3.0 ENVIRONMENTAL ASSESSMENT

3.1 REGIONAL OVERVIEW, CUMULATIVE PROJECTS, ANALYSIS APPROACH, AND FORMAT

3.0 ENVIRONMENTAL ASSESSMENT

This chapter provides the analysis of potential impacts that are foreseeable if the Chevron San Ardo to Coalinga Heated Oil Pipeline Project is approved by the appropriate decision-making bodies. The first section of this chapter (Section 3.1, Regional Overview) provides a summary of the diverse climatic conditions, land uses, biotic communities, topography, geology, and physiography encompassed within the Project corridor. This overview is meant to provide a backdrop for the resource-specific analyses that follow. The remaining sections in this chapter address resource areas determined through scoping to be potentially affected by the Project. These include: Section 3.2, Aesthetics; Section 3.3, Agricultural Resources; Section 3.4, Air Quality; Section 3.5, Biological Resources; Section 3.6, Cultural Resources; Section 3.7, Geology; Section 3.8, Hazards and Hazardous Materials; Section 3.9, Hydrology and Water Quality; Section 3.10, Land Use; Section 3.11, Noise and Vibration; and Section 3.12, Traffic. Each resource section begins with a summary intended to provide the public with an overview of the impacts and mitigation attendant to the particular resource area. Section summaries include tables identifying each impact and mitigation measure discussed in the full analysis of the issue that follows. Possible cumulative Project impacts are discussed and analyzed in Chapter 5.0, Other CEQA topics.

Sections 3.2 through 3.12 of this chapter describe, for each environmental resource area, the following:

- The focus of the analysis;
- A summary of the environmental setting as it relates to the specific issues;
- A regulatory context describing applicable regulations, plans, and standards;
- An evaluation of project-specific impacts using significance criteria established by County and State CEQA guidelines;
- Mitigation measures that would reduce the impact to the degree feasible; and
- A determination of the level of significance after mitigation measures are implemented.

Significance criteria are thresholds that can be quantitative (traffic, air quality, noise) or qualitative (aesthetics, cultural resources). Standards for the determination of significance used to characterize the Project are:

- **Less than Significant:** The impact would cause no substantial change in the existing or projected future environment, therefore no mitigation is required. Alternatively, while there may be some associated adverse impact, it is less than significant as defined by the applicable thresholds of significance identified by the lead and/or responsible agency.
- **Potentially Significant:** Under CEQA, a significant impact is defined as a substantial, or potentially substantial, adverse change in the environment (CEQA Section 21068). CEQA Guidelines Section 15064 states that this determination is made by the decision-making bodies, and is based on scientific and factual data, to the extent possible.
- **Significant and Unavoidable:** An impact is considered to be significant and unavoidable when it results in a substantial effect on the environment for which no mitigation and no alternative has been identified as feasible to reduce the impact to a less than significant level.

The standard format used to present the evaluation of impacts for each issue throughout this chapter includes (1) an impact statement followed, when necessary, by explanatory text; (2) a statement of the level of significance prior to implementation of any mitigation; (3) mitigation measures followed by explanatory text, as needed, about how the mitigation measure would be implemented, or how effective it is expected to be; and (4) a conclusion statement identifying the significance level the impact would be expected to exhibit once the proposed mitigation is implemented.

3.1 REGIONAL OVERVIEW

As described in Chapter 2.0, Project Description and shown on Figure 2-1, Regional Location and Figures 2-4a and 2-4b, Project Route Map, the San Ardo to Coalinga Heated Oil Pipeline would originate in the San Ardo Oil Field in Monterey County's southern Salinas Valley, cross the summit of the Diablo Mountain Range (part of the Coast Ranges geomorphic province), and ultimately descend into the San Joaquin Valley near Coalinga nearly 60 miles to the east of its origination. From the San Ardo Oil Field, the proposed pipeline route would trend eastward for 2.5 miles, then veer to the northeast and follow Sargent Canyon for 8 miles. Past Sargent Canyon it would continue northeast until crossing Slack Canyon at a perpendicular angle. At milepoint (MP) 16, the pipeline route would again veer northeast for one mile and then follow north-northeast trending ridgelines for two miles before crossing the Monterey-Fresno County line at MP 19. The pipeline route would continue northeast along Salt Canyon and up Dogwood Canyon for approximately 2 miles. From MP 22, the pipeline route would parallel State Route (SR) 198 for 8.5 miles until MP 30.5. The pipeline route

would then diverge from SR 198 for about 6 miles until MP 36.8, where it would again parallel SR 198 for about 4 miles. It would then head almost due east to Alpine Avenue where it would follow Alpine Avenue to SR 33. The pipeline would parallel SR 33 until MP 48.6. From MP 48.6, the route would trend east-northeast, crossing Interstate Highway 5 (I-5) about 1.7 miles from the terminus at MP 57.7, where the proposed above-ground facilities for the KLM tie-in would be located.

3.1.1 Topography

The topography of the Project corridor is highly variable and influences the climate, land uses, and vegetation along the pipeline route. The elevation at the pipeline's origin (San Ardo Oil Field) is about 450 feet above mean sea level (msl). At the crest of the Diablo Range near the point where the pipeline crosses the Monterey-Fresno County line at about pipeline MP 19, the elevation is almost 3,200 feet msl. As the pipeline route drops down into the relatively flat San Joaquin Valley, the elevation decreases to 400 feet msl.

3.1.2 Climate

The Project corridor spans various phases of the Mediterranean climate, which is characterized by warm, dry summers and mild, wet winters. The Project is located far enough inland from the coast that the climate is only slightly modified by marine influences. Mean annual precipitation ranges from about 8 to 25 inches (Department of Water Resources 1975) across the pipeline corridor and is heavily influenced by site-specific physiography. Whereas the mean annual precipitation at San Ardo is about 12 inches, annual precipitation at Coalinga is only about 8 inches; at the crest of the Diablo Range (about MP 19 of the pipeline corridor) average annual precipitation increases to between 20 and 25 inches. Mean annual temperatures range from about 48 to 69 degrees across the pipeline route, with average summer highs in the mid-80s (°F) at San Ardo and the high 90s at Coalinga. Winter (December) average low temperatures at both San Ardo and Coalinga are about 36°F, with winter highs averaging about 63°F at San Ardo and 59°F at Coalinga (Department of Water Resources, 1975). The evaporative loss in the region is much greater than the total amount of precipitation.

3.1.3 Hydrology/Geology

Regionally, landslide-prone ridgelines and peaks in the Coast Ranges (of which the Diablo Range is a component) transition to steep-sided canyons, ravines, and rolling hills which then transition to low-gradient stream canyons and river valleys. The Diablo Range is dissected by a number of significant drainages in the Project vicinity

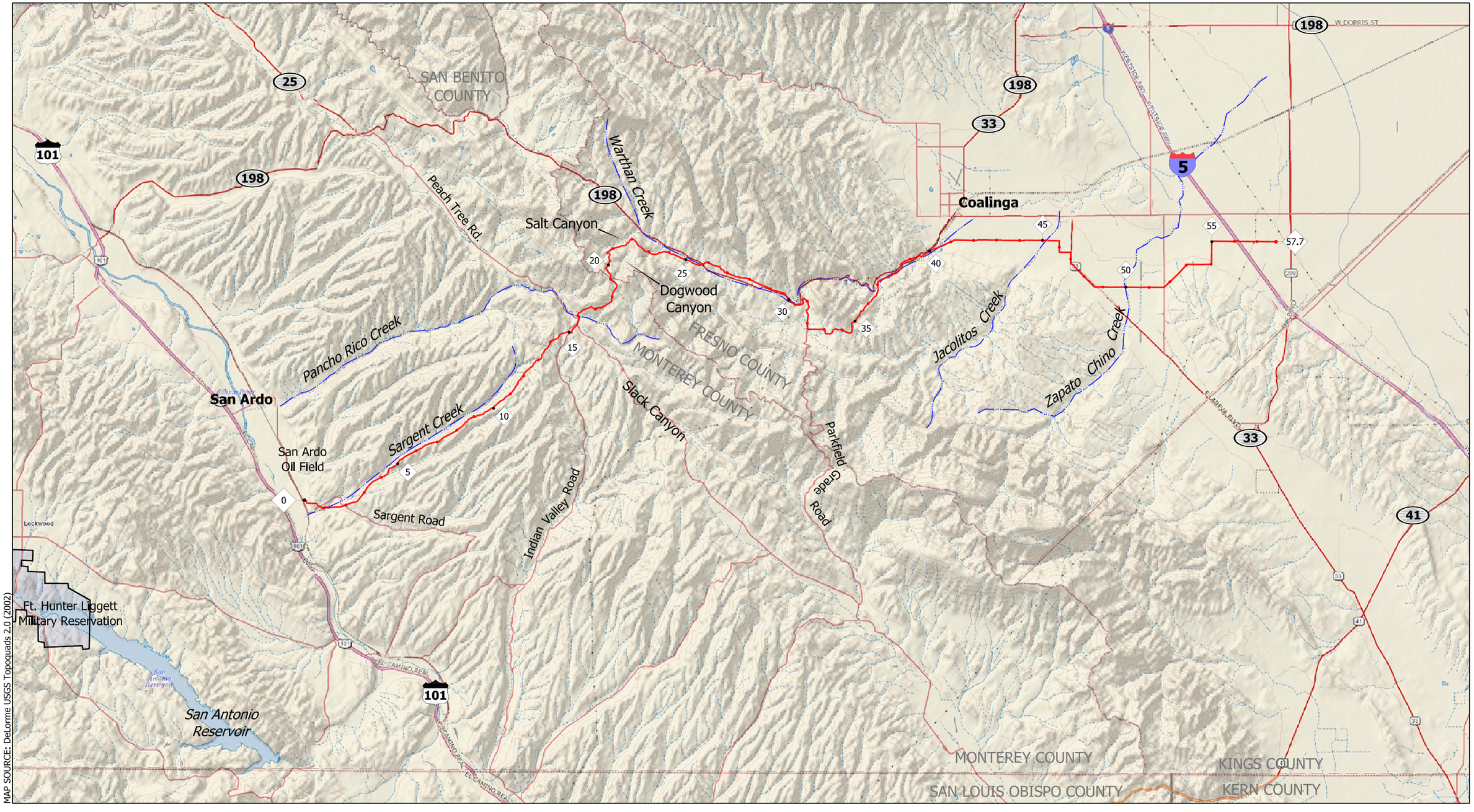
including the Salinas River, Sargent Canyon, Slack Canyon, and Warthan Creek. Hillside topography is steep and the area is prone to landsliding and other slope hazards. Due to the limited rainfall and high evaporation rates in the Project area, most of the surface water flow is intermittent and occurs in the winter months during and after major storms.

The summit of the Diablo Range marks the hydrologic divide along the Project corridor between the Salinas River which flows north to Monterey Bay, and the San Joaquin River which flows north to San Francisco Bay. Much of the western portion of the pipeline traverses Sargent Canyon which is a tributary of the Salinas River, while most of the eastern portion of the pipeline descends along Warthan Creek, which joins Los Gatos Creek and dissipates into the Los Gatos Creek alluvial fan between Coalinga and the Kings River. Figure 3.1-1, Nearby Roads and Major Streams, shows the streams and rivers located in proximity to the Project.

The San Andreas Rift Zone is a major northwest-southeast trending physiographic feature in the Peachtree Valley-Slack Canyon area near pipeline MP 16.5. Several other faults also occur in the Project vicinity. Quaternary and Tertiary sedimentary rocks of the Paso Robles and Pancho Rico formations are exposed in the western foothills of the Diablo Range, as is an unnamed sandstone unit. Alluvium from these units is deposited in valley bottoms. Proceeding easterly, the pipeline would cross an unnamed sandstone unit, rocks of the Jurassic to Cretaceous Franciscan Complex, Tertiary Etchegoin Formation, Tertiary Reef Ridge Formation, Monterey Shale, Temblor Sandstone, and the Cretaceous Panoche Formation, emerging onto the alluvial plain of the Great Valley province at the mouth of Warthan Creek (URS 2006a).

3.1.4 Land Use /Transportation/Aesthetics

The character of most of the Project corridor is rural, dominated by rangelands interspersed with low density rural housing over the mountainous western two-thirds of the pipeline route; more intensive commercial agriculture dominates the relatively flat valley landscape of the eastern third of the pipeline route. The soils found in the foothills and mountain areas are thin and highly susceptible to erosion from wind and water. The vegetative cover is somewhat sparse over much of this area, limiting the carrying capacity of the land for grazing. Topsoil within the eastern third of the pipeline is generally very fertile, thus supporting intensive agriculture, similar to other areas within the San Joaquin Valley. While agriculture dominates the land use within the corridor, oil and gas fields occur in close proximity to both the eastern and western



MAP SOURCE: DeLorme USGS Topoquads 2.0 (2002)

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SCALE: 1 : 250000

- Pipeline Alignment
- Creek
- 35 - Mile Posts (MP)

Figure 3.1-1
Nearby Roads and Major Streams
CHEVRON
SAN ARDO TO COALINGA
HEATED OIL PIPELINE

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termini of the proposed pipeline and are considered a significant source of economic revenue in both Monterey and Fresno Counties.

The road transportation network in the vicinity of the Project includes SR 101, SR 198, SR 33, and I-5, along with a network of county roads and interspersed private roads (see Figure 3.1-1). The Diablo Range consists of rolling, grass covered hills with outcroppings of uplifted sedimentary rock interspersed with oak woodlands and low-lying riparian vegetation along drainages. SR 198 is designated as eligible for State Scenic Highway status.

3.1.5 Flora and Fauna

Vegetation community types occurring along the proposed pipeline right-of-way include Non-Native Grassland, Northern Mixed Chaparral, Diablan Sage Scrub, Mulefat Scrub, Valley Saltbush Scrub, Southern Alluvial Fan Scrub, Tamarisk Scrub, Fremont Cottonwood Riparian Woodland, Cismontane Juniper Woodland and Scrub, Valley Oak Woodland, Blue Oak Woodland, Central Coast Live Oak Riparian Woodland, Foothill Pine-Oak Woodland, Seasonal Wetlands, as well as lands modified for human use such as agricultural lands, oil fields, housing, roads, etc.

Fauna native to the area include larger mammals such as mule deer, mountain lion, elk, brown bear, and smaller mammals such as rabbit, squirrel, skunk, coyote and bobcat. Large bird species include golden and bald eagle, various hawks and falcons, vulture, and there are scores of smaller birds. Myriad reptiles, amphibians, and insects populate the environment of the pipeline.