFW. 	San Joaquin Valley Air Pollution Control District	Less than Significant



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		CUL-2	<p>County and the Native American Heritage Commission (NAHC). In addition, should archaeological resources be discovered, Permittee shall provide the District a written report in relation to the nature of the find. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p> <p>In the event that paleontological resources are discovered during ground-disturbing activities, all work within 100 feet of the find shall cease and the Permittee shall notify and retain a qualified paleontologist to assess and provide an evaluation of the significance of the find. A qualified paleontologist shall determine whether avoidance is necessary and feasible in light of the factors such as the nature of the find, project design, costs, and other considerations, and, if necessary, develop appropriate mitigation measures in consultation with Kern County and the Native American Heritage Commission (NAHC). In addition, should paleontological resources be discovered, Permittee shall provide the District a written report in relation to the nature of the find. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p>		
		CUL-3	<p>In the event that human remains are discovered during ground-disturbing activities, all work within 100 feet of the find shall cease and the discovery shall immediately be reported to the County Coroner (CC) and Native American Heritage Commission (NAHC) for further assessment. Permittee shall identify appropriate measures for treatment or disposition of the remains in consultation with the CC and NAHC. In addition, should human remains be discovered during ground-disturbing activities, Permittee shall provide the District a written report in relation to the nature of the find. [<i>Public Resources Code 21000-21177: California Environmental Quality Act</i>]</p>		



Appendix C. Construction Emissions

Available Upon Request at District Office:

San Joaquin Valley Air Pollution Control District
Central Region
1990 E. Gettysburg Ave.
Fresno, CA 93726
(559) 230-6000



Appendix D. Draft Engineering Evaluations

Available Upon Request at District Office:

San Joaquin Valley Air Pollution Control District
Southern Region
34946 Flyover Court
Bakersfield, CA 93308
(661) 392-5500



Appendix E. Risk Management Review

Available Upon Request at District Office:

San Joaquin Valley Air Pollution Control District
Central Region
1990 E. Gettysburg Ave.
Fresno, CA 93726
(559) 230-6000
