SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Subsequent Mitigated Negative Declaration for:
Warren E&P, Inc. WTU Central Facility,
New Equipment Project

State Clearinghouse No. 2006041043

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PREFACE

The Draft Subsequent Mitigated Negative Declaration (SMND) for the Warren E&P, Inc. WTU Central Facility, New Equipment Project, was circulated for a 30-day public review and comment period from April 26, 2011 to May 25, 2011. Two public comment letter were received and responses to the comments are included in Appendix G of the Final SMND. No modifications were made to the Draft SMND based on comments received on the proposed project and the Draft SMND, so it is now a Final SMND. Deletions and additions to the text of the SMND are denoted using ~~strikethrough~~ and underline, respectively. Thus, any conclusions made in the Draft SMND have not changed and any environmental impacts analyzed in the Draft SMND are not substantially worsened. Therefore, pursuant to CEQA Guidelines §15088.5, recirculation is not necessary since no new information had been provided that constitutes significant new information that will result in new avoidable significant effects or make existing significant impacts worse.

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CHAPTER 1

PROJECT DESCRIPTION

Introduction
Agency Authority
Background
Project Location
Overview of Current Operations
Project Description
Required Permits
Construction Schedule
Project Implementation

CHAPTER 1 – PROJECT DESCRIPTION

1.1 INTRODUCTION

In 2006 the City of Los Angeles certified a Mitigated Negative Declaration (2006 MND) and approved a Zoning Determination for the Warren E&P, Inc. (Warren) Wilmington Townlot Unit (WTU) oil and gas extraction, production and separation facilities located at 625 E. Anaheim St. in Wilmington, California (WTU Central Facility). The project analyzed in the 2006 MND consisted primarily of constructing five multiple well drilling cellars that would allow drilling of up to 540 wells and would allow the WTU Central Facility to extract up to 5,000 barrels of oil per day (bpd) that would be transferred offsite via pipeline. Other components of the project included increasing the area of paved surfaces from 173,900 to 429,683 square feet, removing the chain link fence around the perimeter of the facility, and building an eight-foot concrete block wall. The WTU Central Facility currently operates under a 2008 Zoning Determination (2008 ZD), issued by the City of Los Angeles, which is a revision of the ongoing 2006 Zoning Determination (2006 ZD).

Warren is now proposing a modification to the WTU project analyzed in the 2006 MND. The proposed modifications to the previously approved WTU project include: replacing older, previously permitted combustion equipment (e.g., flare) with newer, more efficient equipment (e.g., clean enclosed Bekaert burner), installation of a new heater treater and up to nine (9) microturbines all of which must meet best available control technology (BACT) requirements (South Coast Air Quality Management District (SCAQMD) Rule 1303); and installing new equipment to allow gas re-injection and/or off-site gas sales (proposed project). The proposed modifications to the project would also include bringing the WTU Central Facility into compliance with other existing applicable SCAQMD rules and regulations in accordance with the settlement agreement between Warren and the SCAQMD concerning six existing microturbines.

The 2006 MND estimated that drilling 540 wells could result in the production of up to 5,000 bpd of crude oil, but no condition was placed on the project to limit production to the level analyzed in the 2006 MND. In addition, the 2006 project enabled increased production of oil field gas and anticipated the gas would be sold. However, the circumstances at the site changed whereby the gas sales did not occur. Accordingly, the gas needed to be handled by flaring the excess gas in the Flare King flare, which had been analyzed as a standby flare. The currently proposed project is a modification of the previous 2006 project because it would impose the monthly average oil production rate of 5,000 bpd and include new and modified equipment to handle oil field gas until such time as sale of this gas is economically viable. Calculations indicate that the proposed project will result in reducing criteria pollutants emitted per unit of crude oil produced.

Because the SCAQMD has primary approval authority over the currently proposed project, it has been designated the lead agency responsible for preparing the California Environmental Quality Act (CEQA) analysis for the proposed project. As the lead agency for the modifications to the WTU project, the SCAQMD has prepared this Subsequent Mitigated Negative Declaration (Subsequent MND) to the 2006 MND.

1.2 AGENCY AUTHORITY

CEQA, Public Resources Code §21000 *et seq.*, requires that the environmental impacts of proposed "projects" be evaluated and that feasible methods to reduce, avoid, or eliminate significant adverse impacts be identified and implemented. Warren's proposed modifications constitute a "project", as defined by CEQA. To fulfill the purpose and intent of CEQA, the SCAQMD, the "lead agency" for the proposed project, has prepared this Subsequent MND to address the potential environmental impacts associated with Warren's proposed project at the WTU Central Facility.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment (Public Resources Code §21067). Because the proposed project requires discretionary approval from the SCAQMD for modifications to existing stationary source equipment and for installation of new stationary source equipment, the SCAQMD has the greatest responsibility for supervising or approving the project as a whole. Therefore, the SCAQMD is the most appropriate public agency to act as the lead agency (CEQA Guidelines §15051(b)).

A Subsequent MND is the appropriate CEQA document for the proposed project because changes are proposed to the project which will require revisions to the previous 2006 MND. (CEQA Guidelines §15162(a)). Further, a Subsequent MND is appropriate because potentially significant adverse impacts have been identified and determined to be less than significant as a result of the imposition of mitigation measures and the incorporation of modifications to the proposed project before release of the analysis for public review (CEQA Guidelines §15070(b)(1)).

1.3 BACKGROUND

The Wilmington area has a long history of oil and gas production that began with the discovery of the Wilmington Oil Field in 1932 (Figure 1). This oil field is the largest in California and the fourth largest in the United States. Through the years, the oil field was developed simultaneously with residential, commercial, and industrial uses in and around Wilmington, with most of the older exploration and production wells, separation facilities, storage tanks, and other equipment located within residential areas on small residential lots. According to Figure **1**, the Wilmington Oil Field covers an area of approximately 33 square miles under the Cities of Los Angeles and Long Beach and the Pacific Ocean. Between 1937 and 1970, approximately 100 different oil companies drilled over 600 wells into the Wilmington Oil Field from residential, commercial, and industrial zoned areas. According to the California Department of Oil, Gas, and Geothermal Resources (DOGGR) website, there are currently eleven active oil producers in the Wilmington Oil Field. Website records for oil production from the field go back as far as 1977, and reflect that the field-wide peak production date was in 1977. The majority of current oil production is achieved using secondary recovery methods which involve injection of "produced water" (water which has been separated from produced oil liquids) to assist moving the oil to the surface. This is the method used by Warren at the WTU Facility.

Warren WTU Central Facility

In 1972, the oil separation facilities, storage tanks, and other equipment on the individual residential lots were removed and new replacement facilities were constructed at the WTU Central Facility by the then owner, Exxon Corporation.

In 2005, Warren acquired full ownership and operation of the WTU and the WTU Central Facility in order to further develop the Wilmington Oil Field. A plan was developed to construct new well cellars and drill new wells in order to increase oil production, which became the project that was evaluated in the 2006 MND.

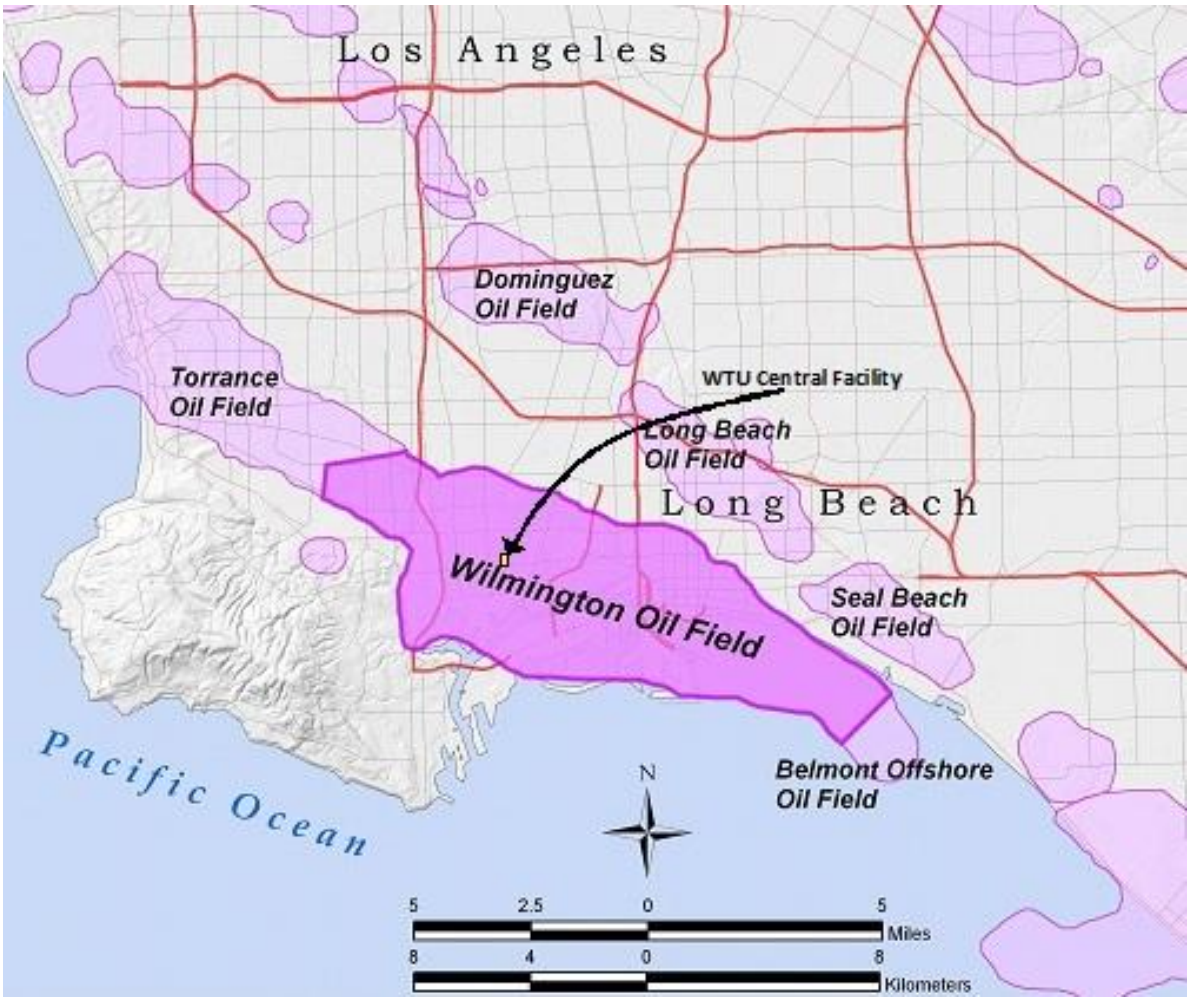


Figure 1
Map of Wilmington Oil Field

2006 Warren WTU Central Facility Project and MND

In late 2005, Warren filed an application with the City of Los Angeles (the City) to modify the then existing zoning determination and obtain approval from the City for further field development of the WTU from the WTU Central Facility. The City reviewed this new project (2006 Project) under CEQA, which resulted in the approval of the 2006 MND and the 2006 ZD. As a result, the WTU Central Facility has been paved to eliminate fugitive dust emissions and a pipeline has been installed to eliminate truck trips previously necessary to transport the oil to market. The 2006 MND was certified by the City Planning Department in May 2006 for the 2006 Project. The 2006 Project involved the construction of five multiple well drilling cellars at the WTU Central Facility, thereby enabling the drilling of up to 540 wells whose surface equipment would be located below ground level in concrete cellars that also reduce potential noise and visual impacts, as well as facilitate the efficient movement of drilling rigs. As a condition of drilling the additional wells from the centralized well cellars at the WTU Central Facility, Warren was required to remove existing above-ground pumping equipment and wells from the surrounding residential areas. The pace of drilling wells at the WTU Central Facility was dependent on the removal and remediation of wells in the surrounding residential area pursuant to the 2006 ZD and 2008 ZD, as follows:

- Phase I would last one to three years in which 180 new wells could be drilled so long as 15 older wells were abandoned in residential areas;

- Phase II would last another three years in which 180 more new wells could be drilled so long as 15 additional older wells were abandoned in residential areas; and

- Phase III would last another six years in which 180 more new wells could be drilled so long as the remaining older wells were abandoned in industrial areas.

As of the end of 2010, 17 wells located in the community have been abandoned and remediated in accordance with State regulations and two additional wells are expected to be abandoned and remediated by the end of the first quarter of 2011. Gas sales were specified in the application, although the necessary equipment for gas sales was not described in the project description of the 2006 MND. Following project approval, it became apparent that the quantity of gas produced was not sufficient to economically justify installation of the gas sales system. As a result, excess gas was sent to the Flare King, which was analyzed as a back-up flare to the proposed gas sales system in the 2006 MND.

The 2006 Project anticipated a daily oil production rate rising from the then current 600 bpd up to approximately 5,000 bpd and the 2006 MND assumed that level of production in the environmental analyses. Because Warren needed discretionary approval from the City, the City served as the lead agency for the 2006 Project. Current oil production at the WTU Central Facility is in the approximate range of 2600 bpd to 3000 bpd.

Since the California energy crisis of 2000, the California Air Resources Board (CARB) and SCAQMD have encouraged the installation of clean distributed generation, such as microturbines, as a means to generate electricity, often by utilizing stranded, non-marketable gas. Microturbines have gained wide usage at landfills, sewage treatment plants, hospitals, and in oil fields. In October 2006, Warren sought guidance from SCAQMD to determine if six Ingersoll Rand microturbines, each with a heat input rating of less than 2,975,000 BTU per hour, would

require SCAQMD permits. Warren was advised that such microturbines are in general exempt from SCAQMD permit requirements pursuant to SCAQMD Rule 219. Relying on SCAQMD's Rule 219, Warren purchased the six microturbines later that month. The six microturbines were shipped to the WTU Central Facility in December 2006, then installed and connected to the source of oil field gas. Prior to Warren's planned initiation of operation of the turbines, the SCAQMD informed Warren that, according to Health and Safety Code § 41514.9 and 17 Cal. Code Regs § 94201, the microturbines were required either to be certified by CARB or to obtain a permit to operate from the SCAQMD because the exemption did not apply to microturbines using oil field gas. In light of the Health and Safety Code requirements, Warren concluded that it would obtain permits to operate from the SCAQMD. Warren submitted permit applications as required by Regulation II. Because combusting the oil field gas in the microturbines was a beneficial use of the gas, Warren and the SCAQMD entered into a Settlement Agreement (Settlement Agreement) and commenced proceedings for a stipulated Order for Abatement (Order for Abatement) governing operation of the six microturbines prior to receiving permits to operate. Following execution of the Settlement Agreement in October 2007, Warren commenced operating the microturbines.

2006 and 2008 City Zoning Determinations

As previously noted, in July 2006, Warren received approval from the City Zoning Administrator to drill up to 540 wells from subsurface well cellars at the WTU Central Facility subject to 28 conditions contained in the 2006 ZD. Examples of the 2006 ZD conditions include:

- limitations or requirements on treatment of drill cuttings,
- removal of older wells located in neighborhoods,
- annual progress reports on drilling,
- hours of operation and construction,
- best practices for drilling and operation to avoid nuisance,
- sound mitigation,
- dust mitigation, and
- visual impacts mitigation.

In response to some public concerns, the City Zoning Administrator conducted a public hearing in May 2008 to review compliance with and the adequacy of the conditions in its July 2006 ZD. Community members, employees, contractors, royalty owners, and representatives of an environmental organization attended and testified at the hearing. Based on the testimony and results of the May 2008 hearing, in October 2008, the Zoning Administrator made minor modifications to the existing 2006 ZD and issued the 2008 ZD. The 2008 ZD included the following modifications to the existing conditions: (1) a clarification on the types of processing of oil, water and gas allowed at the site (Condition 6), and (2) the allowable delivery hours were

modified for heavy truck delivery by limiting the hours between 7 a.m. and 9:30 p.m., unless otherwise allowed by a regulatory agency, and the maximum allowable number of deliveries per day was limited to 20 loads for moving drilling rigs and 10 loads per day for other deliveries (Condition 9). The Zoning Administrator's approval and issuance of the 2008 ZD was appealed to the Harbor Area Planning Commission, and the Commission unanimously rejected the appeal and upheld and affirmed the 2008 ZD on December 16, 2008.

Notice of Violation and Settlement Agreement

On September 28, 2007, Warren received Notice of Violation P50039 ("Flare Allegation") from the SCAQMD alleging that Warren operated the Flare King flare in violation of the permit conditions contained in Permit No. F77109. Although Permit No. F77109 does not include a specific gas throughput condition, the equipment is described as a "4,000,000 Btu/hr" flare, which the SCAQMD determined limited flare throughput to no more than 94,285 scf of gas per day. This flare allegation was resolved in the Settlement Agreement described above.

On August 14, 2008, the SCAQMD Hearing Board approved and issued an Order for Abatement covering operations of the microturbines and Flare King flare. The Order limited flaring of natural gas in the Flare King flare to 94,285 scf per day until a new Bekaert Clean Enclosed burner is installed, and required that Warren maximize use of the microturbines for combustion of oil field gas. It also required Warren to install a gas re-injection system for use in lieu of flaring of oil field gas (except when necessary due to breakdowns of or maintenance on the gas re-injection system). That Order for Abatement was modified on June 17, 2009, to extend its provisions to July 1, 2010. On September 21, 2010, a revised Order for Abatement was issued. In addition to the conditions set forth above, it extends the provisions of the Order to October 1, 2011, unless otherwise extended or previously terminated through a demonstration of compliance as identified in the Order, and also requires Warren to install the gas re-injection system within 180 days following the issuance of any SCAQMD required permit(s) for that system.

2009 Warren WTU Central Facility Project and Draft Negative Declaration

On April 15, 2009, the SCAQMD prepared a draft Negative Declaration for the Warren E&P, Inc. WTU Central Facility New Equipment Project (2009 Draft ND) to analyze environmental impacts from modifications at the WTU Central Facility that are required to comply with conditions of the Order of Abatement and other associated modifications. The proposed project analyzed in the 2009 Draft ND consisted of: (1) removing the existing permitted Flare King flare and replacing it with an ultralow NOx Bekaert Clean Enclosed Burner® (Bekaert CEB®); (2) refurbishing existing Heater-Treater No. 1 (HT#1); (3) adding an additional heater-treater (HT#2) with ultra-low NOx burners to meet oil-water separation needs; (4) adding up to nine Ingersoll-Rand MT-70 microturbines to generate electrical power for use on site and (5) removing a previously-operated water heater. In addition, Warren proposed installing gas re-injection equipment to reduce the need to combust excess oil field gas production and, if warranted, installing gas sales equipment. The Bekaert CEB® and HT#2 meet the SCAQMD's best available control technology (BACT) requirements.

The 2009 Draft ND was circulated for a 30-day public review period. The SCAQMD received a number of form letters from groups opposed to or in favor of the proposed project. Seven comment letters with comments specific to the analysis of environmental impacts from the proposed project analyzed in the 2009 Draft ND were also received. A number of comments raised concerns with respect to alleged impacts associated with the 2006 Project analyzed in the 2006 MND and permitted by the City of Los Angeles, as well as impacts from the proposed project analyzed in the 2009 Draft ND and permitted by the SCAQMD. For this reason, the SCAQMD concluded that it would be appropriate to revise and recirculate the 2009 Draft ND as a Draft Subsequent MND so that impacts from the 2006 Project analyzed in the 2006 MND could be clearly distinguished from potential impacts from the proposed project. This Final ~~Draft~~ Subsequent MND clearly defines the 2006 Project analyzed in the 2006 MND, and shows that the currently proposed project is a modification to the 2006 Project.

1.4 PROJECT LOCATION

The proposed project will be located within Warren's WTU Central Facility located at 625 East Anaheim Street in the Wilmington district of Los Angeles, California. As shown in Figure 2a, the WTU Central Facility is located on the eastern side of the Wilmington area of the South Coast Air Basin (Basin), which is a sub-area of the SCAQMD's area of jurisdiction. The WTU Central Facility provides oil, water, and natural gas separation; storage; and injection services for this area of the Wilmington Oil Field (Figure 1). A zoning map of the area is shown in Figure 2b.

The WTU Central Facility is located at the northeast corner of Anaheim Street and Banning Boulevard in the Wilmington district of the City of Los Angeles (Figure 3). The Wilmington district encompasses and covers an area of mixed land uses, with industrial, recreation, residential, and commercial zoned areas nearby. The northern portion of the WTU Central Facility borders John Mendez Baseball Park, which has been in existence since the 1970s and was recently purchased by Warren, and Opp Street, with a multi-family residence, a vacant parcel, and the remnants of the Civil War era powder magazine for Camp Drum nearby. The eastern portion of the WTU Central Facility borders Eubank Avenue, with industrial trucking and salvage yards nearby. The southern portion borders Anaheim Street, with the Wilmington Industrial Park and industrial and commercial uses (e.g., restaurant) nearby. The western portion borders Banning Boulevard, including the above-mentioned baseball diamond; a corner strip commercial development, a row of small one-story apartments, and two vacant parcels are nearby. The WTU Central Facility covers 11 parcels of land with an area of 437,723 square feet (10.05 acres). Zoning designations include M2-1 VL-O (Light Industrial Zone) and RD3-1XL-O (Restricted Multiple Dwelling Zone), with some parcels sharing the two designations. The "O" at the end of each zoning designation indicates that the parcels are located in an Oil Drilling District and that oil drilling activities are permitted in these zoning designations.

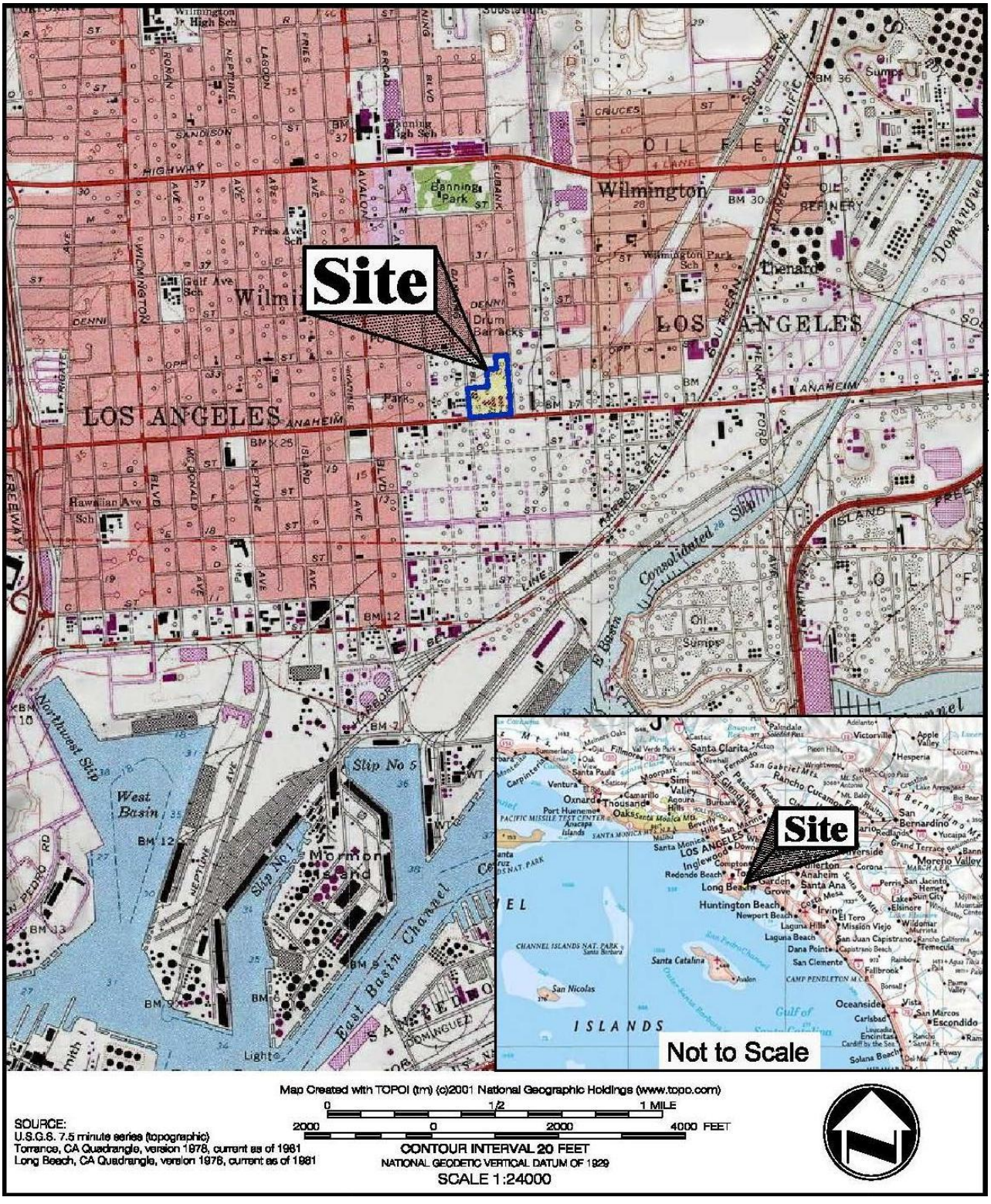


Figure 2a
Site Location Map - Wilmington Townlot Unit, 625 E. Anaheim Street, Wilmington, California

Figure 2b
Site Zoning Map - Wilmington Townlot Unit, 625 E. Anaheim Street, Wilmington, California

Figure 3
Site Plan: Wilmington Townlot Unit, 625 East Anaheim Street, Wilmington, California.

1.5 OVERVIEW OF CURRENT OPERATIONS

Crude oil, or petroleum, is a natural resource comprised of a mixture of hydrocarbons, related compounds, and small amounts of other materials such as oxygen, nitrogen, sulfur, salt, and saltwater. Before crude oil can be shipped to refineries where it is manufactured and refined into a variety of petroleum products (such as lube oil, plastics, gasoline, diesel, jet fuel, asphalt and other products), the oil must be separated from the saltwater and natural gas produced concurrently with the oil. The primary function of the WTU Central Facility in this process is to extract oil and gas bearing fluids from underground formations; separate the crude oil, natural gas, and water; store, meter, and ship the crude oil for sale by pipeline (or trucks in the event of pipeline maintenance); and, after treatment to remove solids, pump the clarified produced water back into dedicated wells (i.e., water injection wells) to the underground oil production formation in order to avoid land subsidence and to enhance the further production of oil. The facility's function is unchanged since the 2006 MND.

Oil field gas is naturally associated with oil production. The oil field gas cannot be simply vented to the atmosphere because doing so is a violation of various regulatory requirements including SCAQMD rules 1173 and 1148.1, DOGGR rules and regulations, and various City fire code provisions and is generally unsafe. There are a number of methods to handle the oil field gas, including its use as fuel for on-site equipment (e.g., heater treater, microturbines), or its re-injection back into the reservoir from where the oil was extracted. If sufficient volumes of gas are available, the oil field gas could be treated and sold to the gas company. However, the volume of excess oil field gas is currently not sufficiently large enough to meet the economic criteria of the gas company and the operator. No matter how the gas is handled, there must be a method for gas disposal should there be a service interruption such as maintenance, repairs, or an emergency. Because of the potential for interruption of current onsite uses for the excess oil field gas, the use of a flare or burner as a backup is necessary.

As will be discussed in Section 1.6, the proposed project will include an additional on-site beneficial use of the oil field gas (i.e., microturbines to produce energy for the facility). Any oil field gas that cannot be used beneficially on-site will be re-injected deep underground. In addition, the existing Flare King flare will be replaced with a Bekaert CEB ®, which will typically burn only enough oil field gas to be in a ready standby mode (about nine percent of its capacity), but will be capable of burning more oil field gas if the gas re-injection equipment is not operating. As in the 2006 Project, this ensures that no oil field gas is vented to the atmosphere.

As in the 2006 Project, the fluid from the production wells is typically comprised of 90 to 95 percent saltwater, five to 10 percent crude oil, a small volume of oil field gas, and trace amounts of sand and clay. The produced fluids are first routed to one of two Free Water Knock-Out (FWKO) separation vessels, where the bulk of the water and some oil field gas and solids are separated from the crude oil. The separated crude oil then flows to a heater-treater separation vessel where any remaining water emulsified in the oil is separated by heating the oil. A small amount of oil field gas also evolves from solution within the crude oil in the heater-treater. This oil field gas is combined with the oil field gas separated in the FWKO and is used as described in the previous paragraph. Water from the FWKO and heater-treater is routed to the produced water system where solids and remaining traces of oil are removed prior to subsurface re-injection of

the produced water. The separated oil from the heater-treater is directed to shipping tanks where it is stored and pumped intermittently for sale by a pipeline. At the time of this Subsequent MND, the WTU Central Facility pumps oil through an existing Lease Automatic Custody Transfer (LACT) meter into the Cardinal Pipeline which travels underground to the nearby Conoco Philips refinery. Since the opening of the Cardinal Pipeline on March 17, 2008, the transfer of crude oil from the WTU Central Facility through the pipeline has averaged about 3,000 bpd, thereby eliminating an average of 40 diesel truck trips per day into and out of the WTU Central Facility. However, if a pipeline disruption occurs, the oil may be transported by vapor-controlled oil trucks. An existing SCAQMD permit limits truck shipping to 144,788 barrels of oil per month.

The 2006 Project, which was evaluated and approved in the 2006 MND, allows the drilling of up to 540 wells and the construction of five well cellars in the WTU Central Facility. The well cellars are 12 feet wide, eight feet deep, and approximately 440 feet long. Of the 540 wells, approximately 372 are expected to produce oil and 168 wells are expected to be used as water re-injection wells. The oil wells operate via electric submersible pumps where the pump and motor are located near the bottom of the well and push the fluid to the surface. This configuration is more efficient and eliminates potential visual, noise, and vibration impacts compared to the alternative of using above-ground pumping units.

A total of approximately 101 oil wells and approximately 32 water injection wells have been drilled within the newly constructed drilling cellars at the WTU Central Facility. Of these wells, approximately 75 oil wells and 31 water injection wells are currently active. The construction and operation of the well cellars, which were analyzed in the 2006 MND as part of the 2006 Project, consolidate the drilling of wells into a central location at the WTU Central Facility. The 2006 MND also requires abandoning and remediating wells located in the community in accordance with State regulations and the 2006 ZD. According to the 2006 MND, when drilling is completed, the WTU Central facility is expected to be able to produce approximately 5,000 bpd of oil. It should be noted that due to the variations of geological conditions, the number of wells drilled does not linearly correlate to the amount of oil produced because one well could result in more production than another, and the rate of production varies depending on the pressure of the reservoir, placement of the well within the reservoir and remaining reserves. Similarly, the amount of natural gas extracted from a well is not proportional to the amount of oil produced.

The 2006 MND and 2006 Project also included a gas sales component. However, due to the small amount of produced oil field gas, no sales outlet currently exists to sell the oil field gas, and the installation of gas sales equipment is not economically viable at this time.

The current SCAQMD-permitted equipment used to process the crude oil includes: (A) an oil and water separation system (Permit #F86179); (B) a water processing system (Permit #F77108); (C) a Flare King flare (Permit #F77109); (D) a heater-treater (HT #1; Permit #F81666); and (E) a vapor recovery system (Permit #F77107). Produced water is pumped from the oil zones along with crude oil and is treated within the water management yard for injection back into the oil zones. Thirty-one wells within the WTU Central Facility are currently being used for water injection purposes. The oil storage yard accommodates two primary and two emergency oil storage tanks. The water management yard accommodates a filter flush pit, a clarifier pit, three

water clarifier tanks, three water tanks, a 600 square-foot switchgear building, and a 2,300 square-foot electrical substation.

The combustion equipment at the site is fueled by oil field gas, along with natural gas purchased from a utility if needed as a back-up fuel. The combustion equipment currently operating at the site includes HT #1, the Flare King flare and six microturbines. As discussed previously, the purpose of a heater treater is to heat oil and water to enhance separation; the purpose of the microturbines is to produce electricity for on-site use; and the flare is used to combust the remaining oil field gas to prevent its direct release to the atmosphere. Since the proposed project modifies the gas use and handling equipment at the WTU Central Facility, the next subsections describe the existing equipment in more detail.

Heater Treater

The existing heater treater (HT#1) was permitted and in use prior to the 2006 MND. Thus, the 2006 MND did not consider construction of HT#1 to be part of the project description, but did analyze an increase in its usage up to 100 percent of its rated capacity of 2.5 million btu per hour. However, the capacity does not accommodate the oil production level analyzed and approved in the 2006 MND. HT#1 treats an oil-water emulsion by heating the stream of fluids in order to separate the oil and water. HT#1 is fueled by the oil field gas produced on site, but may occasionally be supplemented with natural gas purchased from the local gas utility.

Flare King Flare

A Flare King flare is currently permitted for use at the WTU Central Facility and the previously mentioned Order of Abatement limits the amount of oil field gas that may be combusted in this flare to 94,285 scf per day. This flare still operates since current oil field gas volumes do not support the installation and operation of gas sales equipment. The stack of the flare is approximately 16 feet in height and often produces a visible flame. The flare is used to combust excess oil field gas produced in association with oil production that is not used to fuel the heater treater (2006 Project HT#1) or the microturbines (not in the 2006 Project: currently six are operating). Oil field gas not currently used beneficially on-site in HT#1 or in the microturbines must be combusted because it cannot be vented to the atmosphere, as previously discussed. In the 2006 Project, the 2006 MND calculated the average daily usage of the flare at two percent of its capacity based on the assumption that gas sales equipment would be installed. The 2006 MND expected the flare would only be used at 100 percent capacity when gas sales were interrupted.

Microturbines

Because the gas sales equipment used for gas handling from the 2006 Project was never installed, the Flare King flare had to be operated to handle the excess gas. Thus, the currently proposed project includes, as a modification to the 2006 Project, gas handling equipment comprised of microturbines and gas reinjection rather than continued use of the flare to handle gas. Six CARB-certified Ingersoll-Rand MT-70 microturbines are currently operating in the gas and solids management yard at the WTU Central Facility under an Order for Abatement and Settlement Agreement with the SCAQMD. The microturbines burn oil field gas to generate

approximately 420 kW of electrical power for use at the WTU Central Facility. Warren applied for a SCAQMD permit to operate the microturbines in October 2007.

Additional Operations

The 2006 Project (and current WTU Central Facility) includes a 1,350 square-foot office building and a 1,250 square-foot building with lockers and restrooms in the personnel yard. The gas and solids management yard also accommodates a 430 square-foot pump storage shed and 550 square-foot maintenance building.

Routine oil production operations are conducted 24 hours per day. The 2006 Project assumed that eight full-time employees would work at on-site oil production and related jobs. Currently, fifteen full-time employees work in two shifts for Warren. Nine of these employees are assigned to the WTU Central Facility, and the remaining six are assigned to surveillance, operation and maintenance of wells located in outlying neighborhood areas. Between six and 12 vendors travel to or from work at the WTU Central Facility on a daily basis. These vendors handle various tasks, including welding, pipefitting, maintenance work and general labor. All motor vehicles access the WTU Central Facility through the primary entrance located on Banning Boulevard. A secondary access from Opp Street is used only in emergency or unusual situations. Pedestrian traffic outside the WTU Central Facility is along paved sidewalks on each of the four surrounding streets. Adequate parking spaces are provided within the WTU Central Facility to accommodate all workers, vendors, and visitors.

The perimeter of the facility is landscaped and protected from public view or access by an eight-foot block wall set back at least five feet from the sidewalk. Interior block walls separate the various yards. Approximately 422,976 square feet (89 percent) of the WTU Central Facility is currently covered with paved concrete or asphalt surfaces, and the remaining 52,279 square feet (11 percent) is covered with gravel or permanent landscaping, such as grass, palm trees, shrubs and flowers. Please see Figure 3 for a view of the WTU Central Facility.

1.6 PROJECT DESCRIPTION

As already noted, in 2006, the City approved the 2006 Project and the 2006 MND that allowed the construction of five well cellars and the drilling of up to 540 wells under a schedule that requires 30 wells located in "residential areas" to be abandoned in the first six years after approval of the 2006 ZD and the remaining 26 wells located in "industrial areas" to be abandoned during the subsequent six years (see page 1-3). The 2006 MND anticipated and analyzed a production level up to 5,000 barrels of oil per day. The 2006 Project further anticipated that the oil field gas associated with oil production would be routed to sales rather than the Flare King flare, which was expected to operate as a backup only at an average of approximately two percent of its capacity. The 2006 Project also assumed that HT#1 would be fired to its permitted capacity and that a pipeline system would be installed to remove crude oil and replace the truck loading operation. The environmental impacts of the 2006 Project were analyzed and the 2006 Project was approved by the City in the 2006 MND.

After approval of the 2006 MND, Warren proceeded to implement the various aspects of the 2006 Project, including the new wells, the new well cellars and the new oil transportation

pipeline. However, certain aspects of the 2006 Project could not be implemented as planned. Warren found that HT#1 was incapable of processing 5,000 bpd of oil production. Further, Warren found that the volume of oil field gas produced was not sufficient for sales to either a nearby business or the local gas company, even though the volume was somewhat higher than the baseline case analyzed in the 2006 MND. Warren then proceeded to redesign these aspects of the 2006 Project and concluded that an additional heater treater (HT#2) was necessary. Furthermore, Warren concluded that a revised gas management system was necessary to handle oil field gas from the oil production levels evaluated and analyzed in the 2006 MND.

The currently proposed modifications to the 2006 Project are being proposed because, to date, there has been insufficient oil field gas produced to justify the installation of the equipment necessary to treat the oil field gas so that it can be sold commercially, even though more oil field gas is being produced than can be burned as fuel in the equipment currently on site. The modifications analyzed in this Subsequent MND involve the installation of gas handling equipment that will allow Warren to achieve the 5,000 barrels per day (average) level of oil production that was the objective of the 2006 Project. To accomplish this objective, Warren needs to increase the capability of its oil/water separation activities (i.e., adding HT#2 and refurbishing HT#1) and ensure that oil field gas will not be vented to the atmosphere by adding gas re-injection equipment. In addition, Warren desires to replace the old Flare King flare with a clean enclosed burner (Bekaert CEB®) which is BACT equipment. Lastly, Warren desires to obtain permits for its six existing microturbines, which beneficially use the oil field gas to produce electricity for the facility, and are currently operating under a Settlement Agreement and Order for Abatement with the SCAQMD. If oil field gas volumes are sufficient and installation of gas sales equipment becomes economically viable, Warren plans to obtain permits for up to three additional microturbines, which would produce electricity and be fueled with by-product gas from the gas sales cleanup system. This by-product tail gas has fuel value but is not the same as oil field gas.

Therefore, this proposed project involves the modification of the 2006 Project previously approved by the City in the 2006 MND and 2006 ZD covering the WTU Central Facility. Specifically, Warren proposes to agree to a permit condition on existing Permit F86179 which would limit oil production at the WTU Central Facility to no more than 5,000 bpd of oil production on a monthly average basis, and to modify the previously approved 2006 Project by modifying existing equipment and adding new equipment, as described above. Thus, a subsequent environmental analysis in the form of this Subsequent MND is appropriate. Figure 4 shows the location of the pieces of equipment that comprise the proposed project. The following subsections describe the individual pieces of equipment that comprise the currently proposed project.

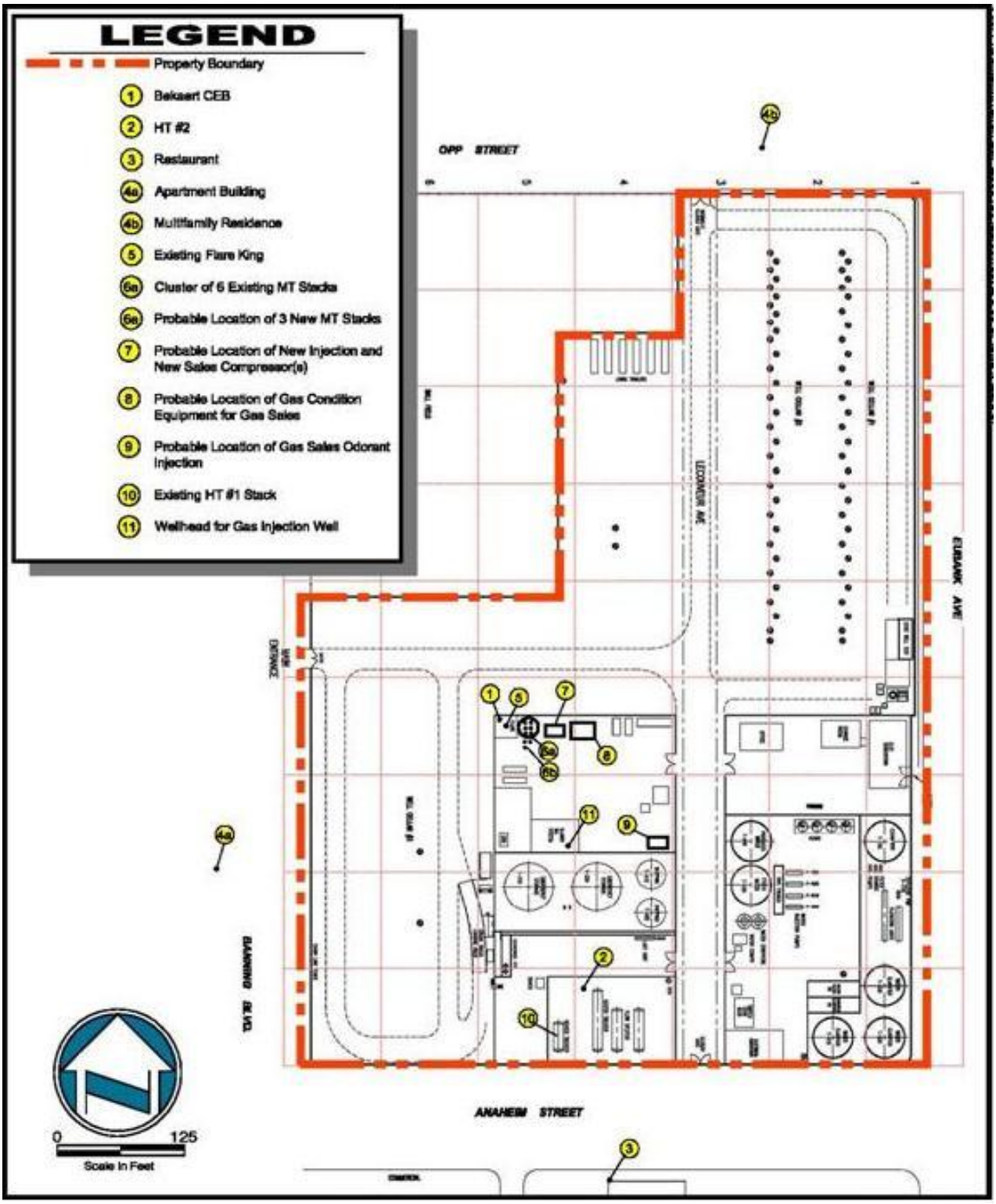


Figure 4
Site Plan with Location of Sources and Receptors

Existing Flare King Flare

The proposed project includes removing the existing Flare King flare that is currently operating under an existing SCAQMD permit that allows the flare to operate at up to 94,285 standard cubic feet of oil field gas per day. Operation of the Flare King flare at an average of two percent of its rated capacity was evaluated in the 2006 MND, which assumed installation and operation of the gas sales equipment. However, the 2006 Project allowed the Flare King flare to operate at up to 100 percent of its rated capacity when the gas sales equipment was not operating and no condition of approval limited operation of the flare to 2% of its rated capacity.

New Bekaert CEB®

The proposed project includes replacing the existing Flare King flare with a new state-of-the-art Bekaert Clean Enclosed Burner (CEB®) that reflects Best Available Control Technology (BACT) and emits less VOC, NO_x, PM, and CO per unit of fuel than the existing flare. According to the vendor, the Bekaert CEB® does not produce a visible flame that reaches above its stack. The contrast between the Flare King flare (to be removed under the proposed project) and the new Bekaert CEB® (to be installed under the proposed project) can be seen in Figure 5 and Figure 6. Once the gas reinjection equipment is operational, the new Bekaert CEB® would normally operate in ready standby mode (approximately nine percent of its rated capacity). An application for a SCAQMD permit was submitted in August 2007. Once the Bekaert CEB® is operational, the Flare King flare will be shut down and removed from the WTU Central Facility. During construction of the gas re-injection system, the gas flow to the Bekaert CEB® will be limited to no more than 50 percent of its rated capacity, except in the following circumstances (when its full capacity may be necessary):

- Emissions testing at greater gas rates, as required by SCAQMD;
- Power outages that require shutdown of the microturbines and/or electric compressor;
- Maintenance, breakdown or testing of the microturbines and/or heater treater(s) that require gas flows to be routed to the Bekaert CEB® until the maintenance, repair or testing work is completed;
- Once the gas re-injection system is installed and operating, the Bekaert CEB® will be operated only in ready-standby mode (approximately nine percent of its rated capacity), unless oil field gas must be routed to the Bekaert CEB® (which can be operated up to 100 percent of its rated capacity) during the circumstances described immediately above, as well as during:
    - Maintenance, breakdown or testing of the gas injection compressor that requires gas flows to be routed to the Bekaert CEB® until the maintenance, repair or testing work is completed; and
    - Maintenance, repair, cleanout or testing of the gas injection well and/or system that requires gas flows to be routed to the Bekaert CEB® until the maintenance, repair, cleanout or testing work is completed.

In ready-standby mode, the amount of gas burned by the Bekaert CEB® will be controlled by a built-in system that ensures proper combustion conditions at all times. If oil field gas must be routed to the Bekaert CEB® due to any of the circumstances described above, the Bekaert CEB® may be operated up to its rated capacity until gas re-injection can be resumed.

Figure 5
Bekaert CEB

Figure 6
Flare King flare at the WTU Central Facility

Existing Natco 2.5 MMBtu/Hour Heater Treater

As stated earlier on page 1-11, the 2006 MND assumed that HT#1 was operating at 100 percent of its rated capacity. After the 2006 MND was approved, Warren re-evaluated HT#1 and found that it was incapable of properly dewatering crude oil at rates exceeding about 3,600 bpd. Therefore, the existing HT#1 will be reconditioned (i.e., update valves, add insulation, and update its burner to comply with recent changes to Rule 1146.1 - Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters) and retained and operated as a fully permitted unit available for use at any time under its existing permit. The current allowable NOx emission from HT#1 is 30 ppm. Under the new Rule 1146.1 the NOx emission will be reduced to no more than 9 ppm, or a reduction of about 70 percent.

New 12 MMBtu/Hour Heater Treater

The 2006 MND included an analysis of crude extraction of 5,000 barrels per day. As discussed above, the existing Natco 2.5 MMBtu/hour heater treater is unable to accommodate 5,000 barrels per day. To accommodate production of 5,000 barrels per day analyzed and approved in the 2006 MND, it is necessary to modify the 2006 Project to include a new heater treater. Therefore, the proposed project includes installing a new 12 MMBtu/hour heater treater (HT#2) that will allow Warren to increase the efficiency and capability of its oil/water separation processes. HT#2 will be newer oil/water separation equipment and, since it must meet BACT emission limits, emits less NOx per unit of fuel than the burners in the existing HT#1. An application for a SCAQMD permit for HT#2 was submitted in November 2007. Once permitted, HT#2 will be available for use at any time. Regardless of whether or not one or two heater treaters operate at the same time, oil production would still be limited to an average of 5,000 barrels per day.

Nine New Microturbines

No microturbines were included as part of the project description in the 2006 Project MND. However, the 2006 Project included gas sales equipment, which was never installed. Consequently, the 2006 Project is being modified to install microturbines as a means of utilizing the gas extracted along with the produced crude oil. The currently proposed project, therefore, includes an environmental analysis of nine Ingersoll Rand MT-70 microturbines, including six that were installed without SCAQMD permits but are operating under the current Settlement Agreement and Order for Abatement, and three more that would be required to use the tail gas associated with future gas sales equipment. Each microturbine would generate electricity for onsite use.

As previously discussed, Warren purchased and installed six CARB-certified Ingersoll-Rand MT-70 microturbines without valid permits to operate from the SCAQMD (see page 1-2). The microturbines burn the oil field gas to generate approximately 420 kW of electrical power for use at the WTU Central Facility. Although six of the microturbines are currently operating under a Settlement Agreement and Order for Abatement with the SCAQMD, they have not undergone any type of CEQA evaluation. Warren applied for a SCAQMD permit to operate the microturbines in October 2007. Although the six existing microturbines are included in the proposed project, they are not included in the construction phases because they have already been constructed.

If excess oil field gas production ultimately reaches economic feasibility (generally estimated to be approximately one million standard cubic feet per day), additional microturbines and gas conditioning equipment may be required to be installed. Under this scenario, Warren may desire to install up to three new microturbines in addition to the six already present at the WTU Central Facility. Because of the possibility that Warren may install these additional microturbines to use tail gas from gas sales equipment, a total of nine microturbines (i.e., six existing plus three potential new) has been evaluated in the environmental analysis in Chapter 2.

New Oil Field Gas Reinjection Equipment

The proposed Project includes using a previously drilled well in the WTU Central Facility for re-injection of excess oil field gas into an existing underground oil formation approximately ¾-mile below industrial areas located southeast of the WTU Central Facility. Conversion of the existing well for gas reinjection purposes will require a workover rig, a small crane, and several truck trips. The workover rig will be smaller than, but similar in appearance to the drilling rigs currently used on-site to drill oil wells. As oil production increases, additional oil field gas dissolved in the crude oil within the subsurface reservoir will be produced along with the oil. Once separated from the oil, most of the oil field gas will be beneficially used as fuel in the six microturbines and HT #2. A small amount will be needed to maintain the Bekaert CEB® in ready-standby mode, and any excess gas will be re-injected back into oil reservoirs approximately 4,000 feet below the surface. The re-injected oil field gas may be returned to the surface in the future through the same well and subsequently put to beneficial use or sale. The gas re-injection system will involve the use of a four stage electric compressor, inter-stage coolers and scrubbers, and will require minor re-piping of existing flowlines and the use of temporary well servicing equipment to prepare the existing well for this use. The compressor will be installed as part of the gas management system and would reduce combustion emissions over the long-term. Warren is evaluating other longer-term options as explained in the following subsection. If no other option becomes feasible, reinjection will remain the primary means of managing excess produced oil field gas. The DOGGR is the agency with regulatory authority to approve gas reinjection wells into underground oil fields.

New Gas Sales Equipment

The 2006 Project included gas sales equipment as a means of handling and using gas extracted along with the crude, however, the gas sales equipment proposed at that time was never installed. If future oil drilling (up to the 540 wells analyzed and approved by the City in 2006) results in wells that produce particularly high oil field gas volumes relative to oil volumes, it may become economically feasible to condition, odorize (as required by the US Department of Transportation [DOT]), and meter the oil field gas for sale to a third party, rather than re-inject the gas into subsurface oil reservoirs. Gas sales will require sustained production of approximately one million scf of oil field gas per day for a period of at least one year. The gas sales system will be comprised of a re-staged electric compressor (which can also be used for gas re-injection), a molecular sieve to remove inert components (water vapor, nitrogen gas [N_2], and carbon dioxide [CO_2]) and larger hydrocarbon molecules, up to three microturbines to combust tail gas from the gas sales equipment to make electric power, and gas metering and odorizing equipment required by Southern California Gas Co.(SoCal) and the US DOT. If agreeable to SoCal, sales will be through an existing pipeline that traverses the WTU Central Facility.

Based on current levels of gas production, it appears unlikely that this higher level of oil field gas production will be reached. However, because treatment and sale of the oil field gas would result in a beneficial use; gas sales is a desirable substitute for gas re-injection if economically feasible and remains a possibility. Therefore, the proposed project description includes the gas sales and treatment equipment, which would require permits from the SCAQMD. Gas sales was evaluated in the 2006 MND based on approximately 5,000 barrels of oil per day. If oil field gas is conditioned and sold, the Bekaert CEB® will continue to be operated in ready-standby mode similar to the gas re-injection scenario described above.

Miscellaneous Modifications

The proposed project includes removal of a currently permitted (SCAQMD permit F86179) water heater that has a rated capacity of 1.2 Mmbtu/hr. This removal results in a modest reduction in emissions. The proposed project also includes a new spare, skid-mounted, electrically driven vapor recovery compressor that will be added to the existing Vapor Recovery System permit (SCAQMD permit F77107). This new spare equipment has the same horsepower rating as the existing compressor, and will only be operated when the primary vapor recovery compressor is out of service. The new spare compressor does not increase the vapor handling capacity of the overall system, and it is not necessary to increase the oil production rate from the WTU Central Facility. The permit application for this spare unit was submitted on November 23, 2010.

1.7 REQUIRED PERMITS

The proposed project will require Permits to Construct and Operate from the SCAQMD pursuant to SCAQMD Regulation II. Warren's proposed project will also be required to comply with SCAQMD Regulation XIII, which specifies requirements for modified facilities, including the use of best available, lowest-emitting control technology, and with all applicable SCAQMD Rules, including Rules 1146 (Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters), 1146.1 (Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters), 1148.1 (Oil and Gas Production Wells), and 1401 (New Source Review of Toxic Air Contaminants). Specifically, Warren's proposed project will comply with the amendments to SCAQMD Rule 1146.1, which limits the carbon monoxide (CO) and oxides of nitrogen (NO_x) emissions from small heaters and boilers. The proposed project will also comply with SCAQMD Rule 1401 and will not increase the maximum individual cancer risk (MICR), the cancer burden, or the acute and chronic hazard index (HI) above regulatory limits. The proposed project does not emit actual or potential emissions above the significance threshold values established by SCAQMD pursuant to the California Environmental Quality Act (CEQA), and does not require the WTU Central Facility to be subject to any of the following programs or rules; the Regional Clean Air Incentives Market (RECLAIM), Regulation XX; Title V, Regulation XXX; CARB's GHG reporting program, or U.S. EPA's Reporting or Tailoring Rule. The proposed project (and related equipment) will comply with all applicable SCAQMD, state, and federal air quality rules since air permits cannot be issued otherwise.

The proposed project will require one or more permits for subsurface gas re-injection from the California Division of Oil, Gas, and Geothermal Resources (DOGGR). These permits are

defined as Class II Gas Injection Permits. Applications for these injection permits are required under CCR, Title 14, §1724.7. The proposed project will require ministerial electrical system and foundation building permits from the City of Los Angeles. No discretionary permits are expected to be required by the City of Los Angeles. No other permits are expected to be required by other agencies.

1.8 CONSTRUCTION SCHEDULE

As shown in Table 2, the proposed project will be implemented in multiple interim stages prior to achieving the final proposed project. These interim scenarios focus only on the equipment operating during a given period.

The proposed project consists primarily of the installation of pre-fabricated equipment. Construction in the WTU Central Facility will be limited to building equipment foundations (i.e., grading, paving), piping, wiring, and installing pre-fabricated skid-mounted equipment. The Bekaert CEB® and HT#2 are already in various stages of off-site fabrication by third parties and can be installed shortly after completion of the CEQA process when permits are issued. As shown in Table 1, the construction and installation schedules for the individual components of the proposed project are not expected to overlap. Construction activities for most aspects of the proposed project are expected to begin within weeks of the issuance of the SCAQMD permits which would follow certification of this Subsequent MND.

Table 1
Project Operation Schedule

Project Activity[(1)]	Operating Equipment
Project Baseline	Operation of HT #1 (2006 MND)
Project Interim I	Operation of HT #1, six existing microturbines, and Flare King flare
Project Interim II	Operation of HT #1, six existing microturbines, and Bekaert CEB ®
Project Interim III	Operation of HT #2, six existing microturbines, and Bekaert CEB ®, with gas reinjection
Final	Operation of HT#1 and/or HT #2, nine microturbines, and Bekaert CEB ®, with gas sales or reinjection (normal and worst-case to be analyzed)

[(1)] As noted in the text, some of these phases may not be necessary (e.g., direct gas sales if production warrants this approach; continuing re-injection, but not going to gas sales, if production is too low; not installing additional microturbines if production does not warrant it).

Table 2
Proposed Construction Schedule (Assuming Permits to Construct, Install, and Operate are Issued No Later than 2nd Quarter 2011)

Construction Activity[(1)]	Approximate Completion Date[(1)]
Construction I: Construction and installation of Bekaert CEB® and removal of Flare King flare and hot water heater	3rd quarter – 2011
Construction II: Construction and installation of HT #2, re-furbishment of HT #1, grading for compressor pad, construction and installation of the compressor, and conversion of well	2nd quarter – 2012
Construction III (Contingent): Construction and installation of gas sales equipment, installation of three additional microturbines, and installation of conditioning equipment.	4th quarter – 2014 (contingent)[(2)]

(1) This is an estimate of the construction schedule. If this Subsequent Mitigated Negative declaration is certified, regardless of the adoption date, the construction phases would not change and the calculation results would not change.

(2) If gas production rises quickly, Warren may go directly to gas sales. In this case, gas sales equipment would be installed by the 4th quarter of 2013.

1.9 PROJECT IMPLEMENTATION

Typically, construction occurs prior to project operation. However, because of the various interim operating stages in the proposed project, construction activities overlap with the operation of new equipment. As a result, proposed project phases incorporate both operating equipment and construction activities, and are based on the Interim operating scenarios and Construction Activities described in Table 1 and Table 2. Potential environmental impacts of both operation and construction will thus be analyzed together. The proposed project implementation schedule is found in Table 3.

Table 3
Proposed Project Implementation

Phase	Description
Baseline	2006 Project
Phase I	Interim I, Construction I
Phase II	Interim II, Construction II
Phase III	Interim III, Construction III
Phase IV	Final proposed Project

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

Introduction
General Information
Potential Environmental Significant Impact Areas
Determination
Environmental Checklist and Discussion
- Aesthetics
- Agriculture and Forestry Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Solid/Hazardous Waste
- Transportation/Traffic
- Mandatory Findings of Significance

References
Acronyms
Glossary

CHAPTER 2

ENVIRONMENTAL CHECKLIST

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Warren E&P, Inc. Wilmington Townlot Unit (WTU) Central Facility, New Equipment Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
Contact Person:	Michael Krause
Contact Phone Number:	(909) 396-2706
Project Sponsor's Name:	Warren E&P, Inc.
Project Sponsor's Address:	625 East Anaheim Street Wilmington, CA 90744
General Plan Designation:	Light Industrial
Zoning:	M2-1VL-O (Light Industrial Zone); RD3-1XL-O (Restricted Multiple Dwelling Zone).
Description of Project:	The proposed project is a modification to a previously approved project that was evaluated in a 2006 mitigated negative declaration (MND) prepared and certified by the City of Los Angeles. The 2006 project allowed Warren E&P to drill up to 540 wells to be located in five new well drilling cellars; it assumed oil field gas would be conditioned and sold into a nearby pipeline with the existing flare used only during gas sales equipment maintenance of other shutdowns. The currently proposed project is associated primarily with modifications and improvements to the gas handling system and consists of installing and operating a new heater treater, refurbishing the existing heater treater, installing a burner to replace an existing flare, installing a spare vapor recovery compressor, the permitting of six microturbines which are already constructed, and the installation of a gas re-injection system, including conversion of an existing well for gas reinjection, at Warren's WTU Central Facility. The existing flare will be dismantled and removed. The proposed project includes a monthly average 5,000 barrels per day cap on crude production. Gas sales equipment (including three additional microturbines) to

	combust gas conditioning equipment tail gas may also be installed and operated if it becomes economically feasible. Additionally, an old hot water heater will be shut down.
Surrounding Land Uses and Setting:	Zoning designations at the site include M2-1 VL-O (Light Industrial Zone) and RD3-1XL-0 (Restricted Multiple Dwelling Zone), with some parcels sharing the two designations. The WTU Central Facility is bordered on the north by Opp Street, the John Mendez Baseball Park, and a multi-family residence. Eubank Avenue borders the WTU Central Facility on the east. To the south, there is Anaheim Street, the Wilmington Industrial Park, and industrial and commercial uses. The western side is bordered by Banning Boulevard, with a commercial development, a row of small, one-story apartments, and two vacant parcels nearby.
Other Public Agencies Whose Approval is Required:	City of Los Angeles California Division of Oil, Gas, and Geothermal Resources

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be significantly adversely affected by the project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agriculture and Forestry Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality and Greenhouse Gas Emissions	☐	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation/ Traffic
☐	Energy	☐	Noise	☐	Mandatory Findings

DETERMINATION

On the basis of this initial evaluation:

☐ I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines §15252, COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☑ I find that although the project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the project MAY have a "potentially significant 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 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 project, nothing further is required.

Date: April 22, 2011 Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic 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?	☐	☐	☑	☐

1.1 Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

1.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impact of: (1) drilling up to 540 new oil wells; (2) construction of up to five concrete, below-grade, well cellars; (3) facilities operation at the WTU Central Facility; and (4) oil production up to 5,000 barrels per day (BPD). The 2006 Project did not include the six microturbines currently operating pursuant to an order for abatement. The 2006 MND did not identify any potentially significant adverse impacts for the following subtopics under aesthetics: I. a) scenic vistas and I. b) scenic resources. Potentially significant adverse impacts were identified for the following subtopics under aesthetics: I. c) potential to degrade the

existing visual character and I. d) potential to create glare impacts. However, by implementing the 2006 MND Mitigation Measures: I b4 Aesthetics (Graffiti), I b5 Aesthetics (Signage), and I c1 Aesthetics (Light) to reduce visual character and light and glare impacts, the lead agency concluded that impacts to both aesthetics subtopics would be reduced to less than significant. The above mitigation measures were incorporated into the 2006 Zoning Determination (ZD) (Appendix A for more detail on the conditions applicable to the WTU Central Facility). Additional conditions that reduce impacts from the WTU Central Facility are included in the 2008 ZD (Appendix B). As applicable, all mitigation measures in the 2006 MND; 2006 ZD; 2008ZD; and including any other terms, conditions, and requirements imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

1.a), b) and **c).** The existing visual character of the surrounding locale is highly industrial and commercial, with some residential and recreational land uses located nearby. The proposed project is not located within or along a designated scenic corridor. The facility does not contain any scenic resources such as trees, rock outcroppings, etc. The proposed Bekaert Clean Enclosed Burner® (CEB®) is 20 feet tall and approximately four feet higher than the existing flare. Additionally, the Bekaert CEB® does not produce a luminous flame that is visible above its stack, unlike the existing flare. Further, the active portion of the Bekaert CEB® system, which is approximately six to eight feet tall, will be shielded by an existing eight foot high interior wall. There are six 24-foot tall tanks nearby, two 40-foot tall oxygen stripper towers near the center of the facility, and drilling rigs and workover rigs on-site that are over 100 feet and 70 feet tall, respectively. Although the Bekaert CEB® is four feet taller than the existing flare, visual character impacts are considered to be equivalent to or less than under existing conditions because the flame will no longer be visible. Therefore, the overall impact of the Bekaert CEB® is equivalent to, or less than that of, the existing flare and is not expected to change the visual landscape at the WTU Central Facility. Conversion of the existing well for gas re-injection purposes will require a workover rig (for oil well work), a small crane, and several truck trips. The workover rig will be smaller than, but similar in appearance to the drilling rigs currently used on-site to drill oil wells. Continued use of equipment to complete an existing well for gas re-injection purposes, as well as operation of the Bekaert CEB®, microturbines, and HT#2, would be similar in aesthetic appearance and characteristics to existing operations at the WTU Central Facility. Therefore, no significant adverse aesthetic impacts to scenic vistas, scenic resources, or visual character are expected from the currently proposed project.

1.d). All drilling rigs are equipped with lights to provide safe working conditions. This lighting at night is part of the drilling operations currently allowed at the site as part of the 2006 Project and analyzed in the approved 2006 MND. Construction activities for the proposed project are not anticipated to require additional lighting because they will be required to take place during daylight hours per Condition 9 (Hours of Operation) of the 2008 ZD (See Appendix B for more detail). In addition, none of the five new types of equipment will require a new light source to operate safely during nighttime operations (post-construction). Thus, no increase in lighting associated with the project at the WTU Central Facility is expected and, therefore, no significant impacts to light and glare are anticipated from the proposed project.

Other Applicable Regulations for Previously Approved 2006 Project and Currently Proposed Project

Condition 1 of the 2008 ZD requires Warren to comply with use, height, and area restrictions of the Municipal Code and other applicable governmental and regulatory agency rules and regulations. Conditions 3 and 4 place additional requirements on Warren to maintain the character of the surrounding area and remove graffiti, respectively. Condition 17 (Visual Mitigation) requires certain measures to mitigate any impact on visual resources, including the installation of an eight-foot high solid masonry block wall set back five feet from the property lines, a landscape plan, and the location of all new oil well pumping equipment below ground. Condition 20 specifies that all lighting must be shielded and directed on to the site. These conditions and the mitigation measures identified above were initially applied to the 2006 Project, but will also apply to the currently proposed project. Specifically, the 2008 ZD discusses in the "Transferability" section (page 7; see Appendix B) that "[t]he authorization runs with the land." For specific language, see the 2006 ZD and 2008 ZD in Appendices A and B, respectively.

1.3 Mitigation Measures

As discussed above, the conditions in the 2006 and 2008 ZD will continue to be imposed at the WTU Central Facility during construction and operation of the proposed Project. Specifically, those related to aesthetics mitigation, i.e., measures I b4, I b5, and I c1 in the 2006 MND and Conditions 9 and 20 in the 2008 ZD. With the continued implementation of the mitigation measures from the 2006 MND and the measures and conditions in the 2006 ZD and 2008 ZD, there is no potential for a significant adverse environmental impact from the proposed project to aesthetics. Therefore no new mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☑
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑

2.1 Significance Criteria

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

> The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
>
> The proposed project will convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
>
> The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g)).
>
> The proposed project would involve changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural uses.

2.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impact of: (1) drilling up to 540 new oil wells; (2) construction of up to five concrete, below-grade, well cellars; (3) facilities operation at the WTU Central

Facility; and (4) oil production up to 5,000 BPD. The 2006 MND concluded that there were no potentially significant adverse impacts to agricultural resources resulting from the 2006 Project. As a result, no mitigation measures were identified or required. Evaluation of potential impacts to forestry resources was added to the environmental checklist in March 2010, so was not analyzed in the 2006 MND.

2.a), b), and **c).** There are no agricultural resources (i.e., food crops grown for commercial purposes) located in or near the vicinity of the WTU Central Facility. The proposed project will not involve construction of any structures outside of the existing boundaries of the WTU Central Facility and no agricultural resources are located within the WTU Central Facility. The zoning of the WTU Central Facility will remain Light Industrial (M2-1 VL-O) and Restricted Multiple Dwelling Zone (RD3-1XL-O). The "O" at the end of each zoning designation indicates that the parcels are located in an Oil Drilling District and that such activities are permitted in the zone. Therefore, the proposed project will have no significant adverse impacts on agricultural resources; convert prime farmland, unique farmland, or farmland of statewide importance to non-farming use: or conflict with zoning for agriculture.

2.d) There are no forestry resources (i.e., park forests, timber crops grown for commercial purposes, etc.) located in or near the vicinity of the WTU Central Facility. The proposed project will not involve construction of any structures outside of the existing boundaries of the WTU Central Facility and no forestry resources are located within the WTU Central Facility. Current zoning is expected to remain in effect as discussed in item 2.a), b), and c), above. Therefore, the proposed project will have no significant adverse impacts on forestry resources; result in the loss of forest land or conversion of forest land to non-forest use; or conflict with zoning for forestry.

2.3 Mitigation Measures

The 2006 MND did not identify any significant adverse agricultural resources impacts and, as a result, did not impose any mitigation measures relative to agricultural resources. Similarly, analysis of the currently proposed project concluded that there is no potential for significant adverse environmental impacts from the proposed project to agricultural or forestry resources and, therefore, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GASES				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b)	Violate any air quality standard or contribute 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 that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☐	☑
g)	Generate greenhouse gases, either directly or indirectly, that may have a significant impact on the environment?	☐	☑	☐	☐
h)	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☑	☐	☐

3.1 Significance Criteria

To determine whether or not air quality impacts from the proposed project may be significant, impacts will be evaluated and compared to the criteria in Table III-1. If impacts equal or exceed any of the criteria in Table III-1, they will be considered significant. As necessary, all feasible mitigation measures will be identified and implemented to reduce any significant adverse air quality impacts from the proposed project to the maximum extent feasible.

To determine whether or not incremental GHG emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 metric tons of carbon dioxide equivalents per year ($MTCO_2e$/year) guidance threshold for industrial sources.[1]

Table III-1. SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk $\geq$ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas $\geq$ 1 in 1 million) Chronic & Acute Hazard Index $\geq$ 1.0 (project increment)	
Odor	Project creates a minimal odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO^2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants		
NO_2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 $\mu g/m^3$ (construction) & 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$	
$PM_{2.5}$ 24-hour average	10.4 $\mu g/m^3$ (construction) & 2.5 $\mu g/m^3$ (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99_{th} percentile) 0.04 ppm (state)	
Sulfate (24-hour average)	25 $\mu g/m^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following ambient standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average rolling 3-month average quarterly average	1.5 $\mu g/m^3$ (state) 0.15 $\mu g/m^3$ (federal) 1.5 $\mu g/m^3$ (federal)	

PM_{10} = particulate matter less than 10 microns in size, $\mu g/m^3$ = microgram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; AHM = Acutely Hazardous Material; NO_2 = Nitrogen Oxide, CO = Carbon Monoxide, VOC = Volatile Organic Compounds, SO_x = Sulfur Oxide; SO_2 = Sulfur Dioxide.

[1] SCAQMD. 2011. SCAQMD Air Quality Significance Thresholds. Revised March 2011. Available at: http://aqmd.gov/ceqa/handbook/signthres.pdf Accessed 23 March 2011.

Typically, construction and operation do not overlap, and emissions from these categories are evaluated separately. However, it is anticipated for the proposed project that construction activities and interim operational activities would occur simultaneously before the proposed project is implemented in its entirety. As a result, for any phase that is comprised only of construction activities, emissions will be quantified and compared to the construction emissions significance thresholds in Table III-1. For any phases where construction and operation activities overlap, emissions for each phase will be quantified and summed, with total emissions for each phase with overlapping construction and operation emissions evaluated and compared to the SCAQMD operational significance criteria in Table III-1. If impacts equal or exceed any of the significance criteria in Table III-1, they will be considered significant. Additionally, emissions of both toxic air contaminants (TACs) and greenhouse gases (GHGs) will be analyzed for potential significance. Air quality impacts for the proposed project were analyzed assuming an average day (i.e., normal operating conditions), as well as a peak day (i.e., maximum operating conditions). Except for the microturbines, combustion equipment on an average day will be operated at less than 100 percent capacity because oil production levels and/or permit conditions limit daily oil production to the levels previously approved in the 2006 Project and 2006 MND (e.g., consistent with the permit condition limiting production to a monthly average of 5,000 barrels per day).

3.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impact of the following site activities: (1) drilling up to 540 new oil wells; (2) construction of up to five concrete, below-grade, well cellars; (3) facilities operation at the WTU Central Facility; and (4) oil production up to 5,000 BPD. The City of Los Angeles Planning Department certified the 2006 MND for the 2006 Project and approved the existing operations at the WTU Central Facility in the 2006 ZD and 2008 ZD. The environmental impacts of the 2006 project, in particular drilling 540 new wells and producing 5,000 BPD of oil, were previously addressed in the 2006 MND for the 2006 Project that was approved by the City of Los Angeles. Since the impacts of drilling operations of up to 540 wells, oil production up to 5,000 BPD of oil, etc., were analyzed in the 2006 Project approved by the City of Los Angeles, they are not part of the currently proposed project and, thus, are beyond the scope of this analysis. Subsequent to the approval of the 2006 MND by the City of Los Angeles, operators of the WTU Central facility began implementing the 2006 project, including drilling oil and water injections wells, in accordance with the 2006 MND.

Based on the analysis of air quality impacts in the 2006 MND, the lead agency concluded that, after incorporation of the mitigation measures identified for the 2006 project, any potentially significant adverse air quality impacts resulting from operation of the 2006 Project would be reduced to a level of insignificance. The lead agency concluded that imposing the following mitigation measures would reduce construction air quality impacts to less than significant: VI b2 related to erosion, grading, and short-term construction impacts (see 2006 MND, VI b2, under "Air Quality" in Appendix A). The 2006 ZD also imposed operational condition to mitigate dust (see Condition 12 (Dust Mitigation) in the 2006 ZD; Appendix A). In addition, Warren has voluntarily continued using the water truck on the covered site and periodically operates a street sweeper servicing the surrounding neighborhood.

The 2006 MND did not include an analysis of GHG emission impacts since it was certified before the analysis of GHG emission impacts was incorporated into the CEQA Guidelines and environmental checklist (CEQA Guidelines Appendix G). However, consistent with current SCAQMD policy and CEQA guidance, this Subsequent MND includes an analysis of project-related GHG emission impacts compared to the existing setting, which includes GHG emissions resulting from the 2006 Project.

3.a). The WTU Central Facility is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the air pollution control agency primarily responsible for preparing the Air Quality Management Plan (AQMP), which is a comprehensive air pollution control program for making progress towards and attaining the state and federal ambient air quality standards. The most recent AQMP was adopted by the Governing Board of the SCAQMD on June 1, 2007 (2007 AQMP). An inventory of existing emissions from industrial facilities is included in the baseline inventory in the 2007 AQMP. The 2007 AQMP also identifies emission reductions from existing sources and air pollution control measures that are necessary in order to comply with applicable state and federal ambient air quality standards. A significant impact would occur if the proposed project were not consistent with the AQMP.

The 2007 AQMP demonstrates that applicable ambient air quality standards can be achieved within the timeframes required under federal law. This proposed project must comply with applicable SCAQMD rules and regulations for new or modified sources. For example, new emission sources associated with the proposed project are required to comply with the SCAQMD's Regulation XIII - New Source Review, including BACT, offsets, and modeling requirements, as applicable. The proposed project must also comply with prohibitory rules, as applicable, such as Rule 403, for the control of fugitive dust. By meeting these requirements, the proposed project will be consistent with the goals and objectives of the 2007 AQMP to improve air quality in the Basin. The use of low NO_x burners, such as that in HT#2 and the state-of-the-art Bekaert CEB®, to burn excess gas, must meet SCAQMD requirements, including BACT. Further, Warren is required to comply with state and federal sulfur limits on diesel fuel, including the use of ultra-low sulfur diesel fuel as a control measure under the 2007 AQMP. Further, as indicated in the following air quality discussions and analyses, the proposed project is not expected to generate significant adverse air quality impacts. For these reasons, the proposed project is concluded to be consistent with applicable AQMPs and is not expected to diminish an existing air quality rule or a future compliance requirement.

The Growth Management Chapter (GMC) of the Regional Comprehensive Plan and Guide (RCPG) forms the basis of the land use and transportation control measure portions of the AQMP. Projects that are consistent with the projections of the employment and population forecasts identified in the GMC are considered consistent with the 2007 AQMP growth projections. Approximately 15 full-time employees work in two shifts at the facility for the applicant, and approximately one dozen vendors travel to or from the facility on a daily basis. No new workers will be needed as part of the proposed project operations. The number of vendors that travel to and work at the facility is not expected to change upon completion of the proposed project. Therefore, the proposed project will also be consistent with the 2007 AQMP population and employment forecasts.

The proposed project is consistent with existing and intended land use designations and, therefore, would be consistent with the goals and policies of the 2007 AQMP. It would not affect regional employment or job growth. The main objectives of the proposed project are to modify the facility to handle the produced gas resulting from increased onsite oil production operations allowed as a result of the approval by the City of Los Angeles of the 2006 project. Existing uses on and surrounding the project site would not be changed by the proposed project. The proposed project will not conflict with the AQMP or the other applicable plans described above. As a result, it is concluded that the proposed project is consistent with the AQMP and, therefore, is expected to result in less than significant impacts related to the applicable air quality plan.

3.b). The proposed project area is located in and is part of the Basin, which currently exceeds and is in violation of the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS), specifically with respect to ozone (O_3) fine particulates ($PM_{2.5}$), and respirable particulates (PM_{10}), for which the SCAQMD has requested redesignation as attainment based on air monitoring data.

To assess the impacts of project-related construction and operational emissions, the SCAQMD has established regional significance thresholds that are shown above in Table III-1. Construction and operational emissions from the proposed project that are below these thresholds will be considered less than significant.

To assess local air quality impacts, the SCAQMD has also established emission thresholds for one-hour average (NO_2, CO , SO_2), eight-hour average (CO), 24-hour average ($PM_{2.5}$, PM_{10}, and SO_2,), and annual average (NO_2, PM_{10} , SO_2) emissions. Proposed project emissions are compared to concentration standards (i.e., background plus incremental) for pollutants for which the Basin is in attainment (i.e., NO_2, SO_2, CO) and to incremental standards (i.e., incremental increase) for pollutants for which the Basin is in nonattainment (i.e., PM_{10} and $PM_{2.5}$). Because ozone is not typically directly emitted by stationary sources, but instead is created through photochemical reactions in the atmosphere, it does not create localized impacts and, therefore, cannot be modeled at the local level.

Construction Emissions and Analyses

Construction typically occurs in phases, consisting of demolition, site preparation, construction of structures, and final site work. Construction activities required to implement the proposed project include: (1) excavation, concrete work, erection, and/or installation of the individual pieces of equipment (Bekaert CEB®, HT #2, gas re-injection compressor, and spare vapor recovery compressor); (2) mobile source emissions from construction equipment, delivery trucks, and employees' automobiles; (3) reopening of an existing well for re-injection of gas into subsurface oil reservoirs; and (4) possible installation of equipment for future gas sales, including three additional microturbines beyond the six already installed. Specifically, construction is expected to occur in phases, as shown in Table III-2.

The proposed construction schedule in Table III-2 forms the basis for calculating emissions from construction of the proposed project. Although the dates of the schedule may change, the timeline of the scheduled activities for each phase, i.e., number of days, would remain consistent.

Multiple construction phases would not occur on the same day and would not result in impacts outside the scope of this analysis. Also, the current analysis is conservative because emission factors typically decrease over time as equipment efficiency and fuel efficiency improves. Thus, if construction of the project is delayed for any reason, none of the environmental impacts conclusions in the analysis would change or worsen. For example, a conclusion of less than significant impacts from the construction phase of the project would remain less than significant even if the actual dates of the construction schedule are delayed. Realistically, it is expected that the construction phases will overlap with the operation of new equipment over time until the construction is complete. A comparison of construction emissions plus operation emissions can be found in the subsection below, see in particular Table III-6.

Table III-2
Proposed Construction Schedule[1]

Construction Phase	Approximate Start of Phase	Approximate End of Phase	Approximate Number of Construction Days
Construction I: Construction and installation of Bekaert CEB®, removal of Flare King flare and hot water heater, and installation of the spare vapor recovery compressor.	September 1, 2011	October 18, 2011	21
Construction II: Construction and installation of HT#2, refurbishment of HT#1, grading for compressor pad, construction and installation of the compressor, and conversion of the well	October 19, 2011	December 31, 2011	40
Construction III (contingent): Construction and installation of gas sales equipment, installation of three additional microturbines, and installation of conditioning equipment	October 1, 2014	November 21, 2014	34

[1] Construction is anticipated to begin in 3rd quarter of 2011 and end in 4th quarter of 2014. Specific dates and phasing shown are for analysis purposes only and represent a conservative estimate of time required for construction. The specific schedule is subject to change.

Construction emissions are generated from the combustion of fuel (primarily diesel) in off-road vehicles and other equipment required for the construction activities, as well as from fugitive dust due to soil-disturbing activities. Minimal excavation is anticipated since only a few, small foundations are necessary to provide support for the new proposed equipment. The areas around these new foundations were paved prior to approval of the 2006 Project. The construction activities will be conducted during distinct time periods and will disturb substantially less than one acre of land within the 10-acre WTU Central Facility. Actual construction will generally take place in the area of the gas and solids management and oil/water separation yards.

Construction is expected to occur intermittently over a period of approximately 41 months, with actual construction activities occurring on a maximum of 95 days during this period. When construction is occurring, work is expected to typically occur ten hours per day, five days per

week. Emissions were calculated using CARB's OFFROAD2007 model and URBEMIS2007 version 9.2.4. The equipment inventories were based on expected project needs. Peak daily construction emissions are shown in Table III-3. The construction emission results in Table III-3 represent emissions from construction activities **only** for each phase and do not include any overlapping emissions from operational activities. Emissions from overlapping construction and operational activities are analyzed in subsequent subsections. In the absence of operational activities, all construction pollutant emissions from construction activities only for each phase are less than the SCAQMD's construction air quality significance thresholds and represent less than significant air quality impacts due to project construction. Details of the air quality analyses from construction, including phase activity, equipment types, number of construction equipment, horsepower, load factors and emissions factors, etc., are available in Appendix C.

Table III-3
Project-related Peak Daily Construction Emissions from Each Phase

Construction Phase	Estimated Emissions (lbs/day)					
	CO	NO_x	PM_{10}	$PM_{2.5}$	VOC	SO_x
Construction I	3.1	7.6	0.3	0.3	0.8	0.01
Construction II	3.1	7.6	0.3	0.3	0.8	0.01
Construction III	1.0	2.5	0.2	0.1	0.3	<0.01
Significance Threshold	550	100	150	55	75	150
Significant?	No	No	No	No	No	No

Operational Emissions and Analyses

This subsection evaluates operational emissions only resulting from combustion in the new HT#2, Bekaert CEB®, and microturbines. Fugitive VOC emissions will result from the connections required for the new equipment, as well as for the gas reinjection and/or gas sales equipment.

As a Subsequent MND, the operational air quality baseline for the proposed project consists of emissions generated by facility current operations, which includes the effects of the 2006 project, primarily emissions resulting from combustion in the HT #1 and the Flare King flare. For baseline emissions, both pieces of equipment were assumed to operate in a manner consistent with that analyzed as part of the 2006 project in the 2006 MND (i.e., HT #1 at 100 percent and the Flare King flare at two percent of capacity; see baseline in Table III-4), approved by the City of Los Angeles. The emission factors used for the HT #1 and Flare King flare are described in detail in Appendix C in Tables A.1a and A.1d.

Operational emissions were calculated for each interim operating scenario (Table III-4), as well as for total emissions upon full implementation of the proposed project. Operation only emissions from employee commute and heavy-duty vehicle trips were also calculated using URBEMIS. Operational combustion emissions were calculated based on manufacturer specifications, applicable air quality rules, and source test results (see Appendix C). The emission factors used are described in detail in Appendix C. Daily operational emissions are shown in Table III-5. Operational emissions shown in Table III-5 do not include overlapping emissions from concurrent construction activities. In the absence of construction emissions, all

operation emissions for each phase and full implementation of the proposed project are less than the applicable SCAQMD significance thresholds, so the proposed project is not expected to generate significant adverse operational air quality impacts. Details of the regional air quality analyses during operation of the proposed project are available in Appendix C.

Table III-4
Project Operation Schedule

Project Activity	Operating Equipment
Baseline (2006 Project)	Operation of HT#1 and Flare King flare (at levels consistent with the 2006 Project)
Interim I	Operation of HT#1, six existing microturbines, and Flare King flare
Interim II	Operation of HT#1, six existing microturbines, and Bekaert CEB®
Interim III	Operation of HT#2, six existing microturbines, and Bekaert CEB®, with gas reinjection
Final proposed project	Operation of HT#2, nine microturbines, and Bekaert CEB®, with gas sales or reinjection (normal and worst-case to be analyzed)

Table III-5
Criteria Pollutant Combustion Emissions During Operation of the Proposed Project

Operating Scenario	Estimated Emissions (lbs/day)					
	CO	NO_X	PM_{10}	$PM_{2.5}$	VOC	SO_X
Baseline[1]	2.9	2.3	0.5	0.5	0.6	0.1
Interim I	46.1	15.1	3.3	3.3	16.2	0.7
Interim II	9.6	11.9	1.8	1.8	10.0	0.6
Interim III	12.4	10.0	2.3	2.3	10.1	0.6
Final proposed project (average day)[2]	15.5	13.0	2.7	2.7	14.5	0.7
Final proposed project (peak day)[3]	21.4	22.6	4.3	4.3	16.7	1.4
Significance Threshold	550	55	150	55	55	150
Significant?[4]	No	No	No	No	No	No

1. As noted above, the emissions from the existing microturbines have not been included in the CEQA baseline, but are included in the operational emissions.
2. The final proposed project (average day) includes the operation of HT#1/HT#2, 9 microturbines, and the Bekaert CEB®, with gas sales or reinjection.
3. The final proposed project (peak day) represents the scenario when gas reinjection or sales is interrupted. It includes operation of HT#1/HT #2, 9 microturbines (although only 6 would likely be operating in this scenario), and the Bekaert CEB® (at 100% capacity).
4. In addition to the proposed project, the significance determination applies to emissions during each interim operating phase.

Proposed Project Emissions and Analyses

Because construction of the proposed project and operation of the new equipment overlap as described at the beginning of this section, construction and operation emissions were compiled and overlapping construction and operation emissions were analyzed to determine the total emissions impact of the proposed project for each phase and for full implementation of the proposed project. Maximum construction emissions and maximum incremental operating emissions (i.e., operating emissions minus baseline) during each phase of the proposed project

implementation were quantified and compared to the operational regional significance thresholds. All pollutant emissions are less than the applicable SCAQMD operational significance thresholds (see Table III-6). Consequently, air quality impacts from the proposed project are concluded to be less than significant. Details of the regional air quality analyses from construction and operational emissions are available in Appendix C.

Table III-6
Total Project Emissions (Construction plus Incremental Operation[1])

Implementation Phase	Estimated Emissions (lbs/day)					
	CO	NO_x	PM_{10}	$PM_{2.5}$	VOC	SO_x
Baseline	2.9	2.3	0.5	0.5	13.2	0.1
Phase I (Construction I, Interim I)	46.4	20.4	3.7	3.7	16.5	0.6
Phase II (Construction II, Interim II)	9.9	17.2	1.7	1.7	10.3	0.5
Phase III (Construction III, Interim III)	10.6	10.2	2.0	2.0	9.8	0.5
Final project (average day)	12.9	11.6	2.3	2.3	14.0	0.6
Final project (maximum day)	18.8	21.2	3.8	3.8	17.5	1.3
Significance Threshold	550	55	150	55	55	150
Significant?[2]	No	No	No	No	No	No

1. Operational emissions include combustion plus fugitive emissions.
2. In addition to the proposed project, the significance determination applies to emissions during each interim operating phase.

3.c). Significant adverse cumulative air quality impacts could occur if the proposed project resulted in a cumulatively considerable net increase of a criteria pollutant for which the Basin exceeds federal and state ambient air quality standards and has been designated as an area of non-attainment by the USEPA and/or CARB. The Basin is a non-attainment area for ozone and fine particulate matter (PM_{10} and $PM_{2.5}$).

Because the Basin is currently nonattainment for O_3, PM_{10}, and $PM_{2.5}$, related projects could exceed the applicable air quality standard or contribute to an existing or projected air quality exceedance. With regard to determining whether or not air quality impacts from a proposed project are significant, any given project's potential contribution to cumulative impacts are assessed utilizing the same significance criteria as for project-specific impacts. Therefore, this analysis assumes that individual projects that generate construction or operational emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment and, therefore, are considered to have significant adverse cumulative air quality impacts.

As discussed in item 3b) above, peak daily emissions associated with all phases of construction and operation of the proposed project would not generate operational or construction emission air quality impacts that exceed the SCAQMD's recommended regional significance thresholds. In addition, the proposed project will predominately be located in the southern half of the WTU Central Facility, where other industrial facilities in the immediate vicinity are also located. An investigation of the surrounding area reveals no similar industrial facilities or activities that may generate similar impacts within one-half-mile radius surrounding the site of the proposed project.

Because emissions during any phase of the proposed project do not exceed and are well below the project-specific significance thresholds, they are not considered to be cumulatively considerable pursuant to CEQA Guidelines §15064(h)(1). As a result, the proposed project is not expected to create significant adverse cumulative air quality impacts during either construction or operation.

3.d). This subsection evaluates whether or not the proposed project has the potential to expose sensitive receptors to substantial pollutant concentrations. The following are typically considered to be sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities. As indicated in Chapter 1, the area surrounding the site is highly developed with several uses. The nearest sensitive receptors to the WTU Central Facility are the multi-family residences located across and north of Opp Street, the apartments located across and west of Banning Boulevard, and the baseball fields located immediately adjacent to the WTU Central Facility (see map on page 1-8).

Criteria Pollutant Health Impacts

The construction and operation of the proposed project has the potential to generate an increase in criteria pollutants (e.g., CO, NO_x, SO_x and PM). Localized significance thresholds (LSTs) for NO_x and CO are based on causing or exceeding health-based air quality ambient concentration standards. The PM_{10} LST for construction is based on requirements of Rule 403, which is indirectly a health-based standard, and for operation the PM_{10} LST is based on Rule 1303, which applies limits less than Rule 403 concentration limits and, therefore, provides greater health-based protection.

The degree of a health effect depends on the level of exposure, duration of exposure, and the existing health of those exposed. For example, individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. Inhaled CO has no direct toxic effect on the lungs, but instead exerts its effect on tissues by interfering with oxygen transport through competition with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin. Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves. These levels are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed more in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO_2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms, and emergency room asthma visits.

All asthmatics are sensitive to the effects of SO_2. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. Further, increased resistance to air flow, as well as reduced breathing capacity leading to severe breathing difficulties, can be observed after high acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

There is a consistent correlation between elevated ambient fine particulate matter levels and an increase in mortality rates, respiratory infections, and the number and severity of asthma attacks. Studies have reported an association between long term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and, specifically, an increased mortality from lung cancer.

The following modeling analyses of CO, NO_x, SO_x, and PM determines the level of health impacts from the proposed project and demonstrates how the health impacts from CO, NO_x, SO_x, and PM emissions contributed by the proposed project are not significant.

Air Dispersion Modeling Methodology

Off-site ambient air quality impacts were estimated using air dispersion modeling. The assessment was conducted using the Industrial Source Complex-Short Term Version 3 (ISCST3) model, which is a USEPA-approved model. The model was run according to atmospheric dispersion modeling methodology based on generally accepted modeling practices and modeling guidelines of both the USEPA and the SCAQMD.

Dispersion model averaging times are specified based on the averaging times of ambient standards and the air quality significance thresholds established by the appropriate regulatory agencies. Averaging times for the various pollutants include one-hour, eight-hour, 24-hour, and annual periods (see Table III-7). Dispersion modeling was performed using the maximum (peak) daily emissions and the complete 365-day meteorological data set to evaluate short-term impacts, thereby ensuring that all meteorological conditions are considered. This approach is conservative, since it assumes that maximum daily emissions could occur on any day. For example, for the analysis of construction impacts to sensitive receptors, this scenario is unlikely since there is a low probability that worst-case meteorological conditions would occur at exactly the same time as maximum emissions.

Table III-7
Ambient Air Quality Standards and Thresholds for Significant Change

Pollutant	Averaging Time	Most Stringent Air Quality Standard	Significant Change in Air Quality Concentration
NO_2	1-hour	0.18 ppm or 339 µg/m^3	1 pphm or 20 µg/m^3
	Annual	0.03 ppm or 57 µg/m^3	0.05 pphm or 1 µg/m^3
CO	1-hour	20 ppm or 23,000 µg/m^3	1 ppm or 1,100 µg/m^3
	8-hour	9 ppm or 10,000 µg/m^3	0.45 ppm or 500 µg/m^3
PM_{10}	24-hour	50 µg/m^3	2.5 µg/m^3
	Annual	20 µg/m^3	1 µg/m^3
Sulfate	24-hour	25 µg/m^3	N/A
SO_2	1-hour	0.25 ppm or 655 µg/m^3	N/A
	3-hour	0.5 ppm or 1,300 µg/m^3	N/A
	24-hour	0.04 ppm or 105 µg/m^3	1 µg/m^3

Three different types of emission sources can be used for air dispersion modeling: point sources, area sources, and volume sources. Point sources have single identifiable points of releases, or are sources that can be represented as having single points of releases. Area and volume sources represent sources without a single, discrete source of release. Specifically, area sources are sources that can be reasonably represented as emitting at a uniform rate over a two-dimensional surface. Volume sources are sources that can be reasonably represented as emitting at a uniform rate over a three-dimensional surface. More details of the modeling methodology, emission rates, and concentration levels can be found in Appendix D.

Criteria Pollutants Modeling Analysis

The ambient air quality standards and allowable changes in air quality during operation of the final proposed project are shown in Table III-8 based on SCAQMD Rule 1303 and the most stringent standards, those adopted by the CARB. As shown in Table III-8, emissions during operation of the proposed project (i.e., average day or maximum day) would not cause an exceedance of any ambient air quality standard and, therefore, the proposed project is not expected to result in significant adverse impacts resulting from exposure to substantial pollutant concentration by any sensitive receptors. In addition to operation of the final proposed project, the operational and construction emissions specific to each interim operating scenario were also analyzed. The maximum incremental impacts due to construction and operation modeled for all phases (i.e., Phases I, II, and III) and the final project are less than the SCAQMD's operational Thresholds as shown in Appendix D.

Table III-8
Final Project-related Ambient Air Quality Impacts[1]

Criteria Pollutant		Background concentration in µg/m^3 (Station No. 70072)	Incremental difference in µg/m^3 (Project minus baseline)	Resulting concentration in µg/m^3 (Background plus incremental)	SCAQMD Threshold in µg/m^3 (operational)[2]	Significant?
NO_2 (µg/m^3)	1-hr	188	2 (3)	190 (191)	339	No
	Annual	40	0.8 (1.1)	41 (42)	57	No
CO (µg/m^3)	1-hr	4,578	18 (26)	4,596 (4,604)	23,000	No
	8-hr	3,891	13 (16)	3,904 (3,907)	10,000	No
PM_{10} (µg/m^3)	24-hr	--	1.3 (1.8)	--	2.5	No
	Annual	--	0.2 (0.2)	--	1	No
$PM_{2.5}$ (µg/m^3)	24-hr	--	1.3 (1.8)	--	2.5	No
Sulfate (µg/m^3)	24-hr	--	0.01 (0.01)	--	25	No
SO_2 (µg/m^3)	1-hr	--	0.7 (1.4)	--	197	No
	24-hr	--	0.3 (0.5)	--	105	No

1. Both average day and maximum day emissions were modeled for the final project. The impacts shown result from operation of the proposed project on an average day (maximum day).

2. The threshold for pollutants in attainment is the concentration resulting from the operational and construction emissions and background concentration (i.e., background plus incremental). The threshold for pollutants in nonattainment is the operational and construction emissions only (i.e., incremental).

The Basin is currently in attainment for all federal and state SO_2 standards and the state sulfate. Air quality modeling shows that the impacts from sulfates and SO_2 are below the SCAQMD significance thresholds (Table III-8). Per the LST methodology, the analysis and results shown assume two percent conversion of SO_x to sulfate and 98 percent conversion of SO_x to SO_2. Even conservatively assuming 100 percent conversion to either sulfate or SO_2, the impacts would still be less than the significance threshold. Thus, the proposed project will have no significant adverse impact related to either sulfate or SO_2. Even conservatively assuming 100 percent conversion to either sulfate or SO_2, the impacts would still be less than the significance threshold. Thus, the proposed project will have no significant adverse impact related to either sulfate or SO_2.

The proposed combustion equipment is not expected to produce lead emissions because lead is not present in oilfield gas. Ambient air quality lead concentrations plus lead emissions would be zero or negligible and, thus, less than significant.

Discussion of CARB's PM Mortality Quantification Methodologies

CARB (2008) cited a series of epidemiological studies that show associations between increases in $PM_{2.5}$ (and diesel particulate matter (DPM)) and increases in the risk of premature death (mortality). CARB adopted a methodology for quantifying this relationship in order to prepare both large regional and statewide estimates of premature mortality related to elevated $PM_{2.5}$ and primary DPM levels. CARB also estimated premature deaths associated with exposure to

specific large-scale DPM sources; however, the specific sources referred to were: 1) the combined ports of Los Angeles and Long Beach, and 2) all goods movement in California. As acknowledged by CARB, its extensive review of methods appropriate to quantify PM morbidity effects has not found an applicable quantification methodology for small projects such as the currently proposed Warren Project. As discussed below, CARB has not released (and is not planning on releasing in the near future) a methodology for quantifying health effects from small projects such as the Warren Project. In addition, key inputs to other quantification methodologies cannot be determined for projects with such small impact areas and low-level changes in criteria pollutants.

Relative to PM mortality, the following information is presented concerning methodologies for quantifying the increased risk of premature mortality associated with increases in $PM_{2.5}$. As noted above, health studies have shown that both short-term and long-term exposures to ambient PM concentrations are directly associated with increased mortality and morbidity rates. CARB has adopted a "Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California" (CARB, 2008) that was used to estimate statewide premature deaths associated with elevated $PM_{2.5}$ levels. In that study, a concentration-response equation[2] was used by CARB. In the CARB methodology, increased mortality was determined to be a function of county-level annual death rates (per person ages 30 and older from all causes), the change in annual mean $PM_{2.5}$ concentration, and population (ages 30 and older).

CARB applied this methodology to develop large regional and statewide estimates of $PM_{2.5}$ and DPM-related mortality estimates (CARB, 2008), particularly to estimate annual premature deaths avoided by attainment of national and state air quality standards and to estimate state and air basin-specific premature deaths associated with DPM. It also conducted analyses for the entire San Pedro Bay Port area (the Ports of Los Angeles and Long Beach) and all goods movement activities in California.

While CARB (2008) has reported that it plans to develop a method for quantifying premature deaths from specific sources affecting limited geographic areas, it has not yet developed an approved approach which could be applied to small projects such as the proposed Warren Project. CARB also reported that, as part of its methodology development process, it will make its recommended approach available for peer review and public review. In a recent telephone conversation, the primary author of the CARB (2008) report, Dr. Hien Tran, reiterated the statement in the CARB 2008 report that CARB does not currently have an approved approach it considers valid for quantifying premature mortality from particulate emissions from small project sources affecting small geographic areas, and he also noted that CARB does not anticipate the release of a draft of such an approach in the near future (ENVIRON, 2008). As such, any application of the concentration response function to estimate premature mortality from small projects such as the Warren Project would have to rely on a number of uncertain

[2] $\Delta Mortality = y_o\left(e^{\beta \times \Delta PM} - 1\right) \times (population)$ where

y_0 = county level annual death rate per person for ages 30 and older from all causes;
β = $PM_{2.5}$ coefficient from health study;
ΔPM = change in annual mean $PM_{2.5}$ concentration; and
Population = population of ages 30 and older.

parameters and assumptions, which could result in a potentially unreliable determination. Until these technical issues are resolved, any attempt to apply the above methodology to such a small source would not result in meaningful information.

Quantifying Other Projects and the Uncertainties Involved

It should be noted that concentration-response functions have been used to quantitatively estimate premature mortality for some specific projects: SCAQMD Rule 1309.1/1315 analysis of a large power plant and two Port terminal expansions (TraPac and Middle Harbor). The TraPac and Middle Harbor analyses were conducted during the development of the CARB 2008 study and used the same concentration-response function, although different inputs were used and neither analysis was completely consistent with CARB's methodology. The December 2007 certified TraPac EIR/EIS states: "CARB staff have stated that it would neither be appropriate nor meaningful to apply the health effects model used in the CARB study to quantify the mortality and morbidity impacts of PM on a project of the proposed Project's size because values quantified for a specific location would fall within the margin of error for their methodology (CARB, 2007)." PM mortality was calculated, despite many caveats, and the increase in incidence of long-term mortality of this large port-expansion project was calculated to be 0.00068 deaths per year (Port of Los Angeles, December 2007). A similar (but not identical) approach was used in the Port of Long Beach Middle Harbor draft EIR/EIS. PM mortality was calculated, despite the many caveats, and the increase in incidence of long-term mortality of this large port-expansion project was calculated to be 0.001 death per year; and it was concluded that there would be no expected increase in mortality or morbidity due to that project (Port of Long Beach, May 2008).

For the 2007 SCAQMD Rule 1309.1/1315 analysis of a large power plant, the Program Environmental Assessment noted, "In addition, while the methodology is the best reasonably available under the circumstances, it has not been subject to peer review or approval, and thus may not be appropriate for analyzing future projects." The 2007 SCAQMD analysis was conducted before the release of CARB's 2008 study and, therefore, used different inputs from different studies. The SCAQMD estimate of an annual increase in adult premature mortality was 3.8; the maximum increase in annual average $PM_{2.5}$ was 0.55 $\mu g/m^3$; and the mortality was summed over multiple census tracts (SCAQMD, July 2007). It also appears as if this older methodology was applied differently (both in inputs and other details) than in the port projects, which may be one reason the calculated mortality increases vary so widely.

CARB's 2008 methodology was used to calculate mortality from three reasonably foreseeable proposed power plants in the Basin. This information was used to determine cumulative impacts from implementing proposed Rule 1315 – Federal New Source Review Tracking System in the Program Environmental Assessment for Re-adoption of Proposed Rule 1315[3]. The results of that analysis showed mortality ranging from a low of 0.05 persons per year to a high of 1.77 persons per year. PM2.5 emissions from the proposed project, 3.8 pounds per day, are substantially less than PM2.5 emissions from the power plants, which range from a low of 723 pounds per day to as high as 1,819 pounds per day.

[3] SCAQMD. 2011. Final Program Environmental Assessment for Re-adoption of Proposed Rule 1315 - Federal New Source Review Tracking System.

Despite the lack of a released and/or approved state or federal methodology, one could propose to apply a concentration-response function, such as the one CARB developed, to a small project such as the Warren Project. However, peer-reviewers of the CARB study noted specific concerns about applying the CARB methodology to specific emission sources (even large-scale sources such as the ports). As noted in the 2008 CARB study:

- Small population samples may introduce systemic uncertainties in exposure and susceptibility, and the age/sex distribution of the population should be adjusted if the county-wide incidence rate is applied to smaller areas;
- Population demographics should be the same as those in the concentration-response function;
- The effect of population size is important and is a function of variability and confidence intervals of the underlying epidemiological studies; and
- The concentration-response function will vary based on the source of PM and other caveats, including those above.

For the Warren Project, the area of increased $PM_{2.5}$ concentration is very small; the population that could potentially be affected is very small; the demographics of that population are unknown; and the concentration impacts are negligible. All Project-related incremental annual average $PM_{2.5}$ concentration increases are less than 0.27 $\mu g/m^3$, and the area of incremental concentrations greater than 0.1 $\mu g/m^3$ is less than 0.09 square mile (57.6 acres), which is less than four percent of the local census tract. For comparison, 1.0 $\mu g/m^3$ is the SCAQMD's significance threshold for annual average $PM_{2.5}$, and U.S. EPA rounds annual $PM_{2.5}$ concentrations to the nearest 0.5 $\mu g/m^3$ when determining attainment status, based on the accuracy of $PM_{2.5}$ monitoring. It is not possible to determine if county-level annual death rates (per person ages 30 and older from all causes) and population (ages 30 and older) metrics are applicable or if the concentration-response function is appropriate to such a small area.

For completeness, it is noted that OEHHA does have a promulgated Reference Exposure Level (REL) for DPM of 5.0 $\mu g/m^3$. The REL is a concentration below which no adverse non-cancer health effects are expected. As mentioned previously, the predominant PM from the proposed Warren Project is from natural gas combustion and not diesel PM, therefore, incremental $PM_{2.5}$ concentration increases from the Project are well below 5.0 $\mu g/m^3$ (Table III-8).

Conclusion

The results of the analysis of the proposed Warren Project demonstrate that: 1) the criteria pollutant emissions from the proposed project are below the LSTs so do not cause or contribute to an exceedance of any ambient air quality standard, and 2) potential adverse health impacts associated with construction or operational emissions are expected to be less than significant because the emissions are below a level at which health effects could occur. Although CARB's epidemiologically-based concentration-response methodology could be hypothetically applied to try to measure PM mortality for the proposed Warren Project, that approach was rejected because: 1) there are no approved or recommended guidelines for applying this methodology to very small projects such as the Warren Project (CARB, 2008; ENVIRON, 2008); and 2) the

input assumptions used in calculating mortality would create an uncertain result (CARB, 2008). As such, any result would not provide an accurate assessment to allow the public to make a meaningful evaluation. However, it is believed the public will not be adversely affected by adverse health effects as a result of the proposed project because mortality impacts are expected to be negligible based on a qualitative assessment of the very small change in annual-average $PM_{2.5}$ concentration over the affected area. Therefore, health impacts associated with construction or operational emissions are determined to be less than significant.

Toxic Air Contaminants (TAC) Modeling Analysis

The proposed project has the potential to generate emissions that are carcinogenic or may have non-cancer health effects, depending on concentration levels and the duration of exposure. TAC emissions are generated primarily from new combustion activities in the HT#2, Bekaert CEB®, and microturbines; fugitive emissions from all potential leak points such as valves, flanges, and similar connector items; and combustion emissions from mobile sources associated with the proposed project (e.g., heavy-duty haul trucks). Numerous federal, state, and local regulatory agencies have developed lists of TACs. The list of TACs that may be generated by the proposed project and evaluated in the health risk assessment (HRA) for the proposed project are identified in the SCAQMD's Risk Assessment Procedures for Rules 1401 and 212, Appendix L (SCAQMD, 2005). Based on the review of Risk Assessment Procedures for Rules 1401 and 212, Appendix L, a total of 14 TACs relevant to the proposed project were identified and included in the HRA analysis (see Appendix E). TAC emissions from operations were calculated for the proposed project when it becomes operational and when all combustion units are operating at full rating. A summary of the associated TAC emissions and detailed calculations are shown in Appendix E.

Benzene is the only TAC identified as a possible component of the fugitive VOC emissions from new equipment installed as part of the proposed project. Benzene emissions were calculated based on the SCAQMD's latest guidelines for fugitive components. The fugitive benzene emissions were found to be well below the screening level thresholds listed in the SCAQMD Risk Assessment Procedures.

DPM, or the solid particles in diesel exhaust, which at times may be visible and includes carbon particles or "soot", is a TAC. The health impacts of particulate matter (PM_{10} and $PM_{2.5}$) in general have been studied, and exposure to it is associated with a variety of health effects including premature death and a number of heart and lung diseases. Cancer and chronic health risk values for DPM emitted by internal combustion engines were approved by the Office of Environmental Health Hazard Assessment (OEHHA) and adopted by the CARB in 1998. The SCAQMD recently added DPM to the list of TACs in Rule 1401.

An HRA was prepared to quantify the incremental cancer and non-cancer health risks from construction and operation of the proposed project. The HRA was based on the air dispersion modeling and emission estimates described above. The incremental increase due to construction and operation of the proposed project was obtained by performing an assessment of the baseline conditions at the WTU Central Facility before the proposed project was implemented. Then, the health risks associated with the combined impacts due to simultaneous construction and

operation (i.e., interim scenarios), as well as with the final project, were analyzed. The maximum risk impacts from construction and operation are shown in Table III-9. Risk impacts due to construction and simultaneous operation during the interim scenarios of the proposed project would not exceed SCAQMD significance thresholds for cancer risk for residential or worker receptors or for chronic or acute non-cancer hazard indices for residential or worker receptors. Similarly, risk impacts due to operations of the final proposed project would not exceed SCAQMD significance thresholds for cancer risk for residential or worker receptors or for chronic or acute non-cancer hazard indices for residential or worker receptors.

Table III-9 shows the maximum impacts that could occur during any of the interim phases (i.e., interim operation plus peak day construction during that day) or during the final implementation of the project. As shown in the table, cancer and non-cancer health impacts are less than significant as compared to the SCAQMD significance thresholds. Results for each interim phase and the final project can be found in Appendix E (Health Risk Evaluation).

Table III-9
Peak Health Risk Impacts Resulting from Construction and Operation of the Proposed Project

Impact Parameter	Impact of proposed project	SCAQMD significance threshold	Significant?
Maximum Increase in Cancer Risk using Residential Exposure Assumptions	1.8 in one million (Phase II)	≥ 10 in one million	No
Maximum Increase in Cancer Risk using Worker Exposure Assumptions	0.3 in one million	≥ 10 in one million	No
Maximum Incremental Acute Hazard Index (HIA)	0.189	≥1.0	No
Maximum Incremental Chronic Hazard Index (HIC)	0.005	≥1.0	No

Localized CO Impacts

The SCAQMD suggests that localized CO hotspots be evaluated at intersections due to increases in project-related off-site mobile source trips. The SCAQMD recommends performing a CO hotspots analysis for intersections that change from Level of Service (LOS) C to D as a result of the proposed project, and for all intersections rated D or worse where the project increases the volume-to-capacity ratio by two percent or more.

A hotspots analysis was not conducted because the proposed project does not generate an appreciable amount of operational and/or construction mobile source CO emissions (see Appendix C for reference). No additional permanent employees will be required to operate the proposed project equipment once installed and thus no commuter trips will be required. During operation of the proposed project, less than two trips per month will be generated (odorant vendor and microturbine maintenance trips). Construction of the proposed project will generate trips due to both construction workers and debris hauling. Approximately 18 construction workers will be required on the day requiring the maximum number of construction workers. Approximately two trucks may be required on the day requiring the most debris to be hauled.

As a result, a maximum of 20 vehicles could potentially travel to the site on a given day (note that this is conservative, as the activities requiring the greatest number of construction workers and the greatest number of trucks for hauling does not occur during the same phase). However, on average, approximately one to 10 construction workers will be required on a typical day when construction activities are occurring. Construction emissions will be temporary. Worst-day mobile source emissions are 1.8 lb/day.

The 2008 ZD includes condition #15 Circulation to minimize traffic from the WTU Central Facility through residential areas. The WTU Central Facility site is bordered by Eubank Avenue to the east, Anaheim Street to the south, Banning Boulevard to the west, and East Opp Street to the north. To avoid traffic through residential areas, vehicles must turn onto Banning Boulevard to enter the site. Heavy-duty trucks are required to exit directly onto Anaheim Street.

According to LADOT database on traffic counts, traffic volumes at the Anaheim at Banning intersection equal 20,865 (includes both westbound and eastbound traffic[4]. An additional 20 vehicle trips would be a negligible increase in traffic and substantially less than a two percent increase in traffic volume. Because the increased number of vehicles traveling to WTU Central Facility on a daily basis will be minimal, sporadic, and temporary, the LOS at nearby affected intersections is not expected to change. Further, the level of emissions at nearby intersections will be even less. Based on the number of vehicle trips expected during construction, a CO hotspots analysis is not warranted.

3.e). The area to the south, southeast of the WTU Central Facility is currently developed with industrial, commercial, and oil production uses. The areas generally to the west, north, and northeast of the WTU Central Facility are currently developed with residential uses. The 2006 MND for the 2006 project at the WTU Central Facility concluded that odor impacts from the proposed project would be less than significant. Subsequent to approval of the 2006 project, odor complaints were made that were related to the handling of drilling mud and drill cuttings. Warren acknowledged these complaints and implemented additional abatement plans and surveillance for potential odors. Conditions 6(b) and 10 in the 2008 ZD dictate measures Warren must follow regarding odors, regardless of cause. Further Condition 23 requires contact information for residents to call and report any ongoing problem (see Appendix A for 2008 ZD).

All existing stationary emissions sources that were part of the 2006 Project and any future activities (operation or construction) that may be modified as part of the proposed project are subject to SCAQMD rules and regulations. These rules, regulations, and permit conditions will continue to apply to both the 2006 Project and the proposed project.

Currently, fugitive odors could occur from leaks in valves and flanges, for example, and during the oil/water processing operations at the WTU Central Facility. In addition, the areas to the south and southeast of the site are currently developed with industrial, commercial and oil production uses and may also be sources of airborne odors.

Fugitive emissions are regulated under existing inspection and maintenance programs required pursuant to SCAQMD Rules 1173, 1176, and 1148.1. These programs require correcting

[4] LADOT database on traffic counts. 2009 – 2010. http://www.ladot.lacity.org/tf_hist_auto_counts.htm.

conditions that may cause odor events. The WTU Central Facility maintains a 24-hour environmental surveillance effort that minimizes the frequency and magnitude of odor events. On a routine basis (at least once per day and more often if required) the Applicant's engineering technician (or the on-duty operator when the technician is not working) conducts a walking inspection of all site operations to assess for odors, including hydrogen sulfide (H_2S), or sources of potential odors. The status of the automatic hydrocarbon monitors located in Cellars 1 and 2 are also routinely inspected. If odors or potential odors are discovered, the technician (or operator) immediately informs the superintendent or his designee, who then becomes responsible for all necessary actions to correct the situation. As noted earlier, Condition 23 of the 2008 ZD requires Warren to post a telephone number for residents to call regarding odor or any other complaints. This number (310-913-2502) is a dedicated line, hosted by a Spanish-English bilingual person, and is operable 24 hours per day including weekends. A log book is maintained to document the time and date complaints are received and the actions taken in response to each complaint. The Zoning Administrator has the right of access to this log. Since these procedures have been in place, there have been no odor nuisances attributable to operations at the Warren Facility.

In addition to the above procedures, the SCAQMD accepts air quality complaint calls 24 hours a day. During business hours (i.e., 7:00 a.m. to 5:30 p.m., Tuesday through Friday), an attendant answers the call and directs the information accordingly. During non-business hours, an automated answering service forwards the call to a standby supervisor who takes appropriate action. If a public nuisance is expected based on the number of complaints received (i.e., Rule 402 – Nuisance), the SCAQMD will respond to the complaint with an immediate investigation. Rule 402 has the following requirement, "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

It is possible that oil drilling could cause the release of odorous compounds. However, oil drilling operations are not part of this proposed project and would not change with respect to the 2006 Project that was analyzed in the 2006 MND and approved by the City of Los Angeles. Further, the proposed project does not include any odor emitting equipment such as new oil tanks or tanks of any kind, or increases in daily oil production beyond the average of 5,000 BPD[5] previously analyzed and approved in the 2006 MND. As a result, there is no increase in odors related to oil/water processing operations for the proposed project compared to the baseline (i.e., 2006 Project).

Some studies[6] discuss H_2S concentrations at various sites in California. Of these sites, five are geothermal power plants, one is a chemical processing plant, and three are refineries. The remaining three are oil and gas processing facilities located in Santa Barbara County. The WTU Central Facility is not a processing facility like those in Santa Barbara because it only separates oil and water, as opposed to processing gas like those in Santa Barbara. Regardless, the cited

[5] Note that the 2006 MND analyzed oil production impacts up to 5,000 BPD.

[6] Skrtic, Lana. 2006. Oil and Gas, and Peoples Health. Energy and Resources Group, UC Berkeley, May. Found at www.earthworksaction.org/publications.cfm?pub=168.

study reported that concentrations at the oil and gas processing facilities ranged from 0.000 to 0.001 ppm, and reported that "these levels are most likely of no health concern." According to Hilton E. Kalusche[7], an H_2S concentration of 0.13 ppm is considered to be a "minimal perceptible odor." As a result, even if the WTU Central Facility emitted H_2S at the levels identified for the Santa Barbara Facilities, it would be well below the minimal perceptible odor level.

The DOGGR regulations do not place requirements for H_2S emission monitoring on operating facilities like the WTU Central Facility. However, the DOGGR does issue a permit for drilling and operating each well associated with oil and gas production. In the Wilmington Field such permits contain an advisory that H_2S is known to be present and that adequate safety precautions should be taken for the permitted well. To accomplish this each drill rig at the Facility is equipped with continuous H_2S monitoring and recording devices. Such drilling activities were approved in the 2006 and 2008 ZDs.

In addition, the facility is subject to SCAQMD Rule 431.1, which prohibits burning gaseous fuels with a sulfur content greater than 40 ppm, which serves to limit SOx emissions from stationary equipment. Affected facilities are subject to reporting of monthly gaseous fuel consumption and SOx emissions. Operators of the WTU Central Facility routinely measure H_2S in all of its produced gas streams, and the data indicate zero, non-detectable, or exceedingly low concentrations (i.e., 4.5 average ppm H_2S). The monthly calculation of sulfur emissions at the WTU Central Facility indicates consistent compliance with the requirements of Rule 431.1.

During construction, diesel emissions from construction equipment may be sources of odor. All construction activities required to implement the proposed project will not occur on the same day, limiting the potential impacts of construction odors. In addition, odors associated with construction would be temporary and localized. Finally, the existing eight foot high perimeter wall and vegetation may reduce the impacts of any potential odors outside of the facility by providing an impediment to dispersion of ground level odors.

The proposed project will require additional flanges, pressure relief devices and other connections that can potentially be sources of fugitive emissions. Fugitive VOC emissions, which may also contribute to odor impacts, were calculated and added to the total proposed Project emissions. Total VOC emissions were less than the regional VOC construction significance threshold so the impact was determined to be less than significant. However, the vast majority of produced gas will be disposed of through gas reinjection, sales, or by combustion in the microturbines. These systems will be operated such that any existing odors associated with VOC emissions will be reduced or eliminated. In addition, these systems will reduce the volume of gas combusted by flaring. The proposed Project includes a Bekaert CEB®, which is a newer and more efficient combustion system. The proposed project specifies that produced gas not used onsite (e.g., microturbines) would be re-injected into underground oil formations rather than flared. The Bekaert CEB® would be operated in a ready-standby mode that combusts 15,000 standard cubic feet (scf) per day less gas than the current flare operations and would be available to handle gas in the event re-injection was not available (e.g.,

[7] Kalusche, Hilton E., Hydrogen Sulfide Safety and Health Issues. http://el.erdc.usace.army.mil/workshops/04jun-wots/kaluschue.pdf.

maintenance or service interruption). The Bekaert CEB® would be in essentially the same location as the Flare King flare (i.e., no significant change in proximity to residences) and has no exposed flame in contrast to the existing Flare King. Although the CEB® is at ground-level, the burner is enclosed and will have a smaller visual and emissions impact than the existing flare operations. As a result, when gas is combusted in the Bekaert CEB®, fewer emissions will result as compared to the existing Flare King flare, resulting in less potential to generate odors. The HT #2 is more efficient than the existing equipment with similar capabilities (i.e., HT #1), and will be designed and is expected to be operated with minimal potential for emitting fugitive odors.

During operation, potential sources of odor are fugitive emissions or leaks from the new equipment (e.g., HT #2 and Bekaert CEB®), and odorant for gas sales (as required by the US Department of Transportation [USDOT]) if gas sales equipment is installed. However, the majority of the produced oil field gas (and any associated odor-producing compounds) will be routed to the gas injection equipment, or the microturbines which combust odor-producing compounds. Use of these pieces of combustion equipment is expected to result in fewer odors because they are closed systems. The Bekaert CEB® and HT#2 are not closed systems, but they are more efficient than the existing Flare King Flare or HT#1, respectively. As a result, the final proposed project is expected to result in fewer odors than the baseline condition.

Operators (and the gas utility company) are required by the US DOT and CPUC to odorize natural gas for safety reasons, including leak detection, before sale of the natural gas into a public utility's pipeline system. The odorizing is typically done by injecting trace amounts of mercaptans (an odorous gas) into the otherwise odorless natural gas stream. Fugitive emissions from the natural gas odorant injection system could result in potential odor impacts. However, fugitive emission components associated with the odorant injection system are also regulated by formal regulatory inspection and maintenance programs pursuant to SCAQMD Rule 1173. As such, these maintenance programs ensure correction of conditions leading to odor events. Additionally, the facility's 24-hour environmental surveillance effort minimizes the frequency and magnitude of odor events. As a result, continued compliance with Rule 1173 and existing odor surveillance procedures are expected to minimize potential odor impacts from the natural gas odorant injection system and, therefore, potential odor impacts from this system are not concluded to be considerable or significant.

Based on the above, potential incremental odor impacts due to the proposed project compared to the baseline (e.g., the 2006 Project) are expected to be less than significant.

3.f). As discussed above, the proposed project will be designed to meet or exceed all control requirements with regard to criteria and toxic pollutant air quality rules and regulations. As such, it is not expected to diminish an existing air quality rule or future compliance requirement resulting in a significant increase in criteria or toxic air pollutants.

3.g) Global climate change and global warming are both terms that describe changes in the earth's climate. Global climate change was not evaluated in the 2006 MND because it was only formally added to the CEQA Guidelines in 2010 as an environmental topic to be analyzed. Global climate change is a broad term referring to changes in average climatic conditions on

earth as a whole, including temperature, wind patterns, precipitation, and storms. The term global warming is more specific than global climate change and refers to a general observed increase in the temperatures across the surface of the earth. Though global warming is characterized by rising temperatures, it can cause other climatic changes, such as a shift in the frequency and intensity of rainfall or hurricanes. Global warming does not necessarily imply that all locations will be warmer; some specific locations may be cooler even though the global climate, on average, may be warmer.

While global warming can be caused by natural processes, there is a general scientific consensus that most current global warming is the result of human activity on the planet. This man-made, or anthropogenic, warming is primarily caused by increased emissions of greenhouse gases (GHGs) that increase the surface temperature of the earth. This is called the "greenhouse effect."

When solar radiation from the sun reaches the earth, much of it penetrates the atmosphere to ultimately reach the earth's surface; this solar radiation is absorbed by the earth's surface and then emitted as heat in the form of infrared radiation. GHGs do not absorb solar radiation, but they do absorb infrared radiation. When the infrared radiation is absorbed by the molecules of GHGs and re-radiated in all directions. A portion of the infrared radiation is emitted back towards the surface of the earth, in effect "trapping" the heat in the atmosphere. This is the phenomenon referred to as the "greenhouse effect."

The six major GHGs identified by the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, rise of sea levels, more extreme heat days per year, and more drought years. Events and activities, such as the industrial revolution and natural emissions, have contributed to the increase in atmospheric levels of GHGs. As reported by the CEC, California contributes 1.4 percent of the global and 6.2 percent of the national manmade GHG emissions.[8] Approximately 80 percent of manmade GHGs in California are from fossil fuel combustion and over 70 percent of GHG emissions are composed of CO_2 emissions.[9]

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state.

- In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, which requires the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State.

- In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action

[8] CEC. 2004. Inventory of California Greenhouse Gas Emissions and Sinks: 1990-1999.
[9] CARB. 2007. California Greenhouse Gas Inventory.

Team (CAT), led by the Secretary of the California State Environmental Protection Agency (CalEPA), was formed. The CAT published its first report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order.

- In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 requires CARB to establish a statewide GHG emissions cap for 2020; adopt mandatory reporting rules and an emission reduction plan for significant sources of GHG emissions; and adopt regulations to achieve the maximum technologically feasible and cost effective reductions of GHGs.

- SB1368, a companion bill to AB32, requires the California Public Utilities Commission (CPUC) and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the State or generated outside and then imported into California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour (MW-hr).

- California Senate Bill 97 (SB97), passed in August 2007, required that the California Natural Resources Agency (CNRA) coordinate on the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of GHG emissions or the effects of GHG emissions. Pursuant to SB97, CNRA adopted amendments to the CEQA Guidelines on December 30, 2009, and transmitted the Adopted Amendments and entire rulemaking file to the Office of Administrative Law (OAL) on December 31, 2009. The amendments were approved by the OAL on February 16, 2010, and became effective on March 18, 2010.

  With respect to the significance assessment, newly added CEQA Guidelines section 15064.4, subdivision (b), indicates that a lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

  1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
  2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
  3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still

> cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Amendments to the CEQA Guidelines also provide that lead agencies should consider all feasible means of mitigating GHG emissions that substantially reduce energy consumption or GHG emissions. These potential mitigation measures may include carbon sequestration. If off-site or carbon offset mitigation measure are proposed, they must be part of a reasonable plan of mitigation that the agency is committed to implementing. No threshold of significance or any specific mitigation measures are indicated.

Among other things, CNRA noted in its Public Notice for these changes that impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The Public Notice states:

> *While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable.*

There has also been activity at the federal court level on the regulation of GHGs. In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), argued on November 29, 2006 and decided on April 2, 2007, the U.S. Supreme Court held that not only did the USEPA have authority to regulate GHGs, but also that the USEPA's reasons for not regulating GHGs did not fit the statutory requirements. The U.S. Supreme Court ruled that CO_2 and other GHGs are pollutants under the Clean Air Act, and that the USEPA must regulate GHG emissions if it determines such emissions pose an endangerment to public health or welfare. Subsequently, USEPA made the endangerment finding and issued its "Tailoring Rule," establishing GHG reporting requirements for large stationary GHG emissions sources.

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy, including the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and,
- Support the adoption of a California greenhouse gas emission reduction goal.

The SCAQMD has established a Climate Change Policy, adopted by the SCAQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce emissions of criteria, toxic, and climate change pollutants. The policy includes the intent to assist businesses and local governments implementing climate change measures, decrease the agency's carbon footprint, and provide climate change information to the public. The SCAQMD will take the following actions:

1. Work cooperatively with other agencies/entities to develop quantification protocols, rules, and programs related to greenhouse gases;
2. Share experiences and lessons learned relative to the Regional Clean Air Incentives Market (RECLAIM) to help inform state, multi-state, and federal development of effective, enforceable cap-and-trade programs. To the extent practicable, staff will actively engage in current and future regulatory development to ensure that early actions taken by local businesses to reduce greenhouse gases will be treated fairly and equitably. Staff will seek to streamline administrative procedures to the extent feasible to facilitate the implementation of AB32 measures;
3. Review and comment on proposed legislation related to climate change and greenhouse gases, pursuant to the 'Guiding Principles for SCAQMD Staff Comments on Legislation Relating to Climate Change' approved at the Board Special Meeting in April 2008;
4. Provide higher priority to funding Technology Advancement Office (TAO) projects or contracts that also reduce greenhouse gas emissions;
5. Develop recommendations through a public process for an interim greenhouse gas CEQA significance threshold, until such time that an applicable and appropriate statewide greenhouse gas significance level is established. Provide guidance on analyzing greenhouse gas emissions and identify mitigation measures. Continue to consider GHG impacts and mitigation in SCAQMD lead agency documents and in comments when SCAQMD is a responsible agency;
6. Revise the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning to include information on greenhouse gas strategies as a resource for local governments. The Guidance Document will be consistent with state guidance, including CARB's Scoping Plan;
7. Update the Basin's greenhouse gas inventory in conjunction with each Air Quality Management Plan. Information and data used will be determined in consultation with CARB, to ensure consistency with state programs. Staff will also assist local governments in developing greenhouse gas inventories;
8. Bring recommendations to the Board on how the agency can reduce its own carbon footprint, including drafting a Green Building Policy with recommendations regarding SCAQMD purchases, building maintenance, and other areas of products and services. Assess employee travel as well as other activities that are not part of a GHG inventory and determine what greenhouse gas emissions these activities represent, how they could be reduced, and what it would cost to offset the emissions;
9. Provide educational materials concerning climate change and available actions to reduce greenhouse gas emissions on the SCAQMD website, in brochures, and other venues to

help cities and counties, businesses, households, schools, and others learn about ways to reduce their electricity, reduce vehicle miles traveled, access alternative mobility resources, utilize low emission vehicles, and implement other climate friendly strategies; and

10. Conduct conferences, or include topics in other conferences, as appropriate, related to various aspects of climate change, including understanding impacts, technology advancement, public education, and other emerging aspects of climate change science.

The legislative and regulatory activity detailed above is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

The GHG inventory for California is presented in Table III-10. According to the inventory, the total statewide manmade (or industrial) net GHG emissions in 2004 were approximately 480 million metric tons (MT) per year of CO_2 equivalent (CO_2eq) emissions. Global emissions of GHGs in 1990 were estimated by the Intergovernmental Panel on Climate Change to be 32,100 million MT of CO_2eq emissions.

Table III-10
California GHG Emissions and Sinks Summary

Categories Included in the Inventory	1990	2004
ENERGY	**386.41**	**420.91**
Fuel Combustion Activities	**381.16**	**416.29**
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
Fugitive Emissions From Fuels	**5.25**	**4.62**
Oil and Natural Gas	2.94	2.54
Other Emissions from Energy Production	2.31	2.07
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**30.78**
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**23.28**
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO_2 Emissions Sources on Land	7.26	9.17
WASTE	**9.42**	**9.44**
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
EMISSION SUMMARY		
Gross California Emissions	**433.29**	**484.4**
Sinks and Sequestrations	**-6.69**	**-4.66**
Net California Emissions	**426.60**	**479.74**

CARB, 2007.

GHG Significance Criteria

The analysis of GHG impacts is different from the analysis of criteria pollutants. For criteria pollutants, significance thresholds are based on daily emissions because the attainment or non-attainment status is based on daily exceedances of applicable ambient air quality standards. Furthermore, several ambient air quality standards are based on the relatively short-term exposure effects on human health (e.g., one-hour and eight-hour). On the contrary, because the half-life of CO_2 is approximately 100 years, the effects of GHGs are longer-term and affect global climate over a relatively long time frame. Thus, the SCAQMD's current position is to evaluate GHG effects over a longer time frame than a single day.

The SCAQMD has convened a "Greenhouse Gases CEQA Significance Thresholds Working Group" to consider a variety of benchmarks and potential significance thresholds to evaluate GHG impacts. On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This

interim threshold is set at 10,000 MT CO_2eq per year. As additional information is compiled regarding the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

The SCAQMD has prepared the "Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Thresholds." This draft guidance proposes a tiered approach to determining GHG significance of projects.[10] The first two tiers involve (1) determining if the project is exempt from CEQA and (2) demonstrating that the project's GHG emissions are consistent with a local GHG reduction plan. Because neither of these tiers is applicable to the proposed project, the analysis shifts to Tier 3. Tier 3 establishes a numerical threshold of 10,000 MT CO_2eq per year as the incremental increase signifying significance. Projects with incremental increases below this threshold are not considered to be cumulatively considerable. The next tier of the significance threshold methodology considered for this analysis is Tier 4. The significance threshold approaches in Tier 4 were not adopted by the Governing Board and possible options continue to be under investigation by staff. Tier 4 will not be considered further. Tier 5 may be applicable if GHG emissions exceed the numerical significance threshold of 10,000 MT CO2eq per year. In this situation, offsite mitigation could be used to reduce GHG emission impacts to less than significant, but mitigation would be required for the life of the project, defined as 30 years.

Construction GHG Emissions and Analyses

Construction typically occurs in phases, consisting of demolition, site preparation, construction of structures, and final site work. Construction activities required to implement the proposed project include: (1) excavation, concrete work, erection, and/or installation of the individual equipment units (Bekaert CEB®, HT #2, gas re-injection compressor, a spare vapor recovery compressor); (2) mobile source emissions from construction equipment, delivery trucks, and employees' automobiles; (3) conversion (using a mobile workover rig) of an existing well for re-injection of gas into subsurface oil reservoirs; and (4) possible installation of equipment for future gas sales, including three additional microturbines beyond the six already installed. Specifically, construction is expected to occur in phases as shown in Table III-2.

Emissions of GHGs resulting from construction are generated from the combustion of fuel (primarily diesel) in off-road vehicles and other equipment required for the construction activities, as well as from fugitive dust due to soil-disturbing activities. In addition, some emissions will result from offsite fabrication of equipment, but emissions associated with those activities are not included in this report because insufficient information is available to characterize these emissions. Emissions were calculated using URBEMIS2007 version 9.2.4. Default equipment inventories were used, with additional equipment added based on project needs. Annual construction emissions are shown below in Table III-11 (detailed information regarding quantifying GHG emissions from the proposed project can be found in Appendix F). Pursuant to SCAQMD guidance, construction emissions are not compared to the GHG numerical significance threshold. Instead, construction emissions are amortized over a 30-year period,

[10] SCAQMD. 2008. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. Adopted by SCAQMD December 5, 2008.

added to operation GHG emissions, and then compared to the numerical GHG significance threshold. The analysis of operational GHG emissions, the sum of construction and operation GHG emissions, and the overall significance determination are found in the next subsection.

Table III-11
Project-Related Annual Construction GHG Emissions

Construction Phase	Estimated Emissions (MT CO_2eq)
Construction I	2.6
Construction II	4.1
Construction III	1.8
Total Construction Emissions	8.5

Operational GHG Emissions and Analyses

Operational GHG emissions result from direct emissions from combustion of oil field gas in the new HT#2, Bekaert CEB®, and microturbines (see Appendix F for full details on the GHG evaluation). The emission factors used are summarized below (Table III-12) and described in detail in Appendix C. The gas combustion rate of HT#2 will be naturally constrained when the limit on monthly average oil production rate of 5,000 BPD is implemented in the form of a permit condition placed on one of the Applicant's existing permits. Likewise, the Bekaert CEB® operation will normally be limited to standby conditions that will be placed in its permit. In order to ensure that the Bekaert CEB® is not operated beyond the standby conditions, except for under specifically delineated circumstances, total gas combustion at the facility will be limited by a new permit condition to make certain the GHG emissions do not exceed the SCAQMD's significance threshold.

Calculation of the operational emissions was done for each interim operating scenario, as well as for the proposed project upon full operation (Table III-13). Emissions from commuting and heavy duty vehicle trips were also calculated. Combustion emissions were calculated based on manufacturer specifications, applicable rules, and monthly gas testing data (see Appendix C). Annual operational emissions are shown in Table III-13. All emissions are below the SCAQMD significance thresholds, and the proposed project results in a less than significant impact, with mitigation imposed. In addition, amortized construction emissions (i.e., 30-year average) were added to maximum project emissions and compared to the SCAQMD significance threshold. The proposed project is expected to result in a less than significant impact with mitigation. Details of all analyses are available in Appendices C and F.

Table III-12
GHG Emission Factors for Combustion Equipment

Equipment	GHG Emission Factors		
	CO_2 EF (lb CO_2/MMscf)	CH_4 EF (lb CH_4/MMscf)	N_2O EF (lb N_2O/MMscf)
Heater Treater #1	120,000	2.3	2.2
Heater Treater #2	120,000	2.3	2.2
Flare King Flare	126,621	2.3	0.64
Bekaert CEB®	126,621	2.3	0.64
Microturbines	120,000	2.3	2.2

Table III-13
Project-Related Annual Operational GHG Emissions

Operating Scenario	**Estimated Emissions (MT CO_2eq/year)**
Baseline	1,186
Construction emissions[a]	< 1
Proposed project[b]	8,064
Total Annualized Operational and Construction Emissions	8,064
Incremental difference (Project Plus Construction Compared to Baseline)	6,878

[a] Total construction emissions are amortized over 30 years and added to the proposed project.
[b] Proposed project includes GHG emissions from: HT #1, HT#2, Bekaert CEB®, and nine microturbines.
< equals less than

Although it is anticipated that the facility will be operating with gas sales and/or reinjection and the Bekaert CEB® at ready-standby, we analyzed emissions in the worst-case final project scenario with the Bekaert CEB® operating at 100 percent (i.e., no gas sales and/or reinjection) for the full year. In this scenario, incremental GHG emissions would be approximately 13,000 MT CO_2e/yr, which is greater than the SCAQMD significance threshold of 10,000 MT CO_2e/yr. As shown in Appendix F, limiting gas flow to 199,000 Mscf per year ensures that incremental GHG emissions resulting from the proposed project would be less than 10,000 MT CO_2e/yr, as shown in Table III-13.

3.h). The City of Los Angeles does not have an adopted GHG reduction plan, but does have an adopted Green Building Program[11]. The program is designed to reduce GHG emissions from new buildings by requiring them to meet the intent of the Leadership in Energy and

[11] City of Los Angeles. Building a Green Los Angeles. http://www.lacity.org/mayor/stellent/groups/electedofficials/@myr_ch_contributor/documents/contributor_web_content/lacity_004866.pdf.

Environmental Design® (LEED®) Certified level. The mandatory Standard of Sustainability requirements of the Green Building Program apply to non-residential projects at or above 50,000sf of floor area, high-rise residential (above six stories) projects at or above 50,000sf of floor area, or low-rise residential (six stories or less) of 50 or more dwelling units within buildings of at least 50,000sf of floor area. Since the proposed project does not include constructing new buildings, it is not subject to the mandatory requirements. The tier 3 analysis and determination are including in the discussion under item 3. g). As noted in that discussion, with mitigation GHG emissions from the proposed project would not exceed the GHG significance threshold of 10,000 MTCO2e per year.

As noted earlier, according to the SCAQMD's tiered GHG significance hierarchy, tier 2, if there is no local GHG reduction plan, then to determine whether a project may have significant adverse GHG emissions, the analysis moves to tier 3, comparing GHG emissions to an applicable GHG numerical threshold.

3.3 Mitigation Measures

With regard to air quality, impacts from the proposed project were concluded to be no impact or less than significant impact. While no increase in odors is expected from the equipment that is part of the proposed project, impacts have been identified in the past from the Facility. The conditions in the 2006 and 2008 ZDs relative to odors (see Appendix A and B) are currently in place. Based on the 2008 ZD, the "authorization runs with the land"; therefore, Warren will be required to continue implementing these measures in perpetuity, ensuring that potential odor impacts from the proposed project remain less than significant. To ensure that emissions from the proposed project do not exceed any applicable significance thresholds, the following three mitigation measures will be required to be implemented by the project proponent. These mitigation measures will be incorporated as conditions in the permits and will be enforced by SCAQMD inspectors.

Although significance thresholds are not exceeded for criteria pollutants or health risks, MMAIR-1 and MMAIR-2 are being proposed consistent with agreements between Warren and the SCAQMD. MMAIR-3 is being proposed to ensure that incremental GHG emissions resulting from the proposed project are less than the SCAQMD's significance threshold of 10,000 MT CO_2e/yr.

MMAIR-1 During construction of the gas re-injection system, the gas flow to the Bekaert CEB® will be limited to no more than 50 percent of its rated capacity, except in the following circumstances (when its full capacity may be necessary):

- Emissions testing at greater gas rates, as required by SCAQMD;
- Power outages that require shutdown of the microturbines and/or electric compressor;
- Maintenance, breakdown or testing of the microturbines and/or heater treater(s) that require gas flows to be routed to the Bekaert CEB® until the maintenance, repair or testing work is completed

MMAIR-2 After construction and upon operation of the gas re-injection system, operation of Bekaert CEB® above its minimum ready stand-by rate may only occur under the following two conditions:

- Maintenance, breakdown or testing of the gas injection compressor and related systems (either during re-injection or gas sales) or gas treatment system (during gas sales) requiring gas flows to be routed to the Bekaert CEB® until the maintenance, repair or testing work is completed; or

- Maintenance, repair, permitting, cleanout or testing of the gas injection well and/or system that requires gas flows to be routed to the Bekaert CEB® until the maintenance, repair, permitting, cleanout or testing work is completed.

MMAIR-3 The operator shall limit the total fuel usage in the equipment of the proposed project (e.g., heater treater #1 and #2, microturbines, and Bekaert CEB®), including oil field gas as well as natural gas, to less than or equal to 199,000,000 standard cubic feet per calendar year to ensure that annual GHG emissions do not exceed 10,000 MTCO2e per year.. To assure compliance with this mitigation the SCAQMD will impose all necessary permit conditions on the project's combustion equipment by defining the proper types of fuel meters, meter accuracy and calibration requirements, monthly and annual recordkeeping requirements, and standards for records retention.

	Potentially Significant Impact	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands, as defined by §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, migratory fish, or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

4.1 Significance Criteria

The impacts on biological resources will be considered significant if any of the following criteria apply:

The proposed project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.

The proposed project interferes substantially with the movement of any resident or migratory wildlife species.

The proposed project adversely affects aquatic communities through construction or operation of the project.

4.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND concluded that the 2006 project, which would allow drilling up to 540 wells, would not generate potentially significant adverse biological resources impacts. As a result, no mitigation measures were identified or required.

4.a), b), c), d), e), and **f).** The proposed project would be located entirely within the existing boundaries of the WTU Central Facility, which has already been developed for oil production uses. There are no riparian habitats or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service; no federally protected wetlands, as defined by §404 of the Clean Water Act; no areas of natural open space; and no areas of significant biological resource value on or in the vicinity of the facility. With the exception of landscaping around the perimeter walls of the WTU Central Facility, the operating areas within the facility walls have previously been cleared of vegetation for fire safety reasons. No candidate, sensitive, or special status species identified in local plans, policies or regulations, or by the California Department of Fish and Game (CDFG) or the U.S. Fish and Wildlife Service (USFWS), are found at the facility, as the facility area supports no habitat for such species. No conflicts with local, regional or state Conservation Plans are expected because no such plans are in place on or near the facility as indicated by the local zoning around the facility (Zoning designations at the site include M2-1 VL-O (Light Industrial Zone) and RD3-1XL-0 (Restricted Multiple Dwelling Zone), with some parcels sharing the two designations). No biological resources impacts are expected from the proposed project.

4.3 Mitigation Measures

No mitigation measures are required because no significant adverse impacts to biological resources are expected.

		Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
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 as defined in §15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource, site, or feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside formal cemeteries?	☐	☐	☐	☑

5.1 Significance Criteria

Impacts to cultural resources will be considered significant if:

The proposed project results in the disturbance of a significant prehistoric or historic archaeological site, a property of historic or cultural significance to a community or an ethnic or social group.

Unique paleontological resources are present that could be disturbed by construction of the proposed project.

The proposed project would disturb human remains.

5.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

Based on the analysis of cultural resources in the 2006 MND, the lead agency concluded that, after incorporation of the proposed mitigation measures, any potentially significant adverse impacts to cultural resources resulting from the 2006 Project would be reduced to a level of insignificance. These impacts included archaeological resources pursuant to CEQA Guidelines §15064.5; paleontological resources; and human remains, including those interred outside of formal cemeteries. The 2006 MND included mitigation measures related to project construction and operation (Mitigation Measure Vb. (Archaeological) and Vc. (Paleontological); see Appendix A for details of the measures).

All relevant mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the proposed project.

5.a) Structures and equipment at the WTU Central Facility were built in 1972 as an industrial facility for extracting oil and gas. As an industrial facility, no equipment or structures are: associated with California cultural heritage; associated with important persons of the past, nor do they embody high artistic values (CEQA Guidelines §15054.5). The proposed project will require minor demolition of an existing structure (i.e., the removal of the Flare King flare). However, this structure is not greater than 50 years old and is not historically significant as indicated above. As a result, no structures of historic importance will be affected by the proposed project.

5.b) In 1972, the earlier oil separation facilities, storage tanks, and other equipment on the individual residential lots were removed, the site was graded, and new replacement facilities were constructed at the WTU Central Facility by the then owner, Exxon Corporation. Consequently, the facility is located on a disturbed site with no apparent archaeological resources remaining. For this reason and the fact that no existing structures at the WTU Central Facility are considered archaeologically or historically significant, implementing the proposed project is not expected to adversely affect any archaeological resources.

5.c) For the same reasons discussed in item 5.b) no unique paleontological resources are apparent at the site. No paleontological resources were specifically identified at the site in association with the 2006 project. Since there are no apparent paleontological resources located on the entire WTU Central Facility, minor ground-disturbing activities that may occur as a result of implementing the proposed project are not expected to generate significant adverse paleontological resources impacts.

5.d) As already noted, the WTU central facility is located at a site that has been previously disturbed. No known human remains or burial sites have been identified at the WTU Central Facility during previous site disturbances or construction activities, so the proposed project is not expected to disturb any human remains. If cultural resources are encountered unexpectedly during ground disturbance associated with construction of the proposed project, the proper procedures (i.e. contacting professional archeologists, temporarily halting disturbance work in the vicinity, etc., pursuant to City of Los Angeles mitigation measures V b and V c) will be taken.

5.3 Mitigation Measures

The impacts of the project on cultural resources are concluded to be less than significant so no additional mitigation measures are required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:				
a)	Conflict with adopted energy conservation plans?	☐	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☐	☑

6.1 Significance Criteria

The impacts to energy will be considered significant if any of the following criteria are met:

The proposed project conflicts with adopted energy conservation plans or standards.

The proposed project results in substantial depletion of existing energy resource supplies.

An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

The proposed project uses non-renewable resources in a wasteful and/or inefficient manner.

6.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The City of Los Angeles Planning Department approved the 2006 project at the WTU Central Facility and certified the 2006 MND for a project that allowed the facility operators to drill up to 540 new wells, which would allow processing up to 5,000 barrels of oil per day. This approval included a requirement that electric drilling equipment be used if and when available. Energy and electricity usage for the current facility, including those related to daily oil production levels

up to 5,000 BPD (on a monthly average), are within the scope of the previously certified 2006 MND and are considered to be part of the existing environmental setting, which constitutes the baseline physical energy conditions by which a lead agency determines whether or not an impact is significant. It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period. Consistent with the CEQA Guidelines, energy impacts of the proposed project (i.e., new and modified equipment) have been analyzed and compared against the baseline energy usage at the facility to determine whether or not energy impacts generated by the proposed project are significant.

6.a) The proposed project is not expected to conflict with any adopted energy conservation plan because there is no known energy conservation plan that would apply. Further, the proposed project is not expected to substantially increase the WTU Central Facility's energy demand as explained in the following discussion.

6.b), c), d), and **e).** The proposed project would not affect in any way the number of wells drilled or change the electricity demand for drilling equipment, submerged pumping equipment or other new or existing equipment.

Warren's WTU Central Facility is currently served by the Los Angeles Department of Water and Power (LADWP) for electricity supply. The existing six microturbines supply the remainder of the facility's electricity requirements. LADWP supplies more than 22 million megawatt hours (MW-h) of electricity each year to customers throughout Los Angeles. LADWP's most recently approved Integrated Resource Plan (IRP) indicates that electricity consumption is expected to increase by approximately 0.9 percent each year, with peak demand increasing by 60 megawatts (MW) each year. The IRP includes financing to meet this demand through re-powering, development of new renewable energy resources, and energy efficiency programs[12].

The average electrical demand at the WTU Central Facility for the three months preceding operation of the six microturbines was approximately 4,200 kW per month. This demand was incurred when an all-electric drilling rig was operating on-site and would therefore represent the peak case before the six microturbines became operational. Although part of the currently proposed project, six microturbines were already installed without permits at the facility. After startup, the six microturbines reduced the overall peak demand by approximately 420 kW. This represents approximately 10 percent of the facility's total energy demand before implementation of the proposed project. If the three additional microturbines are installed, approximately 210 kW could be generated onsite. As a result, the total electricity generated on-site would be approximately 630 kW if all nine microturbines are placed into operation.

The currently proposed project will have various electrical motors which will demand approximately 550 kW of additional electricity. Under this scenario, total electricity generated on-site would be 630kW if all nine microturbines are placed into operation. If all nine microturbines are placed into service, the proposed project has the potential to result in a net

[12] LADWP, 2007. 2007 Integrated Resource Plan. City of Los Angeles Department of Water and Power. Available at: http://www.ladwp.com/ladwp/cms/ladwp010273.pdf. Accessed 1 November 2010.

reduction in electricity demand from LADWP of approximately 80 kW (i.e., 630 kW minus 550 kW), which would be considered an energy benefit.

If the final three microturbines are not installed, net electricity demand by the facility will increase by approximately 130 kW (i.e., 550 kW minus 420 kW). Under this scenario, a net increase in electricity demand of 130 kW is not considered to be a significant impact because it does not represent a wasteful use of energy. Further, based on LADWPs total current and projected electricity supply capacity, as described above, sufficient electrical supplies are available from LADWP to handle the potential net increase in electricity demand from the proposed project if the three additional microturbines are not installed.

Demand for electricity during the construction period is not expected to increase appreciably because most of the construction equipment is powered by diesel fuel. The construction activities require only a few pieces of construction equipment; due to space limitations, small-scale equipment would be used. In addition, although construction will occur intermittently over a period of approximately three and one-half years, construction activities requiring electricity are few, and all construction activities are only expected to occur during a maximum of 95 days. As a result, the total diesel fuel that will be required for construction of the proposed project is not as great as it could be because small scale construction equipment would be used instead of large construction equipment, does not represent a significant volume diesel because few pieces of construction equipment are required, and diesel used for construction activities is not considered to be a wasteful use of fuel. Therefore, no significant adverse electricity or other energy demand impacts are expected during the construction period.

In addition to generating electricity for use on-site, the microturbines produce heat. This additional heat is efficiently and beneficially used to heat produced water before it is re-injected into the subsurface oil reservoir. The heated water provides the additional benefit of improving oil recovery. By using the additional waste heat for this beneficial purpose, a new steam generator or boiler is not necessary to heat water used onsite. Use of waste heat is also considered to be an energy benefit of the proposed project.

Therefore, based upon the above information, no significant adverse increased energy demand impacts are anticipated from the proposed project.

6.3 Mitigation Measures

The impacts of the project on energy resources are less than significant so no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:	☐	☐	☐	☑
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?	☐	☐	☑	☐
Strong seismic ground shaking?	☐	☐	☑	☐
Seismic–related ground failure, including liquefaction?	☐	☐	☑	☐
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 landslides, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑

7.1 Significance Criteria

The impacts on the geological environment will be considered significant if any of the following criteria apply:

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction, or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

7.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The City of Los Angeles Planning Department approved the existing operations at the WTU Central Facility and certified the 2006 MND. That approval analyzed the impacts of drilling up to 540 wells and crude production capacity of up to 5,000 BPD. The City of Los Angeles, however, did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period. In addition, the 2006 MND included an analysis of constructing and operating well cellars associated with drilling 540 wells. The well cellars are not habitable structures that could expose workers or residents to a safety hazard in the event of liquefaction-related ground failure. Additionally, prior to the design of the well cellars, a qualified expert soils consultant sampled the soil and provided design information. Subsequently, the new well cellars were specifically designed according to the Uniform Building Code (UBC) and the California Building Code (CBC) to provide stable soil conditions and to prevent landslides, lateral spreading, liquefaction, and collapse during the drilling of new wells or the "workover" of existing wells. The construction of the well cellars was analyzed and approved in the 2006 MND, and is, therefore, outside the scope of this analysis.

Based on the analysis of geology and soils impacts in the 2006 MND, the lead agency concluded that, after incorporation of mitigation measures, any potentially significant geology (seismic) impacts resulting from the 2006 project would be reduced to a level of insignificance. The 2006 MND included mitigation measures related to design and construction of the project, potential soil erosion, demolition and construction, and all earth-moving activities. All relevant mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project. Subsequent to approval of the 2006 project and 2006 MND, operators of the WTU Central Facility began drilling operations on oil and

reinjection wells in accordance with the 2006 project description and conditions imposed by the City of Los Angeles as part of the approval.

Other potential geology and soils impacts (e.g., earthquakes, ground shaking, liquefaction, subsidence, collapse, etc.) related to the drilling of 540 wells, the construction of the well cellars, and/or the increase of oil production to 5,000 BPD were analyzed in the previously approved 2006 MND. The proposed project would not allow Warren to expand oil or water well reinjection drilling operations beyond the approved wells analyzed in the 2006 MND. As a result, the drilling operations are not part of the currently proposed project and are beyond the scope of this analysis. Only potential impacts related to the proposed project (i.e., installing and operating new equipment) are analyzed in this document.

7.a). There have been studies that indicate that significant perturbations of the hydrologic regime may trigger earthquakes. Specifically, increased pore pressure in areas where potentially active faults are already close to failure may lead to an earthquake. Warren currently injects produced water into three reservoirs within the Wilmington Field. The current pressure in each reservoir is less than the original pressure, so there is no increase in pore pressure in any of the reservoirs. In addition, the withdrawal of fluids is balanced with reinjected produced water so the result is neither a massive withdrawal nor a massive increase in volume or pressure. The reservoirs are being managed in order to maintain reservoir pressure as near as practical to the original pressure and to match withdrawals with produced water injection, in part as a measure to prevent saltwater intrusion into potable water aquifers. Injection wells will be subject to DOGGR permits that require that injection rate and pressure records kept and submitted to DOGGR on a monthly basis. The DOGGR will evaluate these reports to ensure the injection well is operating within appropriate parameters. The proposed project does not increase either the volume of oil extracted that was evaluated in the 2006 MND or the amount of drilling beyond the level that has already been approved and permitted under the 2006 ZD, which relied on the May 2006 MND. The proposed project does not change the existing facility operations designed to maintain pressure and does not change the process of re-injecting water to minimize any net extraction of fluid or gas (regardless of the daily oil production rate). There have been public complaints about noise and vibration, but current facility operations are within the scope of the 2006 MND and based on reservoir pressures and withdrawal/injection volumes, there is no significant risk of induced earthquakes if Warren were to continue water injection (under DOGGR control) at the oil production of 5,000 BPD analyzed in the 2006 MND, which would be limited by a permit condition to a 5,000 BPD 30-day monthly average as part of the currently proposed project.

Specifically with regard to the proposed project, the WTU Central Facility is located in a seismically active region of southern California. Seismic events are a common occurrence in southern California, with northwesterly trending major earthquake faults dominating in the region. The San Andreas Fault is the primary fault in the area and is thought to have a maximum credible event potential equivalent to a magnitude of 8.5 on the Richter scale. The adverse effects associated with strong seismic events depend upon several factors including the following: intensity of the event, frequency of vibration, distance from the epicenter, and nature of earth materials through which the vibrations pass. Numerous active and potentially active faults with surface expressions (fault traces) have been mapped adjacent to, within, and beneath

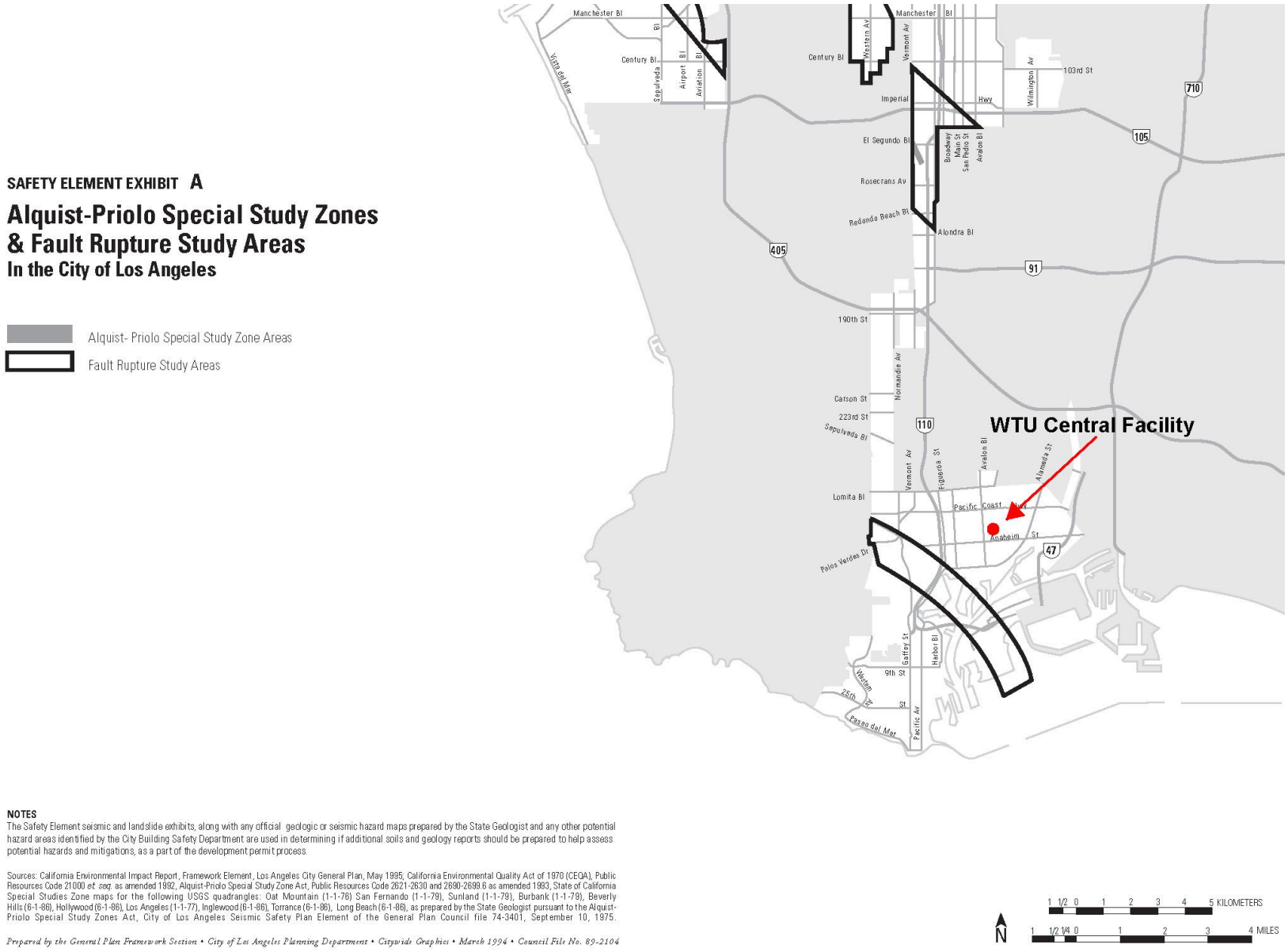
the City of Los Angeles.[13] However, no known active surface fault traces identified by the State, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, are known to be present at or in the vicinity of the proposed project (Figure VII-1). Therefore, the possibility of surface fault rupture affecting the proposed project area would be considered remote, and the proposed project would present a less than significant impact with respect to exposing people or property to hazardous conditions resulting from rupture of a known earthquake fault on the proposed project area.

As noted above, the San Andreas Fault Zone is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates. The San Andreas Fault is a right lateral strike-slip[14] fault moving at approximately 30 millimeters per year (mm/yr), with a northeast-southwest trend near the site area. A strike-slip fault is where two tectonic plates slide past each other. The recent earthquakes in Japan (March 2011) resulted from movement of tectonic plates in a subduction zone; where one tectonic plate is pushed under a second tectonic plate. A subduction configuration like that off the coast of Japan does not occur off the coast of southern California.

Because the WTU Central Facility is located in a seismically active region of southern California, it is conceivable that a strong event could occur during construction or operation of the proposed project. Similar to many areas in southern California, the proposed project area is susceptible to ground shaking and ground failure during seismic events produced by local faults. Because the area of the proposed project is relatively flat, landslides are not typically of concern. However, the new equipment will not cause or contribute to an increase in the exposure of people or structures to adverse effects involving earthquakes or other potential seismic hazards for the following reasons. While it is likely that the proposed project area will be shaken by future earthquakes produced in southern California, construction of the proposed project will be conducted in accordance with all applicable requirements for seismic safety in the Uniform Building Code (UBC) for Zone 4 (i.e., most hazardous), the designation for the area in which the proposed project is located. The existing operations, as well as operation of the proposed project, will continue to be subject to all regulations and requirements of the 2006 and 2008 ZDs as well as any future changes to the LA Municipal Codes regarding seismic designs and controls which from time to time may be promulgated. Specifically, mitigation measure VI a ii. (Seismic) in the 2006 MND ensures design and construction conform to UBC standards as approved by the Los Angeles Department of Building and Safety. As already noted in the discussion under 7. a) above, the proposed project does not have the potential to increase local seismic hazards. Further, adherence to applicable UBC standards for Zone 4 and conditions in the 2006 and 2008 ZDs would not be expected to increase existing seismic hazards from the facility under current operating conditions compared to construction and operation of the proposed project to an extent that would be greater in any way than seismic hazards in most areas of the City of Los Angeles.

[13] Active faults are classified by the State Division of Mines and Geology as faults showing evidence of surface displacement within the last 11,000 years.

[14] A strike-slip fault is a fault in which the dominant sense of motion is horizontal, parallel to the strike of the fault . Also known as a lateral-slip fault. Motion is commonly described as left-lateral (sinistral) or right-lateral (dextral). (USGS 2011)



NOTES

The Safety Element seismic and landslide exhibits, along with any official geologic or seismic hazard maps prepared by the State Geologist and any other potential hazard areas identified by the City Building Safety Department are used in determining if additional soils and geology reports should be prepared to help assess potential hazards and mitigations, as a part of the development permit process.

Sources: California Environmental Impact Report, Framework Element, Los Angeles City General Plan, May 1995; California Environmental Quality Act of 1970 (CEQA), Public Resources Code 21000 *et. seq.* as amended 1992, Alquist-Priolo Special Study Zone Act, Public Resources Code 2621-2630 and 2690-2699.6 as amended 1993, State of California Special Studies Zone maps for the following USGS quadrangles: Oat Mountain (1-1-76) San Fernando (1-1-79), Sunland (1-1-79), Burbank (1-1-79), Beverly Hills (6-1-86), Hollywood (6-1-86), Los Angeles (1-1-77), Inglewood (6-1-86), Torrance (6-1-86), Long Beach (6-1-86), as prepared by the State Geologist pursuant to the Alquist-Priolo Special Study Zones Act, City of Los Angeles Seismic Safety Plan Element of the General Plan Council file 74-3401, September 10, 1975.

Prepared by the General Plan Framework Section • City of Los Angeles Planning Department • Citywide Graphics • March 1994 • Council File No. 89-2104

Figure VII-1. Alquist-Priolo Map of Faults in Vicinity of WTU Central Facility (Exhibit A)

According to the Safety Element of the City of Los Angeles General Plan, the proposed project area is not located within an area susceptible to liquefaction[15] (Figure VII-2). In addition, according to the Safety Element of the City General Plan, the facility is not located within a hillside area susceptible to landslides[16]. The probability of seismically-induced landslides affecting the proposed project area is considered to be negligible due to the lack of topographic relief across the area (Figure VII-3). Overall, impacts due to on-site rupture of a known earthquake fault, risks from seismic ground shaking, potential liquefaction impacts, and landslides impacts would be less than significant.

Thus, the construction and operation of the proposed project are both expected to result in less than significant impacts related to seismic activity.

7.b). The vast majority of the WTU Central Facility is currently paved (see Figure 3 in Chapter 1). Construction activities may require exposing soil to install foundation pads for new equipment, e.g., the new Bekaert CEB® flare and HT#2. However, the area of soil exposed is expected to be relatively small; the largest area would be approximately 600 square feet for HT#2. Any soil that is disturbed would be subject to SCAQMD Rule 403 - Fugitive Dust, which requires stabilization of soil disturbed by human activity, often in the form of watering the site two to three times per day. Compliance with Rule 403 is expected to substantially limit soil erosion loss to the air. As a result, no significant adverse soils erosion impacts are expected.

7.c). In June 2005, NorCal Engineering, a registered geotechnical consultant, sampled and assessed the soil at the WTU Central Facility to provide guidance for structural engineers who were designing the various new construction activities for the 2006 project. The on-site soil was determined to be relatively uniform and medium dense to dense native silty sands. This soil at the WTU Central Facility was assessed as being stable in conformance with the Los Angeles City Building Ordinance for the scope of the 2006 project.

The injection of oil field gas into an underground formation is a common practice and does not impact the surface or subsurface structures under the normal and prudent operating conditions in effect at the facility. The injection of oil field gas into an underground formation for storage follows very specific safety procedures and requires protective actions throughout the process. Before issuing a permit for gas injection, the DOGGR requires the Applicant to submit detailed data on the underground reservoir characteristics, analysis of the injection gas, mechanical details and drawings for the well, geologic description of the zone of injection including stratigraphy and the base of fresh water, anticipated rate and pressures of injection, details on a proposed monitoring plan, and a gas migration study. The selection of the subsurface zone to re-inject oil field gas is carefully analyzed by DOGGR to ensure oil field gas does not flow through fractures in the formation, or through the cement placed to isolate the injection zone from other zones in the well.

[15] City of Los Angeles, Safety Element of the Los Angeles City General Plan., Exhibit B, Areas Susceptible to Liquefaction in the City of Los Angeles, November 1996.

[16] City of Los Angeles, Safety Element of the Los Angeles City General Plan, Exhibit C, Landslide Inventory & Hillside Areas in the City of Los Angeles, November 1996.

SAFETY ELEMENT EXHIBIT B

Areas Susceptible to Liquefaction
In the City of Los Angeles

Liquefiable Areas (recent alluvial deposits; ground water less than 30 feet deep)

Potentially Liquefiable Areas (recent alluvial deposits; ground water 30-50 feet deep)

NOTES
The Safety Element seismic and landslide exhibits, along with any official geologic or seismic hazard maps prepared by the State Geologist and any other potential hazard areas identified by the City Building Safety Department are used in determining if additional soils and geology reports should be prepared to help assess potential hazards and mitigations, as a part of the development permit process.

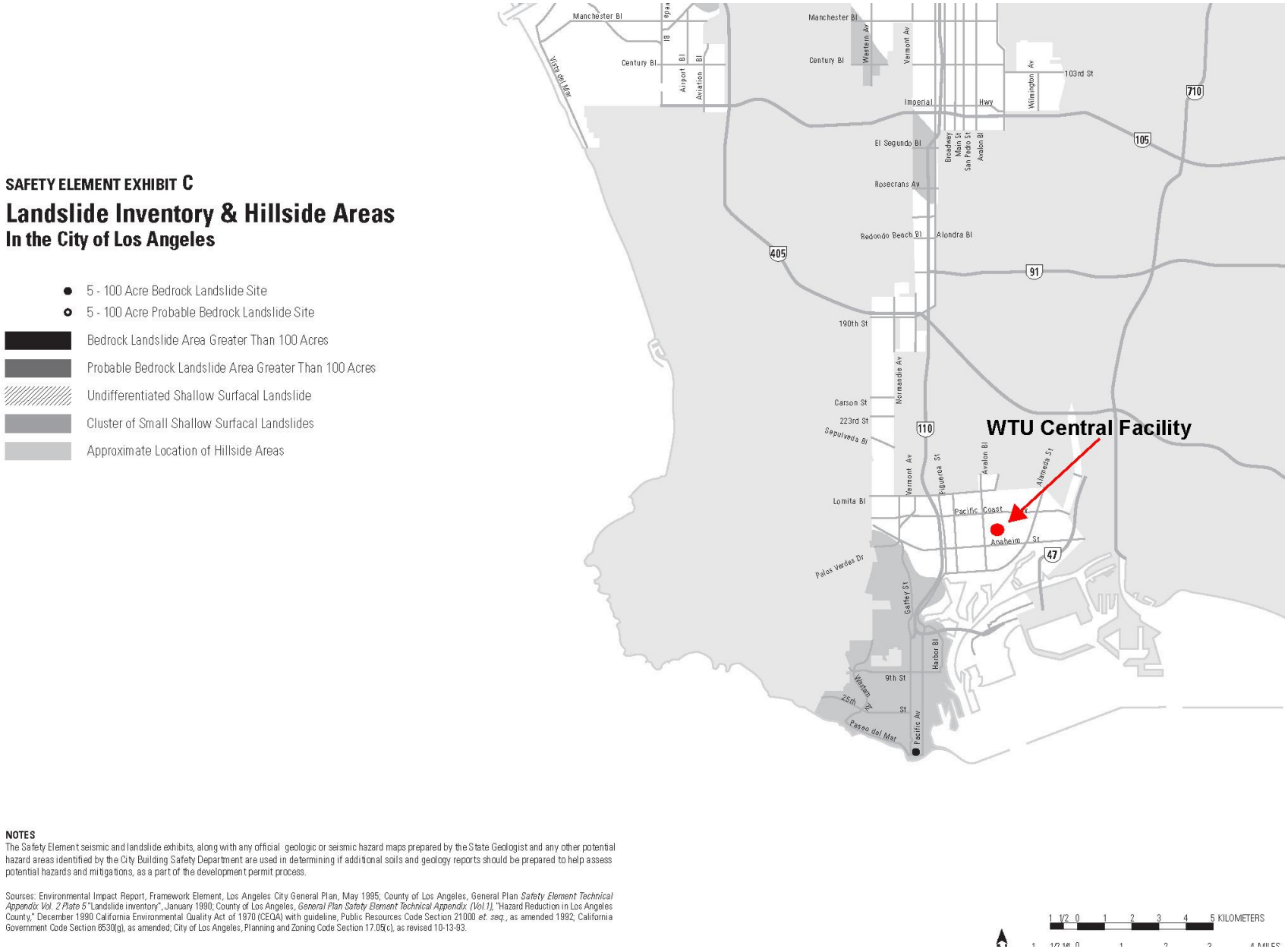
Sources: Environmental Impact report, Framework Element, Los Angeles City General Plan, May 1995; County of Los Angeles, General Plan Safety Element Technical Appendix Vol. 2 plate 4 "Liquefaction Susceptibility", January 1990.

N

1 1/2 0 1 2 3 4 5 KILOMETERS

1 1/2 1/4 0 1 2 3 4 MILES

Figure VII-2. Areas Around the WTU Central Facility that are Subject to Liquefaction (Exhibit B)



NOTES

The Safety Element seismic and landslide exhibits, along with any official geologic or seismic hazard maps prepared by the State Geologist and any other potential hazard areas identified by the City Building Safety Department are used in determining if additional soils and geology reports should be prepared to help assess potential hazards and mitigations, as a part of the development permit process.

Sources: Environmental Impact Report, Framework Element, Los Angeles City General Plan, May 1995; County of Los Angeles, General Plan *Safety Element Technical Appendix Vol. 2 Plate 5* "Landslide inventory", January 1990; County of Los Angeles, *General Plan Safety Element Technical Appendix (Vol.1)*, "Hazard Reduction in Los Angeles County," December 1990 California Environmental Quality Act of 1970 (CEQA) with guideline, Public Resources Code Section 21000 *et. seq.*, as amended 1992; California Government Code Section 6530(g), as amended; City of Los Angeles, Planning and Zoning Code Section 17.05(c), as revised 10-13-93.

Figure VII-3. Areas around the WTU Central Facility that are Subject to Landslides or Hillsides (Exhibit C)

To prepare the well for oil field gas injection, Warren will utilize a specialized mobile truck mounted work-over "rig" to perform the tasks indicated below. The diesel-driven rig will be DOT and CARB-approved, and will operate immediately adjacent to or over the applicable well head. Warren (or its contractor) will install DOGGR required Class III blow-out prevention equipment to ensure automatic control of potential releases of well fluids during the well re-working. The existing formation pressure gradient is low enough that liquids (oil or water) cannot reach the surface during the workover procedure. Due to the nature of the equipment, however, there is a slight chance of spillage of either produced fluids or hydrocarbons on the concrete surface in the immediate vicinity of the well head due to compromised hoses, tubing or leaking vessels. Any leaks are contained in the existing concrete well cellar and cleaned up immediately with using absorbent pads and hot water scrubbing. Gas leaks from the formation would not occur during this procedure because gas injection would have not started.

Once the blowout prevention equipment is installed and as part of preparing the well for oil field gas injection, clean water will then be circulated in the well casing to clean it out in preparation for the inspection of the casing. Then, a specialized truck mounted unit, called a wireline unit, is utilized to inspect the well casing and check the integrity and location of the cement that was used to fill the space between the drilled hole and the steel casing. Once this inspection is completed, the same wireline unit will be utilized to perforate through the well casing and cement into the formation at the specific depth where the oil field gas is to be re-injected (at approximately 4,000 feet below the surface). A pressure seal called a packer will then be run into the well on high integrity pipe, called tubing. The packer will be set and pressure-tested just above the injection zone to provide a seal to prevent oil field gas or other fluids from flowing into or pressurizing the space between the casing and the tubing. Pressure testing of the tubing and casing and the integrity of the cement between the casing pipe and the formation wall are witnessed and approved by the DOGGR. The rig is then moved off the well and surface piping will be installed to connect the electric injection compressor to the well.

As the gas re-injection operation commences, oil field gas is pressurized by the compressor and will flow to the well head, down the tubing, and into the subsurface oil reservoir approximately 4,000 feet below the surface. Inadvertent flow of oil field gas or other fluids to aquifers or other formations is prevented by the casing pipe (typically seven inches in diameter), the cement between the casing and the formation wall, the tubing pipe (typically 2-1/2 inches in diameter), and the packer seal. The pressure in the well will be monitored on both the tubing and casing portions of the well to ensure that any leaks are quickly detected, addressed, and remedied.

Warren has already filed the application with the DOGGR for the gas injection well. The DOGGR is currently reviewing the application. When the application is approved, the DOGGR will send Warren a letter of approval that will contain any additional conditions Warren must adhere to during the well's operation. Such conditions could, for example, include requirements for monthly monitoring and reporting of the formation zone pressure and other parameters necessary for the DOGGR to continually assess that safe operations are occurring on a routine basis. If DOGGR determines from the monthly reports that additional data or actions are necessary they will advise Warren of any necessary required actions.

7.d) The June 2005 NorCal report assessed the soil's Expansion Index in accordance with the Uniform Building Code Standard 18-2. The Expansion Index at the WTU Central Facility site

ranged from 7 to 15, which is defined as "very low" expansive potential by the ASTM Standard Test Method. Therefore, soils at the WTU Central Facility are not considered to be expansive. In addition, the amount of soil disturbed during construction is expected to be minimal because the only equipment requiring pads are the new Bekaert ® CEB, the new HT #2, the reinjection compressor, and the spare vapor recovery compressor. Therefore, no significant impacts related to expansive soils are expected.

7.e) The proposed project's WTU Central Facility is located in a developed area of the City of Los Angeles, which is served by an existing wastewater collection, conveyance and treatment system operated by the City of Los Angeles. No septic tanks or alternative disposal systems are necessary, nor are they included as part of the proposed project. Portable toilets are used to accommodate workers involved in construction and drilling operations. The waste from the portable toilets is collected by Peninsula Septic Service and properly disposed of in the Los Angeles County Sanitation District treatment facility located at Sepulveda Boulevard and I-110. Therefore, no significant impacts on soils from alternative wastewater disposal systems are expected.

Enforcement of Oil or Injection Well Drilling Operations

DOGGR is the agency charged by state law to regulate all aspects of oil or injection well drilling and operation, including the design and location of each well. Its duty is to assess all potential risks, including seismic risks, before a drilling permit is issued for any given well. Warren reports monthly to DOGGR on pressures and maintenance activities related to these wells. In addition, Warren is subject to DOGGR regulations 1724.6 through 1724.10 specifying requirements for underground injection projects. The requirements specified in these regulations summarized in Section 7.c above are currently applicable to the WTU Central Facility and will be applicable after the proposed Project is implemented.

7.3 Mitigation Measures

Based on the above information relative to geology and soils, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project. However, where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, and 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 §65962.5, and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
g)	Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑
h)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑	☐

8.1 Significance Criteria

The impacts associated with hazards will be considered significant if any of the following occur:

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.

Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

8.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The City of Los Angeles Planning Department analyzed and approved the existing operations at the WTU Central Facility and certified the 2006 MND. That approval, among other things, analyzed the impacts of drilling up to 540 wells. The proposed project would not expand oil drilling operations over the 540 wells previously analyzed in the 2006 MND.

Potential adverse hazard and hazardous materials impacts (e.g., hazardous emissions, hazardous materials, increased fire hazard, etc.) from the drilling of 540 wells, the construction of the well cellars, and/or the increase of oil production to 5,000 BPD were analyzed by the City of Los Angeles in the 2006 MND. Based on that analysis, the lead agency concluded that, after incorporation of the proposed mitigation measures, any potentially significant hazard and hazardous materials impacts resulting from the 2006 project would be reduced to a level of insignificance. These impacts included the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The 2006 MND included mitigation measures related to hazardous substances (VII a1.) and explosion/release of methane

gas (VII b2). Where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

8.a) and b) The proposed project includes installing a new heater treater; installing nine microturbines (six existing and three new); installing gas re-injection equipment; replacing an old flare with a new, high efficiency, burner; and adding additional gas conditioning and odorization equipment in the future. The risk of an explosion, fire, or other hazards is concluded to be less than significant for the reasons identified in the following paragraphs.

All new and modified equipment has been or will be designed and manufactured according to manufacturers' specifications for each specific application. Equipment subject to SCAQMD permits is inspected periodically to ensure they operate appropriately according to permit conditions to limit emissions. Similarly, the new gas injection well will be subject to DOGGR permits that require that injection rate and pressure records kept and submitted to DOGGR on a monthly basis. The DOGGR will evaluate these reports to ensure the injection well is operating within appropriate parameters (refer to Section 7.c).

All of the new equipment included in this proposed project will be using or processing produced oil field gas, which consists primarily of methane. Methane is defined as a hazardous material by the USEPA (USEPA; 40 CFR 68.130). Currently, methane in the form of produced oil field gas is being extracted, used, and handled on-site. All new and modified equipment included as part of the proposed project would be using or processing produced oil field gas, which includes methane as the only hazardous constituent. The produced gas may also contain trace amounts of other hazardous gases (e.g., propane, butane, or pentane). However, none of these compounds, including methane, are stored on the site.

The proposed project involving the addition of new gas handling and oil/water separation equipment, refurbishing of equipment, and removal of older equipment would also not increase hazards resulting from an earthquake because:

1. The new equipment will be required to meet UBC requirements and the latest safety standards and thus will reduce the impacts related to an earthquake event upon the removal of the older permitted equipment (e.g., the replacement of the Flare King flare with the Bekaert CEB® and the refurbishment of the existing Heater/Treater No. 1). Additionally, the new equipment will be more reliable and less susceptible to breakdowns and upsets, thereby reducing the potential for emergencies, upsets, and breakdowns.

2. Hazard impacts resulting from an earthquake are not expected to increase due to implementing the proposed project as explained in the following sentences. Impacts from increased oil production of up to 5,000 BPD were already addressed in the 2006 MND. Relative to the currently proposed project, the WTU Central Facility conducts secondary oil recovery operations. Oil must be actively pumped from the ground because past and current oil extractions from the Wilmington Oil Field have removed all of the oil that could rise to the surface without added pressure. The rate of daily oil production is determined by the productivity of each well. Oil is extracted by submerged electric pumps located at the bottom of each new oil well, thousands of feet below the surface. Regardless of the rate of daily oil production, pumping is immediately halted (manually

or automatically) in the event of an emergency, including fire and explosions. Once pumping is halted, no new oil or gas is produced and sent to the facility, so the hazards (and responses) remain the same for oil production regardless of the proposed Project. Hazards resulting from an earthquake due to oil/water processing operations at the 5,000 BPD oil production levels are within the scope of the previously certified 2006 MND. The proposed project does not alter the existing oil and water storage tanks (and related piping, etc.), and no additional storage capacity or new equipment is necessary as a result of increased daily oil production. No physical changes are proposed for the oil sales pipeline (no change in hazards due to the project). Oil delivery rates at any one time vary independently of daily oil production. Thus there is no change in hazard impacts as a result of implementing the proposed project because the proposed project does not increase oil production rates compared to the project analyzed in the 2006 MND. Unlike the 2006 project, the currently proposed project includes establishing a monthly average cap on oil production of 5,000 BPD.

The WTU Central Facility is not subject to OSHA's Process Safety Management regulations in 29 CFR, Part 1910 because: (1) it does not process any of the chemicals listed in §1910.119, Appendix A, (2) the hydrocarbons (oil field gas) burned at the site are used solely for workplace consumption (see §1910.119(a)(1)(ii)(A)), (3) the crude oil at the facility is stored in atmospheric tanks and kept below its boiling point without benefit of chilling or refrigeration, and (4) any onsite oil and gas drilling or servicing operations are exempt from Part 1910.

The WTU Central Facility is not subject to the California Accidental Release Program (CalARP) regulations in Title 19 CCR, Division 2, Chapter 4.5. CalARP requires stationary sources with quantities of a regulated substance above a threshold specified in the regulation to develop and submit a risk management plan (RMP). Methane is a regulated substance, with a specified threshold of 10,000 pounds. However, per §2770.2(b)(2)(B), "naturally occurring hydrocarbon mixtures need not be considered when determining whether more than a threshold quantity is present at a stationary source. Naturally occurring hydrocarbon mixtures include any combination of the following: condensate, crude oil, field gas, and produced water, each as defined in Section 2735.3." Per §2735.3, field gas is defined as "gas extracted from a production well before the gas enters a natural gas processing plant." Therefore, the quantification of methane that is on the site as oil field gas is not counted toward the threshold quantity. No other regulated substances are used at the WTU Central Facility. Therefore, a Risk Management Plan (RMP) for the facility is not required. Operation of the proposed project will not add any systems or processes that would cause the facility to become subject to either the Process Safety Management regulations or to CalARP. All of the proposed new or modified equipment is specifically designed to handle oil field gas from drilling 540 wells, approved as part of the 2006 project. Each system has a number of engineered safety controls and systems such as temperature alarms and automatic shut down devices to ensure the oil field gas is handled safely on a continuous operating basis. Under the proposed project, oil field gas that is not combusted in the microturbines, oil/water separation equipment and the Bekaert CEB® will be reinjected into the underground oil formation approximately 4,000 feet below industrial areas located southeast of the WTU Central Facility. In the case that produced oil field gas increases sufficiently (i.e., approximately one million scf of oil field gas per day for at least one year), gas sales equipment may be installed and the gas will be transported via pipeline off-site.

With regard to the potential for or release of methane gas, the 2006 MND included mitigation measure VII b2, which contains requirements for mitigating hazard impacts from methane gas. In particular, this mitigation measure discusses installation of a methane barrier under existing electrical facilities and requires installation of such a barrier under future electrical facilities. This mitigation measure would remain in effect and would be implemented, as applicable, as part of the proposed project.

The only other hazardous materials that are currently used during typical operations and would continue to be used (other than the produced oil field gas) include standard oil-based and synthetic lubrication oils used in the compressor and microturbines , as well as odorant materials mandated by DOT regulations. As a result, aside from methane, hazardous materials would not be generated regularly. All of these materials currently used and expected to continue to be used are stored in proper containers or vessels, are properly labeled, and are handled in accordance with all applicable regulations and safety requirements including: California Fire Code (National Fire Protection Association (NFPA) 704 "Standard System for the Identification of the Hazards of Materials for Emergency Response as adopted by the California Fire Code); California Health and Safety Code (HSC); Title 22 California Code of Regulations (CCR); 49 CFR Parts 100-185; Federal Motor Carrier Safety Regulations (Hazardous Materials Transportation Act (HMTA), as amended and codified in 49 U.S.C. 5101 et seq.); etc.

The construction equipment used by contractors in the construction of the new equipment will use a variety of typical hazardous materials including lube oils, gasoline and/or diesel fuels, sealants, welding gases, and paints. All of the construction equipment expected to be used on site are the same types of construction equipment regularly used at other construction sites except that, because of space limitations on-site, smaller equipment is expected to be used.

All of the hazardous materials being used at the site for this proposed project have been used on the site in the past. Although the total amount of materials may increase, primarily methane, there are no new hazardous materials being introduced to the site so the consequences of an accidental release of these materials, methane in particular, would not change. Although more methane would be generated, the probability of an accidental release would not increase because most of the gas that is extracted is immediately re-injected by the compressor back into the oil formation, which would likely result in less methane being handled under normal operating conditions. All of these materials are subject to a variety of management and handling regulations. The proposed project proponent maintains an onsite environmental coordinator that oversees the proper management of these hazardous materials pursuant to applicable regulations (as identified above).

8.c). No existing or proposed schools are located within one-quarter mile of the existing WTU Central Facility. As discussed in the air quality section, new and modified equipment have the potential to emit TACs. The analysis concluded that cancer and non-cancer impacts from the proposed project would be less than significant (see Table III-9). Other potential impacts related to hazardous substances or wastes associated with the proposed project are expected to remain within the WTU Central Facility because they will be stored inside areas protected by spill containment barriers; as a result, no significant adverse impacts to a school are expected.

8. d). The WTU Central Facility is not located in an area which is included on the recent list of hazardous materials sites compiled pursuant to Government Code §65962.5. Therefore, no significant hazards related to hazardous materials handling at the WTU Central Facility, on the environment or to the public are expected.

8.e). The WTU Central Facility is not located within an airport land use plan or within two miles of a public or private airport. The proposed project does not include installing equipment that is taller than the tallest equipment currently used on-site, which could interfere with flight patterns. Therefore, no safety hazards are expected from the proposed project on any airports in the region.

8.f). The proposed project is subject to two specific emergency response plans. The WTU Central Facility has an existing Spill Prevention, Control, and Countermeasure (SPCC) Plan as is required by the USEPA, which requires several measures such as secondary containment walls, routine training, response procedures, and certifications. This SPCC Plan is maintained onsite. A Business Emergency Plan (BEP) is required by the City of Los Angeles Fire Department. The BEP lists the amounts and locations of hazardous materials located onsite and is used by the Fire Department in case it needs to respond to an emergency at the site. Specifically, the Warren BEP contains a map showing the location of the hazardous materials and all four access gates - one main gate, one gate for electrical substation, and two emergency access gates.

If the equipment of the proposed project requires onsite storage of new hazardous materials those would be added to the existing BEP as required by the Fire Department. However, as already noted in discussion 8. a and b above, no new types of hazardous materials will be used or generated on-site as result of the proposed project. Emergency vehicles have access to the proposed project via any of the existing access gates, thereby providing adequate emergency access. The proposed project will not be expected to interfere with any adopted emergency response plan or emergency evacuation plan. Therefore, no impact from the proposed project will occur.

8.h). The proposed project will not increase the existing risk of fire hazards in wildland areas. The WTU Central Facility is not located in or next to wildland areas. Further, although the perimeter outside of the fence is landscaped as required by the City of Los Angeles, no substantial or native vegetation exists within the operational portions of the WTU Central Facility. All vegetation within the operational portions of the facility have already been removed as a fire safety measure. Therefore, no significant increase in fire hazards involving wildlands is expected to be associated with the proposed project.

Enforcement of Fire Protection Requirements

Warren is subject to the City of Los Angeles Fire Department requirements and the California Fire Code. These requirements are currently applicable to the WTU Central Facility. The City of Los Angeles Fire Department makes routine inspections to enforce their regulations and to audit the BEP described in paragraph 8.f above.

8.3 Mitigation Measures

Based on the above information relative to hazards and hazardous materials, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project. However, where relevant, all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards or waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	☐	☐	☐	☑
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 alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑	☐

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d)	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?	☐	☐	☑	☐
e)	Place housing or other structures 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?	☐	☐	☐	☑
f)	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, or inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
g)	Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or an expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
h)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
i)	Require a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑

9.1 Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.

The project increases demand for water by more than five million gallons per day.

Water Quality:

The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

The project will cause the degradation of surface water substantially affecting current or future uses.

The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

The project results in alterations to the course or flow of floodwaters.

9.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The City of Los Angeles Planning Department analyzed (and certified the 2006 MND for the 2006 Project), and approved the existing operations at the WTU Central Facility. That 2006 MND included an analysis of the impacts from drilling up to 540 wells and a crude production capacity of up to 5,000 BPD. It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period.

Any potential impacts related to potential migration of water to unintended areas, the volume of water injected as a part of the oil extraction process (i.e., at a level corresponding to an average production of 5,000 BPD), the potential risk of heavy metal and/or toxic material present in injection water, or other potential impacts associated with hydrology and water quality were analyzed in the 2006 MND and are outside the scope of this analysis. Ultimate total recovery of oil and water, and its corresponding effects, is mostly a function of reservoir characteristics and

management, and not a function of the project. The proposed project will not expand oil drilling operations over the 540 wells previously analyzed in the 2006 MND or oil production operations beyond the monthly average of 5,000 BPD. Any and all impacts that result from drilling operations up to the approved 540 wells and oil productions up to 5,000 BPD are outside the scope of this analysis. In addition, the 2006 ZD requires Warren to eliminate offsite injection wells and pipelines carrying injection water to these wells. The risk of heavy metal and toxic material that may be in injection water being accidentally released in offsite areas will be reduced over time to zero due to the elimination of these offsite wells.

Based on the analysis of water runoff impacts in the 2006 MND, the lead agency concluded that, after incorporation of the proposed mitigation measures, any potentially significant water runoff impacts would be reduced to a level of insignificance. The 2006 MND included mitigation measures related to implementing a stormwater BMP and other measures designed to prevent significant impacts (VIII c3). Where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project such as Condition 14 in the 2008 ZD (see Appendix B).

9.a) The existing operations at the WTU Central Facility do not produce industrial effluent wastewater streams that are rerouted to public treatment facilities. Construction or operation of the equipment of the proposed project will also not produce industrial wastewater. However, mitigation measure VIIIc3 in the 2006 MND and 2006 ZD and Condition 14 of the 2008 ZD require that all stormwater be collected onsite. This stormwater is collected in existing well cellars and routed to the existing produced water system and eventually pumped to water injection wells. In addition, mitigation VIIIc3 of the 2006 MND and ZD and Condition 14 of the 2008 ZD require the facility to utilize stormwater pollution control measures. City Ordinance No 172,176 and Ordinance No. 173,494 specify Stormwater and Urban Runoff Pollution Control, which requires the application of Best Management Practices (BMPs). Chapter IX, Division 70 of the Los Angeles Municipal Code addresses grading, excavations, and fills. The site operator must also meet the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) as approved by the Los Angeles Regional Water Quality Control Board. These requirements are identified in existing Storm Water Pollution and Prevention Plans (SWPPP) Nos. 4191020405 and 419C342701 and include BMPs for erosion controls during construction activities, storage of material bags and drums, onsite inspections, sampling and analyses of storm water that leaves the property, and employee training. Continued compliance with the applicable federal, State, and local regulations, Code requirements, and permit provisions would ensure that no significant impacts related to potential discharge into surface water or changes in water quality occur as a result of the proposed project. In addition, no additional water beyond that included in the 2006 Project will be discharged as part of the proposed project so no additional wastewater would be generated that has the potential to violate water quality standards or waste discharge requirements. Therefore, no water quality impacts were identified as a result of implementing the proposed project.

9.b) and h). Nearly the entire operations area of the WTU Central is currently paved. The proposed project does not require additional paving within the perimeter fence or outside of the perimeter fence. Consequently, the proposed project does not increase the potential to interfere substantially with groundwater recharge compared to the existing setting.

Under the existing oil production operations, water is brought to the surface along with crude oil. This water is obtained from the oil zones and not from fresh water aquifers. Residual oil and solids are removed from the produced water within the water management yard. Resulting treated and clarified water is then injected back into the oil zones. There is no increase in water demand or new entitlements required from the proposed project to maintain pressure in the drill zone. Therefore, the potential impacts to groundwater levels in the drill zone would be less than significant. Similarly, the facility does not extract water or other liquids from the fresh water aquifer supplies, so the proposed project would not generate significant adverse impacts that would substantially deplete potable groundwater supplies or volumes.

9.c) and d). The site is located in a dense urbanized area and no stream or river courses are located in the immediate vicinity. The closest water body to the facility is the East Basin of the Port of Los Angeles, located approximately one mile southeast of the facility. The proposed project site and vicinity are relatively flat, and the site has been graded and containment berms constructed to contain all storm water on site. This water is collected, treated, and injected back into the oil zones along with the produced water from the drilling operations, reducing the amount of water runoff from the facility. The currently proposed project does not include additional paving that could increase the rate or amount of surface runoff, so substantial erosion or siltation offsite is not anticipated.

The 2006 MND and ZD and the 2008 ZD require that all surface drainage during rainstorm be contained onsite and routed to the produced water system which ultimately is sent to water injection wells. In addition, the ZDs require the use of BMPs as prescribed by the City of Los Angeles and the State Water Resources Control Board (SWRCB).

The deposition of certain chemicals by cars in the parking areas and internal roadway surfaces currently has the potential to contribute metals, oil and grease, solvents, phosphates, hydrocarbons, and suspended solids to the storm drain system. However, required design criteria, as established in the Standard Urban Stormwater Mitigation Plan (SUSMP) for Los Angeles County, would be incorporated into the proposed project to minimize off-site conveyance of pollutants. During construction of the proposed project, it is anticipated that there will be a maximum of 18 worker commute trips and two hauling truck trips to the facility on the day with the most traffic. Once the proposed project becomes operational, no new worker commute or new truck trips to the facility will be required. The minimal number of vehicle trips during operation of the proposed project over the long term is not expected to increase vehicle chemical deposition at the site appreciably.

Based on the fact that onsite stormwater is collected, treated, and injected into the oil zone, as well as the fact that the WTU Central Facility is in with compliance with existing regulations, the potential for water quality impacts would be reduced to a less than significant level. Therefore, any drainage, runoff, or water quality impacts would be less than significant.

9. e) and f). According to the Safety Element of the City General Plan, the existing facility site is not located within a 100-year flood zone, an area subject to inundation in the event of a dam

failure, or an area subject to tsunami hazard (Figure IX-1 and Figure IX-2).[17,18] Similarly, the proposed project does not involve new construction that could expose people to new risks of loss, injury, or death involving flooding. There are no levees near the facility that could fail; the facility is located approximately one mile from the nearest body of water, the East Basin of the Port of Los Angeles and there is a breakwater offshore at the Port, so there is no possibility that the facility could be affected by seiches or tsunamis; and the facility is on relative flat land in a built-out area, so the possibility of mudflows is remote. Therefore, no significant adverse impacts from flooding are anticipated as a result of implementing the proposed project.

9. g) and i). As already noted in the item 9. b) and h) above, the proposed project does not increase demand for additional water because none of the equipment requires water for its operation. Re-injected water is generated as a result of existing crude extraction and is supplemented only with stormwater. As a result, no additional wastewater will be discharged as part of the proposed project beyond that included in the 2006 Project. In addition, the WTU Central Facility has been graded to contain all storm water on site. This water is collected and injected back into the oil zones along with the produced water from the drilling operations, thereby reducing the amount of water runoff from the WTU Central Facility. No new water or waste water treatment facilities will be required as part of the proposed project.

Enforcement of Water and Wastewater Requirements

Current and future operations at the WTU Central Facility will be subject to and must comply with: (1) Ordinance No 172,176 and Ordinance No. 173,494 regarding Stormwater and Urban Runoff Pollution Control (i.e., requiring the application of BMPs); (2) Chapter IX, Division 70 of the Los Angeles Municipal Code regarding grading, excavations, and fills; (3) the Standard Urban Stormwater Mitigation Plan (SUSMP) as approved and enforced by the Los Angeles Regional Water Quality Control Board; the mitigation measures in the 2006 MND, as applicable; and the conditions in the 2006 and 2008 ZDs . In addition, the DOGGR has substantial regulations governing how injection systems and injection wells must be constructed as they pass through fresh water aquifer zones (DOGGR Regs. 1721, 1722.2 through 1722.4, 1723.2 and 1724.6). Warren reports monthly to DOGGR on pressures and maintenance activities related to these wells and DOGGR regulations. All of these requirements are currently applicable to the WTU Central Facility.

9.3 Mitigation Measures

Based on the above information relative to water and water quality impacts, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project. However, where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

[17] City of Los Angeles, Safety Element of the Los Angeles City General Plan., Exhibit F, 100-year and 500-year Flood Plains in the City of Los Angeles, November 1996.
[18] City of Los Angeles, Safety Element of the Los Angeles City General Plan., Exhibit G, Inundation and Tsunami Areas in the City of Los Angeles, November 1996.

SAFETY ELEMENT EXHIBIT F

100-Year & 500-Year Flood Plains
In the City of Los Angeles

100-Year Flood Plain Areas

500-Year Flood Plain Areas

NOTES

1. A 500-Year flood will also flood 100-Year flood plains.
2. A 100-Year flood is a flood which results from a severe rainstorm with a probability of occuring approximately once every 100 years.
3. A 500-Year flood is a flood which results from a severe rainstorm with a probability of occuring once every 500 years.
4. Flood plains shown on the map reflect Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) currently in effect and Preliminary FIRM maps showing increases in expected flooding along the Los Angeles River and Dominguez Channel. Flood plains are now larger due to increased urbanization of the Los Angeles River Basin.

Sources: Environmental Impact Report, Framework Element, Los Angeles City General Plan, May 1995; Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps; FEMA Preliminary Flood Insurance Rate Maps; California Evironmental Quality Act of 1970 (CEQA), Public Resources Code Section 21000 et. seq., as amended 1992; California Government Code Section 65302 as amended 1993.

1 1/2 0 1 2 3 4 5 KILOMETERS

Figure IX-1. 100-year and 500-year Flood Plains in the Vicinity (Exhibit F)

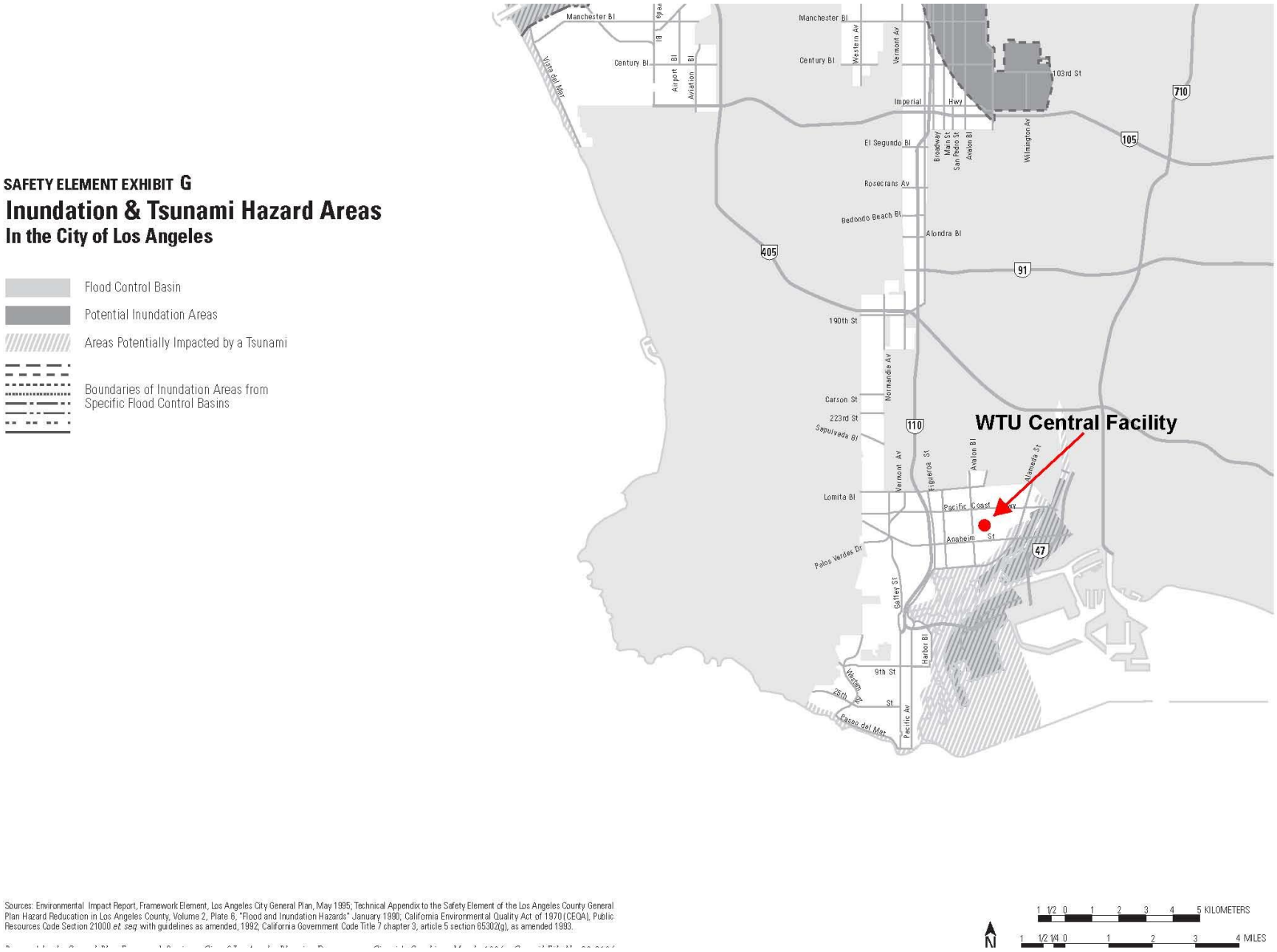


Figure IX-2. Inundation and Tsunami Hazard Areas in the Vicinity of the WTU Central Facility (Exhibit G)

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:				
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?	☐	☐	☐	☑

10.1 Significance Criteria

Land use and planning impacts will be considered significant if the proposed project conflicts with the land use and zoning designations established by the City of Los Angeles.

10.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impacts on land use and planning of constructing five new well cellars and increasing oil production up to 5,000 BPD. It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period. Any potential impacts resulting from this construction and operation were previously analyzed in and are part of the 2006 Project. In addition, it was concluded in the 2006 MND that the 2006 project would not generate significant adverse land use impacts.

10.a), and b). The proposed modifications involved in the proposed project will be developed entirely within the existing WTU Central Facility's property boundaries. The proposed project will not physically divide any established communities. Land use of the WTU Central Facility is designated as M2-1VL-O and RD3-1XL-O, which is light industrial zoning and restricted multiple dwelling zoning, respectively. In addition, the WTU Central Facility is located in an Oil Drilling District. As a result, the proposed project's activities are permitted in the zone; the

proposed project is consistent with the land use designation and does not conflict with any applicable land use plan.

10.3 Mitigation Measures

Neither the 2006 MND nor the analysis for the currently proposed project identified significant adverse land use impacts as a result of construction or operation of the proposed project. Therefore, no mitigation is necessary or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

11.1 Significance Criteria

Potential impacts on mineral resources will be considered significant if any of the following conditions are met:

> The proposed project would 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.
>
> The proposed project would 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.

11.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impacts on mineral resources of constructing five new well cellars and increasing oil production to an average of 5,000 BPD. Any potential impacts (e.g., loss of availability of mineral resource, etc.) resulting from the drilling of 540 wells, the construction of well cellars, and/or increase of oil production to 5,000 BPD were previously analyzed in and are

part of the approved 2006 Project. The 2006 MND found that there were no significant impacts resulting from the 2006 Project. In addition, the 2006 Project, which involved the production of oil up to 5,000 BPD of oil, represents a beneficial use of an important resource. It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period.

11.a) and **b).** The proposed project would allow oil extraction to continue to occur, although the proposed project includes limiting oil extraction to 5,000 BPD based on a 30-day average. Approximately 300 million barrels of oil are thought to remain within the Wilmington Oil Field as of 2002[19]. Oil will continue to be extracted by the WTU Central Facility and other oil drilling and recovery operations, even in the absence of the proposed project. Continued extraction of oil from the Wilmington Oil Field is not considered a loss in the availability of important mineral resources in the same way that building a land use project over a mineral resource such as gravel, asphalt, bauxite, or gypsum, which are commonly used for construction activities or industrial processes, would make these unavailable for other uses. Oil extraction activities would continue to occur completely within the confines of the existing WTU Central Facility, so the proposed project would not make mineral resources at other locations unavailable. No construction of structures offsite is anticipated or required that could result in the loss of important mineral resources. No other mineral resources are present at the WTU Central Facility, and no significant impact is expected.

11.3 Mitigation Measures

The 2006 MND concluded that the 2006 project would not generate significant adverse mineral resources impacts. Further, no significant adverse impacts to mineral resources are expected to occur as a result of construction or operations, so no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐

[19] http://en.wikipedia.org/wiki/Wilmington_Oil_Field

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d)	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 use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

12.1 Significance Criteria

Impacts on noise will be considered significant if:

> Construction noise levels exceed the local noise ordinance or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
>
> The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

12.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impacts of constructing five new well cellars, drilling up to 540 wells, and increasing oil production up to a monthly average of 5,000 BPD. It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period. Any potential noise impacts (e.g., excessive noise, temporary or periodic noise increase, vibration, foundation damage, etc,) related to the drilling of 540 wells, the construction

of the well cellars and/or the increase of oil production to 5,000 BPD were previously analyzed in and are part of the 2006 Project.

Based on the analysis of noise impacts in the 2006 MND, the lead agency concluded that, after incorporation of the mitigation measures, any potentially significant noise impacts resulting from the 2006 project would be reduced to a level of insignificance. The 2006 MND included mitigation measures applicable to the 2006 project to reduce construction noise impacts to less than significant (IS-2, IS-3, IS-4, and IS-5; see Appendix A). The 2006 ZD imposed additional operational mitigation measures to mitigate noise (see Appendix A for details of the mitigation measures and conditions). In addition, Sound Mitigation Conditions 11j and 11m in the 2008 ZD would further reduce noise impacts from the 2006 project at the facility (see Appendices A and B for details of the mitigation measures and conditions). The noise mitigation measures from the 2006 MND and the sound mitigation conditions from the 2006 and 2008 ZDs, as applicable, would continue to apply to the currently proposed project during construction and operation.

In the past, there have been complaints regarding noise and vibrations at the existing WTU Central Facility. These complaints were related to the past drilling and oil production operations at the facility and did not result from the gas handling activities.

12.a) and c). The southeastern portion of the WTU Central Facility borders an industrial trucking and junk yard. The southwestern portion borders a commercial development and vacant parcels. The northern area shares a border with a baseball park, a multi-family residence, a vacant parcel, and the remnants of the Powder Magazine for Camp Drum. Finally, the southern section faces industrial and commercial areas. The ambient noise environment in the proposed project area is comprised of contributions from equipment and operations within the commercial and industrial areas, and from traffic on roads and railways along or near each of the boundaries of the WTU Central Facility (East Opp Street, Eubank Avenue, Anaheim Street, and Banning Boulevard). According to August/September 2005 ambient, 24-hour noise data reported by Davy and Associates, Inc. and presented in the 2005 Initial Study application to the City, existing noise levels monitored in the northern portion of the WTU Central Facility opposite the closest residences on Opp Street when no drilling was being conducted averaged approximately 64 dBA. Noise data collected by the same company in the same manner at the same location when drilling was being conducted in September 2005 averaged approximately 63 dBA. As noted above, drilling and oil production operations are part of the 2006 Project and, as baseline activities, are not included in the scope of the proposed project or the current analysis).

Noise would be generated from both construction and operational activities at the WTU Central Facility. Off-road construction equipment would be necessary during construction activities associated with the proposed project. The highest noise impacts from construction will be during installation of new and modified equipment and related items. The construction equipment associated with the proposed project will primarily include backhoes, welding machines, trucks, cranes and compactors. Examples of noise levels from construction equipment are presented in Table XII-1. These noise sources will be intermittent over the approximately three and one-half years construction period. Actual construction activities for the proposed project will occur over approximately 95 days during this three and one-half year time period. In addition, the largest construction equipment will not always be operating simultaneously or on the same days.

Table XII-1
Construction Noise Sources

Equipment	Typical Noise Levels (decibels)[1, 2]
Truck	88
Air compressor	81
Flatbed Truck	84
Pickup	70
Tractor Trailer	75
Cranes	83
Pumps	76
Welding Machines	72

1. Data are modified from the City of Los Angeles, 1998. Levels are in dBA at a 50-foot reference distance. These values are based on a range of equipment and operating conditions.
2. Values are intended to reflect noise levels from equipment in good condition, with appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging the sound level over all directions from the listed piece of equipment.

The construction activities will occur primarily in the center of the WTU Central Facility, except for two activities which will occur toward the southern boundary of the site (i.e., HT#1 refurbishment and HT#2 installation), which faces industrial and commercial areas. The estimated maximum noise level during installation of new equipment at both locations (center of the facility and southern boundary) is expected to be on average about 83 dBA at a 50 feet radius from the center of the activity for each unit. Using an estimated six dBA reduction noise upon doubling the distance from the source, the noise level will drop off to approximately 75 dBA at the property line during construction in the center of the facility. Construction activities along the southern boundary, although adjacent to the property line, will occur inside the masonry wall next to a heavily trafficked street (Anaheim Street). The closest receptor would be the restaurant across the street. At that distance, the noise level from construction activities will also drop off to approximately 75 dBA. In addition, the noise generated from construction activities will be located near ground level, with all construction activities occurring behind permanent masonry walls. As a result, the noise levels are expected to attenuate over distance to a greater extent than analyzed herein.

The construction activities at the WTU Central Facility are limited by current City of Los Angeles requirements (2008 ZD, see Appendix B) to the hours of 7 am to 7 pm Monday through Saturday. Because of the nature of the construction activities, the types, number, operation time, and loudness of construction equipment will vary throughout the construction period. As a result, the sound level associated with construction will change as construction progresses. However, the majority of construction activities occur during 15 consecutive working days. Only three construction activities occur over a longer time frame and the maximum activities occur over a 30-day period. This is a conservative estimate and likely overestimates the time needed for these activities. Construction noise sources will thus be temporary and intermittent and will cease following construction activities.

The proposed project is located adjacent to the jurisdiction of the City of Los Angeles. The City of Los Angeles noise ordinance (City of Los Angeles 1982) applies to any receptors that may be

located within the City. The City of Los Angeles Noise Ordinance includes the following provisions:

Sec. 112.03. Construction Noise

Noise due to construction or repair work shall be regulated as provided by Section 41.40 of this Code. (Amended by Ordinance No. 161,574, Effective 9/8/86.)

Sec. 112.05. Maximum Noise Level of Powered Equipment or Powered Hand Tools

Between the hours of 7:00 a.m. and 10:00 p.m., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from:

(a) 75 dB(A) for construction, industrial, and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dB(A) for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dB(A) for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors [Note; this type of equipment is not associated with the proposed project];

The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register. These noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

Based on the noise levels projected for the proposed project, noise producing equipment at the WTU Central Facility would not exceed the applicable City of Los Angeles noise ordinances. Therefore, no significant increase in noise levels is expected and, as a result, no significant noise impacts related to project construction are expected. Therefore, the proposed project noise impacts during the construction phase are expected to be less than significant.

Workers exposed to noise sources in excess of 85 dBA are required to participate in a hearing conservation program. Workers exposed to noise sources in excess of 90 dBA for an eight-hour period will be required to wear hearing protection devices that conform to Occupational Safety and Health Administration/National Institute for Occupational Safety and Health (OSHA/NIOSH) standards. Because the maximum noise levels during construction activities are expected to be 85 decibels or less based on the expected construction equipment and levels

shown in Table XII-1, no significant impacts to workers during construction activities are expected.

Operation of the new equipment being installed as part of the proposed project is not expected to generate a significant increase in noise for the following reasons. New equipment included in the proposed project includes a Bekaert CEB®, HT#2, a compressor and other equipment needed for gas injection and sales, nine microturbines, and changing the burners for HT#1. The Bekaert CEB®, stated to generate "low noise levels" by the manufacturer, will replace an existing flare. Recent tests have measured noise at an existing, same-model Bekaert located at a different facility and obtained noise measurements averaging 65 dBA. The tests of both the old flare and the existing Bekaert demonstrated that the proposed Bekaert will generate slightly less noise than the old flare. Noise readings taken recently at the 7.5 hp air blower of existing HT-1 averaged 88 dB(A). The proposed HT-2 will have a 5.0 hp air blower so the noise level of it will be less than the air blower noise of HT-1. Recent noise readings for the current six microturbines indicate an average of 85 dB(A). Noise from the other three proposed microturbines would be the same or slightly less than the existing six microturbines. The gas reinjection compressor will have a 250 hp electric motor, which is less powerful than a water injection pump, which has a 1250 hp electric motor. If noise from the proposed gas reinjection compressor is similar to an air compressor (81 dBA), noise from the gas reinjection compressor would be expected to be less than the noise from the water injection pump, where 84 dBA was documented. Each of these proposed equipment items will be located in an area surrounded by interior block walls and the spare vapor recovery compressor will only be operated when the primary vapor recovery compressor is out of service.

Also measured was the noise level inside the site at the door of the main entrance on Banning Street. This reading was 56 dBA, compared to maximum noise levels next to the microturbines and old flare, indicating that the interior wall reduces noise from the equipment within it. As explained above; the background noise outside the facility's wall is 64 dBA. All this information supports the conclusion that there will be little additional noise generated during operation of the proposed project, and no significant increase in noise.

Additionally, any noise complaints from community members are proactively handled by calling the existing number posted at the site. This number (310-913-2502) is a dedicated line, hosted by a Spanish-English bilingual person, and is operable 24 hours per day including weekends. A log book is maintained to document the time and date complaints are received and the actions taken by Warren supervisors in response to each complaint. The Zoning Administrator has the right of access to this log. Therefore, based on the fact that the equipment of the proposed project is placed within one, and in some cases two, concrete block walls, the fact that the new equipment items have noise ratings similar to existing equipment, and the existing noise complaint call-in system, significant noise impacts from the proposed project are not expected.

12.b). Construction activities that will occur at the facility have the potential to generate low levels of groundborne vibration onsite. These activities will primarily involve re-working an existing well for gas re-injection and construction of foundations for the project's new equipment. This on-site groundborne vibration would be of short duration and indistinguishable from existing operations as explained below.

At Warren's request, Navcon Engineering Network conducted a groundborne vibration study of the site and surrounding areas and published the results in their report in April 2008 (Navcon Engineering Report No. 71884-1). This study was commissioned by Warren to provide data for public hearings requested by the Zoning Administrator in response to public complaints about the 2006 ZD. Groundborne vibrations were measured during times when active well drilling operations were being conducted because this activity represents the greatest exertion of mechanical energy at the site. Groundborne vibration measurements obtained during active well drilling operations, are presented here as a comparison to expected construction activities planned for the proposed project. Well drilling operations exert greater levels of mechanical energy than any of the expected construction activities and thus represent a conservative approach to measure potential groundborne vibration impacts expected during construction of the proposed project.

Measurements were taken at distances of 10 feet, 100 feet, and 500 feet away from the drilling rig. The reported results were compared to guidelines established by the International Standards Organization (ISO) and the California Department of Transportation (Caltrans) because neither the City of Los Angeles nor the State of California has established groundborne vibration regulations. The report concludes that groundborne vibrations recorded during actual drilling were less than the threshold level of human perception as specified in either the ISO or Caltrans guidelines. Further, the report concludes that measured vibrations were orders of magnitude less than levels which could damage structures. Since construction equipment exerts lower levels of mechanical energy than drilling operations and since the Navcon report demonstrated that groundborne vibration from the onsite drilling operations are below the threshold of human perception, vibrations due to construction of the proposed project would also be imperceptible. Therefore, potential groundborne vibrations caused during construction activities of the proposed project are expected to be imperceptible and, as a result, are concluded to be less than significant.

Operation of the proposed project does not involve any new drilling or other similar activities beyond what was analyzed and approved by the City of Los Angeles as part of the 2006 project that would increase groundborne vibration. New equipment, such as the Bekaert CEB® microturbines, and the HT #2 do not have parts or processes that exert mechanical energy to any appreciable extent that would contribute to groundborne vibrations. Because current drilling activities have the greatest potential to generate groundborne vibrations and have been previously analyzed and shown to be below the threshold level of human perception as described above, operation of the proposed project is not anticipated to cause significant adverse groundborne vibration or noise impacts.

12.d). The proposed project is not located within an airport land use plan or within the vicinity of a private airstrip. Furthermore, the WTU Central Facility is not located within the normal flight pattern of an airport. Because noise impacts from the proposed project are concluded to be less than significant and because the facility is not located within an airport land use plan or within the vicinity of a private airstrip, no significant noise impacts to people living or working in an airport land use plan or within the vicinity of a private airstrip are expected.

Enforcement of Noise Reduction Measures

All existing operations that were part of the 2006 Project and any future activities (operation or construction) that are included in either the 2006 Project or the proposed project will be subject to OSHA and NIOSH standards and enforced by OSHA. In addition, all construction activities at the WTU Central Facility are limited by current City of Los Angeles requirements to the hours of 7 am to 7 pm Monday through Saturday. Condition 9 of the 2008 ZD specifies a "Quiet Mode" for activities at the WTU Central Facility. Conditions 10 and 11 indicate additional measures required to mitigate any potential noise resulting from activities at the WTU Central Facility. Condition 23 requires Warren to post a telephone number for residents to call regarding noise or any other complaints. This number (310-913-2502) is a dedicated line, manned by a Spanish-English bilingual person and is operable 24 hours per day including weekends. A log book is maintained to document the time and date complaints are received and the actions taken in response to each complaint. The Zoning Administrator has the right of access to this log. These regulations and conditions are currently applicable to the WTU Central Facility, and will also continue to apply during construction and operation of the proposed project. Enforcement responsibility relative to the 2008 ZD is the responsibility of the City of Los Angeles

12.3 Mitigation Measures

Based on the above information relative to noise and vibration, mitigation measures were identified in the 2006 MND to ensure no significant adverse noise impact from the construction or operation of the project (specifically mitigation measures IS #1 through IS #5). Similarly, the 2008 ZD includes Condition 11 to mitigate sound levels at the WTU Central Facility. Relevant mitigation measures and conditions imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project. No additional mitigation measures are required as part of the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

13.1 Significance Criteria

The impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

The demand for temporary or permanent housing exceeds the existing supply.

The proposed project produces additional population, housing, or employment inconsistent with adopted plans either in terms of overall amount or location.

13.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project
The 2006 MND analyzed the impacts on population and housing of constructing five new well cellars, drilling and operating up to 540 wells and increasing oil production up to a monthly average of 5,000 BPD. It should be noted that the City of Los Angeles did not impose a production limit on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period. The 2006 MND did not identify any that there were no significant population impacts resulting from the 2006 Project.

13.a) and b). The proposed project will require modifications to the existing equipment at the WTU Central Facility, and will not involve an increase, decrease or relocation of population. Labor (a maximum of 18 temporary workers) for construction activities is expected to come from the existing labor pool in southern California. Operation of the proposed project is not expected to require any new permanent employees at the WTU Central Facility. Therefore, construction and operation of the proposed project are not expected to have significant adverse impacts on population or housing, induce substantial population growth, or exceed the growth projections contained in any adopted plans.

13.3 Mitigation Measures

The 2006 MND concluded that the 2006 project would not generate significant adverse population and housing impacts. Further, no mitigation measures are required for the construction or operation of the proposed project because no significant adverse impacts to population and housing are expected.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of 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 following public services:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

14.1 Significance Criteria

Impacts on public services will be considered significant if the proposed project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities (the construction of which could cause significant environmental impacts) in order to maintain acceptable service ratios, response time or other performance objectives.

14.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project

The 2006 MND analyzed the impacts on public services of drilling up to 540 wells and increasing oil production up to a monthly average of 5,000 BPD. It should be noted that the City of Los Angeles did not impose a production limit on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period.

Based on the analysis of public services impacts in the 2006 MND, the lead agency concluded that, after incorporation of mitigation measure XIIIa. Public Services (Fire), any potentially significant impacts to local fire departments resulting from the 2006 project would be reduced to a level of insignificance. The 2006 MND imposed mitigation measures to reduce fire protection impacts to less than significant (see Appendix A). Where relevant the above mitigation measure

imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

14.a). The WTU Central Facility will continue to be served by a City of Los Angeles Fire Department station located less than one-half mile west of the proposed project area. In addition, there is an existing firewater system around the two main areas of the northeast and southwest drill site areas. Although some of the new equipment includes combustion as part of the process, the proposed project will not increase the requirements or need for additional or altered fire protection because, as concluded in the discussion under 8.a) and b), the proposed project is not expected to generate significant adverse hazards, including risks of fires or explosions, in part because the proposed project would not use or generate new hazardous materials onsite that would require fire department services in the event of an accidental release. Additionally, after approval of the 2006 Project and during the City's review of subsequent construction permit applications, the LA Fire Department required a substantial upgrade in onsite fire control systems, which included numerous new fire monitors, an electric driven fire water booster pump, and additional "through-the-wall" connections. These systems were assessed and approved by the LA Fire Department in 2008. No new fire hazards are anticipated and thus no significant adverse impacts to fire protection services are expected.

14.b). The City of Los Angeles Police Department is the responding agency for law enforcement needs at the WTU Central Facility. During previous heavy construction periods, Warren had a security guard at the entrance to the WTU Central Facility, which did not result in the need for additional police protection services. However, a new pass-coded security gate has been installed, so there is no need to have a security guard on-site. Therefore, no impacts to the local police department services are expected from the project during construction.

All modifications will occur within the confines of the existing boundaries of the WTU Central Facility, with no additional workers required for the operation of the proposed project. No components of the proposed project are expected to increase the need for police protection services because new or modified equipment or operations are expected to be similar to existing equipment and operations.

14.c), d) and **e).** The proposed project will occur at the WTU Central Facility, which is an existing facility. The local workforce in southern California is expected to fill the short-term construction positions required for this proposed project. There is no increase in the number of permanent workers expected at the WTU Central Facility; therefore, the proposed project will not result in an increase in the local population that could cause adverse physical impacts or adversely affect service ratios. Therefore, the proposed project is not expected to generate significant adverse impacts to schools, parks, or other public facilities.

14.3 Mitigation Measures

Based on the above information relative to public services, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project. However, where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed

project. Because no significant impacts to public services are expected as a result of the proposed project, no mitigation is necessary or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

15.1 Significance Criteria

The impacts to recreation will be considered significant if:

The proposed project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The proposed project adversely affects existing recreational opportunities.

15.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed potentially significant adverse impacts to recreation of drilling up to 540 wells and increasing oil production up to a monthly average of 5,000 BPD. The 2006 MND found that there were no significant impacts resulting from the 2006 Project.

It should be noted that the City of Los Angeles did not impose a production limit condition on the 2006 project. The currently proposed project imposes a limit on oil production of 5,000 BPD averaged over a 30-day period.

15.a) and **b).** As indicated in the above "Population and Housing discussion," The existing labor pool in southern California is sufficient to fulfill the labor requirements for the construction of

the proposed project. The operation of the proposed project will not require any additional permanent workers. Therefore, there will be no changes in population densities resulting from the proposed project and, thus, no increase in the use of existing neighborhood and regional parks or other recreational facilities.

The proposed project does not include recreational facilities or require the construction or expansion of existing recreational facilities. No significant adverse impacts to recreational facilities are expected.

15.3 Mitigation Measures

The 2006 MND concluded that the 2006 project would not generate significant adverse recreation impacts. Further, no significant adverse impacts to recreational resources are expected to occur as a result of construction or operation of the proposed project. Therefore, no mitigation is necessary or proposed.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☐	☑

16.1 Significance Criteria

The impacts on solid and hazardous waste will be considered significant if the following occur:

> The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

16.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impacts on solid and hazardous waste of drilling up to 540 wells and increasing oil production up to a monthly average of 5,000 BPD. The 2006 MND concluded that the 2006 project would not generate significant adverse solid or hazardous waste impacts.

Drilling mud from drilling operations and the larger drill cuttings are currently dried and then hauled to an approved disposal facility periodically. Current and future drilling activity approved as part of the 2006 project are unrelated to the currently proposed project.

16.a). Non-Hazardous Waste

The disposal of construction-related waste could contribute to the diminishing available landfill capacity. For example, removal of the existing flare during the construction phase will generate small amounts of waste metals (e.g., approximately 700 pounds) such as cast iron, structural steel, copper, and stainless steel. Because these metals have economic value, they will be routed to authorized recyclers for recovery and reuse (i.e., sold as valuable scrap); therefore, they will not burden existing landfills. There will be no demolition of any other structures during the implementation of the proposed project.

Clean soil excavated to provide new foundations will be reused on-site as backfill where possible. Any excess soils will be diverted to the existing market as clean reusable soil. All soil excavation work, especially contaminated soil related to either the proposed project or related to other onsite maintenance work, is managed under Warren's Soil Mitigation Plan required by SCAQMD Rule 1166. Soils determined to be non-hazardous under Warren's Rule 1166 Plan can be reused onsite or diverted to the market. For 2010 and 2011 non-hazardous soils sent offsite amounted to about 50 cubic yards, which was comprised of Rule 1166 diverted soils and routine onsite excavations such as putting in new electrical conduits/piping (improvements) or checking existing conduits/piping (maintenance activities).

Current landfill disposal capacity in Los Angeles County is 30,800 tons per day or 9.6 million tons per year[20]. To determine the total amount of potential waste that may need to be disposed of, it is assumed that one cubic yard of soil weighs approximately 2,000 pounds (one cubic yard of soil weighs approximately 1,100 to 2,000 pounds depending on soil composition). Further, one haul truck can transport approximately 10 cubic yards per trip. As a result, the proposed project would generate approximately five truck trips per year to dispose of a little more than 50 tons of non-hazardous wastes per year. Based on this information, the maximum amount of non-hazardous wastes expected to be disposed of on one day is approximately 10.4 tons (approximately one truck trip). Therefore, there is sufficient Los Angeles County landfill capacity for the disposal of 10. 4 tons per day or 50.4 tons per year of non-hazardous wastes that could be generated during construction of the proposed project. Therefore, construction impacts of the proposed project on waste treatment and disposal facilities are concluded to be less than significant.

During operation, the proposed project is expected to generate only small volumes of solid waste, primarily from administrative or office activities, e.g., waste paper. The proposed project will not result in an increase in the number of permanent employees at the WTU Central Facility, so no other types of substantial increase in solid waste is expected. Consequently, the proposed project is not expected to generate significant adverse non-hazardous waste impacts.

[20] Alva, Paul. Los Angeles County Department of Public Works. 2007. Solid Waste Management in Los Angeles County. http://ladpw.org/swims/Upload/SWM%20in%20LA%20County_7250.pdf. May 10. Note: does not include disposal capacity for waste-to-energy facilities or waste transported out of the county.

16.b). Hazardous Waste

In years 2010 and 2011 the existing site operations did not generate or dispose of hazardous wastes or soils. The operation of the new equipment of the proposed project will not use or generate new hazardous materials onsite. During construction, any excavated soils determined to be oil-contaminated under Warren's Soil Mitigation Plan would be documented, containerized, properly manifested, and shipped to proper treatment and disposal. Any amounts of spent lubrication oils from maintenance of the microturbines or the gas reinjection compressor will be collected and recycled to the crude oil system and, therefore, is a recycled material and not a waste. However, based on waste date for 2010 and 2011, these types of hazardous wastes are not expected to be generated. Therefore, no significant hazardous waste impacts are expected.

16.3 Mitigation Measures

The 2006 MND concluded that the 2006 project would not generate significant adverse land use impacts. Further, based on the above information relative to solid and hazardous wastes, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/ TRAFFIC. Would the project:				
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 system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	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?	☐	☐	☐	☑
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 or 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 features?	☐	☐	☐	☑

17.1 Significance Criteria

The impacts on transportation and traffic will be considered significant if any of the following criteria apply:

Peak period levels on major arterials are disrupted to a point where the level of service (LOS) is reduced to D, E, or F for more than one month.

An intersection's volume to capacity ratio increases by 0.02 (two percent) or more when the LOS is already at D, E or F.

A major roadway is closed to all through traffic, and no alternate route is available.

The project conflicts with applicable policies, plans, or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.

There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

The demand for parking facilities is substantially increased.

Water borne, rail car or air traffic is substantially altered.

Traffic hazards to motor vehicles, bicyclists, or pedestrians are substantially increased.

The need for more than 350 employees.

An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.

Increase customer traffic by more than 700 visits per day.

17.2 Environmental Setting and Impacts

Impacts Analyzed in Previous 2006 Project MND

The 2006 MND analyzed the impacts on transportation and traffic of drilling up to 540 wells and increasing oil production up to a monthly average of 5,000 BPD. The 2006 MND found that there were no significant impacts resulting from the 2006 Project on transportation or traffic. The 2008 ZD includes conditions #15 Circulation and #16 Parking to minimize traffic from the WTU Central Facility through residential areas and worker parking on public streets, respectively.

The WTU Central Facility site is bordered by Eubank Avenue to the east, Anaheim Street to the south, Banning Boulevard to the west, and East Opp Street to the north. To avoid traffic through residential areas, vehicles must turn onto Banning Boulevard to enter the site. Heavy-duty trucks are required to exit directly onto Anaheim Street.

17.a) and b). The operation of the proposed project will not require any new permanent employees and thus no additional commuter trips compared to existing conditions. Vendor/maintenance trips would be less than two per month. Thus there would be no impacts to the LOS at nearby intersections.

The construction of the proposed project will require up to a maximum of 18 temporary construction workers on one day (most construction days would have between one and ten) and a maximum of two hauling trips. This results in a potential maximum of 20 vehicle trips in a single day; however, this scenario is conservative as these activities would not occur on the same day. Sufficient parking for these workers is readily available.

According to LADOT database on traffic counts, traffic volumes at the Anaheim at Banning intersection equal 20,865 (includes both westbound and eastbound traffic[21]. An additional 20 vehicle trips would be a negligible increase in traffic and substantially less than a two percent increase in traffic volume. Because the increased number of vehicles traveling to WTU Central Facility on a daily basis will be minimal, sporadic, and temporary, the LOS at nearby affected intersections is not expected to change. Therefore, the project would result in traffic-related impacts that would be considered significant based on the significance criteria in Section 17.1.

Truck traffic, including infrequent deliveries of odorant for the gas sales system, will not increase substantially because of the operation of the proposed project. With the connection of the facility to an existing pipeline, 40 truck trips have been eliminated each day, thereby reducing traffic leaving the site and entering surrounding streets. Also, any trucks leaving the WTU Central Facility will be required to turn left out of the site onto Banning Boulevard and then turn onto Anaheim St. This street is a major thoroughfare and therefore any traffic leaving the site will not significantly impact traffic on the smaller streets surrounding the facility. The proposed project is not expected to have an impact on traffic during the operational phase.

17.c). The proposed project includes modifications to existing facilities. The proposed project would not involve the delivery of materials via air so no change or increase in air traffic is expected.

17.d). The proposed project does not involve construction of roads or use of incompatible equipment on roads (e.g., farm equipment). Therefore, no increased hazards due to a design feature or incompatible use is expected.

17.e). As noted in discussion 8.f), the WTU Central Facility is not expected to use or generate hazardous materials that would require changes to the BEP. If changes to the BEP are necessary, they will be made in accordance with requirements and guidance from the local Fire Department. The proposed project is not expected to result in inadequate emergency access at or adjacent to the WTU Central Facility because the exits and entrances to the WTU Central Facility will remain unchanged and Warren will continue to maintain the existing emergency access gates to the WTU Central Facility.

Parking for the proposed project construction workers will be provided within the confines of the existing boundaries of the WTU Central Facility as required by Condition #16 in the 2008 ZD. Since the maximum number of construction workers is expected to be 18, sufficient parking is available onsite. No new workers are required during operation of the proposed project, so no additional parking would be necessary. Therefore, the proposed project will not result in significant impacts on parking.

17.f). The proposed project will be constructed within the confines of the existing WTU Central Facility and is not expected to conflict with adopted policies, plans or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

[21] LADOT database on traffic counts. 2009 – 2010. http://www.ladot.lacity.org/tf_hist_auto_counts.htm.

17.3 Mitigation Measures

The 2006 MND concluded that the 2006 project would not generate significant adverse transportation circulation impacts. However, the 2008 ZD imposes comprehensive requirements regarding traffic circulation and parking that, if applicable to the proposed project, would continue to be required. Further, based on the above information relative to transportation and traffic, no significant adverse impacts were identified so no additional mitigation measures are required for the construction or operation of the project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:				
a) 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) 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, other current projects, and probable future projects)	☐	☑	☐	☐
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑	☐

18. MANDATORY FINDINGS OF SIGNIFICANCE

18.a). The 2006 MND concluded that the 2006 project had the potential to generate significant adverse impacts that could adversely affect the environment. However, the lead agency concluded that impacts could be reduced to less than significant by imposing mitigation measures. All relevant mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

The proposed project does not have the potential to adversely affect the environment, reduce or eliminate any plant or animal species, or destroy prehistoric records of the past. The proposed project would occur in an existing industrial facility that has been previously disturbed, graded and developed and, therefore, does not support any habitat of fish or wildlife species. Further, the proposed project site is in an area that is generally at maximum build-out with land uses comprised of residential, commercial, and industrial uses. This proposed project will not extend into environmentally sensitive areas, but will remain within the confines of an existing, operating facility. For additional information, see Section 4.0 – Biological Resources and Section 5.0 – Cultural Resources.

18.b) The 2006 MND concluded that the 2006 project had the potential to generate significant adverse cumulative impacts. However, the lead agency concluded that cumulative impacts could be reduced to less than significant by imposing mitigation measures. All relevant mitigation measures and conditions imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

The proposed project is not expected to result in significant adverse cumulative environmental impacts. The construction activities associated with the proposed project will not overlap with the 2006 project, and, as discussed in Section 3.c), cumulative construction emissions are expected to be less than significant.

The proposed project involves replacing an old flare with a new Bekaert CEB®, installing HT#2, and installing a compressor and related equipment for gas re-injection and possible gas sales. The proposed project's emissions and ambient air quality impacts are below the SCAQMD's thresholds for all criteria air pollutants. No significant adverse air quality impacts are expected, either individually or cumulatively.

With respect to GHGs, the proposed project will incorporate mitigation measures MMAir-1 through MMAir-3. With mitigation, the proposed project's GHG emissions are below the SCAQMD's significance threshold for GHGs. No significant adverse GHG impacts are expected, either individually or cumulatively.

With respect to aesthetics, no cumulative impacts are expected because new equipment being installed is of the same or lower height than the current equipment and will be located in the vicinity within the site as equipment with similar uses. In addition, everything will be located within the confines of the existing WTU Central Facility, which is surrounded by an eight-foot high wall. Therefore, no significant change in visual characteristics is expected at the WTU Central Facility, and no cumulative aesthetic impacts are expected.

With respect to noise, no cumulative impacts are expected because any increase in noise during construction of the proposed project will be attenuated due to both distance and existing mitigation measures, such as the permanent masonry wall and temporary noise barriers. The new equipment being installed is expected to generate similar or less noise than the existing equipment. Warren proactively addresses all complaints to ensure that all workers are following appropriate noise control and reduction procedures. Also, any groundborne vibration generated during the proposed project is expected to be similar to existing vibration. Measurements taken in the area during existing operations were not found to be significant. Therefore, no significant change in noise is expected at the WTU Central Facility, and no cumulative impacts on noise levels are expected.

With respect to geology, no cumulative geology impacts are expected because all of the structures associated with the proposed project will be built in conformance with the Uniform Building Code for Zone 4 (i.e., most hazardous), which is the designation for the area in which the proposed project is located. The new well cellars were specifically designed according to the Uniform Build Code (UBC) and the California Building Code (CBC) to provide stable soil conditions and to prevent landslides, lateral spreading, liquefaction and collapse during the drilling of new wells or the "workover" of existing wells. The design load used in these evaluations was well over 1.5 million pounds of force, which far exceeds that which will be encountered in practice. The soil was assessed as being stable in conformance with the Los Angeles City Building Ordinance for the scope of the proposed project. Therefore, no significant change in impacts to geology is expected at the WTU Central Facility, and no cumulative geology impacts are expected.

With respect to hazards, no cumulative hazard impacts are expected because no new materials will be used at the site. Hazardous materials are generated only during cleaning operations as opposed to regular facility operation. The amount of hazardous materials generated will slightly increase, but will be handled according to all regulations. Therefore, no significant change in hazards is expected at the WTU Central Facility, and no cumulative hazard or hazardous materials impacts are expected.

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Therefore the proposed project's contribution to air quality, aesthetics, hazards, noise, and traffic are not cumulatively considerable and thus not significant. This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable". Therefore, the proposed project is not expected to result in significant adverse non-GHG cumulative impacts.

18c). The 2006 MND concluded that the 2006 project had the potential to generate significant adverse impacts to humans. However, the lead agency concluded that impacts could be reduced to less than significant by imposing mitigation measures. Where relevant all mitigation measures and conditions imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

The proposed project will replace an old flare with a new Bekaert CEB®, and will install HT#2, a compressor and related equipment for gas re-injection and possible gas sales. The proposed project will result in an increase of approximately 14.0 pounds per day of VOC emissions and approximately 11.6 pounds per day of NO_x from operations, which are below the SCAQMD's operational significance thresholds. The potential health impacts of the emission increases were evaluated in a health risk assessment (see Appendix E). The results of the HRA indicated that the TAC emissions in the vicinity of the WTU Central Facility would be less than significant. The cancer risks to the maximum exposed individual resident (MEIR) and maximum exposed individual worker (MEIW) are well below the ten in one million significance threshold and below the non-carcinogenic hazard index thresholds. The proposed project is not expected to increase the potential hazard impacts and the hazard impacts were determined to be less than significant. Therefore, no significant health impacts or other adverse impacts to humans are expected due to the operation of the proposed project.

REFERENCES

Air Quality Management Plan (AQMP), 2007. Final 2007 Air Quality Management Plan. Adopted by the AQMD Governing Board June 1, 2007.

Alva, Paul. Los Angeles County Department of Public Works. 2007. Solid Waste Management in Los Angeles County. http://ladpw.org/swims/Upload/SWM%20in%20LA%20County_7250.pdf. May 10.

California Air Resources Board (CARB), 2007. Draft California Greenhouse Gas Inventory. Last updated November 19, 2007.

California Air Resources Board. 2007. URBan EMISsions (URBEMIS) 2007 model, Version 9.2.4. http://www.urbemis.com,

California Air Resources Board (CARB), 2008. Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California. Staff Report. October 24, 2008

California Energy Commission (CEC), 2003. Transportation Fuels, Technologies, and Infrastructure Assessment. Adopted by CEC November 12, 2003.

California Energy Commission (CEC), 2004. Inventory of California Greenhouse Gas Emissions and Sinks: 1990-1999.

City of Los Angeles, 1996a. Safety Element of the Los Angeles City General Plan, Exhibit G, Inundation & Tsunami Hazard Areas in the City of Los Angeles, November 1996.

City of Los Angeles, 1996b. Safety Element of the Los Angeles City General Plan, Exhibit F, 100-Year & 500-Year Flood Plains in the City of Los Angeles, November 1996.

City of Los Angeles. Building a Green Los Angeles. http://www.lacity.org/mayor/stellent/groups/electedofficials/@myr_ch_contributor/documents/contributor_web_content/lacity_004866.pdf.

ENVIRON International Corporation (ENVIRON), 2008. Personnel communication between Dr. Hien Tran of the California Air Resource Board and Dr. Robert Scofield of ENVIRON. December 5, 2008.

Kalusche, Hilton E., Hydrogen Sulfide Safety and Health Issues. http://el.erdc.usace.army.mil/workshops/04jun-wots/kaluschue.pdf.

Los Angeles Department of Transportation. 2009 – 2010. LADOT database on traffic counts. http://www.ladot.lacity.org/tf_hist_auto_counts.htm

LADWP, 2007. 2007 Integrated Resource Plan. City of Los Angeles Department of Water and Power. Available at: http://www.ladwp.com/ladwp/cms/ladwp010273.pdf. Accessed 1 November 2010.

Port of Long Beach. 2008. Draft Environmental Impact Report / Draft Environmental Impact Statement (DEIR/DEIS) for the Middle Harbor Redevelopment Project. May.

Port of Los Angeles. 2007. Berths 136-147 [TraPac] Container Terminal Project Final Environmental Impact Statement/ Final Environmental Impact Report (FEIS/FEIR). December.

South Coast Air Quality Management District (SCAQMD), 1993. CEQA Air Quality Handbook, SCAQMD, May 1993.

South Coast Air Quality Management District (SCAQMD), 2003a. Guidelines for fugitive emissions calculations. SCAQMD June 2003.

South Coast Air Quality Management District (SCAQMD), 2003b. Final localized significance threshold methodology. Adopted by SCAQMD October 6, 2006.

South Coast Air Quality Management District (SCAQMD), 2005. Risk Assessment Procedures for Rules 1401 and 212, Appendix L.

South Coast Air Quality Management District (SCAQMD), 2007. Air Quality Management Plan (AQMP), 2007. Final 2007 Air Quality Management Plan. Adopted by the AQMD Governing Board June 1, 2007.

South Coast Air Quality Management District (SCAQMD), 2007. Final Program Environmental Assessment for Proposed Amended Rule 1309.1 - Priority Reserve and Re-Adoption of Rule 1315 – Federal New Source Review Tracking System. July.

South Coast Air Quality Management District (SCAQMD), 2008. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. Adopted by SCAQMD December 5, 2008.

ACRONYMS

ABBREVIATION	DESCRIPTION
AB	Assembly bill
AB 32	Assembly bill 32: California's Global Warming Solutions Act of 2006
AHM	acutely hazardous material
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BACT	Best Available Control Technology
BTU	British Thermal Units
BTU/hr	British Thermal Units per hour
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California State Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	chlorofluorocarbon
CH_4	methane
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2eq	CO_2 equivalent
CPUC	California Public Utilities Commission
dBA	A-weighted noise level measurement in decibels
DOGGR	Division of Oil, Gas, and Geothermal Resources
EIR	Environmental Impact Report
EPS	Emissions Performance Standard
ERPG	Emergency Response Planning Guideline
FWKO	Free Water Knock-Out
GHG	greenhouse gas
GMC	Growth Management Chapter
H_2SO_4	hydrogen sulfate
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
HI	Hazard Index
HIA	Acute Hazard Index
HIC	Chronic Hazard Index
HRA	Health Risk Assessment
IRP	Integrated Resource Plan
IS	Initial study
ISC	Industrial Source Complex
ISCST3	Industrial Source Complex Model Short Term Version 3
LADWP	Los Angeles Department of Water and Power

lbs	pounds
lbs/hr	pounds per hour
LOS	Level of Service
LST	Localized Significance Threshold
MEIR	Maximum exposed individual resident
MEIW	Maximum exposed individual worker
MICR	Maximum individual cancer risk
MMscf	Million Standard Cubic Feet
MND	Mitigated negative declaration
MT	metric ton
MW-hr	megawatt-hour
N_2	nitrogen
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NIOSH	National Institute of Occupational Safety and Health
NOP	Notice of Preparation
NO_x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PAHs	Polynuclear Aromatic Hydrocarbons
PFC	perfluorocarbon
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
RCPG	Regional Comprehensive Plan and Guide
RECLAIM	Regional Clean Air Incentives Market
SB	Senate bill
SCAQMD	South Coast Air Quality Management District
SF_6	sulfur hexafluoride
SO_x	sulfur oxide
TACs	toxic air contaminants
ug/l	micrograms per liter
ug/m^3	micrograms per cubic meter
US DOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds
WTU	Wilmington Townlot Unit

GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
Barrel	42 gallons.
Crude Oil	Crude oil is "unprocessed" oil, which has been extracted from the subsurface. It is also known as petroleum and varies in color, from clear to tar-black, and in viscosity, from water to almost solid.
dBA	The decibel (dDB) is one tenth of a *bel* where one bel represents a difference in noise level between two intensities I_1, I_0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Flares	Emergency equipment used to incinerate gases during upset, startup, or shutdown conditions
Heater	Process equipment used to raise the temperature of refinery streams processing.
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which may change in intensity.

APPENDIX A

JULY 20, 2006 1st ZONING DETERMINATION

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ACTING CHIEF ZONING ADMINISTRATOR

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DEPARTMENT OF
CITY PLANNING
S. GAIL GOLDBERG, AICP
DIRECTOR

OFFICE OF
ZONING ADMINISTRATION
200 N. SPRING STREET, 7TH FLOOR
LOS ANGELES, CA 90012
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July 20, 2006

Steve M. Buchanan (A)
Warren E&P, Inc.
310 East Ocean Boulevard, #1010
Long Beach, CA 90802

Warren Resources of California Inc. (O)
489 5th Avenue
New York, NY 10017

James J. Crisp M.S. (R)
14549 Archwood Street, #301
Van Nuys, CA 91405

Department of Building and Safety

CASE NO. ZA 20725-O(PA1)
APPROVAL OF PLANS -
521-529 East Anaheim Street
Wilmington-Harbor City Planning Area
Zone : [Q]RD3-1XL-O and [Q]M2-VL-O
D. M. : 30B209
C. D. : 15
CEQA: ENV 2005-7988-MND
Fish and Game : Exempt
Legal Description : Lot 61, Tract 1527; portion of Lot 8, 111-Acre Range of New San Pedro Tract; portions of Lots 8 and 9, 20-Acre range of Wilmington; Lot 11, Block A, North San Pedro Tract 4; Lot 8, Resubdivision of Block 18, Range 5, Wilmington; Lot 9, Tract 5838, Lot 19, Resubdivision of Block 23, Range 7, Wilmington; Lot 21, Block 2, Bayview Tract No. 2; Lot 41, Tract 573, and Lot 13, Block N, Tract 2269

Pursuant to Section 13.01 of the Los Angeles Municipal Code, I hereby APPROVE:

methods and conditions controlling drilling and production operations for the drilling of a maximum of 540 Class "A" and Class "B" oil wells distributed in 5 well cellars at the Banning Semi-Controlled drill site within Nonurbanized Oil Drilling District No. 5 and the Wilmington Townlot Unit, Fault Block I (WTU),

upon the following additional terms and conditions:

1. All other use, height and area regulations of the Municipal Code and all other applicable government/regulatory agencies shall be strictly complied with in the development and use of the property, except as such regulations are herein specifically varied or required.

2. The use and development of the property shall be in substantial conformance with the plot plan submitted with the application and marked Exhibit "A", except as may be revised as a result of this action.

3. The authorized use shall be conducted at all times with due regard for the character of the surrounding district, and the right is reserved to the Zoning Administrator to impose additional corrective Conditions, if, in the Administrator's opinion, such Conditions are proven necessary for the protection of persons in the neighborhood or occupants of adjacent property.

4. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.

5. A copy of the first page of this grant and all Conditions and/or any subsequent appeal of this grant and its resultant Conditions and/or letters of clarification shall be printed on the building plans submitted to the Zoning Administrator and the Department of Building and Safety for purposes of having a building permit issued.

6. All terms and conditions specified under extant ZA Case No. 20725 (Exhibit 'B', attached) shall be strictly complied with, except for Condition No. 1 of said grant which is hereby modified to delete outdated Condition Nos. 9 and 37 of Section 13.01-F of the Municipal Code and replace them respectively by Subparagraphs a and b of this Condition as follows:

   a. Refining process and extraction of products from natural gas shall be limited to the removal of liquids in order to be marketable.

   b. All drilling mud and drill cuttings shall be either treated and recycled into common fill dirt or reinjected back into zones as approved and regulated by the California Division of Oil and Gas. If the first two options are unavailable the drilling mud and cuttings shall be hauled for disposal in an approved site.

7. Phasing Plan. The drilling of new wells shall be phased with the abandonment of existing wells throughout the Wilmington Community outside of the subject site as follows:

	Wells Drilled Banning Site	Wells Plugged/ Abandoned	Wells not re-drilled
Phase 1 (1-3 years)	180	15 Wilmington Residential	560
Phase 2 (3-6 years)	180	15 Wilmington Residential	0
Phase 3 (6-12 years)	180	26 Wilmington Industrial	0
Total	540	56	560

Phases 2 and 3 may not be started until documentation is received to the satisfaction of the Zoning Administrator, that the number of wells identified in the preceding phase have been satisfactorily plugged/abandoned.

8. Monitoring. Starting one year from the date of effectiveness of this grant, the applicant shall provide on a yearly basis a report documenting the progress of the well drilling and abandonment operations, to the satisfaction of the Zoning Administrator. Said documentation shall include a list of the wells drilled, and maps of the corresponding well corridors, and a list of the wells plugged/abandoned, accompanied by the corresponding certification issued by the controlling well-abandonment agency.

9. Hours of operation: Except for actual drilling and production operations, which may be conducted twenty-four hours a day, seven days a week, including any nationally recognized holiday, no work shall be conducted on the property between the hours of 10 p.m. of one day and 7 a.m. of the following day or on Sundays. While actual drilling operations are being conducted between the hours of 10 p.m. of and 7 a.m., the applicant shall operate its facility in "Quiet Mode." "Quiet Mode" shall mean that where possible, operation components shall be covered with acoustical shields/ material, that all audible backup alarms shall be disabled and replaced with a spotter for safety purposes; operation of the cellar pump shall cease; the applicant's employees and contractors shall be prohibited from yelling; no horns shall be used to signal for time for connection or to summon crew (except that a horn may be used for emergency purposes only). The applicant shall conduct onsite meetings to inform all personnel of quiet mode operations.

   Except in case of emergency, no materials, equipment, tools or pipe used for either drilling or production operations shall be removed from the drilling site, except between the hours of 7 a.m. and 10 p.m. of any day.

   Notwithstanding any of the foregoing, during the period necessary to set up and move the drilling rig off the premises, and to conduct drilling operations as herein authorized, heavy truck deliveries shall be permitted from 7 a.m. to 10 p.m., seven days a week.

   In case of an emergency, all restrictions on the hours of operations shall be suspended for as long as is necessary to resolve the emergent situation, and for no longer.

   Construction hours: Construction operations, including delivery of construction materials, shall be limited to the hours of between 7 a.m. to 7 p.m., with no construction on Sundays.

10. All oil drilling and production operations shall be conducted in such a manner as to eliminate, as far as practicable, dust, noise, vibration or noxious odors, and shall be in accordance with the best accepted practices incident to drilling for and production of oil, gas, and other hydrocarbon substances. Proven technological improvements in drilling and production methods shall be adapted as they may become, from time to time, available, if capable of reducing factors of nuisance and annoyance.

11. Sound Mitigation. The applicant shall install the following sound mitigation systems and implement administrative noise controls as follows:

    a. Enclose the drilling rig floor with STC-25 rated acoustical barrier blankets.

    b. To reduce sound from the drilling rigs sub-structure, acoustical blankets shall be hung from the exterior of the rig floor down to the ground, covering the open area of the rig sub-structure on the side of the rig facing the north property line.

    c. The stabbing platform on the rigs derrick shall be enclosed with STC-25 rated acoustical blankets.

    d. To mitigate the drilling rig draw works and brake noise level, sound damping acoustical material shall be installed and maintained during drilling activities.

    e. Position all ancillary noise generation equipment away from the nearest critical receptors when feasible and install temporary sound enclosures, where possible on all noise generation equipment and operations.

    f. Install vibration isolation pads on shaker units and provide low frequency designed sound absorption and barring panels adjacent to the shaker units.

    g. Implement Warren "quiet mode" operation procedures including limitation of material delivery schedules and other sound mitigation requirements.

    h. To ensure adequate sound mitigation has been installed, and to identify any unusual or unique noise problems, sound level measurements and testing shall be completed as the rig starts up operations. To verify and document sound level compliance, continuous sound level measurement and monitoring may be considered during all drilling activity.

    i. Where a-f is not feasible, blanket sound walls shall be erected between the operations and the residential community, with the layout and wall lengths to be determined after the drilling rig and equipment positioning has been established. The sound walls shall be installed as close as possible to the drilling rig and associated equipment with no gaps or openings in the walls. The sound wall material should have a minimum STC rating of 25. Sound wall gates shall be installed with the same sound loss rating as the wall material and the gates shall be closed at all times except for material delivery or pick up.

    j. All wells shall be pumped utilizing electric pumps.

    k. All power operations other than drilling shall be carried on only by means of electric power.

    l. When available, electric drilling equipment will be used.

    m. All pumping equipment will be located in the well cellars, below ground level.

12. Dust Mitigation

a. The applicant shall cover the entire site with asphalt, except the cellars, which will be concrete.

b. The applicant will water down the property several times a day with a watering truck to eliminate dust until the site is covered with asphalt and concrete.

13. The California Division of Oil, Gas and Geothermal Resource regulations for cementing the well casing across the fresh water interval for the full protection of the public water supply shall be strictly complied with for each new well .

14. All storm water shall be drained on-site.

15. Circulation.

a. Vehicular access to the site shall be limited to one driveway on Banning Boulevard. Emergency access only may be provided to Opp Street or as required by the Fire Department.

b. All trucks and vehicles owned by the applicant or driven by the applicant's employees shall be instructed to drive on major thoroughfares only, and to avoid residential neighborhoods wherever possible.

c. Outside deliveries shall be instructed to avoid residential neighborhoods and remain on major thoroughfares whenever possible.

16. Parking.

a. Parking shall be provided on-site to the satisfaction of the Department of Building and Safety.

b. All trucks and employee parking, including during construction operations, shall be provided exclusively on site, and shall be prohibited from using public streets.

c. No staging/idling of vehicles shall be permitted in the public streets.

17. Visual Mitigation.

a. Upon completion of the grading operations along the perimeter of the property, and except where abutting the baseball field, the existing chain link fence along the perimeter of the site will be removed and replaced with an 8-foot high solid masonry block wall matching the existing block walls that presently cover only a portion of the site.

b. The wall shall be set back 5 feet from the property lines.

c. Prior to the issuance of permits for the wall, a landscape plan, including an irrigation plan, prepared by a licensed landscape architect or licensed landscape contractor shall be prepared to the satisfaction of the Zoning Administrator, showing the landscaping proposed for the 5-foot setback adjacent to the 8-foot wall along all street frontages. Special attention shall be given to the provision of landscape material to cover the wall in order to discourage the occurrence of graffiti, and/or to prevent perpetrators from reaching the wall.

d. The landscaped areas shall be maintained in an attractive condition at all times.

e. All pumping equipment, either new or retrofitted, shall be located below ground level.

18. The property shall be appropriately gated and secured at all times

19. The site and its adjoining sidewalks and parkways shall be kept free and clear of debris at all times.

20. All lighting on the site shall be shielded and directed onto the site and no floodlighting shall be located so as to be seen directly from any adjacent residential area.

21. Prior to sign-off by the Zoning Administrator, a parking and driveway plan shall be submitted to the Department of Transportation for review and approval.

22. Prior to sign-off by the Zoning Administrator, plans shall be submitted to the Fire Department for review and approval.

23. The applicant shall permanently post at all of the site's entry gates a direct telephone number to the supervisor of the site at that time for residents to call and report any ongoing problem. A call log shall be maintained including date and time of call and subject, and date and time of response and action. Said log shall be made available at the request of the Zoning Administrator.

24. All conditions of Mitigated Negative Declaration No. ENV-2005-7988-MND (Exhibit 'C', attached) are hereby made full conditions of this grant and shall be strictly complied with.

25. A copy of the conditions of this letter of determination (including attached Exhibits) shall be retained on the property at all times and be immediately produced upon the request of any employee of the City's Planning Department or any other enforcing agency.

26. All employees working at the facility shall be made familiar with the content of this action's conditions of approval

27. At any time during the period of validity of this grant, should documented evidence be submitted showing continued violation of any condition of this grant, resulting in an

unreasonable level of disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties, the Zoning Administrator reserves the right to require the applicant to file for a plan approval application together with associated fees pursuant to LAMC Section19-01-I (Miscellaneous Plan Approval $515 or as in effect at the time of filing), the purpose of which will be to hold a public hearing to review the applicant's compliance with and the effectiveness of these conditions. The applicant shall prepare a radius map and cause a notification to be mailed to all owners and occupants of properties within a 500-foot radius of the property, the Council Office, and the Los Angeles Police Department corresponding Division. The applicant shall also submit a summary and any supporting documentation of how compliance with each condition of this grant has been attained. Upon this review the Zoning Administrator may modify, add or delete conditions, and reserves the right to conduct this public hearing for nuisance abatement/revocation purposes.

28. Within 30 days of the date of effectiveness of this grant, a covenant acknowledging and agreeing to comply with all the terms and conditions established herein shall be recorded in the County Recorder's Office. The agreement (standard master covenant and agreement form CP-6770) shall run with the land and shall be binding on any subsequent owners, heirs or assigns. The agreement with the conditions attached must be submitted to the Zoning Administrator for approval before being recorded. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Zoning Administrator for attachment to the subject case file.

TRANSFERABILITY

This authorization runs with the land. In the event the property is to be sold, leased, rented or occupied by any person or corporation other than yourself, it is incumbent upon you to advise them regarding the conditions of this grant.

VIOLATIONS OF THESE CONDITIONS, A MISDEMEANOR

Section 12.29 of the Los Angeles Municipal Code provides:

> "A variance, conditional use, adjustment, public benefit or other quasi-judicial approval, or any conditional approval granted by the Director, pursuant to the authority of this chapter shall become effective upon utilization of any portion of the privilege, and the owner and applicant shall immediately comply with its conditions. The violation of any valid condition imposed by the Director, Zoning Administrator, Area Planning Commission, City Planning Commission or City Council in connection with the granting of any action taken pursuant to the authority of this chapter, shall constitute a violation of this chapter and shall be subject to the same penalties as any other violation of this Code."

Every violation of this determination is punishable as a misdemeanor and shall be punishable by a fine of not more than $1,000 or by imprisonment in the county jail for a period of not more than six months, or by both such fine and imprisonment.

APPEAL PERIOD - EFFECTIVE DATE

The applicant's attention is called to the fact that this grant is not a permit or license and that any permits and licenses required by law must be obtained from the proper public agency. Furthermore, if any condition of this grant is violated or if the same be not complied with, then the applicant or his successor in interest may be prosecuted for violating these conditions the same as for any violation of the requirements contained in the Municipal Code. The Zoning Administrator's determination in this matter will become effective after AUGUST 4, 2006, unless an appeal therefrom is filed with the City Planning Department. It is strongly advised that appeals be filed early during the appeal period and in person so that imperfections/incompleteness may be corrected before the appeal period expires. Any appeal must be filed on the prescribed forms, accompanied by the required fee, a copy of the Zoning Administrator's action, and received and receipted at a public office of the Department of City Planning on or before the above date or the appeal will not be accepted. **Forms are available on-line at www.lacity.org/pln**. Public offices are located at:

Figueroa Plaza
201 North Figueroa Street,
4th Floor
Los Angeles, CA 90012
(213) 482-7077

Marvin Braude San Fernando
Valley Constituent Service Center
6262 Van Nuys Boulevard, Room 251
Van Nuys, CA 91401
(818) 374-5050

The time in which a party may seek judicial review of this determination is governed by California Code of Civil Procedure Section 1094.6. Under that provision, a petitioner may seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1094.5, only if the petition for writ of mandate pursuant to that section is filed no later than the 90th day following the date on which the City's decision becomes final.

NOTICE

The applicant is further advised that all subsequent contact with this office regarding this determination must be with the Zoning Administrator who acted on the case. This would include clarification, verification of condition compliance and plans or building permit applications, etc., and shall be accomplished **BY APPOINTMENT ONLY**, in order to assure that you receive service with a minimum amount of waiting. You should advise any consultant representing you of this requirement as well.

FINDINGS OF FACT

After thorough consideration of the statements contained in the application, for a Determination of Methods and Conditions the plans submitted therewith, the report of the Zoning Analyst thereon, the statements made at the public hearing on May 4, 2006, all of which are by reference made a part hereof, as well as knowledge of the property and surrounding district, I find as follows:

1. The site, known as the Banning Semi-Controlled Drill Site, Wilmington Townlot Unit, Fault Block I (WTU), is located on a level, irregular-shaped, through parcel of land of

approximately 10.05 acres, with a frontage of 238 feet on the south side of Opp Street, 899 feet on the west side of Eubanks Avenue, 642 feet on the north side of Anaheim Street, and 455 feet on the east side of Banning Boulevard. The northerly portion of the property is classified in the [Q] RD3-1XL-O Zone, while its southerly portion is classified in the [Q] M2-1VL-O Zone, and within Nonurbanized Oil Drilling District No. 5. 'Q' Qualified Conditions were imposed by the General Plan/Zoning Consistency Program mandated by AB 283 for the northerly portion of the site, and pursuant to the Wilmington Community Plan Update for the southerly portion of the site, and read as follows:

> [Q]RD3-1 XL-O - The permanent "Q" Conditions relating to Sub Area 8 indicates that properties developed with three or more dwelling units shall provide open space, landscaping, architectural treatments and parking. per Ordinance No. 167,244, effective October 5, 1991 (attached to the file).
>
> [Q]M2-1VL-O - The permanent "Q" Conditions relating to Sub Area 80 is associated with open storage, landscaping, setbacks, walls/fences, driveways, and cargo containers per Ordinance No. 177,243, effective May 10, 2005 (attached to the file).

The property is occupied by the central production facility for the WTU, consisting of an oil well drilling yard, an oil and water separation yard, a water management yard an oil storage yard, a personnel yard, a maintenance yard and a pipe storage yard. Nine wells are currently in operation. Beyond the subject property, the WTU operates approximately 56 wells in the surrounding industrial, commercial and residential areas.

2. The applicant proposes the construction of five 12-foot wide, 8-foot deep, multiple wells drilling cellars to accommodate a maximum of 540 wells. The project would allow the redevelopment of the WTU and the gradual removal of all wells from the surrounding residential areas. Of the 540 wells approximately 372 are planned to be oil producers and 168 to be produced water injectors.

3. The Wilmington Oilfield was discovered in 1932. It was further developed in the onshore portions of Wilmington and Long Beach into the 1950's to become the third largest oilfield in the United States.

   From 1932 into the 1970's, over 600 wells were drilled by over 100 different oil companies in the residential, commercial and industrial areas of Wilmington. Humble Oil and Refining Company, later to become the Exxon Corporation, developed a water flood plan for a portion of the Wilmington Oilfield and obtained the approval of operators and landowners to form the Wilmington Townlot Unit, Fault Block I in 1972. This operation continues to the present time.

   Oil drilling and production activities at the Banning Semi Controlled Drill Site, were first undertaken in 1937 by the McMillen Petroleum Corporation under the authority of Ordinance Nos 78,108, 78,260 and 78,269. Activities involved Non Urbanized Oil Drilling Districts 5, 6 and 7 which were consolidated into Non Urbanized Oil Drilling District No.5 on November 26, 1955 by Ordinance No. 106,386.

The applicant became the legal operator of the WTU on February 1, 2005.

4. A public hearing on the matter was held on May 4, 2006, where the applicant's representatives presented the project and responded to questions of the Zoning Administrator regarding details of the existing and proposed operation. A representative of the Council District Office spoke in support of the request, reporting on the improvement of the site's operations under the supervision of the new operator, and the support of the Neighborhood Council (with one abstention). Three persons spoke in support of the request based on the benefits incurred from the future abandonment of existing wells in residential areas, the concentration of drilling on one single site rather than many sites spread throughout the community, the increased employment opportunities generated by the project, and the improvements brought to the abutting baseball field, also to the benefit of the community. Two persons spoke in opposition to the project, and one person expressed satisfaction at the concern shown by the applicant to work with the community, but indicated however that the general concerns expressed by the previous speakers were valid.

Major points of opposition are as follows:

- Poor management of operations by previous operator
- Inadequacy of environmental clearance: should be EIR rather than MND
- Wells improperly capped
- Improper notification to surrounding property owners
- AQMD permit incomplete
- Area posted to prohibit trucks over 6,000 lbs
- Remediation plan prohibits the taking out of soil
- Proximity of residential uses
- Emissions - Odors - Dust - Vibrations - Health impacts - Noise - Water runoff from the site
- Proximity of seismic fault
- Loss of property value

At the close of the public hearing, the matter was taken under advisement for a period of 30 days to allow the applicant to respond to public comments, prepare mitigation measures for the impacts mentioned, and submit a phasing plan specifically linking the drilling of new wells to the abandonment of old wells in the community. The last of such material was received on June 26, 2006.

Correspondence was received as follows:

In support:

- A letter from Councilmember Janice Hahn
- A letter from the Department of Conservation, Division of Oil, Gas and Geothermal Resources
- A letter from the Wilmington Neighborhood Council conditionally endorsing the project

- Approximately 700 cards signed cards from the applicant's mineral rights owners
- Approximately 470 cards signed by residents and occupants of industrial properties in Wilmington

In opposition:

- A letter from the Coalition For a Safe Environment
- A letter from a community resident
- The applicant further reported as part of its outreach efforts 11 residents in opposition to the project, 49 refusing to sign a card of support, 71 undecided

5. The nearest residential uses are located to the north of the site, across Opp Street and to the west across Banning Boulevard.

In response to concerns expressed at the public hearing, the applicant proposed the following mitigation measures which have been included as conditions of approval of this grant.

Noise: The equipment will be sound proofed with the latest available techniques as detailed in Condition No. 11. Electric pumps will be used. All wells will be located underground. The entire property will be surrounded by an 8-foot high wall, with the exception of adjacent to the baseball field, where a chain link fence will be maintained for the increased safety of young players. Hours of operation have been curtailed as much as possible.

Dust Mitigation: Ultimately, the entire site will be covered with asphalt and concrete. In the meantime, the site will be sprayed with water as needed to minimize the production of air borne dust particles.

Circulation: Only one vehicular entrance to the site is permitted, from Banning Boulevard. An emergency only entrance is permitted to Opp Street, or as would be required by the Fire Department. All employee and truck parking is to be provided on site, including during the construction phase. No truck is allowed to be staged or left idling on any public street.

Visual mitigation: The site will be surrounded by an 8-foot high concrete masonry block wall set back 5 feet from the property line. The setback area will be landscaped to deter the occurrence of graffiti. An irrigation system is required to ensure the proper maintenance of the landscaped area.

Additionally, the applicant will be required to file for a plan approval subject to a public hearing should documentation be received substantiating any continued violation of any of this grant's conditions of approval. This will provide an incentive for the applicant to responsibly manage operations on the site, while leaving the community with an effective tool of review and correction should the need arise.

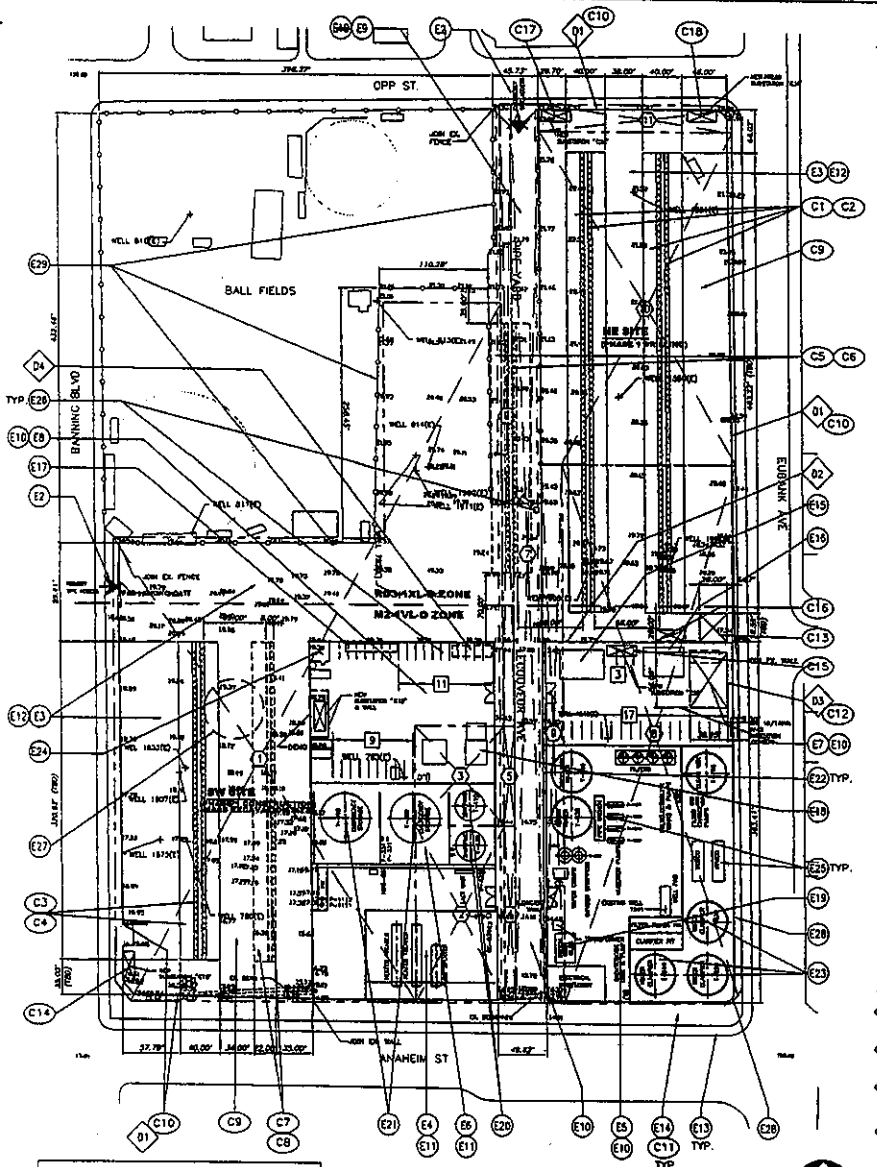
6. In a time where dependence on foreign oil comes at an increasingly higher social, economical, political and human cost, it can be found that this approval, by

encouraging and facilitating local oil production, under strict controls as to the possible impacts it may have on the immediate vicinity of the production site, will be of direct benefit to the general public convenience and welfare.

ANIK CHARRON
Associate Zoning Administrator
Direct Telephone No. (213) 978-1307

AC:lmc

cc: Councilmember Janice Hahn
Fifteenth District
Adjoining Property Owners
County Assessor
Department of Water and Power
Fire Department, Bureau of Fire
Prevention and Public Safety
Office of Administration & Research Services
STOP 130



PLAN - NEW CELLARS

SCALE: 1"=60'-0"

NOTE:
THIS DRAWING IS NOT A SURVEY AND IS NOT FOR CONSTRUCTION.

KEY NOTES – EXISTING

- E1 PRIMARY SITE ACCESS TO REMAIN
- E2 EMERGENCY SITE ACCESS TO REMAIN
- E3 OIL WELL DRILLING YARD TO REMAIN
- E4 EXISTING OIL/WATER SEPARATION YARD/FACILITY TO REMAIN
- E5 WATER MANAGEMENT YARD TO REMAIN FOR UNDERGROUND INJECTION
- E6 EXISTING OIL STORAGE YARD TO REMAIN
- E7 PERSONNEL YARD TO REMAIN
- E8 MAINTENANCE YARD TO REMAIN
- E9 PIPE STORAGE YARD TO REMAIN
- E10 AC PAVING TO REMAIN
- E11 CONC. PAVING TO REMAIN
- E12 UNPAVED AREA
- E13 PUBLIC SIDEWALK TO REMAIN
- E14 LANDSCAPE AREA
- E15 OFFICE TO REMAIN (1350 S.F.)
- E16 LOCKERS/RESTROOM TO REMAIN (1250 S.F.)
- E17 PUMP STG SHED TO REMAIN (450 S.F.)
- E18 MAINTENANCE BLDG. & CANOPY TO REMAIN (550 S.F. & 330 S.F.)
- E19 SWITCHGEAR BLDG. TO REMAIN (600 S.F.) ELECTRICAL SUBSTATION & TFR. TO REMAIN (2300 S.F.)
- E20 OIL TANK STORAGE TO REMAIN
- E21 RESERVE TANK STORGAGE TO REMAIN
- E22 WATER TANKS TO REMAIN
- E23 CLARIFIER TANKS TO REMAIN (3 @ 1500 S.F./TANK)
- E24 SCAQMD APPROVED FLARE TO REMAIN
- E25 PUMPS, PITS, PIPING, FILTERS & EQUIPMENT TO REMAIN
- E26 PORTABLE SHED, SKID MOUNTED EQUIPMENT, STORAGE CONTAINERS, LOADING DOCK AND SANITARY FACILITIES TO REMAIN.
- E27 TEMPORARY DRILL CUTTING DEWATERING FACILITY
- E28 8'-0" CONC. BLK. FENCE TO REMAIN
- E29 CHAIN LINK FENCE TO REMAIN
- E30 GATE(S) TO REMAIN

KEY NOTES – DEMOLITION

- D1 REMOVE CHAIN LINK FENCING AND FOOTINGS
- D2 REMOVE CONC. BLK. FENCE & FOOTING
- D3 SAWCUT AND REMOVE PAVING FOR INSTALLATION OF NEW FOOTINGS AND SLAB FOR ELECTRICAL EQUIPMENT
- D4 REMOVE PORTABLE TRAILER AS INDICATED

KEY NOTES – CONSTRUCTION

- C1 CONSTRUCT OIL WELL "CELLARS" 1 & 2 (151 WELLS, 5560 S.F./CELLAR) – 2 LOCATIONS AS INDICATED
- C2 CONSTRUCT CELLAR CONCRETE APRON EA. SIDE OF CELLARS 1 & 2 (13,000 S.F./CELLAR)
- C3 CONSTRUCT OIL WELL "CELLAR" 3 (104 WELLS, 3850 S.F.)
- C4 CONSTRUCT CELLAR CONCRETE APRON EA. SIDE OF CELLAR 3 (9000 S.F.)
- C5 OIL WELL CELLAR 4 (80 WELLS, 3010 S.F.) – FUTURE
- C6 CELLAR 4 CONCRETE APRONS EA. SIDE OF CELLAR (7050 S.F.) – FUTURE
- C7 OIL WELL CELLAR 5 (53 WELLS, 2470 S.F.) – FUTURE
- C8 CELLAR 5 CONCRETE APRONS EA. SIDE OF CELLAR (4510 S.F.) – FUTURE
- C9 REGRADE SITE TO SLOPE TO CELLARS TO CONTAIN ALL STORMWATER ON SITE AND PAVE WITH AC PAVING.
- C10 CONSTRUCT 8'-0" CONCRETE BLOCK WALL TO MATCH EXISTING.
- C11 INSTALL NEW IRRIGATION SYSTEM AND LANDSCAPE AT PERIMETER OF SITE.
- C12 CONSTRUCT ELECTRICAL SUBSTATION MV2 (APPROX. 2500 S.F.)
- C13 CONSTRUCT SWITCHGEAR BLDG. (APPROX. 800 S.F.)
- C14 CONSTRUCT SUBSTATION C1B
- C15 CONSTRUCT SUBSTATION C2B
- C16 CONSTRUCT SUBSTATION C3B
- C17 CONSTRUCT SUBSTATION C2A
- C18 CONSTRUCT SUBSTAION C3A

PROJECT SUMMARY

CONSTRUCT 539 WELLS FOR OIL PUMPING OPERATIONS. THESE WELLS WILL BE LOCATED IN FIVE (5) CELLARS AS INDICATED ON THE PLAN. THE SITE WILL BE GRADED TO CONTAIN ALL STORM WATER ON THE SITE, AND WILL BE USED FOR ONGOING UNDERGROUND WATER INJECTION OPERATIONS.

THE PERIMETER SITE IMPROVEMENTS ALONG THE STREETS WILL INCLUDE CONSTRUCTION OF A NEW 8'-0" HIGH CONCRETE BLOCK WALL TO MATCH EXISTING AND THE INSTALLATION OF LANDSCAPE AND IRRIGATION SYSTEMS. EXISTING PERIMETER FENCE LOCATIONS WILL BE MAINTAINED.

SITE INFORMATION

ADDRESSES	SEE PARCEL SUMMARY BELOW FOR ADDRESSES 925 N. EUBANK STREET
ZONE(S)	SEE PARCEL SUMMARY BELOW
SITE AREA	437,723 S.F. (10.05 ACRES)

PAVING SUMMARY

EXISTING AC PAVING	133,900 S.F.
EXISTING CONC. PAVING	40,400 S.F.
EXISTING UNPAVED AREA	263,423 S.F.
PROPOSED AC PAVING	322,273 S.F.
PROPOSED CONC PAVING	86,950 S.F.
PROPOSED CONC CELLARS	20,450 S.F.
PROPOSED UNPAVED AREA	8,040 S.F.
EXISTING LANDSCAPE	25,580 S.F. (8,040 W/IN R)
PROPOSED LANDSCAPE (INCLUDES STREET & SITE)	25,580 S.F. (8,040 W/IN R)

BUILDING & STRUCTURES SUMMARY

OFFICE BLDG. (E)	
LOCKER/RESTROOMS (E)	1,350 S.F. (E)
MAINTENANCE/STG (E)	1,250 S.F. (E)
MAINTENANCE CANOPY (E)	550 S.F. (E)
PUMP STG SHED (E)	330 S.F. (E)
SWITCHGEAR BLDG. 1 (E)	450 S.F. (E)
SWITCHGEAR BLDG. 2 (N)	600 S.F. (E)
	800 S.F. (N)
BUILDING TOTAL	5,330 S.F. (E+N)

PERSONNEL SUMMARY

EMPLOYEES	4–6
VENDORS	6–12

PARKING SUMMARY

EXISTING	38
PROPOSED	40

PARKING REQUIRED FOR BLDGS.: 22 (1 PER 250 S.F.)

KEY NOTES – PARCEL SUMMARY

SYM.	ADDRESS(ES)	APN	TRACT	BLOCK	LOT	ZONE	PARCEL AREA (S.F.)	EXISTING & PROPOSED USE
1	529, 525, 521 E. ANAHEIM ST.	7423023004	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O RDE-1XL-O	189,213	OIL WELL DRILLING
2	NONE	7423023003	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O	15,875	OIL WEL DRILLING
3	NONE	7423023002	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O	8,717	OIL WELL DRILLING
4	NONE	NONE – SEE NOTE BELOW	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O	1,985	OIL WELL DRILLING
5	NONE	NONE – SEE NOTE BELOW	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O	1,089	OIL WELL DRILLING
6	NONE	NONE – SEE NOTE BELOW	NEW SAN PEDRO	20 ACRE	PT VIII	M2-1VL-O RD3-1XL-O	6,887	OIL WELL DRILLING
7	NONE	NONE – SEE NOTE BELOW	NEW SAN PEDRO	20 ACRE	PT IX	M2-1VL-O RD3-1XL-O	26,259	OIL WELL DRILLING
8	625, 623, 601 E. ANAHEIM ST.	7423024016	NEW SAN PEDRO	20 ACRE	PT IX	M2-1VL-O RD3-1XL-O	101,365	OIL WELL DRILLING
9	NONE	7423024017	NEW SAN PEDRO	20 ACRE	PT IX	M2-1VL-O RD3-1XL-O	11,421	OIL WELL DRILLING
10	500 E. OPP ST. & 925 N. EUBANK	7423024018	NEW SAN PEDRO	20 ACRE	PT IX	RD3-1XL-O	68,427	OIL WELL DRILLING
11	NONE	7423024019	NEW SAN PEDRO	20 ACRE	PT IX	RD3-1XL-O	6,489	OIL WELL DRILLING

NOTE: SEE Z.A. CASE NO. 20725

DATE	DESCRIPTION	BY
8/5/05	ISSUED FOR CLIENT REVIEW	RHM

REVISIONS

EXHIBIT "A"

CASH & ASSOCIATES
ENGINEERING AND ARCHITECTURE
(714) 895-2072

ENGINEER	RHM
DESIGNER	RHM
CAD OPERATOR	DRB
CHECKER	RHM
PROJECT MANAGER	RHM

WILMINGTON TOWNLOT UNIT
WARREN E & P INC.
625 E. ANAHEIM ST. WILMINGTON, CA

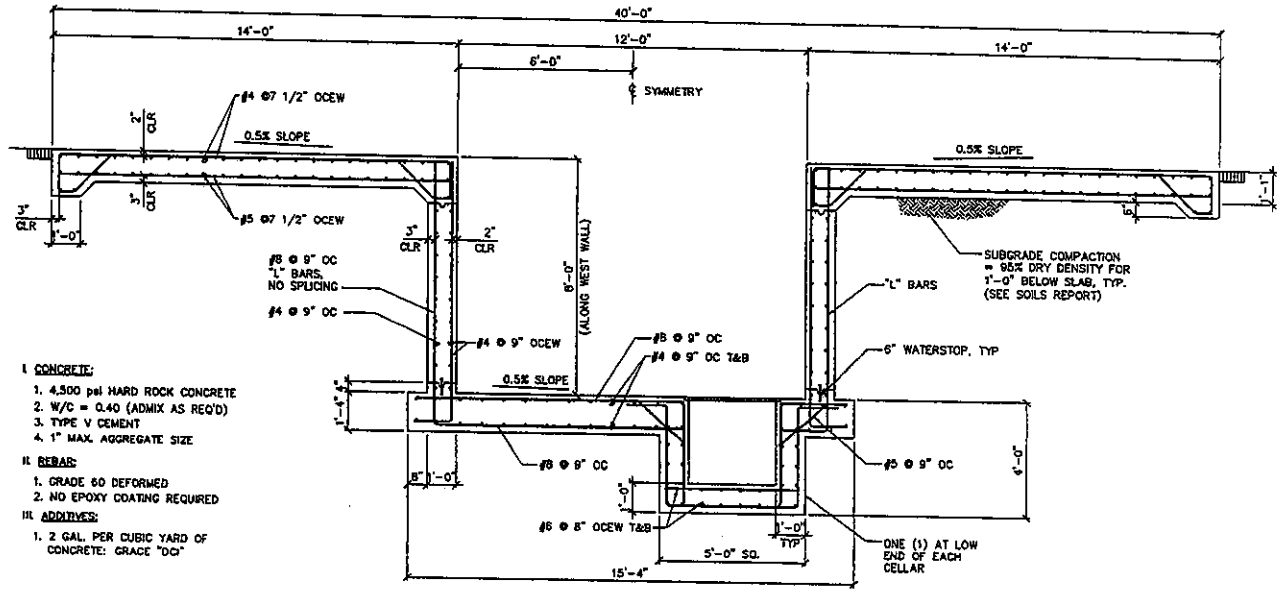
PLANNING SITE PLAN

SCALE: A

PROJECT NUMBER: 6299.00

DRAWING NUMBER: SP-1

REDUCED SET - NOT TO SCALE

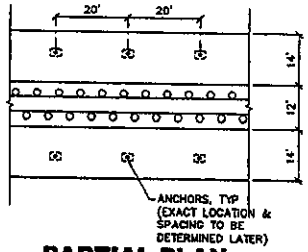


I. CONCRETE:
1. 4,500 psi HARD ROCK CONCRETE
2. W/C = 0.40 (ADMIX AS REQ'D)
3. TYPE V CEMENT
4. 1" MAX. AGGREGATE SIZE

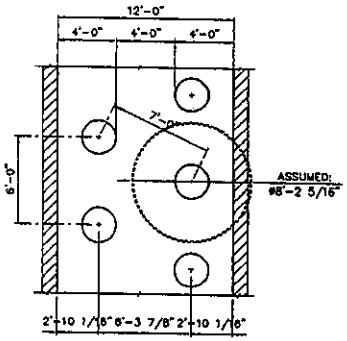
II. REBAR:
1. GRADE 60 DEFORMED
2. NO EPOXY COATING REQUIRED

III. ADDITIVES:
1. 2 GAL. PER CUBIC YARD OF CONCRETE: GRACE "DCI"

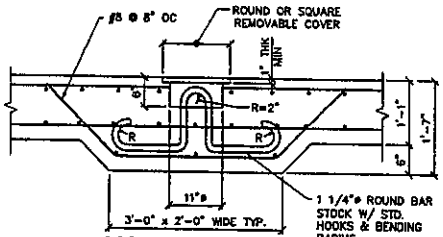
TYPICAL CROSS-SECTION
SCALE: 1/2" = 1'-0"



PARTIAL PLAN



APPROX. RELATIONSHIP BETWEEN TEMP. CORRUGATED STL. VAULT & CELLAR CONSTRUCTION
SCALE: 1/4" = 1'-0"



ANCHOR DETAIL
SCALE: 1" = 1'-0"

NO.	DATE	DESCRIPTION	BY
2	8/30/05	REVISED	RHM
1	6/15/05	ISSUED FOR REVIEW	RHM

REVISIONS

CASH & ASSOCIATES
ENGINEERING AND ARCHITECTURE
(714) 895-2072

ENGINEER	CW
DESIGNER	RHM
CAD OPERATOR	RLR
CHECKER	RHM
PROJECT MANAGER	RHM

WILMINGTON TOWNLOT UNIT
WARREN E & P INC.
625 E. ANAHEIM ST. WILMINGTON, CA

CONCEPT CELLAR SECTION

SCALE: AS NOTED (B)
PROJECT NUMBER: 6299.00
DRAWING NUMBER: S-1

CITY OF LOS ANGELES
CALIFORNIA

ARTHUR DVORIN
CHIEF ZONING ADMINISTRATOR
ASSOCIATE ZONING ADMINISTRATORS
CHARLES V. CADWALLADER
JAMES MOSS
FABIAN ROMANO
R. A. RUDSER
ROBERT D. WILSON

SAM YORTY
MAYOR

OFFICE OF
ZONING ADMINISTRATION
DEPARTMENT OF
CITY PLANNING
600 CITY HALL
LOS ANGELES, CALIF. 90012
485-3851

February 25, 1972

Humble Oil and Refining Co.
ATTENTION: Wade Cook
1800 Avenue of the Stars
Los Angeles, California 90067

Department of Building and Safety

Fire Prevention Bureau

Re: Z. A. CASE NO. 20725
N'ly of Anaheim Street
between Banning Blvd.
and Eubank Avenue
Wilmington District
O.D.D. No. 5
D. M. No. 4778

Greetings:

In the matter of the application of Humble Oil and Refining Company, owner, for Determination of Conditions and Methods of Operation for development and operation of a semi-controlled drilling and production site located in Nonurbanized Oil Drilling District No. 5 in the R4 and M2-1-O Zones, please be advised that based upon the Findings of Fact hereinafter set forth and by virtue of authority contained in Sections 13.01-E, F and H of the Municipal Code, the Associate Zoning Administrator hereby authorizes the use of a site comprising:

> the southerly approximately 400 ft. portion of Lots VIII and IX in 20-acre Range of New San Pedro located on the northerly side of Anaheim Street westerly of Eubank Avenue, excepting those portions of Lot VIII located within 200 ft. of Banning Boulevard,

as a semi-controlled drilling and production site in connection with the secondary recovery of hydrocarbons in the Wilmington Townlot Unit, Fault Block I, and for the development of said site with such equipment and buildings necessary for the establishment and operation of a central production facility for the secondary recovery of hydrocarbons from said Townlot Unit, upon the following terms and conditions:

1. That Condition Nos. 5, 8, 9, 17, 18, 37, 40, 50, 58, 59, and 60 of Subsection F of Section 13.01 of the Municipal Code, except as hereinafter amplified or clarified, are

EXHIBIT 'B'

included and by reference made part of the conditions of this determination and shall be complied with to the same extent as if herein restated in detail.

2. That the portion of the site utilized for the central production facility be developed substantially as shown on the proposed facilities plan (TLE-1-01) filed with the application and marked Exhibit "A", except as herein varied or required, it being understood that the site of production facility may be enlarged to the north to compensate for area loss through street dedications and to provide additional space for parking, storage or other facilities related to the operation of the central production plant or the conduct of the secondary recovery program.

3. That prior to the issuance of any building permit or Certificate of Occupancy, and use of the property as authorized herein, the owners of the property involved shall dedicate to the City of Los Angeles, without cost to said City, the following described properties for street purposes:

   a. a strip of land 17 ft. wide along the southerly line of the applicant's property for the widening of Anaheim Street between Eubank Avenue and Banning Boulevard as a major highway to conform to the General Plan of the City of Los Angeles,

   b. a strip of land 24.81 ft. wide along the easterly line of the applicant's properties adjoining Eubank Avenue between Anaheim Street and Opp Street for the widening and opening of Eubank Avenue as a local street in accordance with the design of the City Engineer prepared under A'11-91627 Improvement Project (Council File No. 70-3847), and,

   c. 20 ft. radius property line returns at the intersections of Anaheim Street with Eubank Avenue and Banning Boulevard, and also a 15 ft. radius property line return at the intersection of Eubank Avenue and Opp Street.

4. That, by acceptance of this determination and use of the property as authorized herein, the owners of the property involved, their heirs, or successors in interest agree to join withothers in an assessment district improvement program or programs for development of the abutting portion of Anaheim Street in accordance with its major highway

designation and for the opening or widening of the abutting portion of Eubank Avenue as a traffic artery, at such time as requested in writing to so improve by the City Engineer or the Director of Planning. Further, that an agreement to this effect be recorded by the property owners in the County Recorder's Office; said agreement to run with the land and be binding on any subsequent owners, heirs, or assigns; and that said agreement be first submitted to the Office of Zoning Administration for approval before being recorded, and after recordation a copy thereof with the Recorder's number and date be furnished said Office of Zoning Administration for attachment to the file before required permits are issued.

5. That the portion of the siteutilized for the central production facility shall be enclosed by an ornamental masonry wall, at least 8 ft. in height and with solid gates of similar height designed to match or compliment the wall design. Furthermore, that the enclosing fixture shall observe setbacks of at least 5 ft. from Eubank Avenue and Anaheim Street after dedication required under Condition No. 3, and also a setback of 5 ft. from Lecouvreur Avenue, and with said enclosing wall to be provided with either a 10 ft. radius curvature or 7-1/2 ft. cut corner in the vicinity of the intersection of Eubank Avenue and Anaheim Street, for the purpose of providing sight distance at said intersection.

6. That in no event shall there be any driveway opening into Anaheim Street, and any openings into Eubank Avenue from the production site shall be subject to future approval by a Zoning Administrator after review by City Engineer and/or City Traffic Engineer.

7. That the space between the enclosing fixture and the curb line in the abutting street and not utilized for sidewalk or driveway purposes, shall be landscaped and maintained with lawn, ivy, or other green ground cover or suitable permanent decorative rock aggregate, interspersed if desired, with trees and shrubs. It being understood that no landscape improvements will be required adjacent to Eubank Avenue or Lecouvreur Avenue unless and until the aubtting street is paved.

8. That the tanks and equipment be painted in a uniform light color and be maintained in a clean and attractive condition free of oil drips or debris. That no stored material or equipment on the site shall be maintained at a height above the enclosing fixture, except for tanks and equipment necessary for the operation of the facility and the conduct of the secondary recovery program. The bulk, size and type

of any tanks or equipment extending above the enclosing fixture shall be limited to those facilities shown on the elevation Exhibit "A". That the site of the central production facility and the approaches thereto shall at all times be kept in a clean, neat appearing condition free from weeds and debris, and other than incidental drilling and production equipment and supplies necessary on the site. That any unused tanks and equipment shall be removed from the drill site as well as elsewhere in the unitized area as unitized operations render such tanks and equipment unnecessary in the efficient recovery of hydrocarbons. Furthermore, all tools, pipe and other equipment necessary in the conduct of the central production facility shall be stored and kept on the site within the decorative masonry wall enclosing fixture.

10. That all oil, gas and other substances produced from the wells within the unit after final completion of the unit pipe lines, shall be transported by means of underground pipe lines to the involved central production facility or to one of the production sites elsewhere within the unit which may be approved in the future. That the pipe lines on each site shall be connected directly with the producing pump and by a completely closed system without venting products to the atmosphere.

11. That a properly improved parking area shall be provided on the production site for use of vehicles utilized in the maintenance of the facilities on said site and also parking shall be provided for the parking of automobiles of employees engaged in the production activities or site maintenance. The necessary access driveways as well as areas utilized for parking purposes shall be surfaced with oil, gravel or other suitable surfacing to withstand heavy trucking operations and to eliminate possible dust nuisance.

12. That no signs shall be placed on the property unless and until the design and location of the same has been approved by the Office of Zoning Administration.

13. That inasmuch as the applicant-company does not intend to drill additional wells on the site of the central production facility, the conditions and methods of operation to be followed in the drilling of wells are not included in this determination. However, the Zoning Administrator reserves the right to consider a future request for the drilling of oil wells on the involved property, and at that time will determine conditions as may be necessary for the conduct of

a drilling program in keeping with a method of operation presented by the owner or operator of the central production facility on the involved property.

The applicant's attention is called to the fact that this grant is not a permit or license and that any permits and licenses required by law must be obtained from the proper public agency. Furthermore, that if any condition of this grant is violated or if the same be not complied with in every respect, then the applicant or his successors in interest may be prosecuted for violating these conditions the same as for any violation of the requirements contained in the Municipal Code. In the event the property is to be sold, leased, rented or occupied by any person or corporation other than yourself, it is incumbent that you advise them regarding the conditions of this grant. The Associate Zoning Administrator's determination in this matter will become effective after an elapsed period of fifteen (15) days from the date of this communication unless an appeal therefrom is filed with the Board of Zoning Appeals.

FINDINGS OF FACT

After thorough consideration of the statements, plans, documents, and photographs contained in the application, numerous variance cases and Council Ordinance approving oil wells in the Wilmington area prior to the establishment of Nonurbanized Oil Drilling Districts, Ordinance No. 97950 establishing O.D.D. No. 5 regulating present oil drilling operations on the property proposed to be utilized for the semi-controlled drilling and production site as well as surrounding areas, the several Zoning Administrator determinations of conditions and methods of operation for the more modern oil wells drilled in the Wilmington Area under numerous Z. A. Case Nos., City Council File No. 71-4255 and 70-3847 & Sup. 1 concerned with the unitization of the Wilmington Oil Field and improvement or vacation of streets in the vicinity of the proposed central production facility, all of which are by reference made a part hereof, as well as personal knowledge and inspection of the property and surrounding area and numerous conferences with the representatives of the applicant and with concerned City officials to work out details of the complicated problem, and experience and observation of the effect of oil drilling and production operation in all sections of the City, I find as follows:

1. The applicant, Humble Oil and Refining Company, has recently completed negotiations to unitize the Townlot area of Fault Block 1 comprising a major portion of the Wilmington Oil Field, in order to conduct secondary oil recovery operations. The unitized operations are expected to increase oil recoveries and reduce the time required for removal of producible oil, thereby expiditing development or

redevelopment of properties for more productive purposes in keeping with their zoning classification. The secondary recovery program will include removal of many pumping units and tanks in connection with conversion of producing wells to injection wells, the elimination of trucking of oil across streets through installation of underground pipe lines, and the modernization, clean-up and landscaping of pumping facilities on existing sites. In connection with the unitization program, many of the oil production, treatment and shipping facilities presently on the individual Townlot sites are proposed to be consolidated or relocated to a central production facility site located in the M2 Zone on the north side of Anaheim Street west of Eubank Avenue.

2. The Humble Oil and Refining Company's central production facilities site directly involved in this request, is located in the M2-1-O Zone in Nonurbanized Oil Drilling District No. 5 and is presently unimproved except for numerous tanks, above the ground pipe lines and oil well pumping units originally placed on the property under authority of City Council Variance Ordinance Nos. 78108, 78260 and 78269 granted in 1937, along with many other similarly approved oil wells in the immediate vicinity. The conditions of the original approvals did not include a time limit and were related primarily to the drilling and maintenance of a well on vacant property which was generally well removed from the nearest occupied residential building. The existing wells, pumping units and tanks could be maintained indefinitally, with minimal clean-up and maintenance under the present regulations.

3. The central production facility for the Wilmington Townlot Water Flood will be located on an approximately 4-acre parcel of land located on both sides of Lecouvreur Avenue and extending from Anaheim Street northerly to "I" Street. Anaheim Street is a major highway on the General Plan and is presently improved with a 55 ft. wide paved roadway, concrete curb and sidewalks and with ornamental street lights all within a 66 ft. right-of-way. Anaheim Street is to be widened 17 ft. in accordance with this General Plan classification as a condition of this grant and will be improved in the future along with adjacent frontages. Eubank Avenue abutting the easterly property line is a partially dedicated local street which will be extended northerly on the same alignment as Eubank Avenue northerly of Opp Street thereby providing access between various industrial developments anticipated in the M2 and M3 zoned properties lying to the east of Eubank Avenue. Lecouvreur

Avenue is a 40 ft. wide unimproved local street which has been approved for vacation subject to widening on Anaheim Street and Eubank Avenue similar to that requested under the conditions of this grant. All access into the semi-controlled drilling site will be from Lecouvreur Avenue, and it is possible that some portions of Lecouvreur Avenue may be improved in connection with issuance of Building Permits on the involved semi-controlled drilling site. The semi-controlled drilling site is located more than 500 ft. from the nearest developed residential properties north of Opp Street and the vacant residentially zoned properties located to the west of the semi-controlled drill site are owned by the applicant, Humble Oil Company, and any future development thereon could be designed in a manner to be least effected by the central production facility. The actual site of the semi-controlled production facility together with accessory storage areas and parking will be enclosed by an 8 ft. high ornamental masonry wall set back 5 ft. from all streets widening and the 5 ft. setback area will be landscaped under the terms and conditions of this grant. The 8 ft. wall is adequate to screen all surface activities from the streets and adjacent residential improvements, and has been limited to 8 ft. to permit a reasonable type of access for fire fighting equipment. Several tanks and various other pieces of equipment will extend as much as 20 ft. above the 8 ft. high enclosing wall, however, these tanks and equipment are to be painted in a uniform light color and maintained with a minimum amount of piping extending above the top of the wall. In view of all the above considerations, the conditions imposed are necessary and within the intent and purpose of Sections 13.01-E, and F of the Municipal Code to protect and preserve the surrounding area for continued residential and industrial development in keeping with the zoning, and to protect the general public and the community from any detrimental features resulting from the operation of the central production facility. Some of the conditions are necessary to provide for street improvements in the manner recommended by the City Engineer in connection with vacation proceedings for Lecouvreur Avenue.

Very truly yours,

R. A. RUDSER
Associate Zoning Administrator

RAR:sll

cc: See next page

cc: Enclosure (Agreement Forms)

Director of Planning

Councilman John S. Gibson, Jr.

City Engineer
Street Opening and Widening
Art Dennis - Council Liaison
Room 807, City Hall

A. Aarons
District Engineer - Harbor Office

Traffic Engineer
G. L. Quinn - South District

Department of Public Utilities and Transportation

Petroleum Administrator
A. O. Spaulding

Department of Water and Power

State Water Quality Control Board No. 4

Fred Sevy
L.A.F.D.

Glenn Blossom
City Planning Officer

Ann

CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012
CALIFORNIA ENVIRONMENTAL QUALITY ACT
PROPOSED MITIGATED NEGATIVE DECLARATION

LEAD CITY AGENCY	COUNCIL DISTRICT
LOS ANGELES CITY PLANNING DEPARTMENT	15
PROJECT TITLE	**CASE NO.**
ENV-2005-7988-MND	ZA-1972-20725-PA1

PROJECT LOCATION

625 E. Anaheim Street; Wilmington-Harbor City

PROJECT DESCRIPTION

Site Plan Review and Plan Approval to permit construction of five multiple well drilling cellars so that up to 540 additional oil and water wells could be drilled, at an existing oil drilling facility on approximately 437,722 square-feet of land in the [Q]M2-1VL-0 and [Q]RD3-1XL-0 Zones; project will allow redevelopment of the Wilmington Townlot Unit to eventually remove all wells from residential areas (for a more detailed description of the proposed project, see the expanded Draft Initial Study prepared for the project by Christopher A. Joseph & Associates in October 2005).

NAME AND ADDRESS OF APPLICANT IF OTHER THAN CITY AGENCY

Warren E&P, Inc.
Steven M. Buahanan, V.P. & General Manager
301 East Ocean Boulevard, Suite 1010
Long Beach, CA 90802

FINDING:

The City Planning Department of the City of Los Angeles has proposed that a mitigated negative declaration be adopted for this project because the mitigation measures(s) outlined on the attached page(s) will reduce any potential significant adverse effects to a level of insignificance.

(CONTINUED ON PAGE 2)

SEE ATTACHED SHEET(S) FOR ANY MITIGATION MEASURES IMPOSED.

Any written comments received during the public review period are attached together with the response of the Lead City Agency. The project decision-maker may adopt this mitigated negative declaration, amend it, or require preparation of an EIR. Any changes made should be supported by substantial evidence in the record and appropriate findings made.

THE INITIAL STUDY PREPARED FOR THIS PROJECT IS ATTACHED.

NAME OF PERSON PREPARING THIS FORM	TITLE	TELEPHONE NUMBER
Jonathan Riker	CITY PLANNING ASSOCIATE	(213)978-1355

ADDRESS	SIGNATURE (Official)	DATE
200 N. Spring Street, Room 750 Los Angeles, CA 90012	Emily Gabel-Luddy, Supervisor Environmental Unit Heather Gabel-Luddy for	05/01/06

EXHIBIT 'C'

I b4. Aesthetics (Graffiti)

Environmental impacts may result from project implementation due to graffiti and accumulation of rubbish and debris along the wall(s) adjacent to public rights-of-way. However, this potential impact will be mitigated to a level of insignificance by the following measures:

- Every building, structure, or portion thereof, shall be maintained in a safe and sanitary condition and good repair, and free from graffiti, debris, rubbish, garbage, trash, overgrown vegetation or other similar material, pursuant to Municipal Code Section 91.8104.
- The exterior of all buildings and fences shall be free from graffiti when such graffiti is visible from a public street or alley, pursuant to Municipal Code Section 91,8104.15.

I b5. Aesthetics (Signage)

Environmental impacts may result from project implementation due to on-site signage in excess of that allowed under the Los Angeles Municipal Code Section 91.6205. However, the potential impact will be mitigated to a level of insignificance by the following measures:

- On-site signs shall be limited to the maximum allowable under the Code.
- Multiple temporary signs in the store windows and along the building walls are not permitted.

I c1. Aesthetics (Light)

Environmental impacts to the adjacent residential properties may result due to excessive illumination on the project site. However, the potential impacts will be mitigated to a level of insignificance by the following measure:

- Outdoor lighting shall be designed and installed with shielding, so that the light source cannot be seen from adjacent residential properties.

V b. Cultural Resources (Archaeological)

Environmental impacts may result from project implementation due to the project's location in an area likely to yield unrecorded archaeological sites. However, the potential impacts will be mitigated to a level of insignificance by the following measures:

- If any archaeological materials are encountered during the course of the project development, the project shall be halted. The services of an archaeologist shall be secured by contacting the Center for Public Archaeology - Cal State University Fullerton, or a member of the Society of Professional Archaeologist (SOPA) or a SOPA-qualified archaeologist

to assess the resources and evaluate the impact.
- Copies of the archaeological survey, study or report shall be submitted to the UCLA Archaeological Information Center.
- A covenant and agreement shall be recorded prior to obtaining a grading permit.

V c. Cultural Resources (Paleontological)

Environmental impacts may result from project implementation due to the project's location in an area likely to yield unrecorded paleontological sites. However, the potential impacts will be mitigated to a level of insignificance by the following measures:

- If any paleontological materials are encountered during the course of the project development, the project shall be halted.
- The services of a paleontologist shall be secured by contacting the Center for Public Paleontology - USC, UCLA, Cal State Los Angeles, Cal State Long Beach, or the Los Angeles County Natural History Museum to assess the resources and evaluate the impact.
- Copies of the paleontological survey, study or report shall be submitted to the Los Angeles County Natural History Museum.
- A covenant and agreement shall be recorded prior to obtaining a grading permit.

VI a ii. Seismic

Environmental impacts may result to the safety of future occupants due to the project's location in an area of potential seismic activity. However, this potential impact will be mitigated to a level of insignificance by the following measure:

- The design and construction of the project shall conform to the Uniform Building Code seismic standards as approved by the Department of Building and Safety.

VI b2. Erosion/Grading/Short-Term construction Impacts

Short-term air quality and noise impacts may result from the construction of the proposed project. However, these impacts can be mitigated to a level of insignificance by the following measures:

Air Quality

- All unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction, and temporary dust covers shall be used to reduce dust emissions and meet SCAQMD District Rule 403. Wetting could reduce fugitive dust by as much as 50 percent.
- The owner or contractor shall keep the construction area sufficiently

dampened to control dust caused by construction and hauling, and at all times provide reasonable control of dust caused by wind.

- All loads shall be secured by trimming, watering or other appropriate means to prevent spillage and dust.
- All materials transported off-site shall be either sufficiently watered or securely covered to prevent excessive amount of dust.
- All clearing, earth moving, or excavation activities shall be discontinued during periods of high winds (i.e., greater than 15 mph), so as to prevent excessive amounts of dust.
- General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions.

Noise

- The project shall comply with the City of Los Angeles Noise Ordinance No. 144,331 and 161,574, and any subsequent ordinances, which prohibit the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.
- Construction and demolition shall be restricted to the hours of 7:00 am to 6:00 pm Monday through Friday, and 8:00 am to 6:00 pm on Saturday.
- Construction and demolition activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously.
- The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.
- The project sponsor shall comply with the Noise Insulation Standards of Title 24 of the California Code Regulations, which insure an acceptable interior noise environment.

General Construction

Sediment carries with it other work-site pollutants such as pesticides, cleaning solvents, cement wash, asphalt, and car fluids that are toxic to sea life.

- All waste shall be disposed of properly. Use appropriately labeled recycling bins to recycle construction materials including: solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and vegetation. Non recyclable materials/wastes shall be taken to an appropriate landfill. Toxic wastes must be discarded at a licensed regulated disposal site.
- Leaks, drips and spills shall be cleaned up immediately to prevent contaminated soil on paved surfaces that can be washed away into the storm drains.
- Pavement shall not be hosed down at material spills. Dry cleanup methods shall be used whenever possible.
- Dumpsters shall be covered and maintained. Uncovered dumpsters shall be placed under a roof or be covered with tarps or plastic sheeting.
- Gravel approaches shall be used where truck traffic is frequent to reduce soil compaction and the tracking of sediment into streets shall be limited.
- All vehicle/equipment maintenance, repair, and washing shall be

conducted away from storm drains. All major repairs shall be conducted off-site. Drip pans or drop clothes shall be used to catch drips and spills.

VII a1. Hazardous Substances

Environmental impacts may result from project implementation due to the use, storage, and creation of hazardous materials. However, these impacts can be mitigated to a level of insignificance by the following measure:

- Prior to the issuance of the Certificate of Occupancy the applicant shall provide a letter from the Fire Department stating that it has permitted the facility's use, storage, and creation of hazardous substances.

VII b2. Explosion/Release (Methane Gas)

Environmental impacts may result from project implementation due to its location in an area of potential methane gas zone. However, this potential impact will be mitigated to a level of insignificance by the following measures:

- All commercial, industrial, and institutional buildings shall be provided with an approved Methane Control System, which shall include these minimum requirements; a vent system and gas-detection system which shall be installed in the basements or the lowest floor level on grade, and within underfloor space of buildings with raised foundations. The gas-detection system shall be designed to automatically activate the vent system when an action level equal to 25% of the Lower Explosive Limit (LEL) methane concentration is detected within those areas.
- All commercial, industrial, institutional and multiple residential buildings covering over 50,000 square feet of lot area or with more than one level of basement shall be independently analyzed by a qualified engineer, as defined in Section 91.7102 of the Municipal Code, hired by the building owner. The engineer shall investigate and recommend mitigation measures which will prevent or retard potential methane gas seepage into the building. In addition to the other items listed in this section, the owner shall implement the engineer's design recommendations subject to Department of Building and Safety and Fire Department approval.
- All multiple residential buildings shall have adequate ventilation as defined in Section 91.7102 and the Municipal Code of a gas-detection system installed in the basement or on the lowest floor level on grade, and within the underfloor space in buildings with raised foundations.
- All single-family dwellings with basements shall have a gas detection system which is periodically calibrated and maintained in proper operating condition in accordance with manufacturer's installation and maintenance specifications.

VIII c3. Commercial & Industrial Development (Lot size 100,000 sf)

Environmental impacts may result from the release of toxins into the stormwater drainage channels during the routine operation of commercial development projects. However, the potential impacts will be mitigated to a level of insignificance by incorporating stormwater pollution control measures. Ordinance No. 172,176 and Ordinance No. 173,494 specify Stormwater and Urban Runoff Pollution Control which requires the application of Best Management Practices (BMPs). Chapter IX, Division 70 of the Los Angeles Municipal Code addresses grading, excavations, and fills. Applicants must meet the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) approved by Los Angeles Regional Water Quality Control Board, including the following: (A copy of the SUSMP can be downloaded at: http://www.swrcb.ca.gov/rwqcb4/).

- Project applicants are required to implement stormwater BMPs to retain or treat the runoff from a storm event producing 3/4 inch of rainfall in a 24 hour period. The design of structural BMPs shall be in accordance with the Development Best Management Practices Handbook Part B Planning Activities. A signed certificate from a California licensed civil engineer or licensed architect that the proposed BMPs meet this numerical threshold standard is required.
- Post development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rates shall not exceed the estimated pre-development rate for developments where the increase peak stormwater discharge rate will result in increased potential for downstream erosion.
- Concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition.
- Limit clearing and grading of native vegetation at the project site to the minimum needed to build lots, allow access, and provide fire protection.
- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.
- Reduce impervious surface area by using permeable pavement materials where appropriate, including: pervious concrete/asphalt; unit pavers, i.e. turf block; and granular materials, i.e. crushed aggregates, cobbles.
- Promote natural vegetation by using parking lot islands and other landscaped areas.
- Preserve riparian areas and wetlands.
- Cover loading dock areas or design drainage to minimize run-on and run-off of stormwater.
- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.
- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.
- Design repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a standard sump for

collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required, obtain an Industrial Waste Discharge Permit.

- Vehicle/equipment wash areas must be self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to the sanitary sewer.
- Any connection to the sanitary sewer must have authorization from the Bureau of Sanitation.
- The following activities are to be conducted under proper cover with drain routed to the sanitary sewer.
  - Storage of industrial wastes
  - Handling or storage of hazardous wastes
  - Metal fabrication or Pre-cast concrete fabrication
  - Welding, Cutting or Assembly
  - Painting, Coating or Finishing
- Store above ground liquid storage tanks (drums and dumpsters) in areas with impervious surfaces in order to contain leaks and spills. Install a secondary containment system such as berms, dikes, liners, vaults, and double-wall tanks. Where used oil or dangerous waste is stored, a dead-end sump should be installed in the drain.
- Toxic wastes must be discarded at a licensed regulated disposal site. Store trash dumpsters either under cover and with drains routed to the sanitary sewer or use non-leaking and water-tight dumpsters with lids. Use drip pans or absorbent materials whenever grease containers are emptied. Wash containers in an area with properly connected sanitary sewer.
- Reduce and recycle wastes, including: paper; glass; aluminum; oil; and grease.
- Reduce the use of hazardous materials and waste by: using detergent-based or water-based cleaning systems; and avoid chlorinated compounds, petroleum distillates, phenols, and formaldehyde.
- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.
- Utilize natural drainage systems to the maximum extent practicable.
- Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable.
- Stabilize permanent channel crossings.
- Protect slopes and channels and reduce run-off velocities by complying with Chapter IX, Division 70 of the Los Angeles Municipal Code and utilizing vegetation (grass, shrubs, vines, ground covers, and trees) to provide long-term stabilization of soil.
- Cleaning of vehicles and equipment to be performed within designated covered or bermed wash area paved with Portland concrete, sloped for wash water collection, and with a pretreatment facility for wash water before discharging to properly connected sanitary sewer with a CPI type oil/water separator. The separator unit must be: designed to handle the

quantity of flows; removed for cleaning on a regular basis (at least twice a year) to remove any solids; and the oil absorbent pads must be replaced regularly, once in fall just before the wet season, and in accordance with manufacturer' specifications.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as "NO DUMPING - DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.
- Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.
- Legibility of stencils and signs must be maintained.
- Materials with the potential to contaminate stormwater must be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar stormwater conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to contain leaks and spills.
- The storage area must have a roof or awning to minimize collection of stormwater within the secondary containment area.
- The owner(s) of the property will prepare and execute a covenant and agreement (Planning Department General form CP-6770) satisfactory to the Planning Department binding the owners to post construction maintenance on the structural BMPs in accordance with the Standard Urban Stormwater Mitigation Plan and or per manufacturer's instructions.

XIII a. Public Services (Fire)

Environmental impacts may result from project implementation due to the location of the project in an area having marginal fire protection facilities. However, this potential impact will be mitigated to a level of insignificance by the following measure:

- The following recommendations of the Fire Department relative to fire safety shall be incorporated into the building plans, which includes the submittal of a plot plan for approval by the Fire Department either prior to the recordation of a final map or the approval of a building permit. The plot plan shall include the following minimum design features: fire lanes, where required, shall be a minimum of 20 feet in width; all structures must be within 300 feet of an approved fire hydrant, and entrances to any dwelling unit or guest room shall not be more than 150 feet in distance in horizontal travel from the edge of the roadway of an improved street or approved fire lane.

Mitigation Measures Recommended in the Expanded Draft Initial Study for the Wilmington Townlot Unit

The following mitigation measures were recommended in the expanded Draft initial Study for the Wilmington Townlot Unit and would be conditioned for the proposed project:

Construction Noise

IS-1 The proposed 8-foot concrete block perimeter wall shall be constructed and completed along the northern site perimeter prior to any construction of the well cellars in the northern part of the Project site.

IS-2 All construction equipment engines shall be properly tuned and muffled according to manufacturers' specifications.

IS-3 Noise construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise-sensitive land uses, and natural and/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses to the maximum extent possible

IS-4 The use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of drills and jackhammers

IS-5 An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels

XVII d. End

The conditions outlined in this proposed mitigated negative declaration which are not already required by law shall be required as condition(s) of approval be the decision-making body except as noted on the face page of this document.

Therefore, it is concluded that no significant impacts are apparent which might result from this project's implementation.

CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

INITIAL STUDY AND CHECKLIST

(CEQA Guidelines)

LEAD CITY AGENCY	COUNCIL DISTRICT	DATE
Department of City Planning	CD 15	3-24-2006

RESPONSIBLE AGENCIES

California State Division of Oil and Gas; Regional Water Quality Control Board; South Coast Air Quality Management District; City of Los Angeles Fire Department.

PROJECT TITLE/NO.	CASE NO.
Wilmington Townlot Unit	ENV-2005-7988-MND

PREVIOUS ACTIONS CASE NO.	☐ DOES have significant changes from previous actions.
ZA-1972-20725/ ZA-1972-20725-PA1	☐ DOES NOT have significant changes from previous actions.

PROJECT DESCRIPTION:

Site Plan Review and Plan Approval to permit construction of five multiple well drilling cellars so that up to 540 additional oil and water wells could be drilled, at an existing oil drilling facility on approximately 437,722 square feet of land in the [Q]M2-1VL-O and [Q]RD3-1XL-O zones; project will allow redevelopment of the Wilmington Townlot Unit to eventually remove all wells from residential areas (For a more detailed description of the proposed project, see the expanded Draft Initial Study prepared for the project by Christopher A. Joseph & Associates in October 2005.).

ENVIRONMENTAL SETTING:

The subject site consists of a flat, irregular-shaped parcel with an existing oil drilling facility. Surrounding land uses are as follows: North - adjacent John Mendez Baseball Park in the [Q]RD3-1XL-O zone, and single family and multifamily residential uses across Opp St. in the [Q]R2-1XL-O and R2-1XL-O zones; South - industrial and commercial uses across Anaheim St. in the [Q]M2-1VL-O zone, East - industrial and trucking uses across Eubank Ave. in the [Q]RD3-1XL-O and [Q]M2-1VL-O zones, and West - commercial uses, single family and multifamily residential uses, and vacant lots across in the [Q]RD3-1XL-O [Q]RD3-1VL-O and [Q]C2-1VL-O zones.

PROJECT LOCATION:

625 E. Anaheim St.; Wilmington-Harbor City

PLANNING DISTRICT	AREA PLANNING COMMISSION	STATUS: ☐ PRELIMINARY ☐ PROPOSED ☒ ADOPTED date:
Wilmington-Harbor City	Harbor	
EXISTING ZONING	MAX. DENSITY ZONING	☐ DOES CONFORM TO PLAN
[Q]M2-1VL-O and [Q]RD3-1XL-O	same	
PLANNED LAND USE & ZONE	MAX. DENSITY PLAN	☒ DOES NOT CONFORM TO PLAN
Light Industrial and Low Medium Multifamily/ [Q]M2-1VL-O and [Q]RD3-1XL-O	same	
SURROUNDING LAND USES	PROJECT DENSITY	☐ NO DISTRICT PLAN
See Environmental Setting above	n/a	

☞ **DETERMINATION (To be completed by Lead Agency)**

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions on the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find 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 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.

Jonathan H. Riker	City Planning Associate
SIGNATURE	TITLE

EVALUATION OF ENVIRONMENTAL IMPACTS:

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

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

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

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the

incorporation of a mitigation measure has reduced an effect from "Potentially Significant Impact" to "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analysis," cross referenced).

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

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

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

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

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

9) The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

INITIAL STUDY CHECKLIST (To be completed by the Lead City Agency)

*** BACKGROUND**

PROPONENT NAME	PHONE NUMBER
Steven M. Buchanan, Warren E & P, Inc.	(562) 590-0909
PROPONENT ADDRESS	
301 E. Ocean Blvd., Suite 1010, Long Beach, CA 90802	
AGENCY REQUIRING CHECKLIST	**DATE SUBMITTED**
Department of City Planning	11-04-2005
PROPOSAL NAME (If Applicable)	

ENVIRONMENTAL IMPACTS	(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)			
	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	✓	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated 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?	☐	✓	☐	☐
II. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	✓
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	✓
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	✓
III. AIR QUALITY. The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project result in:				
a. Conflict with or obstruct implementation of the SCAQMD or Congestion Management Plan?	☐	☐	✓	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	✓	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, carbon monoxide, & PM 10) under an applicable federal or state ambient air quality standard?	☐	☐	✓	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	✓	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	✓	☐
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service ?	☐	☐	☐	✓
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service ?	☐	☐	☐	✓
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) Through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	✓
e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?	☐	☐	☐	✓
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?	☐	☐	☐	✓
V. CULTURAL RESOURCES: Would the project:				
a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?	☐	☐	☐	✓

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §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?	☐	✓	☐	☐
VI. GEOLOGY AND SOILS. Would the project:				
a. Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving :				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	✓	☐
ii. Strong seismic ground shaking?	☐	✓	☐	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	✓	☐
iv. Landslides?	☐	☐	☐	✓
b. Result in substantial soil erosion or the loss of topsoil?	☐	✓	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	✓	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	✓	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	✓
VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	✓	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No 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?	☐	✓	☐	☐
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 the people residing or working in the 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. HYDROLOGY AND WATER QUALITY. Would the proposal result in:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	✓	☐
b. Substantially deplete groundwater supplies or interfere 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 land 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?	☐	☐	✓	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 an manner which would result in flooding on- or off site?	☐	☐	☐	✓
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	✓	☐	☐
f. Otherwise substantially degrade water quality?	☐	☐	☐	✓
g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	✓
h. Place within a 100-year flood plain structures which would impede or redirect flood flows?	☐	☐	☐	✓
i. Expose people or structures to a significant risk of loss, inquiry 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. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	✓
b. Conflict with 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, 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. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	✓
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	✓

XI. NOISE. Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise in level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	✓	☐	☐
b. Exposure of people 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. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	✓	☐
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. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
a. Fire protection?	☐	✓	☐	☐
b. Police protection?	☐	☐	☐	✓

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Schools?	☐	☐	☐	✓
d. Parks?	☐	☐	☐	✓
e. Other governmental services (including roads)?	☐	☐	☐	✓
XIV. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	✓
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	✓
XV. TRANSPORTATION/CIRCULATION. Would the project:				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to ratio capacity on roads, or congestion at intersections)?	☐	☐	✓	☐
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	✓	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	✓
d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	✓
e. Result in inadequate emergency access?	☐	☐	☐	✓
f. Result in inadequate parking capacity?	☐	☐	☐	✓
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	✓

XVI. UTILITIES. Would the project:	Potentially Significant Impact	Potentially Significant Unless 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 stormwater 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 resource, or are new or expanded entitlements needed?	☐	☐	☐	✓
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	✓
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	✓
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	✓

XVII.. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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 which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual 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 cause substantial adverse effects on human beings, either directly or indirectly?	☐	✓	☐	☐

DISCUSSION OF THE ENVIRONMENTAL EVALUATION (Attach additional *sheets* if *necessary)*

This environmental impact assessment utilized official City of Los Angeles and other official government source reference materials related to various environmental impact categories (e.g., Hydrology, Air Quality, Biology, Cultural Resources, etc.). The State of California, Department of Conservation, Division of Mines and Geology -Seismic Hazard Maps and reports, were used to identify potential future significant seismic events; including probable magnitudes, liquefaction, and landslide hazards. Based on applicant information provided in the Master Land Use Application and Environmental Assessment Form impact evaluations were based on the stated facts contained therein, including but not limited to, reference materials indicated above, field investigation of the project site, and any other available data and reliable reference materials known at the time.

As stated above, project specific impacts were evaluated and based on all relevant facts as indicated in the Environmental Assessment Form from the applicant's project description and supportive materials. Both the Initial Study Checklist and companion Worksheet, in conjunction with the City of Los Angeles's Adopted Thresholds Guide, were used to reach reasonable conclusions on environmental impacts as mandated under the California Environmental Quality Act.

The project as identified in the project description may cause potentially significant impacts on the environment without mitigation. Therefore, this environmental analysis concludes that a Mitigated Negative Declaration shall be issued to avoid and mitigate all potential adverse impacts on the environment by the imposition of mitigation measures and/or conditions contained and expressed in this document; the environmental case file known as ENV-2005-7998-MND and the associated cases, ZA-1972-20725 and ZA-1972-20725-PA1. Finally, based on the fact that these impacts can be feasibly mitigated to less than significant, and based on the findings and thresholds for Mandatory Findings of Significance as described in the California Environmental Quality Act, section 15065, the overall project impact(s) on the environment (after mitigation) **will not:**

- Substantially degrade environmental quality.
- Substantially reduce fish or wildlife habitat.
- Cause a fish or wildlife habitat to drop below self sustaining levels.
- Threaten to eliminate a plant or animal community.
- Reduce number, or restrict range of a rare, threatened, or endangered species.
- Eliminate important examples of major periods of California history or prehistory.
- Achieve short-term goals to the disadvantage of long-term goals.
- Result in environmental effects that are individually limited but cumulatively considerable.
- Result in environmental effects that will cause substantial adverse effects on human beings.

ADDITIONAL INFORMATION:

This document was prepared in compliance with Public Resources Code section 21082.2 and CEQA Guidelines sections 15063, 15064, 15065, 15070, and 15071.

All supporting documents and references are contained in the Environmental Case File referenced above and may be viewed in the EIR Unit, Room 763, City Hall.

For City information, addresses and phone numbers: visit the City's website at www.lacity.org ; City Planning - and **Zoning Information Mapping Automated System (ZIMAS)** www.lacity.org/PLN/ or EIR Unit, City Hall, 200 N. Spring Street, Room 763.
Seismic Hazard Maps – http://gmw.consrv.ca.gov/shmp/
Engineering/Infrastructure/Topographic Maps/Parcel Information – http://boemaps.eng.ci.la.ca.us/index01.htm or City's main website under the heading "Navigate LA".

See Environmental Impacts Explanation Table (Appendix A) for brief explanations to answers provided above. The information in this table is supported by an expanded Draft Initial Study prepared for the project by Christopher A. Joseph & Associates in October 2005. This document may be viewed in the EIR Unit, Room 750, City Hall.

PREPARED BY	TITLE	TELEPHONE#	DATE
Jonathan H. Riker	City Planning Associate	(213) 978-1355	3/24/06

APPENDIX B

OCTOBER 2, 2008 2ND ZONING DETERMINATION

MICHAEL LOGRANDE
CHIEF ZONING ADMINISTRATOR

ASSOCIATE ZONING ADMINISTRATORS
PATRICIA BROWN
R. NICOLAS BROWN
SUE CHANG
ANIK CHARRON
LARRY FRIEDMAN
LOURDES GREEN
ERIC RITTER
MICHAEL S.Y. YOUNG

CITY OF LOS ANGELES
CALIFORNIA

ANTONIO R. VILLARAIGOSA
MAYOR

DEPARTMENT OF
CITY PLANNING
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October 2, 2008

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Los Angeles, CA 90067

CASE NO. ZA 20725-O(PA2)
APPROVAL OF PLANS -
521-529 East Anaheim Street
Wilmington-Harbor City Planning Area
Zone : [Q]RD3-1XL-O and [Q]M2-VL-O
D. M. : 30B209
C. D. : 15
CEQA : ENV 2005-7988-MND
Fish and Game : Exempt
Legal Description : Lot 61, Tract 1527; portion of Lot 8, 111-Acre Range of New San Pedro Tract; portions of Lots 8 and 9, 20-Acre range of Wilmington; Lot 11, Block A, North San Pedro Tract 4; Lot 8, Resubdivision of Block 18, Range 5, Wilmington; Lot 9, Tract 5838, Lot 19, Resubdivision of Block 23, Range 7, Wilmington; Lot 21, Block 2, Bayview Tract No. 2; Lot 41, Tract 573, and Lot 13, Block N, Tract 2269

Pursuant to Section 12.24-M of the Los Angeles Municipal Code, and Condition No.27 of Case No. ZA 20725-O(PA1), I hereby APPROVE:

> plans including methods and conditions controlling drilling and production operations for a maximum of 540 Class "A" and Class "B" oil wells distributed in 5 well cellars at the Banning Semi-Controlled drill site within Nonurbanized Oil Drilling District No. 5 and the Wilmington Townlot Unit, Fault Block I (WTU), as previously approved on July 20, 2006,

upon the following additional terms and conditions:

1. All other use, height and area regulations of the Municipal Code and all other applicable government/regulatory agencies shall be strictly complied with in the development and use of the property, except as such regulations are herein specifically varied or required.

2. The use and development of the property shall be in substantial conformance with the plot plan submitted with the application and marked Exhibit "A", except as may be revised as a result of this action.

3. The authorized use shall be conducted at all times with due regard for the character of the surrounding district, and the right is reserved to the Zoning Administrator to impose additional corrective Conditions, if, in the Administrator's opinion, such Conditions are proven necessary for the protection of persons in the neighborhood or occupants of adjacent property.

4. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.

5. A copy of the first page of this grant and all Conditions and/or any subsequent appeal of this grant and its resultant Conditions and/or letters of clarification shall be printed on the building plans submitted to the Zoning Administrator and the Department of Building and Safety for purposes of having a building permit issued.

6. All terms and conditions specified under extant ZA Case No. 20725 (Exhibit 'B', attached) shall be strictly complied with, except for Condition No. 1 of said grant which is hereby modified to delete outdated Condition Nos. 9 and 37 of Section 13.01-F of the Municipal Code and replace them respectively by Subparagraphs a and b of this Condition as follows:

   a. **Clarified** - Refining process and extraction of products from natural gas shall be limited to the removal, separation and/or treatment of oil, natural gas and water liquids as necessary in order to be marketable or re-usable.

   b. All drilling mud and drill cuttings shall be either treated and recycled into common fill dirt or reinjected back into zones as approved and regulated by the California Division of Oil and Gas. If the first two options are unavailable the drilling mud and cuttings shall be hauled for disposal in an approved site.

7. Phasing Plan. The drilling of new wells shall be phased with the abandonment of existing wells throughout the Wilmington Community outside of the subject site as follows:

	Wells Drilled Banning Site	Wells Plugged/ Abandoned	Wells not Re-drilled
Phase 1 (1-3 years)	180	15 Wilmington Residential	560
Phase 2 (3-6 years)	180	15 Wilmington Residential	0
Phase 3 (6-12 years)	180	26 Wilmington Industrial	0
Total	540	56	560

Phases 2 and 3 may not be started until documentation is received to the satisfaction of the Zoning Administrator, that the number of wells identified in the preceding phase have been satisfactorily plugged/abandoned.

8. Monitoring. Starting one year from the date of effectiveness of this grant, the applicant shall provide on a yearly basis a report documenting the progress of the well drilling and abandonment operations, to the satisfaction of the Zoning Administrator. Said documentation shall include a list of the wells drilled, and maps of the corresponding well corridors, and a list of the wells plugged/abandoned, accompanied by the corresponding certification issued by the controlling well-abandonment agency.

9. Hours of operation: Except for actual drilling and production operations, which may be conducted twenty-four hours a day, seven days a week, including any nationally recognized holiday, no work shall be conducted on the property between the hours of 10 p.m. of one day and 7 a.m. of the following day or on Sundays. While actual drilling operations are being conducted between the hours of 10 p.m. of and 7 a.m., the applicant shall operate its facility in "Quiet Mode." "Quiet Mode" shall mean that where possible, operation components shall be covered with acoustical shields/ material, that all audible backup alarms shall be disabled and replaced with a spotter for safety purposes; operation of the cellar pump shall cease; the applicant's employees and contractors shall be prohibited from yelling; no horns shall be used to signal for time for connection or to summon crew (except that a horn may be used for emergency purposes only). The applicant shall conduct onsite meetings to inform all personnel of quiet mode operations.

   Except in case of emergency, no materials, equipment, tools or pipe used for either drilling or production operations shall be removed from the drilling site, except between the hours of 7 a.m. and 10 p.m. of any day.

   Modified - Notwithstanding any of the foregoing, during the period necessary to set up and move the drilling rig on or off the premises, and to conduct drilling or re-drilling operations as herein authorized, heavy ("permitted" oversized/overweight load) truck deliveries shall be permitted from 7 a.m. to ~~10 p.m.~~ 9:30 p.m., seven days a week, unless otherwise mandated by any applicable regulatory agency. The maximum number of heavy truck deliveries allowed for moving the drilling rig on and off the premises shall not exceed 20 loads per day. Except for the period of time required to move the drilling rig on and off the premises, the number of "permitted" truck deliveries per day (week days only, none on week-ends and holidays) shall be limited to a maximum of ten. Deliveries shall be made by approaching the facility off of Banning Boulevard exclusively. Delivery trucks are to be staged exclusively on-site so as to eliminate any truck waiting to enter the facility.

   In case of an emergency, all restrictions on the hours of operations shall be suspended for as long as is necessary to resolve the emergent situation, and for no longer.

   Construction hours: Construction operations, including delivery of construction materials, shall be limited to the hours of between 7 a.m. to 7 p.m., with no construction on Sundays.

10. All oil drilling and production operations shall be conducted in such a manner as to eliminate, as far as practicable, dust, noise, vibration or noxious odors, and shall be in accordance with the best accepted practices incident to drilling for and production of oil, gas, and other hydrocarbon substances. Proven technological improvements

in drilling and production methods shall be adapted as they may become, from time to time, available, if capable of reducing factors of nuisance and annoyance.

11. Sound Mitigation. The applicant shall install the following sound mitigation systems and implement administrative noise controls as follows:

a. Enclose the drilling rig floor with STC-25 rated acoustical barrier blankets.

b. To reduce sound from the drilling rigs sub-structure, acoustical blankets shall be hung from the exterior of the rig floor down to the ground, covering the open area of the rig sub-structure on the side of the rig facing the north property line.

c. The stabbing platform on the rigs derrick shall be enclosed with STC-25 rated acoustical blankets.

d. To mitigate the drilling rig draw works and brake noise level, sound damping acoustical material shall be installed and maintained during drilling activities.

e. Position all ancillary noise generation equipment away from the nearest critical receptors when feasible and install temporary sound enclosures, where possible on all noise generation equipment and operations.

f. Install vibration isolation pads on shaker units and provide low frequency designed sound absorption and barring panels adjacent to the shaker units.

g. Implement Warren "Quiet Mode" operation procedures including limitation of material delivery schedules and other sound mitigation requirements.

h. To ensure adequate sound mitigation has been installed, and to identify any unusual or unique noise problems, sound level measurements and testing shall be completed as the rig starts up operations. To verify and document sound level compliance, continuous sound level measurement and monitoring may be considered during all drilling activity.

i. Where a-f is not feasible, blanket sound walls shall be erected between the operations and the residential community, with the layout and wall lengths to be determined after the drilling rig and equipment positioning has been established. The sound walls shall be installed as close as possible to the drilling rig and associated equipment with no gaps or openings in the walls. The sound wall material should have a minimum STC rating of 25. Sound wall gates shall be installed with the same sound loss rating as the wall material and the gates shall be closed at all times except for material delivery or pick up.

j. All wells shall be pumped utilizing electric pumps.

k. All power operations other than drilling shall be carried on only by means of electric power.

l. When available, electric drilling equipment will be used.

m. All pumping equipment will be located in the well cellars, below ground level.

12. Dust Mitigation

a. The applicant shall cover the entire site with asphalt, except the cellars, which will be concrete.

b. The applicant will water down the property several times a day with a watering truck to eliminate dust until the site is covered with asphalt and concrete.

13. The California Division of Oil, Gas and Geothermal Resource regulations for cementing the well casing across the fresh water interval for the full protection of the public water supply shall be strictly complied with for each new well.

14. All storm water shall be drained on-site.

15. Circulation.

a. Vehicular access to the site shall be limited to one driveway on Banning Boulevard. Emergency access only may be provided to Opp Street or as required by the Fire Department.

b. All trucks and vehicles owned by the applicant or driven by the applicant's employees shall be instructed to drive on major thoroughfares only, and to avoid residential neighborhoods wherever possible.

c. Outside deliveries shall be instructed to avoid residential neighborhoods and remain on major thoroughfares whenever possible.

16. Parking.

a. Parking shall be provided on-site to the satisfaction of the Department of Building and Safety.

b. All trucks and employee parking, including during construction operations, shall be provided exclusively on site, and shall be prohibited from using public streets.

c. No staging/idling of vehicles shall be permitted in the public streets.

17. Visual Mitigation.

a. Upon completion of the grading operations along the perimeter of the property, and except where abutting the baseball field, the existing chain link fence along the perimeter of the site will be removed and replaced with an 8-foot high solid masonry block wall matching the existing block walls that presently cover only a portion of the site.

b. The wall shall be set back 5 feet from the property lines.

c. Prior to the issuance of permits for the wall, a landscape plan, including an irrigation plan, prepared by a licensed landscape architect or licensed landscape contractor shall be prepared to the satisfaction of the Zoning Administrator, showing the landscaping proposed for the 5-foot setback adjacent to the 8-foot wall along all street frontages. Special attention shall be given to the provision of landscape material to cover the wall in order to discourage the occurrence of graffiti, and/or to prevent perpetrators from reaching the wall.

d. The landscaped areas shall be maintained in an attractive condition at all times.

e. All pumping equipment, either new or retrofitted, shall be located below ground level.

18. The property shall be appropriately gated and secured at all times.

19. The site and its adjoining sidewalks and parkways shall be kept free and clear of debris at all times.

20. All lighting on the site shall be shielded and directed onto the site and no floodlighting shall be located so as to be seen directly from any adjacent residential area.

21. Prior to sign-off by the Zoning Administrator, a parking and driveway plan shall be submitted to the Department of Transportation for review and approval.

22. Prior to sign-off by the Zoning Administrator, plans shall be submitted to the Fire Department for review and approval.

23. The applicant shall permanently post at all of the site's entry gates a direct telephone number to the supervisor of the site at that time for residents to call and report any ongoing problem. A call log shall be maintained including date and time of call and subject, and date and time of response and action. Said log shall be made available at the request of the Zoning Administrator.

24. All conditions of Mitigated Negative Declaration No. ENV-2005-7988-MND (Exhibit 'C', attached) are hereby made full conditions of this grant and shall be strictly complied with.

25. A copy of the conditions of this letter of determination (including attached Exhibits) shall be retained on the property at all times and be immediately produced upon the request of any employee of the City's Planning Department or any other enforcing agency.

26. All employees working at the facility shall be made familiar with the content of this action's conditions of approval

27. At any time during the period of validity of this grant, should documented evidence be submitted showing continued violation of any condition of this grant, resulting in an unreasonable level of disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties, the Zoning Administrator reserves the right

to require the applicant to file for a plan approval application together with associated fees pursuant to LAMC Section 19.01-I (Miscellaneous Plan Approval $515 or as in effect at the time of filing), the purpose of which will be to hold a public hearing to review the applicant's compliance with and the effectiveness of these conditions. The applicant shall prepare a radius map and cause a notification to be mailed to all owners and occupants of properties within a 500-foot radius of the property, the Council Office, and the Los Angeles Police Department corresponding Division. The applicant shall also submit a summary and any supporting documentation of how compliance with each condition of this grant has been attained. Upon this review the Zoning Administrator may modify, add or delete conditions, and reserves the right to conduct this public hearing for nuisance abatement/revocation purposes.

28. Within 30 days of the date of effectiveness of this grant, a covenant acknowledging and agreeing to comply with all the terms and conditions established herein shall be recorded in the County Recorder's Office. The agreement (standard master covenant and agreement form CP-6770) shall run with the land and shall be binding on any subsequent owners, heirs or assigns. The agreement with the conditions attached must be submitted to the Zoning Administrator for approval before being recorded. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Zoning Administrator for attachment to the subject case file.

TRANSFERABILITY

This authorization runs with the land. In the event the property is to be sold, leased, rented or occupied by any person or corporation other than yourself, it is incumbent upon you to advise them regarding the conditions of this grant.

VIOLATIONS OF THESE CONDITIONS, A MISDEMEANOR

Section 12.29 of the Los Angeles Municipal Code provides:

> "A variance, conditional use, adjustment, public benefit or other quasi-judicial approval, or any conditional approval granted by the Director, pursuant to the authority of this chapter shall become effective upon utilization of any portion of the privilege, and the owner and applicant shall immediately comply with its Conditions. The violation of any valid Condition imposed by the Director, Zoning Administrator, Area Planning Commission, City Planning Commission or City Council in connection with the granting of any action taken pursuant to the authority of this chapter, shall constitute a violation of this chapter and shall be subject to the same penalties as any other violation of this Code."

Every violation of this determination is punishable as a misdemeanor and shall be punishable by a fine of not more than $1,000 or by imprisonment in the county jail for a period of not more than six months, or by both such fine and imprisonment.

APPEAL PERIOD - EFFECTIVE DATE

The applicant's attention is called to the fact that this grant is not a permit or license and that any permits and licenses required by law must be obtained from the proper public agency. Furthermore, if any Condition of this grant is violated or if the same be not

complied with, then the applicant or his successor in interest may be prosecuted for violating these Conditions the same as for any violation of the requirements contained in the Municipal Code. The Zoning Administrator's determination in this matter will become effective after OCTOBER 17, 2008, unless an appeal therefrom is filed with the City Planning Department. It is strongly advised that appeals be filed early during the appeal period and in person so that imperfections/incompleteness may be corrected before the appeal period expires. Any appeal must be filed on the prescribed forms, accompanied by the required fee, a copy of the Zoning Administrator's action, and received and receipted at a public office of the Department of City Planning on or before the above date or the appeal will not be accepted. **Forms are available on-line at www.lacity.org/pln**. Public offices are located at:

Figueroa Plaza
201 North Figueroa Street,
4th Floor
Los Angeles, CA 90012
(213) 482-7077

Marvin Braude San Fernando
Valley Constituent Service Center
6262 Van Nuys Boulevard, Room 251
Van Nuys, CA 91401
(818) 374-5050

If you seek judicial review of any decision of the City pursuant to California Code of Civil Procedure Section 1094.5, the petition for writ of mandate pursuant to that section must be filed no later than the 90th day following the date on which the City's decision became final pursuant to California Code of Civil Procedure Section 1094.6. There may be other time limits which also affect your ability to seek judicial review.

NOTICE

The applicant is further advised that all subsequent contact with this office regarding this determination must be with the Zoning Administrator who acted on the case. This would include clarification, verification of condition compliance and plans or building permit applications, etc., and shall be accomplished **BY APPOINTMENT ONLY**, in order to assure that you receive service with a minimum amount of waiting. You should advise any consultant representing you of this requirement as well.

FINDINGS OF FACT

After thorough consideration of the statements contained in the application, the plans submitted therewith, the report of the Zoning Analyst thereon, the statements made at the public hearing on May 2, 2008, all of which are by reference made a part hereof, as well as knowledge of the property and surrounding district, I find that the requirements for authorizing a conditional use plan approval under the provisions of Section 12.24-M have been established by the following facts:

BACKGROUND AND TIMELINE OF EVENTS

1932 - Discovery of Wilmington Oil Field.

1937 - McMillen Petroleum Corporation undertook oil drilling and production activities pursuant to Ordinance Nos. 78108, 78260 and 78269.

1937 to Over 600 wells were drilled by over 100 different oil companies in the

1970 residential, commercial and industrial areas of Wilmington. The Wilmington Oil Field becomes the third largest oilfield in the United States.

1972 - Exxon Corporation developed a water flood plan for a portion of the Wilmington Oilfield and obtained the approval of operators and landowners to form the WTU (ZA Case no. 20725). The Zoning Administrator approved the use of the WTU in connection with the secondary recovery of hydrocarbons and for the development of said site with such equipment and buildings necessary for the establishment and operation of a central production facility for the secondary recovery of hydrocarbons from the WTU.

1982 - Conditional use approval by the Zoning Administrator for a Little League Baseball recreational use and pertinent facilities adjacent to Banning Boulevard (Case No. CUZ 82-117).

1994 - Zoning Administrator denied a zone variance to permit the establishment and operation of a bioremediation facility pursuant to ZA Case No. 94-0435(ZV).

1997 - Magness Petroleum Company purchased Exxon's remaining interest in the WTU and took over operations of the WTU.

1999 - Warren Resources, Inc. purchased an interest from Magness Petroleum Company and drilled seven wells in partnership with Magness Petroleum Company.

2005 - Warren Resources, Inc. and Warren E&P, Inc. purchased the remaining interest of Magness Petroleum Company and Warren E&P, Inc. became the operator of the WTU.

2006 - Zoning Administrator approved Applicant's proposal to redevelop the WTU by drilling directional wells from a modern, compact drill site located at its existing Banning Semi Controlled Drill Site on the 10.05 acres of a city block located at the northeast corner of Anaheim Street and Banning Boulevard (Case No. 20725-O(PA1)).

Previous zoning related actions on the site include:

Case No. ZA 10045 – Approved by the Zoning Administrator on December 23, 1947, for a variance from the conditions of a previous zone variance authorized under Variance Case No. 5308 to permit the drilling of three additional oil wells on a 7-acre parcel of land containing four oil wells.

Case No. ZA 10044 – Approved by the Zoning Administrator on January 7, 1948, for a variance from the conditions of a previous zone variance authorized under Variance Case No. 5319 to permit the drilling of one additional oil well on a 3-acre parcel.

Case No. ZA 20725 – Approved by the Zoning Administrator on Februaryc25,c1972, for determination of conditions and methods of operation for development and operation of a semi-controlled drilling and production site. The Zoning Administrator approved the use of the site in connection with the secondary recovery of hydrocarbons and for the development of said site with such equipment and

buildings necessary for the establishment and operation of a central production facility for the secondary recovery of hydrocarbons from the Townlot Unit.

Case No. ZA 21408 – Approved by the Zoning Administrator on August 6, 1974, to allow a 6-foot in height fence enclosure along Banning Boulevard, instead of the maximum 3 feet height permitted, substitution of a wire fence enclosure adjoining the parking area, instead of providing the required masonry wall enclosure, temporary dust-proof surfacing of the parking area and also with encroachment of the parking area, bleachers and dug out facilities into the setback areas along Banning Boulevard and Opp Street for a temporary term period of five years.

Case No. ZA 20725 (PA) – Approved by the Zoning Administrator on February 25, 1975, for the installation of an electric driven gas compressor to be located within a 16- by 28-foot acoustical building on a 40- by 50-foot parcel of land located in the M2 Zone approximately 10 feet south of Opp Street and 10 feet west of Eubanks Avenue. The site will further be enclosed by an 8-foot high chain link fence with wooden slats inserted to provide a visual screen to residential developments located on R1 zoned properties to the north.

Case No. CUZ 82-117 – A conditional use approved by the Zoning Administrator on Junec14, 1982, for a Little League Baseball recreational use and pertinent facilities, including two baseball diamonds, bleachers, toilet facilities, snack bar, storage building, etc., with night floodlighting of the larger diamond adjacent to Banning Boulevard and also grants a variance from the provisions of Article 2, Chapter 1 of said Code but only insofar as such variance is necessary to permit a 6-foot high fence enclosure along Banning Boulevard, instead of the maximum, 3-foot height permitted, substitution of a wire fence enclosure adjoining the parking area, instead of providing the required masonry wall enclosure, and also with .encroachment of the parking area, bleachers and dug out facilities into the setback areas along Banning Boulevard and Opp Street, all for a temporary term period of ten years.

Case No. ZA 94-0435(ZV) – On August 25, 1994, the Zoning Administrator denied a variance request for the construction, use and maintenance of a bioremediation facility for cleaning oil/contamination soil in two open air containment cells, open stockpiling of soil to be treated, equipment/material storage associated with the treatment of contaminated soil (no structures).

Building Permit No. 06020-4000-00647 – Issued March 21, 2006, for a new steel skid and foundation for switch board electrical gear.

Building Permit No. 05020-40000-04818 – Issued April 19, 2006, for a foundation for a switch gear and other miscellaneous structures.

Case No. ZA-20725(O)(PA1) - On July 20, 2006, the Zoning Administrator approved methods and conditions controlling drilling and production operations for the drilling of a maximum 540 Class 'A' and Class 'B' oil wells distributed in five well cellars at the Banning Semi-Controlled drill site within Nonurbanized Oil Drilling District No.5 and the Wilmington Townlot Unit, Fault Block1 (WTU).

Building Permit No. 05020-40000-0451 – Issued September 29, 2006, for three 12-foot wide by 369-foot long by 8-foot deep pit (oil well cellar) with a 44- by

407-foot long slab surrounding pit and a 24-inch diameter by 11-foot deep Piles to support tie down movable oil rigs operating above proposed property

Building Permit No. 06020-30000-03641 – Issued November 8, 2006, for a new 8-foot high by 1,160-foot long concrete retaining wall and block wall per ZA 20725. Retaining height ranges from 2 to 4 feet.

Building Permit No. 07020-10000-00174 – Issued March 7, 2007, to construct (1), 27-foot by 37-foot 6-inch, (1) 4- by 4-foot and (1) 21-foot 6-inch by 31-foot equipment pads for micro turbines and pipe rack structures.

Building Permit No. 07020-10000-01601 – Issued on September 25, 2007, for five new underground concrete valve boxes with various sizes. Site to comply with methane LevelCIII requirements per methane testing report.

STATUS OF COMPLIANCE WITH TERMS AND CONDITIONS

The following section identifies the degree of compliance with the existing conditions based upon testimony, field investigation and other information in the case file.

A. Compliance with Case ZA 20725(O)(PA1) dated July 20, 2006

1. All other use, height and area regulations of the Municipal Code and all other applicable government/regulatory agencies shall be strictly complied with in the development and use of the property, except as such regulations are herein specifically varied or required.

   Partial Compliance - While the Applicant has complied with all height and area restrictions for all permanent structures built on site, violations of various regulations have been identified as follows:

   a. Off-site parking/storage: Unpermitted use of property located in the [Q]R3-1VL-O and [Q]RD3-1XL-O Zones across the Banning Boulevard from the site, for parking of employees automobiles (831 N. Banning Boulevard) and storage of material (conduit, casing, tubing and drilling pipes and equipment) (829 N. Banning Boulevard).

      Correction: The applicant agreed to cease open storage of drilling pipes, and to discontinue employee (including contractors and sub-contractors) parking within 90 days. As of September 1, 2008, both lots have been cleared of all unauthorized use.

   b. SCAQMD – Conditions of the Flare permit not complied with.

      - Background :

      The Wilmington Townlot Unit (WTU) Central Facility was constructed by Humble Oil and Refining Company (Exxon) in 1972. Initially, all flaring of gas was done from a neighboring facility; however Exxon (successor to Humble) relocated the flare to its current location in the 1990's.

Exxon sold the WTU to Magness Petroleum Company in April 1997. Magness operated under and transferred Exxon's SCAQMD permits. Magness also applied for and received an "Authority to Construct" permit to install several cogeneration units to convert produced gas into electricity. Magness never installed the cogeneration units and continued to operate the flare under the original SCAQMD permits. Warren E&P, Inc. acquired title and operatorship of the WTU in February 2005.

In October 2006, Warren contacted the SCAQMD to propose the installation of six (6) CARB-certified Ingersoll-Rand MT-70 microturbine units to generate electricity. It appears the SCAQMD initially advised Warren that the microturbines were exempt from permits, leading Warren to purchase the six units. Prior to installation of the units, the SCAQMD reversed its decision and required Warren to operate the microturbines under a permit. Since use of the units represented Best Available Control Technology (BACT) equipment, Warren entered into a Settlement Agreement with the SCAQMD and commenced proceedings for a Stipulated Order of Abatement governing use of the microturbines. Warren applied for permits to operate the six microturbines in September 2007 and began use of the units in October 2007.

Although the original Exxon flare permit does not include a specific gas throughput condition, the equipment is described as a 4,000,000 Btu/hr flare, which the SCAQMD determined limited the flare to no more than 94,285 scf of gas per day. The Settlement Agreement and Order for Abatement mentioned above included language resolving the gas throughput issue and Warren has maintained its gas flow to less than the 94,285 scf per day

- Current status:

Warren currently operates five equipment systems under valid permits from the SCAQMD. In 2007, Warren submitted permit applications to the SCAQMD for three additional state-of-theart, gas-burning systems known as Best Available Control Technology (BACT) equipment, which will combust oilfield gas produced at the facility much more efficiently. These systems include a new Bekaert Clean Enclosed Burner to replace the existing flare, a new heater treater, and a system of six microturbines, which make electric power for use onsite.

In the spring of 2008, due to neighborhood concerns, the SCAQMD required Warren to conduct a CEQA analysis of the new equipment and advised that the pending applications would be placed on hold until the CEQA analysis is certified. The CEQA analysis has been reviewed by the SCAQMD in draft form and is now called a draft Negative Declaration. The draft Negative Declaration was submitted to the SCAQMD for its review on September 11, 2008.

During the preparation of the CEQA analysis, Warren decided to install a fourth new system to manage excess oil field gas. This fourth

system is comprised of a gas re-injection compressor and a gas re-injection well. A permit application for the compressor has been submitted to the SCAQMD, and a permit application for conversion of an existing well into a gas re-injection well has been submitted to the Department of Oil, Gas, and Geothermal Resources (DOGGR). These systems are included in the CEQA analysis, which is expected to be completed in the fourth quarter of 2008.

Meanwhile, the SCAQMD and Warren agreed on a formal schedule to accomplish the timely installation of the new systems once the CEQA Negative Declaration is certified. This schedule is contained in an Order of Abatement, which was approved on August 14, 2008 by the SCAQMD Hearing Board following a public hearing. This Order calls for the prompt and systematic installation of the new systems after SCAQMD permits are issued subsequent to the CEQA certification.

- Correction

On August 14, 2008, the SCAQMD Hearing Board unanimously approved a stipulated Order of Abatement for the following-described BACT equipment and limitations:

A. Limit flaring of gas in the Flare King flare to 94,285 scf per day until a new Bekaert Clean Enclosed Burner is installed.

B. Maximize use of the six microturbines for combustion of produced oilfield gas.

C. Warren will apply to the applicable agencies for permits to install a gas reinjection system, in lieu of flaring gas.

D. Warren will install a new BACT heater treater (Heater Treater #2) to replace the old heater treater and keep the older unit on a stand-by basis if Heater Treater #2 requires repair or maintenance.

E. Warren has applied for all required permits. Upon certification of the Negative Declaration under the CEQA analysis and issuance of permits, Warren will install the above-described BACT equipment. The CEQA analysis is expected to be completed in the fourth quarter of 2008.

Upon completion of the CEQA analysis, Warren will install the BACT equipment as follows:

A. Construct and install the Bekaert Clean Enclosed Burner and remove the old flare.

B. Construct and install Heater Treater #2 and refurbish Heater Treater #1 as a back up.

C. Construct gas re-injection compressor pad.

D. Install gas re-injection compressor.

E. Convert an existing well for gas injection.

All of the above are expected to be completed by the 1st Quarter of 2009. It must be noted however that completion dates may vary based on the time needed to obtain permits for concrete pads and electrical work. Heater Treater #2 and the Bekaert Clean Enclosed Burner are ready for installation. The compressor has been ordered. A permit for conversion of a well for gas re-injection has been submitted to the Department of Oil, Gas and Geothermal Resources.

2. The use and development of the property shall be in substantial conformance with the plot plan submitted with the application and marked Exhibit "A", except as may be revised as a result of this action.

Compliance - As detailed in the background section of this report, a number of building permits have been issued by the City, upon review by the Zoning Administrator for compliance of the construction with plans approved as Exhibit 'A' of Case No. ZA-20725-O-PA1. No unauthorized use of the property or on-site construction has taken place.

3. The authorized use shall be conducted at all times with due regard for the character of the surrounding district, and the right is reserved to the Zoning Administrator to impose additional corrective Conditions, if, in the Administrator's opinion, such Conditions are proven necessary for the protection of persons in the neighborhood or occupants of adjacent property.

Partial Compliance - The property and surrounding district are classified as a Supplemental Oil Drilling District pursuant to Los Angeles Municipal Code ("LAMC") § 13.01. Accordingly, drilling of oil wells or the production of oil, gases or other hydrocarbon substances from the wells is allowed on the property and within the surrounding neighborhood. The site is used for crude oil and gas drilling, production, separation, limited storage, and transportation purposes. The site has been utilized in conformance with its continuous historic use since the 1930's, when no residential uses were to be found in the vicinity of the site, as shown by old aerial photographs of the area (attached to the file, as part of the presentation made by the applicant at the public hearing held on May 2, 2008).

Over the years, a number of conditions were imposed as part of the approvals of methods controlling drilling and production operations on the property. In Fall of 2007, the Council District Office received numerous complaints pertaining to negative impacts resulting from operations conducted on the property, resulting in noise, dust, vibrations and odors impacting the quality of life of occupants of surrounding property. The instant review aims at assessing the level of impacts and imposing corrective measures to eliminate such impacts as detailed below within the review of each specific condition. Details of the alleged violations are provided below under the review of every specific condition, as applicable.

4. All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.

   Compliance - Graffiti is painted over within 24 hours of its occurrence, except possibly during weekends, when activity levels of gangs and other vandals is heightened and the site's operating staff is reduced. It must be noted that recently, a number of the applicant's mature white barked Ficus trees along Banning Boulevard have also been the victims of tagging. The applicant's contractor painted over the graffiti on the trees, but a more acceptable means for removal of the graffiti form the trees needs to be researched. No graffiti were observed at the times of the Zoning Investigator's site visits.

5. A copy of the first page of this grant and all Conditions and/or any subsequent appeal of this grant and its resultant Conditions and/or letters of clarification shall be printed on the building plans submitted to the Zoning Administrator and the Department of Building and Safety for purposes of having a building permit issued.

   Compliance – A copy of the first page of the July 20, 2006 ZA approval letter, and all pages including conditions, is attached to the plans when submitted.

6. All terms and conditions specified under extant ZA Case No. 20725 (Exhibit 'B', attached) shall be strictly complied with, except for Condition No. 1 of said grant which is hereby modified to delete outdated Condition Nos. 9 and 37 of Section 13.01-F of the Municipal Code and replace them respectively by Subparagraphs a and b of this Condition as follows:

   a. Refining process and extraction of products from natural gas shall be limited to the removal of liquids in order to be marketable.

      Compliance - No "refining" processes are conducted on this site. First stage separation of crude oil, water, and natural gas is conducted to remove water and natural gas from the crude oil to make it marketable. The water separated from the oil is "polished" to remove trace amounts of oil and grease before the water is reinjected into the subsurface oil reservoirs. At present, natural gas removed from the oil is used to generate electricity in six microturbines, or used to create heat for the separation of oil and water. Excess natural gas not converted to electricity or process heat is incinerated in a flare. All oil production is shipped by pipeline. In October, 2007, the applicant filed an application with the South Coast Air Quality Management District (SCAQMD) to replace the existing flare with an ultra low emission flare. The applicant has not yet received the permit to construct the new low emission flare. As of mid September 2008, the applicant and SCAQMD have entered into a Stipulated Order of Abatement (SOA) which has been approved by the SCAQMD Hearing Board on August 14, 2008, upon the conclusion of a public hearing involving public comment, evidence and testimony of various parties. The SOA requires Warren to submit applications for gas re-injection as a means to reduce overall emissions at the site and to limit flare emissions until

it can install BACT emission control equipment and the gas re-injection pending issuance of construction permits by SCAQMD. (Details of these processes are included under review of Condition No. 1 above).

A clarification of this condition is included in this determination in order to more accurately describe the nature of operations conducted on-site.

b. All drilling mud and drill cuttings shall be either treated and recycled into common fill dirt or reinjected back into zones as approved and regulated by the California Division of Oil and Gas. If the first two options are unavailable the drilling mud and cuttings shall be hauled for disposal in an approved site.

Compliance - Upon start of the drilling operations, a biopolymer called Soli-bond was used to dehydrate and bind "spent" drilling fluids and rock cuttings from the drilling operations. The cuttings were kept on site for a few weeks at a time until they were both sufficiently dry and of sufficient volume to warrant hauling via truck to an approved disposal facility. During the drying period, the Soli-bond biopolymer decomposes, giving off a fishy smell, presented as non-hazardous by the Applicant. Following complaints from neighbors, the Applicant installed a mister system to spray a flowery smelling odorant over the drill cuttings to mask the fishy smell of the decomposing biopolymer. Since using the system, the Applicant reports not having received any complaint about the fishy odor.

Further, in late 2006, the Applicant obtained permits from the California Division of Oil and Gas to drill and complete a 3,500-foot deep slurry disposal well on site, at a cost of over $1 million dollars. This well is used to dispose of the spent drilling fluids, sand, and clay "fines" into the Miocene-aged Lower Terminal Formation. The larger rock cuttings area separated from sand, clay, and liquids through a screening and filtration plant. The fines and liquid are pumped into the slurry disposal well while larger rock cuttings are stored onsite and periodically placed onto trucks for transportation to an approved disposal facility. Biopolymers are therefore no longer used at this site.

7. Phasing Plan. The drilling of new wells shall be phased with the abandonment of existing wells throughout the Wilmington Community outside of the subject site as follows:

	Wells Drilled Banning Site	Wells Plugged/ Abandoned	Wells not Re-drilled
Phase 1 (1-3 years)	180	15 Wilmington Residential	560
Phase 2 (3-6 years)	180	15 Wilmington Residential	0

Phase 3 (6-12 years)	180	26 Wilmington Industrial	0
Total	540	56	560

Phases 2 and 3 may not be started until documentation is received to the satisfaction of the Zoning Administrator, that the number of wells identified in the preceding phase have been satisfactorily plugged/abandoned.

Compliance - 540 new wells are permitted to be drilled from the WTU central facility. From August 2006 through August 2007, five wells were plugged and abandoned in the Wilmington Residential area and 45 wells were drilled from the Banning site. During the period August 2007 through August 2008, 31 new wells were drilled, and six wells were abandoned, bringing to 11 the total number of wells abandoned in WTU. All well plugging operations have been approved by the California Division of Oil and Gas. Environmental site assessments reclamation work have been completed as required, so the lots can be returned to the land owner and put to their best use, eliminating the risk of potential water and oil leaks in the neighborhoods.

8. Monitoring. Starting one year from the date of effectiveness of this grant, the applicant shall provide on a yearly basis a report documenting the progress of the well drilling and abandonment operations, to the satisfaction of the Zoning Administrator. Said documentation shall include a list of the wells drilled, and maps of the corresponding well corridors, and a list of the wells plugged/abandoned, accompanied by the corresponding certification issued by the controlling well-abandonment agency.

Compliance - Said documentation was submitted to the satisfaction of the Zoning Administrator on August 29, 2007. The 2008 report was submitted on September 11, 2008. Details of the latest report are summarized under review of Condition No. 7 above.

9. Hours of operation: Except for actual drilling and production operations, which may be conducted twenty-four hours a day, seven days a week, including any nationally recognized holiday, no work shall be conducted on the property between the hours of 10 p.m. of one day and 7 a.m. of the following day or on Sundays. While actual drilling operations are being conducted between the hours of 10 p.m. of and 7 a.m., the applicant shall operate its facility in "Quiet Mode." "Quiet Mode" shall mean that where possible, operation components shall be covered with acoustical shields/ material, that all audible backup alarms shall be disabled and replaced with a spotter for safety purposes; operation of the cellar pump shall cease; the applicant's employees and contractors shall be prohibited from yelling; no horns shall be used to signal for time for connection or to summon crew (except that a horn may be used for emergency purposes only). The applicant shall conduct onsite meetings to inform all personnel of quiet mode operations.

Except in case of emergency, no materials. equipment, tools or pipe used for either drilling or production operations shall be removed from the drilling site, except between the hours of 7 a.m. and 10 p.m. of any day.

Notwithstanding any of the foregoing. during the period necessary to set up and move the drilling rig off the premises, and to conduct drilling operations as herein authorized, heavy truck deliveries shall be permitted from 7 a.m. to 10 p.m., seven days a week.

In case of an emergency, all restrictions on the hours of operations shall be suspended for as long as is necessary to resolve the emergent situation, and for no longer.

Construction hours: Construction operations, including delivery of construction materials, shall be limited to the hours of between 7 a.m. to 7 p.m., with no construction on Sundays.

Compliance - Construction operations are limited to the hours of 7 a.m. to 7 p.m. or less (typically 7 a.m. to 5 p.m.). Construction was limited to Mondays through Thursdays until early 2008 at which time overtime was authorized for the construction crews to work on Fridays in order to expedite civil excavation work so that site paving could be accelerated.

Delivery and removal of material, equipment, tools, and pipe from the site, is controlled so that said activities are completed prior to 10 pm or after 7 am. In early 2007, the applicant became aware of oil transport trucks, contracted by the applicant's crude oil purchaser entering and exiting the site outside of these hours. Both the trucking company and the crude oil purchaser were immediately instructed to cease operations except between the hours of 7 a.m. and 10 p.m.

During the removal of the drilling rig in January 2008, a few oversized loads were moved from the site late at night. This was required by CalTrans and LA DOT.

A number of measures to minimize noise from drilling operations during the hours of 10 pm and 7 am were taken by the applicant, an extensive list of which is included in the response to Condition 11 of this grant.

In October 2007, a sound specialist was hired to install a temporary sound barrier wall along the North and West sides of the site. Installation of this wall has been held up pending the results of the Plan Review process. Further discussion of this item can be found under 11. i.

In response to public testimony, hours and days of operation of the site as far as heavy, permitted truck deliveries are concerned, have been further curtailed, as shown under Condition No. 9 of this action, in order to minimize impact of such activities on adjacent residential uses, while still allowing reasonable operation of the approved activities for the site. It must be noted that the movement of oversize ("permitted") trucks may be subject to safety regulations imposed by other agencies, such as CalTrans, which supercede any of the grant's conditions for public safety reasons.

10. All oil drilling and production operations shall be conducted in such a manner as to eliminate, as far as practicable, dust, noise, vibration or noxious odors,

and shall be in accordance with the best accepted practices incident to drilling for and production of oil, gas and other hydrocarbon substances. Proven technological improvements in drilling and production methods shall be adapted as they may become, from time to time, available, if capable of reducing factors of nuisance and annoyance.

Compliance - All drilling and production operations are subject to approval of the California Division of Oil and Gas, the South Coast Air Quality Management District, and other regulatory agencies. State-of-the-art drilling and production methods and equipment is utilized on site including:

- Downhole mud motors which eliminate the drilling rig's rotary table noise during the drilling operations;
- Subsurface electrical pumps to produce wells without the use of traditional large above ground pump jacks;
- Well cellars to keep all wellhead equipment below grade and to facilitate secondary containment of any leaked liquids;
- Well and pipeline remote electronic pressure sensing with telemetry tied to a System Control and Data Acquisition ("SCADA") computer for rapid detection;
- An automated well testing system which eliminates leaks intrinsic with traditional well testing;
- Micro-turbines for the conversion of produced natural gas to electrical power;
- An all-electric drilling rig (contract recently ended on the Nabors 411 electric rig, which will be replaced in the second quarter of 2008 with a newly built, sound-proofed electric rig);
- Automated pipe handling equipment on the drilling rigs; and
- An oil pipeline connection was completed on March 14, 2008 from the site to a nearby pipeline running from the THUMS Unit in Long Beach, to the ConocoPhillips refinery in Carson. This pipeline effectively eliminates 100% of vehicular oil transport into and out of the site (between 40 and 60 truck trips per day).

Permits are pending for the installation of the following:

- A new ultra-low emission flare with Best Available Control Technology to replace the older flare historically used by the previous operators of the site, and
- An STC-25 sound barrier wall similar to those used at other urban drilling sites within the Los Angeles area.

11. Sound Mitigation. The applicant shall install the following sound mitigation systems and implement administrative noise controls as follows:

a. Enclose the drilling rig floor with STC-25 rated acoustical barrier blankets.

Compliance - The drilling floor of both rigs used on site have been enclosed with STC-25 rated acoustical barrier blankets. Additionally, in early November, 2007, the applicant applied for permits to erect an 18 foot tall temporary sound wall along the northern and western

property boundaries, with at least a 5 foot setback. A similar wall had previously been erected along the southwestern side of the property and has been found to be effective not only at reducing noise traveling offsite, but also in limiting dust blowing from the site. In the meantime, the applicant consulted with a third party noise expert who advised that a similar, but portable sound wall which could be placed closer to the source of any noise, would be more effective. An 18 foot portable wall made from STC-25 rated acoustical blankets hung on a steel frame anchored into parallel concrete "K" rails was constructed in May 2008 and has been in use at various times since. The portable sound wall is placed close to sources of noise, such as pump trucks, and blocks the sound from traveling outside the site. This portable wall has been deemed to be more effective than a stationary wall along the property boundary because it can be placed closer to the noise source, limit "arcing" of sound over the wall, and can be relocated or removed when not needed. The applicant has therefore canceled its request of a permit application for the stationary sound wall. The stationary sound wall could be reconsidered in the future if the portable wall is subsequently found deficient.

b. To reduce sound from the drilling rig's sub-structure, acoustical blankets shall be hung from the exterior of the rig floor down to the ground, covering the open area of the rig sub-structure on the side of the rig facing the north property line.

Compliance - The drilling rigs' sub-structures have been covered with acoustical blankets on multiple sides, including the north side.

c. The stabbing platform on the rig's derrick shall be enclosed with STC-25 rated acoustical blankets.

Compliance - The stabbing platforms on both rigs' derricks have been enclosed with STC-25 rated acoustical blankets.

d. To mitigate the drilling rig draw works and brake noise level, sound damping acoustical material shall be installed and maintained during drilling activities.

Compliance - Sound dampening acoustical material has been installed and maintained around the rig floor and substructure enclosing the draw works and the brakes of the rigs.

e. Position all ancillary noise generation equipment away from the nearest critical receptors when feasible and install temporary sound enclosures, where possible on all noise generation equipment and operations.

Compliance - Noise generation equipment is positioned away from the nearest critical receptors when feasible. Temporary sound enclosures are not always possible because of the need to allow air flow for equipment cooling purposes. Temporary sound barriers on equipment, have been used where deemed appropriate. Also, other

large equipment, such as storage containers and portable change rooms are used as sound barriers between equipment and receptors.

f. Install vibration isolation pads on shaker units and provide low frequency designed sound absorption and barring panels adjacent to the shaker units.

Compliance - The Mongoose PT Shakers currently in use at the Project site are equipped with springs and shock absorbers to minimize any vibration transmission to the ground. These shaker units transmit much less vibration than older style shakers. The Applicant has retained a vibration and noise specialist to provide recommendations on any additional noise and vibration mitigation which may be warranted on the shakers and elsewhere on the Project site.

g. Implement Warren "Quiet Mode" operation procedures including limitation of material delivery schedules and other sound mitigation requirements.

Compliance - Every effort is made to maintain "Quiet Mode" at night:

- Materials are not delivered at night. If material or equipment is needed for night time drilling operations, it is delivered before 10 .p.m.
- Back-up alarms on all vehicles that remain permanently on the Project site (forklifts, water trucks, crane trucks, etc.) have been disconnected. There have been a few instances where DOT-regulated trucks necessary for night time operations, such as pump trucks for well cementing or gravel-packing, have been staged on site before 10 p.m. but inadvertently did not have their back-up alarms disabled. A sign has been installed at the site's entrance instructing drivers of all trucks that will be on-site past 10 p.m. to disconnect their truck's backup alarm. Night supervisors are repeatedly instructed to ensure that all backup alarms on vehicles are disconnected.
- Night supervisors for the drilling operations are repeatedly instructed to remind crews in daily briefing meetings of the requirement to work quietly without shouting, horns, alarms, or avoidable noise.
- Drilling crews are frequently instructed to delay planned work until after 7 a.m. if it is expected to make a significant amount of noise.

h. To ensure adequate sound mitigation has been installed, and to identify any unusual or unique noise problems, sound level measurements and testing shall be completed as the rig starts up operations. To verify and document sound level compliance, continuous sound level measurement and monitoring may be considered during all drilling activity.

Compliance - Sound measurements have been taken by qualified third party sound experts at various times during the Project, including: 1) prior to the start of drilling operations to measure the "ambient" noise level in the area; 2) inside the Project site following the start of drilling operations to measure the unmitigated noise created from drilling operations; 3) after the installation of sound mitigation; and 4) close to the homes of "critical receptors." Additionally, sound measurements have been made at various points in the neighborhood, adjacent to homes to determine if noise levels exceeded City ordinances and to determine the source of any noise or ground vibration.

i. Where a-f is not feasible, blanket sound walls shall be erected between the operations and the residential community, with the layout and wall lengths to be determined after the drilling rig and equipment positioning has been established. The sound walls shall be installed as close as possible to the drilling rig and associated equipment with no gaps or openings in the wall. The sound wall material should have a minimum STC rating of 25. Sound wall gates shall be installed with the same sound loss rating as the wall material and the gates shall be closed at all times except for material delivery or pick up.

Compliance - In March 2007, a temporary 14' tall sound barrier wall was installed along the west side of the property on Banning Boulevard. This wall is constructed of STC 25 acoustic sound blankets hung on a galvanized steel frame. The posts for the frame are stabbed into sleeves secured in the ground. The wall can thus be easily removed when not needed. While the primary purpose of the sound barrier is to block noise from leaving the site, it also serves to block dust from blowing from the site. This wall appears to have been an effective sound mitigation between the diesel drilling rig working in the Cellar 3 area and the neighborhood.

Prior to moving the small diesel rig from the southwestern Cellar 3 area to the northeastern Cellar 1 area in October 2007, the applicant contracted the same company that installed the wall along Banning Boulevard to install a similar wall along the north side (Opp Street) of the site and along the outfield fences of the adjacent baseball fields. As detailed above, while waiting for the necessary permits for the construction of the sound wall, the applicant found that a similar but portable sound wall which could be placed closer to the source of any noise, would be more effective. An 18 foot portable wall made from STC-25 rated acoustical blankets hung on a steel frame anchored into parallel concrete "K" rails was constructed in May 2008 and has been in use at various times since. The portable sound wall is placed close to sources of noise, such as pump trucks, and blocks the sound from traveling outside the site. This portable wall has been deemed to be more effective than a stationary wall along the property boundary because it can be placed closer to the noise source, limit "arcing" of sound over the wall, and can be relocated or removed when not needed. The applicant has therefore canceled its request of a permit application for the stationary sound wall. The stationary sound wall

could be reconsidered in the future if the portable wall is subsequently found deficient.

j. All wells shall be pumped utilizing electric pumps.

Compliance - All wells on the site are pumped utilizing electrical submersible pumps placed downhole in the wells.

k. All power operations other than drilling shall be carried on only by means of electric power.

Compliance - All power operations for the site, other than drilling and construction (cranes, bulldozers, backhoes, etc.) are conducted by means of electric power.

l. When available, electric drilling equipment will be used.

Compliance - An electric drilling rig was contracted and utilized on the Project site until termination of the contract on December 27, 2007. In November 2007, the Applicant entered into a contract for a newly built, all electric, fully sound-proofed drilling rig which was estimated to be delivered by October, 2008. Applicant plans to remove the smaller diesel rig from the Project site after the new electric rig is operational. The smaller diesel rig operates under a statewide California Air Resources Board certification.

m. All pumping equipment will be located in the well cellars, below ground level.

Compliance - All well pumping equipment is located in the wells, which are drilled from the well cellars.

12. Dust Mitigation

a. The applicant shall cover the entire site with asphalt, except the cellars, which will be concrete.

Compliance - During the construction phase for Cellars 1 and 2, significant excavation work was ongoing to dig the cellars, grade the site for proper drainage, and to install electrical conduits, valve boxes, vapor barriers required under electrical panels, and pipes for firewater, injection water, oil, and gas. This made paving the areas of construction impractical until work was completed. However, throughout construction, the portions of the site not under construction, approximately 50% of the site, were either covered in asphalt or permanent landscaping. Now that construction is winding down, paving is proceeding in the areas of Cellars 1 and 2 (north half of site). At the time of filing, approximately 75% of the Project site was paved or covered with permanent landscaping. As of August 2008, 99% of the site is either paved, covered with gravel before being paved (Cellar No.3) or landscaped (outside perimeter of the site).

b. The applicant will water down the property several times a day with a watering truck to eliminate dust until the site is covered with asphalt and concrete.

Compliance - During the time of construction, the applicant rented a water truck and watered down the site several times per day.

Additional dust mitigation measures have been undertaken by the applicant as follows:

On-site

- The on-site speed limit was reduced from 15 mph to 5 mph.
- Silt fencing was installed at low spots along the perimeter of the site until the block wall was completed. Silt fencing is maintained at the Anaheim Street gate and along the outfield of the baseball fields.
- During the excavation phases of construction, approximately every two months, gravel was placed in the high traffic areas of the site.
- Wheel "shakers" have been placed at the exit of the facility to remove some of the loose mud from the truck tires. In October 2007, the shakers and the on-site traffic pattern were reconfigured to require all vehicles to cross three sets of tire shakers before leaving the site. This appeared to improve the effectiveness of the shakers. In February 2008, after completing another phase of paving, the tire shakers were reconfigured again.
- Construction contractors were required to keep mounds of loose soil lower than 8-foot tall or to cover them with plastic in order to reduce the amount of airborne dust.
- The 8-foot high block wall required under Condition No. 17a has been constructed around the perimeter of the site. In addition to visual mitigation, this wall also serves to dampen noise and block blowing dust.
- After the perimeter wall was completed, irrigation and landscaping were installed along the entire exterior of the site. The landscaping helps control dust migration.
- Sections of sidewalks and curbing around the site repaired and/or replaced.
- A drainage area on the site was paved to collect excess water, and two additional laborers were hired to wash tires with a power washer to remove mud from trucks' tires before they exit the site. All vehicles exiting the site are now required to have their tires washed.
- In September 2007, a contractor was hired to spray the majority of the unpaved portion of the site and the leased (unpermitted) parking area on the west side of Banning with a biodegradable dust control polymer called Durasoil. This polymer is used by the US Army Corp of Engineers to control dust on roads and airstrips in combat zones. It appeared to be very effective at controlling dust as long as it is not dug up or grated. The unpermitted use of that site is being discontinued.
- In March 2007, the applicant installed a temporary 14-foot tall sound barrier wall along the west side of the property along Banning

Boulevard. While the primary purpose of the sound barrier is to block noise from leaving the site, it also serves to block dust from blowing from the site.

- While initially construction activity was being conducted on a 10 hour workday/ 4 days per week, the General Contractor was authorized to have their crews work Fridays to help expedite construction and paving. The applicant further authorized Saturday work to expedite paving.
- The applicant drilled a DOGGR-approved slurry disposal well on-site. This well is utilized for disposal of spent drilling fluids and fine rock cuttings, rather than trucking this material from the site. The larger rock cuttings are separated and hauled to an approved off-site disposal facility. This well and the cuttings separation process have reduced the amount of truck traffic (and associated dust) from the site.

Off-site

- Although not a condition of the Zoning Determination, the applicant began daily street-sweeping along Banning Boulevard, Opp Street, and Eubank Street in 2006.
- In October 2007, the conventional street-sweeper was replaced with a more expensive waterless vacuum type sweeper in order to improve the removal of mud and dust from the public streets.
- In early 2007, at the direction of Councilmember Hahn's office, the applicant began watering down Banning Boulevard daily with a water truck to help control dust. In May 2007, applicant received a Notice of Violation from the City for washing the streets and stopped this process.
- Landscaping was installed along the frontage of the leased property on the west side of Banning Boulevard. The draught tolerant landscaping controls dust on the site. The west-side of the entrance to the Project site was paved and the driving areas sprayed with Durasoil dust control bio-polymer.
- The applicant paid for the replacement of about 100 feet of uprooted sidewalks across Banning Boulevard from the Project site. At the instruction of the City, the old trees were removed and 3 new trees selected by the City have been planted in parkway at locations selected by City.
- Additionally, the applicant acquired two 24" box Australian Willow trees from the City and planted them in the parkway at the corner of Banning Boulevard and Opp Street. These trees serve as visual, noise, and dust mitigation measures.
- The applicant distributed car wash vouchers to residents of homes and apartments within 500 feet of the site in November and again in December 2007. Applicant also distributed notices of an offer to pay for window washing services for neighbors in December.
- The applicant has worked with Councilmember Hahn's office and the LADOT to modify traffic patterns into and out of the site to minimize traffic, dust, and noise impacts along the residential streets (see longer description of traffic measures under the Sound Mitigations response section).

13. The California Division of Oil, Gas and Geothermal Resource regulations for cementing the well casing across the fresh water interval for the full protection of the public water supply shall be strictly complied with for each new well.

Compliance - The California Division of Oil, Gas, and Geothermal Resources ("DOGGR") regulations for cementing the well casing across the fresh water intervals are strictly complied with. Internal spherically focused ultrasonic cement bond logs (USIT logs) are run in every well and provided to the DOGGR to provide evidence of good cement placement between oil bearing zones and fresh water sands. The DOGGR approval of the cementing is required before a well is put into service.

14. All storm water shall be drained on-site.

Compliance - While final grading has not yet been completed in the Cellar 3 area (southwestern portion of the Project site), all storm water, tire wash water, and other water on the site is contained on-site. The new block wall around the entire perimeter serves as containment for storm water. At the entrance and other gates, the grade has been raised or a berm built to provide containment. Storm water drains into and is collected in Cellars 1 and 2 (and ultimately all cellars that are built). Water drains to the south end of the cellars, from where it is pumped by a sump pump into the facility's water clarification tank. After clarification, the storm water is injected along with produced water into water injection wells and into oil reservoirs.

15. Circulation.

a. Vehicular access to the site shall be limited to one driveway on Banning Boulevard. Emergency access only may be provided to Opp Street or as required by the Fire Department.

Compliance - Vehicular access to the site has been limited to the one driveway on Banning Boulevard. The northern gate to Opp Street was opened for a few days to permit Cardinal Pipeline to lay their connecting pipeline to their nearby oil pipeline. The pipeline route was straight out the gate. No traffic used the northern gate during this work. The northern gate is maintained as the emergency exit from the site.

b. All trucks and vehicles owned by the applicant or driven by the applicant's employees shall be instructed to drive on major thoroughfares only, and to avoid residential neighborhoods wherever possible.

Compliance - Historically, the truck route into and out of the site had been west on Anaheim Street to the traffic signal at Eubank Avenue, then right on Eubank Avenue, left on Opp Street, and left on Banning Boulevard because of the City's signage warning of weight restrictions on Anaheim Street, west of Eubank Avenue.

Due to LADOT restrictions on truck traffic on Anaheim Street west of Eubank, the historical traffic circulation route into the site was from Anaheim Street onto Eubank, then left on Opp St. and left on Banning Boulevard (through residential areas). In early 2007, the applicant worked with the Council District Office to obtain LADOT clearance to allow trucks to continue west on Anaheim Street and turn right onto Banning Boulevard to enter the site, to eliminate half of the truck traffic on residential portions of Opp Street and Banning Boulevard. However, trucks are not permitted to exit the site along the same route due to safety concerns of the trucks making a left turn at an intersection without a stop sign.

The applicant continued to work with the Council District Office and LADOT in an attempt to install a traffic light or to get a traffic guard at the intersection of Anaheim Street and Banning Boulevard in order to eliminate the rest of the truck traffic from residential streets. Ultimately, the applicant hired its own traffic guards to facilitate safe left-hand turns at the unprotected intersection. Upon hiring traffic guards, trucks exiting the site are re-routed to exit to the left and directly to Anaheim Street, rather than turning right and going through residential neighborhoods. This has greatly reduced noise, dust and traffic along Eubank, Opp, and Banning north of the site.

Security guards were also stationed at the exit of the site. The guards were instructed to direct truck drivers to turn left out of the gate. A sign has been installed directing truck drivers to turn left.

c. Outside deliveries shall be instructed to avoid residential neighborhoods and remain on major thoroughfares whenever possible.

Compliance - Drivers of all trucks that routinely make deliveries to the site have been verbally instructed to stay on major thoroughfares and to avoid residential streets. The City's weight limit sign on Anaheim Street just west of Eubank Avenue periodically confuses truck drivers who do not routinely make deliveries to the site to turn right on to Eubank Avenue and then go onto residential streets. When this is observed by either the security guards or the applicant's employees, the driver is advised of the correct route into and out of the site to avoid residential streets in the future.

During the removal of drilling rig in January 2008, a few trucks with oversized loads were instructed by LADOT to exit the site to the north on Banning Boulevard to M Street, then to Broad Avenue.

16. Parking.

a. Parking shall be provided on-site to the satisfaction of the Department of Building and Safety.

Non-compliance - Over 220 jobs have been created as a result of this Project. At any one time, up to 100 workers may be on-site involved

with the simultaneous drilling, construction, and production operations. Because of the number of workers and activities on the Project site, not all workers' vehicles could be parked on-site. To avoid parking on streets, the Applicant leased two properties on the west side of Banning Boulevard across from the site for off-street parking. However, these properties are located in the RD1.5 and R3 Zones, and cannot be used as parking or storage of industrial material without City permits, which the applicant failed to secure. Further, the parking lot is unpaved, covered with only with gravel, accommodates parking for up to 100 vehicles, and is located adjacent to multiple-family residential units. Upon completion of construction, the on-site parking spaces will be adequate for production and drilling workers.

Correction - The applicant agreed to cease use of the off-site properties for open storage of drilling pipes, and to discontinue employee (including contractors and sub-contractors) parking on those sites. As detailed above, under review of Condition No.1, both off-site properties have since been cleared of all unpermitted use, including parking.

b. All trucks and employee parking, including during construction operations, shall be provided exclusively on site, and shall be prohibited from using public streets.

Non-Compliance - See above.

c. No staging/idling of vehicles shall be permitted in the public streets.

Compliance - Supervisors at the site and the security guards have been instructed to not allow trucks to stage on the public streets. To the Applicant's knowledge, trucks do not stage on the public streets.

17. Visual Mitigation.

a. Upon completion of the grading operations along the perimeter of the property, and except where abutting the baseball field, the existing chain link fence along the perimeter of the site will be removed and replaced with an 8-foot high solid masonry block wall matching the existing block walls that presently cover only a portion of the site.

Compliance - The previous chain link fence along the perimeter of the site has been replaced with an 8-foot high solid masonry block wall matching the existing block walls.

b. The wall shall be set back 5 feet from the property lines.

Compliance - The new block wall is set back at least 5 feet from property lines.

c. Prior to the issuance of permits for the wall, a landscape plan, including an irrigation plan, prepared by a licensed landscape architect or licensed landscape contractor shall be prepared to the satisfaction

of the Zoning Administrator, showing the landscaping proposed for the 5-foot setback adjacent to the 8-foot wall along all street frontages. Special attention shall be given to the provision of landscape material to cover the wall in order to discourage the occurrence of graffiti, and/or to prevent perpetrators from reaching the wall.

Compliance - The landscaping and irrigation plan were submitted to and approved by the Zoning Administrator and the Department of Building and Safety prior to installation. Climbing and thorny vines have been used to discourage graffiti vandalism.

d. The landscaped areas shall be maintained in an attractive condition at all times.

Compliance - A landscape management contract has been awarded to Southern California Landscapes of Wilmington. This is the contractor who installed the irrigation and landscaping. The contractor has been maintaining the landscaping in an attractive condition.

e. All pumping equipment, either new or retrofitted, shall be located below ground level.

Compliance - All new and retrofitted pumping equipment is located below ground in wells.

18. The property shall be appropriately gated and secured at all times.

Compliance - An metal security gate has been installed which is controlled by electronic coded access, and is maintained closed at all times except when entry and exit of vehicles is allowed.

19. The site and its adjoining sidewalks and parkways shall be kept free and clear of debris at all times.

Compliance - Crews circle the site daily to pickup trash and litter. Additionally, trash cans have been placed along the Eubank side of the site so that union workers who loiter along the street and sidewalk have a place to properly dispose of their litter.

20. All lighting on the site shall be shielded and directed onto the site and no floodlighting shall be located so as to be seen directly from any adjacent residential area.

Compliance - All lighting on the site has been shielded and directed onto the site.

21. Prior to sign-off by the Zoning Administrator, a parking and driveway plan shall be submitted to the Department of Transportation for review and approval.

Compliance - A parking and driveway plan was submitted to the City of Los Angeles Department of Transportation and the Zoning Administrator for review and was approved on September 1, 2006.

22. Prior to sign-off by the Zoning Administrator, plans shall be submitted to the Fire Department for review and approval.

Compliance - Site construction plans were submitted to the City of Los Angeles Fire Department ("LAFD") for review on April 6, 2006. The Fire Protection System plans were approved by the Department of Building and Safety on January 19, 2007.

23. The applicant shall permanently post at all of the site's entry gates a direct telephone number to the supervisor of the site at that time for residents to call and report any ongoing problem. A call log shall be maintained including date and time of call and subject, and date and time of response and action. Said log shall be made available at the request of the Zoning Administrator.

Compliance - The site's main entry gate and southwest corner of the property are posted with direct phone numbers to both the site operator on duty (24-hour per day) and to the Applicant's bilingual community outreach specialist for residents to call and report any ongoing problem. Additionally, the community outreach specialist's phone number has been distributed to nearby residents on several occasions. Either of these numbers can be used by the public to report an ongoing problem. A call log has been maintained. Both numbers have been posted since the project began in August 2006.

Facility Operator's Direct Phone Number: 310-505-4028
24-hour Bilingual Complaints Phone Number: 310-913-2502
Note: the 24-hour Bilingual Phone Number will change at the end of September to 310507-3639. This new number will be posted on the signs when it goes into effect.

24. All conditions of Mitigated Negative Declaration No. ENV-2005-7988-MND (Exhibit 'C', attached) are hereby made full conditions of this grant and shall be strictly complied with.

Compliance - See responses to each condition of the Mitigated Negative Declaration No. ENV-2005-7988-MND in Section C below.

25. A copy of the conditions of this letter of determination (including attached Exhibits) shall be retained on the property at all times and be immediately produced upon the request of any employee of the City's Planning Department or any other enforcing agency.

Compliance - A copy of the Zoning Administrator's letter and it attachments is kept in the Production Superintendent's office on-site and is available to any enforcing agency.

26. All employees working at the facility shall be made familiar with the content of this action's conditions of approval.

Compliance - The applicant periodically reviews the conditions of approval with employees and supervisors of contractor crews routinely working at the site. The applicant further summarized the conditions that are pertinent to on-site workers into a one page laminated document, which is distributed it to all company and contract supervisors. The one-page document was reviewed with all company and contractor supervisors and the applicant emphasized to each that they will be held accountable for their crews' compliance with the conditions. All supervisors signed an acknowledgment statement verifying they have read and understood the conditions and will be responsible and accountable for their crews' compliance. In weekly operations meetings, various conditions of the permit are discussed and potential issues and conflicts resolved.

27. At any time during the period of validity of this grant, should documented evidence be submitted showing continued violation of any condition of this grant, resulting in an unreasonable level of disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties, the Zoning Administrator reserves the right to require the applicant to file for a plan approval application together with associated fees pursuant to LAMC Section 19-01-I (Miscellaneous Plan Approval $515 or as in effect at the time of filing), the purpose of which will be to hold a public hearing to review the applicant's compliance with and the effectiveness of these conditions. The applicant shall prepare a radius map and cause a notification to be mailed to all owners and occupants of properties within a 500-foot radius of the property, the Council Office, and the Los Angeles Police Department corresponding Division. The applicant shall also submit a summary and any supporting documentation of how compliance with each condition of this grant has been attained. Upon this review the Zoning Administrator may modify, add or delete conditions, and reserves the right to conduct this public hearing for nuisance abatement/revocation purposes.

Compliance - After protesting his lack of awareness of, and lack of documented evidence of disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties, which may have been caused by the site's operation, the applicant filed the instant Plan Approval, in accordance with the Chief Zoning Administrator's letter to the applicant, dated December 24, 2007. The applicant has provided a summary and supporting documentation of how compliance with each condition of this grant has been attained, as hereby detailed.

28. Within 30 days of the date of effectiveness of this grant, a covenant acknowledging and agreeing to comply with all the terms and conditions established herein shall be recorded in the County Recorder's Office. The agreement (standard master covenant and agreement form CP-6770) shall run with the land and shall be binding on any subsequent owners, heirs or assigns. The agreement with the conditions attached must be submitted to the Zoning Administrator for approval before being recorded. After recordation, a certified copy bearing the Recorder's number and date shall be provided to the Zoning Administrator for attachment to the subject case file.

Compliance - The Applicant recorded a standard master covenant and agreement acknowledging and agreeing to comply with all terms and

conditions established in the grant with the County of Los Angeles Recorder's Office on August 16, 2006. A certified copy of the recorded covenant was submitted to the satisfaction of the Zoning Administrator. The document is attached to the corresponding file (ZA-20725(O)(PA1).

B. Compliance with Case No. ZA 20725 - Determination of Conditions and Methods of Operation for Development of Oil Drilling and Production Site, dated February 25, 1972.

1. That Condition Nos. 5, 8, 9, 17, 18, 37, 40, 50, 58, 59, and 60 of Subsection F of Section 13.01 of the Municipal Code, except as hereinafter amplified or clarified, are included and by reference made part of the conditions of this determination and shall be complied with to the same extent as if herein restated in detail.

Compliance :

Condition 5 - Drilling site must be fenced or landscaped as prescribed by the Zoning Administrator.

Compliance - The drilling site is fenced and landscaped as prescribed by the Zoning Administrator.

Condition 8 - Adequate fire fighting apparatus and supplies, approved by the Fire Department, must be maintained on the drilling site at all times during drilling and production operations.

Compliance - Adequate fire fighting apparatus and supplies, approved by the Fire Department, are maintained on the drilling site at all times during drilling and production operations. A new Fire Protection System, approved by the Fire Department has been installed.

Condition 9 - superseded as stated in Condition 6 of Case No ZA-20725(O)(PA1) dated July 20, 2006, as detailed above.

See response to Condition No. 6 above.

Condition 17 - Applicant must agree in writing on behalf of himself and his successors or assigns, to be bound by all of the terms and conditions of this article and any conditions prescribed by written determination by the Zoning Administrator; provided, however, that the agreement in writing must not prevent the applicant or his successors or assigns from applying at any time for amendments pursuant to this Article or to the conditions prescribed by the Zoning Administrator, or from applying for the creation of a new district or an extension of time for drilling or production operations.

Compliance. A covenant and agreement was recorded to this effect as detailed above, and the applicant has filed for the necessary plan approval procedures whenever changes in methods and conditions of operation of the site have been made requested.

Condition 18 - All production equipment used must be so constructed and operated that no noise, vibration, dust, odor or other harmful or annoying substances or effect which can be eliminated or diminished by the use of greater care must ever be permitted to result from production operations carried on at any drilling site or from anything incident thereto to the injury or annoyance of persons living in the vicinity; nor shall the site or structures thereon be permitted to become dilapidated, unsightly or unsafe. Proven technological improvements in methods of production must be adopted as they, from time to time, become available if capable of reducing factors of nuisance or annoyance.

Partial Compliance. The instant procedure aims at reviewing any possible negative impact which may result from operations conducted on the site. As detailed throughout this review, impacts have been identified and efforts have been made to replace outdated with state-of-the-art equipment, and modify conditions of operation as necessary in order to minimize said negative impacts.

Condition 37 - superseded as stated in Condition 6 of Case No ZA-20725(O)(PA1) dated July 20, 2006, as detailed above.

See response to Condition No. 6 above.

Condition 40 - City of LA Department of Water and Power must be permitted to review and inspect methods used in the drilling and producing operations and in the disposal of waste, and must have the right to require changes necessary for the full protection of the public water supply.

Compliance - The City of Los Angeles Department of Water and Power ("DWP") has inspected various electrical components on the Project site. The Regional Water Quality Control Board has replaced the DWP as the enforcing agency for the full protection of the public water supply. Both agencies have access to the project site at any time.

Condition 50 - No earthen sumps may be used.

Compliance - No earthen sumps are used.

Condition 58 - No sign may be constructed, erected, maintained or placed on the premises or any part thereof, except those required by law or ordinance to be displayed in connection with the drilling or maintenance of the well.

Compliance.

Condition 59 - Suitable and adequate sanitary toilet and washing facilities must be installed and maintained in a clean and sanitary condition at all times.

Compliance. Suitable and adequate sanitary toilet and washing facilities are available onsite for construction, production and drilling crews and are maintained in a clean and sanitary condition at all times.

Condition 60 - Any owner, lessee or permittee and their successors and assigns, must at all times be insured to the extent of one hundred thousand dollars ($100,000) against liability in tort arising from drilling or production, or activities or operations incident thereto, conducted or carried on under or by virtue of the conditions prescribed by written determination by the Administrator as provided in Subsection H of this section. The policy of insurance issued pursuant hereto shall be subject to the approval of the City Attorney, and duplicates must be furnished to him. Each such policy shall be conditioned or endorsed to cover such agents, lessees or representatives of the owner, lessee or permittee as may actually conduct drilling, production or incidental operations permitted by such written determination by the Administrator.

Compliance. It is Applicant's general practice to maintain general liability insurance in excess of $2,000,000.

2. That the portion of the site utilized for the central production facility be developed substantially as shown on the proposed facilities plan (TLE-1-01) filed with the application and marked Exhibit "A", except as herein varied or required, it being understood that the site of production facility may be enlarged to the north to compensate for area loss through street dedications and to provide additional space for parking, storage or other facilities related to the operation of the central production plant or the conduct of the secondary recovery program.

Compliance - The portion of the site utilized for the central production facility is developed substantially as shown on the 1972 proposed facilities plan with the exceptions of the following:

- A new fire suppression system has been installed;
- Six Ingersoll-Rand micro-turbines to combust gas and generate electricity have been installed; and
- An automated well testing unit has been installed.

All equipment additions have been permitted through the City of Los Angeles Department of Building and Safety.

3. That prior to the issuance of any building permit or Certificate of Occupancy, and use of the property as authorized herein, the owners of the property involved shall dedicate to the City of Los Angeles, without cost to said City, the following described properties for street purposes:

a. a strip of land 17 ft. wide along the southerly line of the applicant's property for the widening of Anaheim Street between Eubank Avenue and Banning Boulevard as a major highway to conform to the General Plan of the City of Los Angeles,

Compliance - This was done by the previous applicant.

b. a strip of land 24.81 ft. wide along the easterly line of the applicant's properties adjoining Eubank Avenue between Anaheim Street and Opp Street for the widening and opening of Eubank Avenue as a local

street in accordance with the design of the City Engineer prepared under A'11-91627 Improvement Project (Council File No. 70-3847), and,

Compliance - This was done by the previous applicant.

c. 20 ft. radius property line returns at the intersections of Anaheim Street with Eubank Avenue and Banning Boulevard, and also a 15 ft. radius property line return at the intersection of Eubank Avenue and Opp Street.

Compliance - This was done by the previous applicant.

4. That, by acceptance of this determination and use of the property as authorized herein, the owners of the property involved, their heirs, or successors in interest agree to join with others in an assessment district improvement program or programs for development of the abutting portion of Anaheim Street in accordance with its major highway designation and for the opening or widening of the abutting portion of Eubank Avenue as a traffic artery, at such time as requested in writing to so improve by the City Engineer or the Director of Planning. Further, that an agreement to this effect be recorded by the property owners in the County Recorder's Office; said agreement to run with the land and be binding on any subsequent owners, heirs, or assigns; and that said agreement be first submitted to the Office of Zoning Administration for approval before being recorded, and after recordation a copy thereof with the Recorder's number and date be furnished said Office of Zoning Administration for attachment to the file before required permits are issued.

Compliance - This was done by the previous applicant.

5. That the portion of the site utilized for the central production facility shall be enclosed by an ornamental masonry wall, at least 8 ft. in height and with solid gates of similar height designed to match or compliment the wall design. Furthermore, that the enclosing fixture shall observe setbacks of at least 5 ft. from Eubank Avenue and Anaheim Street after dedication required under Condition No. 3, and also a setback of 5 ft. from Lecouvreur Avenue, and with said enclosing wall to be provided with either a 10 ft. radius curvature or 7-1/2 ft. cut corner in the vicinity of the intersection of Eubank Avenue and Anaheim Street, for the purpose of providing sight distance at said intersection.

Compliance - This was done by the previous applicant. Lecouvreur Street is in the process of being vacated and integrated as an interior part of the site.

6. That in no event shall there be any driveway opening into Anaheim Street, and any openings into Eubank Avenue from the production site shall be subject to future approval by a Zoning Administrator after review by City Engineer and/or City Traffic Engineer.

Compliance - This was done by the previous Applicant. However, as previously discussed under conditions 11, 12, and 15 of the July 20, 2006

grant, discussions were conducted with the Council District Office and LADOT with regards to opening the Anaheim Street entrance to alleviate site generated truck traffic along the south portion of Banning Boulevard. This request has since been abandoned by the Applicant.

7. That the space between the enclosing fixture and the curb line in the abutting street and not utilized for sidewalk or driveway purposes, shall be landscaped and maintained with lawn, ivy, or other green ground cover or suitable permanent decorative rock aggregate, interspersed if desired, with trees and shrubs. It being understood that no landscape improvements will be required adjacent to Eubank Avenue or Lecouvreur Avenue unless and until the abutting street is paved.

   Compliance - The entire perimeter of the site is landscaped pursuant to Condition No. 17c of the July 20,2006 Zoning Administrator's determination. As noted above, Lecouvreur Street is now in the process of being vacated to become part of the interior of the site.

8. That the tanks and equipment be painted in a uniform light color and be maintained in a clean and attractive condition free of oil drips or debris. That no stored material or equipment on the site shall be maintained at a height above the enclosing fixture, except for tanks and equipment necessary for the operation of the facility and the conduct of the secondary recovery program. The bulk, size and type of any tanks or equipment extending above the enclosing fixture shall be limited to those facilities shown on the elevation Exhibit "A". That the site of the central production facility and the approaches thereto shall at all times be kept in a clean, neat appearing condition free from weeds and debris, and other than incidental drilling and production equipment and supplies necessary on the site. That any unused tanks and equipment shall be removed from the drill site as well as elsewhere in the unitized area as unitized operations render such tanks and equipment unnecessary in the efficient recovery of hydrocarbons. Furthermore, all tools, pipe and other equipment necessary in the conduct of the central production facility shall be stored and kept on the site within the decorative masonry wall enclosing fixture.

   Compliance - The tanks have been painted a uniform light color. The Applicant plans to repaint the tanks and other appurtenances at the conclusion of construction.

9. Note : Due to a Condition Numbering oversight, there was no Condition No. 9 in the February 25, 1972 approval letter.

10. That all oil, gas and other substances produced from the wells within the unit after final completion of the unit pipe lines, shall be transported by means of underground pipe lines to the involved central production facility or to one of the production sites elsewhere within the unit which may be approved in the future. That the pipe lines on each site shall be connected directly with the producing pump and by a completely closed system without venting products to the atmosphere.

Compliance - All oil, gas, and other substances (water) produced from wells within the Wilmington Townlot Unit is transported to the involved central production facility by underground pipelines and there is no venting of products to the atmosphere.

11. That a properly improved parking area shall be provided on the production site for use of vehicles utilized in the maintenance of the facilities on said site and also parking shall be provided for the parking of automobiles of employees engaged in the production activities or site maintenance. The necessary access driveways as well as areas utilized for parking purposes shall be surfaced with oil, gravel or other suitable surfacing to withstand heavy trucking operations and to eliminate possible dust nuisance.

Partial Compliance - As noted above, under the review of Condition Nos. 1 and16a, not all parking was accommodated on the site. This has since been corrected as noted above. Otherwise, a properly improved parking area, covered with asphalt, is located adjacent to the operations office and workers change room. This parking lot is large enough to accommodate approximately 10 vehicles, including trucks used in the operations and cars of employees and visitors. Another parking area accommodating approximately 30 vehicles is provided on-site immediately north of the entrance driveway. A maximum of approximately 25 staff occupies the site during the day.

12. That no signs shall be placed on the property unless and until the design and location of the same has been approved by the Office of Zoning Administration.

Compliance - Signage visible from the outside the site include the oil property identification sign (with contact phone numbers), Proposition 65 Warnings, and a "No Trespassing" sign.

13. That inasmuch as the applicant-company does not intend to drill additional wells on the site of the central production facility, the conditions and methods of operation to be followed in the drilling of wells are not included in this determination. However, the Zoning Administrator reserves the right to consider a future request for the drilling of oil wells on the involved property, and at that time will determine conditions as may be necessary for the conduct of a drilling program in keeping with a method of operation presented by the owner or operator of the central production facility on the involved property.

Compliance - Such request was filed in 2005, and conditions imposed in the Zoning Administrator's determination dated July 20, 2006, subject of the instant review.

C. Compliance with Conditions of Mitigated Negative Declaration No. ENV-2005-7988-MND

I b4. Aesthetics (Graffiti)

Environmental impacts may result from project implementation due to graffiti and accumulation of rubbish and debris along the wall(s) adjacent to public rights-of-way.

However, this potential impact will be mitigated to a level of insignificance by the following measures:

- Every building, structure, or portion thereof, shall be maintained in a safe and sanitary condition and good repair, and free from graffiti, debris, rubbish, garbage, trash, overgrown vegetation or other similar material, pursuant to Municipal Code Section 91.8104.

- The exterior of all buildings and fences shall be free from graffiti when such graffiti is visible from a public street or alley, pursuant to Municipal Code Section 91,8104.15.

Compliance - Buildings, structures, and perimeter block wall are maintained in a safe and sanitary condition, free of graffiti, debris, rubbish, garbage, trash, overgrown vegetation. Litter cans have been placed along the Eubank Avenue side of property for union hall workers who frequent the area to use.

I b5. Aesthetics (Signage)

Environmental impacts may result from project implementation due to on-site signage in excess of that allowed under the Los Angeles Municipal Code Section 91.6205. However, the potential impact will be mitigated to a level of insignificance by the following measures:

- On-site signs shall be limited to the maximum allowable under the Code.

- Multiple temporary signs in the store windows and along the building walls are not permitted.

Compliance - Onsite signage visible to the public is within the maximum allowed under the LAMC Section 91.6205.

I c1. Aesthetics (Light)

Environmental impacts to the adjacent residential properties may result due to excessive illumination on the project site. However, the potential impacts will be mitigated to a level of insignificance by the following measure:

- Outdoor lighting shall be designed and installed with shielding, so that the light source cannot be seen from adjacent residential properties.

Compliance - All permanent outdoor lighting on the project site is directed inward and shields are placed on the lights where applicable.

V b. Cultural Resources (Archaeological)

Environmental impacts may result from project implementation due to the project's location in an area likely to yield unrecorded archaeological sites. However, the potential impacts will be mitigated to a level of insignificance by the following measures:

- If any archaeological materials are encountered during the course of the project development, the project shall be halted. The services of an archaeologist shall be secured by contacting the Center for Public Archaeology - Cal State University Fullerton, or a member of the Society of Professional Archaeologist (SOPA) or a SOPA-qualified archaeologist to assess the resources and evaluate the impact.

- Copies of the archaeological survey, study or report shall be submitted to the UCLA Archaeological Information Center.

- A covenant and agreement shall be recorded prior to obtaining a grading permit.

Compliance - Excavation crews have been advised to watch for any archaeological artifacts while digging. To date, no artifacts have been found. A covenant was recorded on August 16, 2006, as required by Condition No. 28 of the Plan Approval determination, which includes all conditions of ENV 2005-7988-MND.

V c. Cultural Resources (Paleontological)

Environmental impacts may result from project implementation due to the project's location in an area likely to yield unrecorded paleontological sites. However, the potential impacts will be mitigated to a level of insignificance by the following measures:

- If any paleontological materials are encountered during the course of the project development, the project shall be halted.

- The services of a paleontologist shall be secured by contacting the Center for Public Paleontology – USC, UCLA, Cal State Los Angeles. Cal State Long Beach, or the Los Angeles County Natural History Museum to assess the resources and evaluate the impact.

- Copies of the paleontological survey, study or report shall be submitted to the Los Angeles County Natural History Museum.

- A covenant and agreement shall be recorded prior to obtaining a grading permit.

Compliance - Excavation crews have been advised to watch for any paleontological materials while digging. To date, no paleontological materials have been found. A covenant was recorded on August 16, 2006, as required by Condition No. 28 of the Plan Approval determination, which includes all conditions of ENV 2005-7988-MND.

VI a ii. Seismic

Environmental impacts may result to the safety of future occupants due to the project's location in an area of potential seismic activity. However, this potential impact will be mitigated to a level of insignificance by the following measure:

- The design and construction of the project shall conform to the Uniform Building Code seismic standards as approved by the Department of Building and Safety.

Compliance - The City of Los Angeles Department of Building and Safety has reviewed and approved plans for all structures onsite. The design and construction of the project conforms to the Uniform Building Code seismic standards.

VI b2. Erosion/Grading/Short-Term construction Impacts

Short-term air quality and noise impacts may result from the construction of the proposed project. However, these impacts can be mitigated to a level of insignificance by the following measures:

Air Quality

- All unpaved demolition and construction areas shall be wetted at least twice daily during excavation and construction, and temporary dust covers shall be used to reduce dust emissions and meet SCAQMD District Rule 403. Wetting could reduce fugitive dust by as much as 50 percent.

Compliance - All unpaved demolition and construction areas are wetted several times each day. Best available control measures for control of dust are utilized as outlined in Table 1 of SCAQMD Rule 403. The control measures are further described in the response to Condition 12 of the 2006 ZA Determination above.

- The owner or contractor shall keep the construction area sufficiently dampened to control dust caused by construction and hauling, and at all times provide reasonable control of dust caused by wind.

Compliance - All unpaved demolition and construction areas are wetted several times per day. Mounds of excavated soil are either kept below 8 feet tall, or covered with plastic to prevent dust getting airborne.

- All loads shall be secured by trimming, watering or other appropriate means to prevent spillage and dust.

Compliance - All loads leaving the Project site are covered by tarps.

- All materials transported off-site shall be either sufficiently watered or securely covered to prevent excessive amount of dust.

Compliance - All loads leaving the Project site are covered by tarps.

- All clearing, earth moving, or excavation activities shall be discontinued during periods of high winds (i.e. greater than 15 mph), so as to prevent excessive amounts of dust.

Compliance - Earth moving and excavation are stopped in periods of sustained winds in excess of 15 mph.

- General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions.

Compliance - General contractors maintain equipment in good operating condition to minimize exhaust emissions.

Note: Additional dust mitigation measures taken by Applicant are described in the response to Condition 12.b. of the 2006 ZA Determination above.

Noise

- The project shall comply with the City of Los Angeles Noise Ordinance No. 144,331 and 161,574, and any subsequent ordinances, which prohibit the emission or creation of noise beyond certain levels at adjacent uses unless technically infeasible.

Compliance - See response to Condition No. 11 of the 2006 Zoning Administrator's determination above.

- Construction and demolition shall be restricted to the hours of 7:00am to 6:00 pm Monday through Friday, and 8:00 am to 6:00 pm on Saturday.

Compliance - (Note: Condition 9 of the Zoning Administrator's July 20, 2006 grant approval limits the hours of construction from 7 am to 7 pm Monday through Saturday.) Construction and demolition are restricted to the hours of 7 am and 5 pm Monday through Friday and 7 am to 5 pm on Saturday.

- Construction and demolition activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously.

Compliance - To the extent feasible, construction and demolition activities are scheduled so as to avoid operating several pieces of equipment simultaneously. At times, it may be necessary to operate more than one piece of equipment at a time.

- The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

Compliance - Power construction equipment used by the General Contractor generally features state-of-the-art noise shielding and muffling devices.

- The project sponsor shall comply with the Noise Insulation Standards of Title 24 of the California Code Regulations, which insure an acceptable interior noise environment.

Not applicable - This condition applies to buildings.

General Construction

Sediment carries with it other work-site pollutants such as pesticides, cleaning solvents, cement wash, asphalt, and car fluids that are toxic to sea life.

- All waste shall be disposed of properly. Use appropriately labeled recycling bins to recycle construction materials including: solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and vegetation. Non recyclable materials/wastes shall be taken to an appropriate landfill. Toxic wastes must be discarded at a licensed regulated disposal site.

Compliance - All construction waste is properly stored and disposed of. To the extent possible, materials are recycled. Any toxic waste (in trace amounts, if any) is disposed of at a licensed regulated disposal site.

- Leaks, drips and spills shall be cleaned up immediately to prevent contaminated soil on paved surfaces that can be washed away into the storm drains.

Compliance - All leaks, drips and spills are cleaned up immediately to prevent soil contamination. All storm water run-off is collected and contained onsite and injected into disposal wells. (Reference by complainant of illegally disposed of toxic material did not occur at this location).

- Pavement shall not be hosed down at material spills. Dry cleanup methods shall be used whenever possible.

Compliance - Sorbent pads and other dry clean-up methods are used to clean-up drips and spills. Larger spills may be cleaned up with squeegies and vacuum trucks.

- Dumpsters shall be covered and maintained. Uncovered dumpsters shall be placed under a roof or be covered with tarps or plastic sheeting.

Compliance - Trash dumpsters are routinely covered at the end of the day. Drilling cuttings transfer bins are not covered, but only contain native rock materials.

- Gravel approaches shall be used where truck traffic is frequent to reduce soil compaction and the tracking of sediment into streets shall be limited.

Compliance - Gravel was placed in areas of high traffic approximately every two months during the construction phase of the project. The approach to the Project site and about 99% of the total site is now paved, as detailed above.

- All vehicle/equipment maintenance, repair, and washing shall be conducted away from storm drains. All major repairs shall be conducted off-site. Drip pans or drop clothes shall be used to catch drips and spills.

Compliance - Vehicle maintenance is not conducted on the site. Tire washing is done in a paved area sloped toward a catch basin from where the water is pumped to the onsite disposal well.

VII a1. Hazardous Substances

Environmental impacts may result from project implementation due to the use, storage, and creation of hazardous materials. However, these impacts can be mitigated to a level of insignificance by the following measure:

- Prior to the issuance of the Certificate of Occupancy the applicant shall provide a letter from the Fire Department stating that it has permitted the facility's use, storage, and creation of hazardous substances.

Compliance - This is not a residential or commercial project that would require a Certificate of Occupancy. The Fire Department has signed off on the new fire

suppression system being installed and the HAZMAT Department has inspected the Project site.

VII b2. Explosion/Release (Methane Gas)

Environmental impacts may result from project implementation due to its location in an area of potential methane gas zone. However, this potential impact will be mitigated to a level of insignificance by the following measures:

- All commercial, industrial, and institutional buildings shall be provided with an approved Methane Control System, which shall include these minimum requirements; a vent system and gas-detection system which shall be installed in the basements or the lowest floor level on grade, and within underfloor space of buildings with raised foundations. The gas-detection system shall be designed to automatically activate the vent system when an action level equal to 25% of the Lower Explosive Limit (LEL) methane concentration is detected within those areas. Compliance - There have been no new buildings constructed on this site since the Applicant began the cellar construction project. A methane detection and vent system is currently being designed for the existing buildings by a qualified engineering company and will be installed when the design is complete. An approved methane barrier has been installed under the electrical facilities at the north end of the cellars and will also be installed under future electrical facilities supporting the southern half of the well cellars.

- All commercial, industrial, institutional and multiple residential buildings covering over 50,000 square feet of lot area or with more than one level of basement shall be independently analyzed by a qualified engineer, as defined in Section 91.7102 of the Municipal Code, hired by the building owner. The engineer shall investigate and recommend mitigation measures which will prevent or retard potential methane gas seepage into the building. In addition to the other items listed in this section, the owner shall implement the engineer's design recommendations subject to Department of Building and Safety and Fire Department approval.

Not applicable : No such buildings currently exist on this site, nor will any be constructed.

- All multiple residential buildings shall have adequate ventilation as defined in Section 91.7102 and the Municipal Code of a gas-detection system installed in the basement or on the lowest floor level on grade, and within the underfloor space in buildings with raised foundations.

Not applicable : No such buildings currently exist on this site, nor will any be constructed.

All single-family dwellings with basements shall have a gas detection system which is periodically calibrated and maintained in proper operating condition in accordance with manufacturer's installation and maintenance specifications.

Not applicable : no such buildings currently exist on this site, nor will any be constructed.

VIII c3. Commercial & Industrial Development (Lot size 100,000 sf)

Environmental impacts may result from the release of toxins into the stormwater drainage channels during the routine operation of commercial development projects. However, the potential impacts will be mitigated to a level of insignificance by incorporating stormwater pollution control measures.

- Ordinance No. 172,176 and Ordinance No. 173,494 specify Stormwater and Urban Runoff Pollution Control which requires the application of Best Management Practices (BMPs). Chapter IX, Division 70 of the Los Angeles Municipal Code addresses grading, excavations, and fills. Applicants must meet the requirements of the Standard Urban Stormwater Mitigation Plan (SUSMP) approved by Los Angeles Regional Water Quality Control Board, including the following: (A copy of the SUSMP can be downloaded at: http://www.swrcb.ca.gov/rwqcb4/).

Compliance - The site operates under two permits issued by the State Water Resources Control Board ("SWRCB") as part of the Standard Urban Storm Water Mitigation Plan ("SUSMP") system. The existing operations are covered by the industrial Storm Water Pollution Prevention Plan ("SWPPP") No. 419I020405. The construction work being conducted by Irwin Industries is covered by SWPPP No. 419C342701.

-Project applicants are required to implement stormwater BMPs to retain or treat the runoff from a storm event producing 3/4 inch of rainfall in a 24 hour period. The design of structural BMPs shall be in accordance with the Development Best Management Practices Handbook Part B Planning Activities. A signed certificate from a California licensed civil engineer or licensed architect that the proposed BMPs meet this numerical threshold standard is required.

Compliance - BMPs are implemented as identified in the two above referenced plans (SWPPP No. 419I020405 and No. 419C342701).

- Post development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rates shall not exceed the estimated pre-development rate for developments where the increase peak stormwater discharge rate will result in increased potential for downstream erosion.

Compliance - The existing facility and the construction activities are designed and managed such that no storm water discharge occurs during the design storm events.

- Concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition.

Compliance - The site is an existing oil production facility, in operation since the 1930's, with no natural undisturbed land.

- Limit clearing and grading of native vegetation at the project site to the minimum needed to build lots, allow access, and provide fire protection.

Compliance - The site is an existing oil production facility, in operation since the 1930's, with no native vegetation.

- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

Compliance - The landscape plan, required and approved by the Zoning Administrator on November 1, 2006 has been implemented and accomplishes the City's goals.

- Reduce impervious surface area by using permeable pavement materials where appropriate, including: pervious concrete/asphalt; unit pavers, i.e. turf block; and granular materials, i.e. crushed aggregates, cobbles.

Compliance - The use of permeable paving materials is not appropriate at this site because of the potential for accidental leaks of crude oil which might lead to sub-surface contamination. Further, Condition No. 12 of the July 20, 2006 grant requires the Applicant to cover the entire site with either asphalt or concrete.

- Promote natural vegetation by using parking lot islands and other landscaped areas.

Compliance - Landscape vegetation is provided in all areas located outside the surrounding perimeter walls.

- Preserve riparian areas and wetlands.

Not applicable : There are no riparian areas or wetlands on the site to be preserved.

- Cover loading dock areas or design drainage to minimize run-on and run-off of stormwater.

Compliance - There are no loading docks or repair bays associated with the facility. All drainage of wash water, leaks, and spills are quickly cleaned up. Drainage slopes provide for internal capture and control of all drainage. A wheel washing operation is conducted to minimize "track-out". Drainage from this is collected in a sump and the water is reinjected into the oil formation.

- Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.

Compliance - There are no loading docks or repair bays associated with the facility. All drainage of wash water, leaks, and spills are quickly cleaned up. Drainage slopes provide for internal capture and control of all drainage. A wheel washing operation is conducted to minimize "track-out" . Drainage from this is collected in a sump and the water is reinjected into the oil formation.

- Repair/maintenance bays must be indoors or designed in such a way that doesn't allow storm water run-on or contact with storm water runoff.

Compliance - There are no loading docks or repair bays associated with the facility. All drainage of wash water, leaks, and spills are quickly cleaned up. Drainage slopes provide for internal capture and control of all drainage. A wheel washing

operation is conducted to minimize "track-out". Drainage from this is collected in a sump and the water is reinjected into the oil formation.

- Design repair/maintenance bay drainage system to capture all washwater, leaks and spills. Connect drains to a standard sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required, obtain an Industrial Waste Discharge Permit.

Compliance - There are no loading docks or repair bays associated with the facility. All drainage of wash water, leaks, and spills are quickly cleaned up. Drainage slopes provide for internal capture and control of all drainage. A wheel washing operation is conducted to minimize "track-out". Drainage from this is collected in a sump and the water is reinjected into the oil formation.

- Vehicle/equipment wash areas must be self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to the sanitary sewer.

Compliance - There are no loading docks or repair bays associated with the facility. All drainage of wash water, leaks, and spills are quickly cleaned up. Drainage slopes provide for internal capture and control of all drainage. A wheel washing operation is conducted to minimize "track-out". Drainage from this is collected in a sump and the water is reinjected into the oil formation.

- Any connection to the sanitary sewer must have authorization from the Bureau of Sanitation.

Compliance - The applicant believes that the original sewer hook-up by a predecessor operator of the site was authorized by the Bureau of Sanitation or its equivalent.

- The following activities are to be conducted under proper cover with drain routed to the sanitary sewer.

Storage of industrial wastes
Handling of storage of hazardous wastes
Metal fabrication or Pre-cast concrete fabrication
Welding, Cutting or Assembly
Painting, Coating or Finishing

Compliance - Industrial and hazardous wastes are collected and hauled off to proper disposal by licensed waste haulers.

- Store above ground liquid storage tanks (drums and dumpsters) in areas with impervious surfaces in order to contain leaks and spills. Install a secondary containment system such as berms, dikes, lines, vaults, and double-wall tanks. Where used oil or dangerous waste is stored, a dead-end sump should be installed in the drain.

Compliance - Above ground tanks are provided with secondary containment walls as required by USEPA regulations. The facility maintains a Spill Prevention, Control, and Countermeasures Plan ("SPCC") as required under those regulations.

- Toxic wastes must be discarded at a licensed regulated disposal site.

Compliance - The facility handles no toxic wastes. Hazardous waste management is described above.

- Store trash dumpsters either under cover and with drains routed to the sanitary sewer or use non-leaking and water-tight dumpsters with lids.

Compliance - Instead of connecting these to the sanitary sewer they are routinely vacuumed and oily material is recycled within the oil production equipment.

- Use drip pans or absorbent materials whenever grease containers are emptied. Wash container in an area with properly connected sanitary sewer.

Compliance Drip pans are utilized under hazardous materials throughout the facility.

- Reduce and recycle wastes, including: paper; glass; aluminum; oil; and grease.

Compliance - Waste is minimized and recycled as appropriate.

- Reduce the use of hazardous materials and waste by: using detergent-based or water-based cleaning systems; and avoid chlorinated compounds, petroleum distillates, phenols, and formaldehyde.

Compliance - The use of cleaning solvents is minimized, and detergent-based and water based cleaning systems are utilized to the maximum extent.

- Convey runoff safely from the tops of slopes and stabilize disturbed slopes.

Not applicable - The site does not have any natural slopes other than the gentle southerly slope of the site. Soil erosion is not deemed to be an issue.

- Utilize natural drainage systems to the maximum extent practicable.

Not applicable. - Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable.

Compliance - The final grade of the site will convey storm water and other drainage into the concrete well cellars, from where the run-off will be pumped in to the water injection facility and into subsurface oil reservoirs.

- Stabilize permanent channel crossings.

Not applicable - No channel crossings exist at the Project site.

- Protect slopes and channels and reduce run-off velocities, complying with Chapter IX, Division 70 of the Los Angeles Municipal Code and utilizing vegetation (grass, shrubs, vines, ground covers, and trees) to provide long-term stabilization of soil.

Not applicable.

- Cleaning of vehicles and equipment to be performed within designated covered or bermed wash area paved with Portland concrete sloped for wash water collection, and with a pretreatment facility for wash water before discharging to properly connected sanitary sewer with a CPI type oil/water separator. The separator unit must be: designed to handle the quantity of flows; removed for cleaning on a regular basis (at least twice a year) to remove any solids; and the oil absorbent pads must be replaced regularly, once in fall just before the wet season, and in accordance with manufacturer' specifications.

Compliance - There are no storm drain outlets on the Project site. All storm run-off is collected and disposed of onsite.

- All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as "NO DUMPING - DRAINS TO OCEAN") and/or graphical icons to discourage illegal dumping.

Not applicable- There are no storm drain outlets on the Project site. All storm run-off is collected and disposed of onsite.

- Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area.

Not applicable - There are no channels or creeks on the site. Site is secured and not accessible to the public.

- Legibility of stencils and signs must be maintained.

Not applicable.

- Materials with the potential to contaminate stormwater must be: (I) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar stormwater conveyance system; or (2) protected by secondary containment structures such as berms, dikes, or curbs.

Compliance - Industrial and hazardous wastes are collected and hauled off to proper disposal by licensed waste haulers. Drip pans are utilized in key areas throughout the facility. Instead of connecting these to the sanitary sewer, they are routinely vacuumed and oily material is recycled within the oil production equipment.

- The storage area must be paved and sufficiently impervious to contain leaks and spills.

Compliance - Industrial and hazardous wastes are collected and hauled off to proper disposal by licensed waste haulers. Drip pans are utilized in key areas throughout the facility. Instead of connecting these to the sanitary sewer, they are routinely vacuumed and oily material is recycled within the oil production equipment.

- The storage area must have a roof or awning to minimize collection of stormwater within the secondary containment area.

Compliance - Industrial and hazardous wastes are collected and hauled off to proper disposal by licensed waste haulers. Drip pans are utilized in key areas throughout the facility. Instead of connecting these to the sanitary sewer, they are routinely vacuumed and oily material is recycled within the oil production equipment.

- The owner(s) of the property will prepare and execute a covenant and agreement (Planning Department General form CP-6770) satisfactory to the Planning Department binding the owners to post construction maintenance on the structural BMPs in accordance with the Standard Urban Stormwater Mitigation Plan and or per manufacturer's instructions.

Compliance - A standard master covenant and agreement acknowledging and agreeing to comply with all terms and conditions established in the grant was recorded with the County of Los Angeles Recorder's Office on August 16, 2006.

XIII a. Public Services (Fire)

Environmental impacts may result from project implementation due to the location of the project in an area having marginal fire protection facilities. However, this potential impact will be mitigated to a level of insignificance by the following measure:

- The following recommendations of the Fire Department relative to fire safety shall be incorporated into the building plans, which includes the submittal of a plot plan for approval by the Fire Department either prior to the recordation of a final map or the approval of a building permit. The plot plan shall include the following minimum design features: fire lanes, where required, shall be a minimum of 20 feet in width; all structures must be within 300 feet of an approved fire hydrant, and entrances to any dwelling unit or guest room shall not be more than 150 feet in distance in horizontal travel from the edge of the roadway of an improved street or approved fire lane.

Compliance - A plot plan and fire protection plan were submitted to the Los Angeles Fire Department for review on April 6, 2006 (prior to the approval of the building permits). LA Department of Building and Safety approved the fire protection plan on January 19, 2007.

Mitigation Measures Recommended in the Expanded Draft Initial Study for the Wilmington Townlot Unit

The following mitigation measures were recommended in the expanded Draft initial Study for the Wilmington Townlot Unit and would be conditioned for the proposed project:

Construction Noise

IS-1 The proposed 8-foot concrete block perimeter wall shall be constructed and completed along the northern site perimeter prior to any construction of the well cellars in the northern part of the Project site.

Compliance - Construction of the 8-foot concrete block wall along the northern site perimeter was completed in the first quarter of 2007. Construction on the northern half of the well cellars did not begin until May 2007, after the wall was in place.

IS-2 All construction equipment engines shall be properly tuned and muffled according to manufacturers' specifications.

Compliance - All construction equipment is properly tuned and muffled to manufacturers' specifications.

IS-3 Noise construction activities whose specific location on the site may be flexible (e.g., operation of compressors and generators, cement mixing, general truck idling) shall be conducted as far as possible from the nearest noise-sensitive land uses, and natural an/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses to the maximum extent possible.

Partial Compliance - To the maximum extent possible and permitted, noise generating equipment is located as far as possible from critical receptors. In October 2007, prior to moving the smaller diesel rig to the northern portion of the property, the applicant is now utilizing a portable sound barrier system to mitigate any possible sound generation impact on the property.

IS-4 The use of those pieces of construction equipment or construction methods with the greatest peak noise generation potential shall be minimized. Examples include the use of drills and jackhammers.

Compliance - Use of drills and jackhammers has been limited. Further, the Applicant has switched from pile driving the conductor pipes for wells to drilling them in with an auger bit. While drilling in the conductors is significantly costlier, the Applicant has chosen to make the additional $6,000-$7,000 expenditure for each well to eliminate the pile driving noise.

IS-5 An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive noise levels.

Partial Compliance - A sign is posted at the entrance to the Project site with the phone number of both the operator on duty and the bilingual community outreach specialist. However, hours of operation for different activities are not included.

V. COMMUNITY OUTREACH EFFORTS

In an effort to reach out to the community to keep the community informed of the Project, Warren engaged the firm to Ek & Ek and Triple E Associates ("Community Outreach Team") to inform residents of the results of the Project approval and the commencement of the construction phase of the Project.

The Community Outreach Team held meetings with concerned neighbors to address concerns associated with the Project. On October 22, 2007, the Community Outreach Team met with neighbors, Councilmember Hahn, and Communities for a

Better Environment to discuss issues related to the construction of the Project. Specifically, there were complaints about the noise and dust caused by the Applicant's construction activities. The Community Outreach Team distributed car wash coupons and window washing coupons to the community.

FINDINGS

1. The site, known as the Banning Semi-Controlled Drill Site, Wilmington Townlot Unit, Fault Block I (WTU), is located on a level, irregular-shaped, through parcel of land of approximately 10.05 acres, with a frontage of 238 feet on the south side of Opp Street, 899 feet on the west side of Eubanks Avenue, 642 feet on the north side of Anaheim Street, and 455 feet on the east side of Banning Boulevard. The northerly portion of the property is classified in the [Q] RD3-1XL-O Zone, while its southerly portion is classified in the [Q] M2-1VL-O Zone, and within Nonurbanized Oil Drilling District No. 5. 'Q' Qualified Conditions were imposed by the General Plan/Zoning Consistency Program mandated by AB 283 for the northerly portion of the site, and pursuant to the Wilmington Community Plan Update for the southerly portion of the site, and read as follows:

   [Q]RD3-1 XL-O - The permanent "Q" Conditions relating to Sub Area 8 indicates that properties developed with three or more dwelling units shall provide open space, landscaping, architectural treatments and parking. per Ordinance No. 167,244, effective October 5, 1991 (attached to the file).

   [Q]M2-1VL-O - The permanent "Q" Conditions relating to Sub Area 80 is associated with open storage, landscaping, setbacks, walls/fences, driveways, and cargo containers per Ordinance No. 177,243, effective May 10, 2005 (attached to the file).

   The property is occupied by the central production facility for the WTU, consisting of an oil well drilling yard, an oil and water separation yard, a water management yard, an oil storage yard, a personnel yard, a maintenance yard and a pipe storage yard. Nine wells are currently in operation. Beyond the subject property, the WTU operates approximately 56 wells in the surrounding industrial, commercial and residential areas.

2. As detailed above, the Wilmington Oilfield was discovered in 1932. It was further developed in the onshore portions of Wilmington and Long Beach into the 1950's to become the third largest oilfield in the United States.

   From 1932 into the 1970's, over 600 wells were drilled by over 100 different oil companies in the residential, commercial and industrial areas of Wilmington. Humble Oil and Refining Company, later to become the Exxon Corporation, developed a water flood plan for a portion of the Wilmington Oilfield and obtained the approval of operators and landowners to form the Wilmington Townlot Unit, Fault Block I in 1972. This operation continues to the present time.

   Oil drilling and production activities at the Banning Semi Controlled Drill Site, were first undertaken in 1937 by the McMillen Petroleum Corporation under the authority of Ordinance Nos 78,108, 78,260 and 78,269. Activities involved Non Urbanized Oil Drilling Districts 5, 6 and 7 which were consolidated into Non Urbanized Oil Drilling District No.5 on November 26, 1955 by Ordinance No. 106,386.

The applicant became the legal operator of the WTU on February 1, 2005.

3. In 2006, the Zoning Administrator approved the construction of five 12-foot wide, 8-foot deep, multiple wells drilling cellars to accommodate a maximum of 540 wells. The project allows the redevelopment of the WTU and the gradual removal of all wells from the surrounding residential areas. Of the 540 wells approximately 372 are planned to be oil producers and 168 to be produced water injectors. The grant was subject to 28 conditions delineating the scope of the project and imposing measures aiming at mitigating possible negative impacts of the project upon the immediate area. Condition No. 27 mandates the applicant to file for a plan review procedure should any complaint be received pertaining to the continued impact of the operation on adjacent uses, or any of the conditions be consistently violated.

   On December 24, 2007, the Office of Zoning Administration, upon receipt of a letter from Councilmember Hahn, following multiple complaints received from her constituents, requested the applicant to file the instant plan approval procedure, pursuant to Condition No. 27 of the 2006 grant, to review compliance with and effectiveness of the conditions of approval of the grant.

4. A public hearing on the matter was held on May 2, 2008, where Councilmember Hahn recalled the recent history of the site, and public input received by her office addressing a variety of impacts from the operation of the site on neighboring residential uses. She further indicated that meetings held between her office and the applicant showed a willingness of the applicant to improve operations at the site, some of these improvements having already been implemented. Councilmember Hahn reiterated her support of the project considering the long term objective of reducing the number of wells in the residential community and the resulting creation of small pocket parks, and requested that conditions be imposed to minimize the currently identified impacts. The applicant's representative presented the history of the project including the long standing legally established practice of oil drilling throughout the surrounding community and the objective of progressively reducing the impacts associated with dispersed oil drilling facilities by centralizing operations. A representative of Communities for a Better Environment, assisted by one expert, spoke in opposition to the current conditions of operations and requested that the applicant look for an alternative location, away from residential uses, and in the meantime provide effective mitigation measures to the impacts associated with the operation of the site. Nine persons, spoke in opposition to the current mode of operation of the site, based on the negative impacts of the operation of the site upon nearby residences. Fourteen persons spoke in support of the current operation, based on the overall benefit of the operation at this location rather than throughout the community.

   Major points of opposition:

   - Violation of local permits (SCAQMD – Flare – operation of 6 co-generators without required permits, Stormwater pollution, parking off-site without City permits)
   - Health hazards (noxious fumes from flare, excessive dust, odors, deprivation of sleep with noise, vibrations)
   - Heavy truck traffic in residential areas
   - Emissions - Odors - Dust - Vibrations - Health impacts - Noise - Water runoff from the site

- Proximity of residential uses
- Loss of property value

Major points of support:

- Long legally established use of the site
- Concentration of operations facilitates abandonment of wells dispersed throughout the community
- Promotes independence of country in terms of energy sources

Correspondence was received as follows:

In support:

- 52 individual letters
- 80 form letters
- A petition with 449 signatures

In opposition:

- Two detailed letters from the Community for a Better Environment, accompanied by substantiating documents
- Two letters
- 26 form letters

5. The nearest residential uses are located to the north of the site, across Opp Street and to the west across Banning Boulevard.

As detailed in the specific review of each of the conditions applying to the use of the site mitigation measures have been included as conditions of approval of this grant to more particularly address noise, dust, circulation, and visual impact. Most of the surrounding community opposition pertains to impacts incurred during the time of construction operations. These activities have now mostly concluded. The site is now paved or covered as follows: 78% pavement, 16% gravel, 5% landscaping, 1% uncovered dirt areas. All oil production is now shipped by pipeline and crude oil has not been trucked from the site since March 14, 2008. The loading facilities are kept clean and ready for use in the event of any emergency situation.

As of August 13, 2008, a total of 120 new oil wells have been drilled at this location, 27 of which being drilled during the last 12-month period. A fully enclosed soundproofed electric drilling rig is scheduled for delivery in October 2008. The existing rig will be demobilized shortly thereafter.

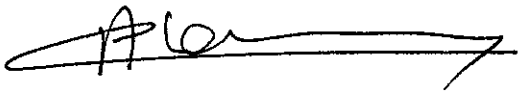
The number of on-site workers has decreased from 200 during the height of construction to between 30 and 40 during daytime hours and 10 to 15 during night hours.

The issue of the flare burning is currently being remedied as detailed in the review of Condition No. 1 above, with Best Practices being implemented together with alternative disposal of the gas, such as reinjection.

The instant plan approval review, subject to a public hearing, as required by Condition No. 27, has indeed proven to be very effective in identifying areas where improvements are needed. It must, again, be noted that most of the neighbors complaints address impacts linked to temporary construction operations. The applicant, now acutely aware of the issues, is committed to thoroughly implementing the conditions of the instant grant. Most of the permanent operation of the site is subject to regulations not under the expertise nor authority of the City of Los Angeles, but mainly of SCAQMD or State's Department of Conservation DOGGR (Division of Oil, Gas, and Geothermal Resources). The request that drilling operations be removed from the property to be re-located elsewhere is somewhat unrealistic considering the longstanding history of the use of the site which was legally established when few residences could be found in the near vicinity. Further, the centralization of these operations allows for superior mitigation of its possible impacts as compared to scattering individual wells throughout the community, in the midst of single-family residences.

As such, it can be found that the maintenance of the conditions, and clarifying/modification of some of them, adequately address any of the possible impacts of the operation of the facility at this location.

6. In a time where dependence on foreign oil comes at an increasingly higher social, economical, political and human cost, it can be found that this approval, by encouraging and facilitating local oil production, under strict controls as to the possible impacts it may have on the immediate vicinity of the production site, will be of direct benefit to the general public convenience and welfare.



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cc: Councilmember Janice Hahn
Fifteenth District
Adjoining Property Owners
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Fire Department, Bureau of Fire
Prevention and Public Safety
Office of Administration & Research Services
STOP 130

APPENDIX C

EMISSIONS FROM PROPOSED PROJECT

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APPENDIX C

EMISSIONS FROM PROPOSED PROJECT

Introduction

Typically, operational and construction emissions are analyzed separately because they occur at distinct times during the proposed project. However, for this proposed project, there are overlapping periods of operation and construction emissions. Because of this, emissions from the final project as well as from each interim operating scenario (i.e., from combustion and construction) are analyzed. First, combustion emissions that occur in interim and final operating scenarios are discussed. Second, construction activities are defined and emissions are estimated for each construction activity. Then, fugitive emissions arising from operational activities are provided. Finally, emissions from each phase during the proposed project implementation are defined, with distinct combinations of interim operation scenarios, construction activities, and fugitive emissions.

Combustion Emissions

Emissions of NO_x, VOC, CO, SO_x, PM, PM_{10}, $PM_{2.5}$, CO_2, and toxic air contaminants (TACs) were calculated for each combustion unit (heater treaters #1 [HT #1] and #2 [HT #2], Flare King Flare, Bekaert CEB®, and Microturbines).

Table C.1 below summarizes whether the emissions factors used for each combustion unit were calculated using manufacturer guarantee data or were based on reported emissions factors (SCAQMD default, AP-42, American Petroleum Institute values, etc.). Table C.1 provides detailed information about the source and/or parameters used to calculate appropriate emission factors. For all calculations, the SCAQMD default higher heating value of 1,050 Btu/scf was used.

Table C.1. Summary of emission factor source by combustion unit.

Unit	VOC	NO_x	SO_x	CO	PM, PM_{10}, $PM_{2.5}$	CO_2	TACs
Heater Treater #1	SCAQMD Default	Calculated	SCAQMD Default	SCAQMD Default	SCAQMD Default	AP-42	AP-42
Heater Treater #2	SCAQMD Default	Calculated	SCAQMD Default	SCAQMD Default	SCAQMD Default	AP-42	AP-42
Flare King Flare	Original Appl.	Original Appl.	Original Appl.	Original Appl.	Original Appl.	API Table	Original Appl.
Bekaert CEB	Calculated	Calculated	SCAQMD Default	Calculated	AP-42	API Table	AP-42
Microturbines	Calculated	Calculated	AQMD Value	Calculated	AQMD Value	AP-42	AP-42

Operational combustion emissions were grouped by interim operation scenarios, i.e., a period of time during which specific combustion equipment is operating. Warren's presently permitted combustion sources are the Flare King Flare and HT #1. In addition, Warren currently has a hot water heater listed as equipment on Permit # F86179. Because this hot water heater is

technically exempt from permitting under SCAQMD's Rule 219, is not currently operating, and a request was submitted to have it removed from the permit, the emissions from the existing hot water heater were not included in the baseline. The six microturbines were installed and are currently operating under a Settlement Agreement with the SCAQMD. Permit applications were submitted in 2007 and are currently being processed. For this analysis and to be conservative, emissions from the microturbines are not included in the baseline emissions total, although they are included in interim and final proposed project calculations. Combustion emissions during each interim were then calculated. For all interim scenarios, emissions were analyzed at heat input rating and fuel flows expected during typical operation based on the scenarios. Below is a summary of the assumptions made for each interim operating scenario as it relates to calculation of the combustion emissions. The below scenarios discuss typical, expected operation.

- Baseline
    - Operation of HT #1, Flare King
    - Fuel flow and heat input ratings reflect operational values based on the 2006 MND.
- Interim I:
    - Operation of HT #1, Flare King, and six microturbines
    - HT #1, the Flare King, and the six microturbines can operate at maximum fuel flow and heat input ratings.
- Interim II:
    - Operation of HT #1, Bekaert CEB®, and six microturbines.
    - The Bekaert CEB® will now be permitted and operational, and the Flare King Flare will be removed from service and dismantled. The Bekaert is anticipated to operate at 50 percent of its capacity during this phase, consistent with expected gas fuel flow rates.
    - HT #1 and the six microturbines can operate at maximum fuel flow and heat input ratings.
- Interim III:
    - Operation of HT #2, Bekaert CEB®, and six microturbines, with gas reinjection
    - HT #2 will now be permitted and operational. It will operate at fuel flow rates consistent with average daily oil production of 5,000 bpd. HT #1 will be temporarily removed from service for Rule 1146.1 retrofit.
    - The Bekaert CEB® will operate at ready-standby when the gas reinjection system is operating.
    - The microturbines will continue to operate at levels similar to those in Interim II.
- Final Project: (*Note: If gas production rates warrant it, the final project will include gas sales; otherwise, the final project will include re-injection.*)
    - Operation of HT #1, HT #2, Bekaert CEB®, nine microturbines, and gas reinjection or gas sales.
    - HT #2 and, as applicable, HT #1 will operate at fuel flow rates consistent with average daily oil production of 5,000 bpd.
    - The Bekaert CEB® will operate at ready-standby when the gas reinjection/sales system is operating.
    - The microturbines will continue to operate at levels similar to those in Interim II and III.

- The maximum daily emissions scenario is 6,000 bpd oil production, HT #1 at 100% capacity (unlikely), HT #2 at 75% (equivalent to 6,000 bpd oil), gas reinjection/sales system interrupted, and the Bekaert at 100% capacity.

Table C.2 provides a summary of the daily emissions associated with each of these interim operating scenarios.

Table C.2. CEQA projected emissions for baseline, interim, and final project conditions – combustion emissions.

Baseline (2006 MND; HT #1, Flare King)								
Device/Process	**Heat Input Rating (MMbtu/hr)**	**Fuel flow (Mscf/day)**	**Percent of rating (%)**	**VOC (lb/day)**	**NO_X (lb/day)**	**SO_X (lb/day)**	**CO (lb/day)**	**PM, PM_{10}, $PM_{2.5}$ (lb/day)**
Heater treater #1	2.5	57.2	100%	0.4	2.2	0.1	2.0	0.4
Flare King	4	2.1	2%	0.2	0.2	0.01	0.9	0.04
	Totals[1]:	59.2	--	0.6	2.3	0.1	2.9	0.5
Interim I (HT #1, Flare King, 6 MTs)								
Device/Process	**Heat Input Rating (MMbtu/hr)**	**Fuel flow (Mscf/day)**	**Percent of rating (%)**	**VOC (lb/day)**	**NO_X (lb/day)**	**SO_X (lb/day)**	**CO (lb/day)**	**PM, PM_{10}, $PM_{2.5}$ (lb/day)**
Heater treater #1	2.5	57.1	100%	0.4	2.2	0.1	2.0	0.4
Flare King	4	91.4	100%	7.1	6.9	0.4	38.0	1.9
Microturbines (6)	5.7	130.1	100%	8.7	6.0	0.2	6.1	0.9
	Totals[1]:	279	--	16.2	15.1	0.7	46.1	3.3
Interim II (HT #1, Bekaert CEB®, 6 MTs; before gas reinjection)								
Device/Process	**Heat Input Rating (MMbtu/hr)**	**Fuel flow (Mscf/day)**	**Percent of rating (%)**	**VOC (lb/day)**	**NO_X (lb/day)**	**SO_X (lb/day)**	**CO (lb/day)**	**PM, PM_{10}, $PM_{2.5}$ (lb/day)**
Heater treater #1	2.5	57.1	100%	0.4	2.2	0.1	2.0	0.4
Bekaert CEB®	17	194.3	50%	0.9	3.7	0.3	1.5	0.5
Microturbines (6)	5.7	130.1	100%	8.7	6.0	0.2	6.1	0.9
	Totals[1]:	382	--	10.0	11.9	0.6	9.6	1.8

Interim III (HT #2, Bekaert CEB®, 6 MTs; with gas reinjection)

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/day)	Percent of rating (%)	VOC (lb/day)	NO_X (lb/day)	SO_X (lb/day)	CO (lb/day)	PM, PM_{10}, $PM_{2.5}$ (lb/day)
Heater treater #2	12	171.4	63%	1.2	3.3	0.3	6.0	1.3
Bekaert CEB®	17	35.0	9%	0.2	0.7	0.1	0.3	0.1
Microturbines (6)	5.7	130.1	100%	8.7	6.0	0.2	6.1	0.9
	Totals[1]:	337	--	10.1	10.0	0.6	12.4	2.3

Final, average day (Gas reinjection or sales, HT#2 at 5,000 bpd, 9 microturbines, and the Bekaert CEB®)

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/day)	Percent of rating (%)	VOC (lb/day)	NO_X (lb/day)	SO_X (lb/day)	CO (lb/day)	PM, PM_{10}, $PM_{2.5}$ (lb/day)
Heater treater #1 (online)	2.5	0	0%	0.0	0.0	0.0	0.0	0.0
Heater treater #2	12	171.4	63%	1.2	3.3	0.3	6.0	1.3
Bekaert CEB®	17	35.0	9%	0.2	0.7	0.1	0.3	0.1
Microturbines (9)	8.5	195.1	100%	13.1	9.1	0.3	9.2	1.4
	Totals[1]:	402	--	14.5	13.0	0.7	15.5	2.7

Final, daily maximum (Gas reinjection or sales interrupted, HT#2 at 6,000 bpd, HT #1 at 100% capacity (unlikely), 9 microturbines (although only 6 MTs would likely be operating), and the Bekaert CEB®)

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/day)	Percent of rating (%)	VOC (lb/day)	NO_X (lb/day)	SO_X (lb/day)	CO (lb/day)	PM, PM_{10}, $PM_{2.5}$ (lb/day)
Heater treater #1 (online)	2.5	57.1	100%	0.4	2.2	0.1	2.0	0.4
Heater treater #2	12	205.7	75%	1.4	3.9	0.3	7.2	1.5
Bekaert CEB®	17	388.6	100%	1.7	7.4	0.6	3.0	1.0
Microturbines (9)	8.5	195.1	100%	13.1	9.1	0.3	9.2	1.4
	Totals[1]:	847	--	16.7	22.6	1.4	21.4	4.3

Final, annual maximum (Gas reinjection or sales interrupted, HT#2 at 5,000 bpd, 9 microturbines (although only 6 MTs would be operating for most of the year), and the Bekaert CEB®)

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/day)	Percent of rating (%)	VOC (lb/day)	NO_X (lb/day)	SO_X (lb/day)	CO (lb/day)	PM, PM_{10}, $PM_{2.5}$ (lb/day)
Heater treater #1 (online)	2.5	0	0%	0.0	0.0	0.0	0.0	0.0
Heater treater #2	12	171.4	63%	1.2	3.3	0.3	6.0	1.3
Bekaert CEB®	17	388.6	100%	1.7	7.4	0.6	3.0	1.0
Microturbines (9)	8.5	195.1	100%	13.1	9.1	0.3	9.2	1.4
	Totals[1]:	755.1	--	16.0	19.8	1.3	18.2	3.6

1. Totals may not equal the sum of the categories due to rounding.

There will be additional emissions associated with one monthly heavy duty truck trip due to delivery of odorant during operation of the final proposed project (i.e., gas sales). These emissions are negligible (i.e., 0.9 lb/day NO_x; <0.1 lb/day PM), only occur approximately once per month, and are not included in the emissions summarized above. However, these emissions are included in the project impact totals (see Table C.7).

Construction Emissions

In order to implement the final proposed project, construction activities will be required, including grading, welding, crane lifts, and other similar activities. Fugitive dust emissions (PM_{10}, $PM_{2.5}$, and PM) will be generated during construction of equipment pads and foundations. In addition, combustion emissions will be emitted from the diesel and gasoline mobile source vehicles used on-site. URBan EMISsions (URBEMIS) 2007 model (version 9.2.4) was used for estimating fugitive dust emissions associated with grading and for estimating greenhouse gas (GHG) emissions. Per ARB, emissions were reduced by 33% by reducing the load factor.[1] OFFROAD2007 was used for all other emissions, including off-road vehicles and gasoline-powered construction vehicles. Construction activities were separated into activities required to install a given piece of equipment. The following assumptions were used in the model runs.

- Construction I: Installation of the Bekaert CEB®, removal of the Flare King, installation of the spare vapor recovery system, and refurbishment of HT #1
  - Truck hauling, crane lifts, welding, and on-site operation of a crane, backhoe, excavator, concrete saw, compactor, dozer, water truck, and cement mixer. This phase will occur over approximately 12 days.
- Construction II: Installation of HT #2, re-furbishment of HT #1, installation of reinjection compressor, and reinjection well conversion
  - Truck hauling, crane lifts, welding, and on-site operation of a crane, backhoe, excavator, concrete saw, compactor, dozer, water truck, and cement mixer. This phase will occur over approximately 37 days.
- Construction III: Installation of microturbines and gas sales
  - Truck hauling, crane lifts, welding, and on-site operation of a crane, backhoe, excavator, concrete saw, compactor, dozer, water truck, and cement mixer. This phase will occur over approximately 33 days.

Table C.3, Table C.4, and Table C.5 summarize the emissions associated with these construction activities.

[1] ARB. 2010. Workshops on information regarding the Off-road, truck and bus and drayage truck regulations. August/September 2010 Workshop Series. September 3, 2010.

Table C.3. OFFROAD equipment mix, operational hours, load factors, and emission factors used to estimate emissions from construction activities.

Phase	Number of Days	Equipment (Quantity)	Horsepower	Hours/ day	Load Factor		Emission Factor (lb/hr)[1]						
					Original	Adjusted[3]	NO_x	VOC	PM_{10}	$PM_{2.5}$[3]	SO_x	CO	CO_2
Construction I													
Installation of the Bekaert CEB													
Setting equipment	1	Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
Piping associated with the Bekaert	1	Welder (1)	45	2	0.45	0.302	0.288	0.124	0.030	0.030	0.000	0.314	28
		Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
		Tractor/loader/ backhoe (1)	108	2	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
Removal of the Flare King flare													
Crane lift	1	Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
Installation of Spare Vapor Recovery													
Excavation for foundation	1	Excavator (1)	168	2	0.57	0.382	1.290	0.167	0.075	0.074	0.001	0.673	112
		Concrete/Industrial saw (1)	10	2	0.73	0.489	0.134	0.021	0.008	0.008	0.000	0.068	17
		Dozer (1)	357	2	0.59	0.395	3.500	0.389	0.149	0.148	0.003	1.990	265
		Water truck (1)	189	6	0.5	0.335	1.860	0.182	0.066	0.065	0.002	0.479	166
Build foundation	1	Tractor/loader/ backhoe (1)	108	6	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
		Gas Compactor (1)	5	4	0.43	0.288	0.023	0.051	0.001	0.001	0.000	0.773	2
		Cement/mortar mixer (1)	10	1	0.56	0.375	0.056	0.009	0.004	0.004	0.000	0.039	6
Setting equipment	1	Crane (1)	399	1	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
Piping associated with the VR System	1	Welder (1)	45	8	0.45	0.302	0.288	0.124	0.030	0.030	0.000	0.314	28
		Crane (1)	399	5	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
		Tractor/loader/ backhoe (1)	108	5	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
Refurbishment of HT #1													
Lifting and setting equipment	1	Crane (1)	399	1	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180

Phase	Number of Days	Equipment (Quantity)	Horsepower	Hours/ day	Load Factor		Emission Factor (lb/hr)[1]						
					Original	Adjusted[3]	NO_x	VOC	PM_{10}	$PM_{2.5}$[3]	SO_x	CO	CO_2
Construction II													
Installation of HT #2													
Excavation for foundation	1	Excavator (1)	168	2	0.57	0.382	1.290	0.167	0.075	0.074	0.001	0.673	112
		Concrete/Industrial saw (1)	10	2	0.73	0.489	0.134	0.021	0.008	0.008	0.000	0.068	17
		Dozer (1)	357	2	0.59	0.395	3.500	0.389	0.149	0.148	0.003	1.990	265
		Water truck (1)	189	6	0.5	0.335	1.860	0.182	0.066	0.065	0.002	0.479	166
Build foundation	1	Tractor/loader/ backhoe (1)	108	6	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
		Gas Compactor (1)	5	4	0.43	0.288	0.023	0.051	0.001	0.001	0.000	0.773	2
		Cement/mortar mixer (1)	10	1	0.56	0.375	0.056	0.009	0.004	0.004	0.000	0.039	6
Setting equipment	1	Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
Piping associated with HT #2	1	Welder (1)	45	8	0.45	0.302	0.288	0.124	0.030	0.030	0.000	0.314	28
		Crane (1)	399	5	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
		Tractor/loader/ backhoe (1)	108	5	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
Installation of Reinjection Compressor													
Excavation for foundation	1	Excavator (1)	168	2	0.57	0.382	1.290	0.167	0.075	0.074	0.001	0.673	112
		Concrete/Industrial saw (1)	10	2	0.73	0.489	0.134	0.021	0.008	0.008	0.000	0.068	17
		Dozer (1)	357	2	0.59	0.395	3.500	0.389	0.149	0.148	0.003	1.990	265
		Water truck (1)	189	6	0.5	0.335	1.860	0.182	0.066	0.065	0.002	0.479	166
Build foundation	1	Tractor/loader/ backhoe (1)	108	6	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
		Gas Compactor (1)	5	4	0.43	0.288	0.023	0.051	0.001	0.001	0.000	0.773	2
		Cement/mortar mixer (1)	10	1	0.56	0.375	0.056	0.009	0.004	0.004	0.000	0.039	6
Setting equipment	1	Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180

Phase	Number of Days	Equipment (Quantity)	Horsepower	Hours/ day	Load Factor		Emission Factor (lb/hr)[1]						
					Original	Adjusted[3]	NO_x	VOC	PM_{10}	$PM_{2.5}$[3]	SO_x	CO	CO_2
Piping associated with the reinjection compressor	1	Welder (1)	45	8	0.45	0.302	0.288	0.124	0.030	0.030	0.000	0.314	28
		Crane (1)	399	5	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
		Tractor/loader/ backhoe (1)	108	5	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
Conversion of reinjection well	1	Workover rig (1)[4]	399	5	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180

Phase	Number of Days	Equipment (Quantity)	Horsepower	Hours/ day	Load Factor		Emission Factor (lb/hr)[1]						
					Original	Adjusted[3]	NO_x	VOC	PM_{10}	$PM_{2.5}$[3]	SO_x	CO	CO_2
Construction III													
Installation of three additional MTs, gas sales, and odorant system													
Excavation for foundation	1	Excavator (1)	168	2	0.57	0.382	1.290	0.167	0.075	0.074	0.001	0.673	112
		Concrete/Industrial saw (1)	10	2	0.73	0.489	0.134	0.021	0.008	0.008	0.000	0.068	17
		Dozer (1)	357	2	0.59	0.395	3.500	0.389	0.149	0.148	0.003	1.990	265
		Water truck (1)	189	6	0.5	0.335	1.860	0.182	0.066	0.065	0.002	0.479	166
Build foundation	1	Tractor/loader/ backhoe (1)	108	6	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52
		Gas Compactor (1)	5	4	0.43	0.288	0.023	0.051	0.001	0.001	0.000	0.773	2
		Cement/mortar mixer (1)	10	1	0.56	0.375	0.056	0.009	0.004	0.004	0.000	0.039	6
Setting equipment	1	Crane (1)	399	2	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
Piping associated with the MTs, gas sales, and odorant system	1	Welder (1)	45	8	0.45	0.302	0.288	0.124	0.030	0.030	0.000	0.314	28
		Crane (1)	399	5	0.43	0.288	1.990	0.201	0.077	0.076	0.002	0.776	180
		Tractor/loader/ backhoe (1)	108	5	0.55	0.369	0.650	0.108	0.059	0.059	0.001	0.370	52

1. Emission factors (lb/hr) obtained from OFFROAD.
2. Per ARB (2010), emissions were reduced by 33% by reducing the load factor. (ARB. 2010. Workshops on information regarding the Off-road, truck and bus and drayage truck regulations. August/September 2010 Workshop Series. September 3, 2010.
3. The fraction of PM_{10} that is $PM_{2.5}$ is calculated based on SCAQMD (2006) - Final methodology to Calculate PM2.5 and PM2.5 Significance Threhsolds, Appendix A.2.
4. The workover rig is similar to a crane and is simulated as such for the purposes of OFFROAD.

Table C.4. Daily construction emissions calculated using OFFROAD.

Phase	Number of Days	Equipment (Quantity)	Emissions (lb/day)[1]						
			NO_x	VOC	PM_{10}	$PM_{2.5}$[2]	SO_x	CO	CO_2
Construction I									
Installation of the Bekaert CEB									
Setting equipment	1	Crane (1)	1.15	0.12	0.04	0.04	0.00	0.45	104
Piping associated with the Bekaert	1	Welder (1)	0.17	0.07	0.02	0.02	0.00	0.19	17
		Crane (1)	1.15	0.12	0.04	0.04	0.00	0.45	104
		Tractor/loader/backhoe (1)	0.48	0.08	0.04	0.04	0.00	0.27	38
		Total	*1.80*	*0.27*	*0.11*	*0.11*	*0.00*	*0.91*	*159*
Removal of the Flare King flare									
Crane lift	1	Crane (1)	1.15	0.12	0.04	0.05	0.00	0.45	104
Installation of Spare Vapor Recovery									
Excavation for foundation	1	Excavator (1)	0.99	0.13	0.06	0.06	0.00	0.51	86
		Concrete/Industrial saw (1)	0.13	0.02	0.01	0.01	0.00	0.07	16
		Dozer (1)	2.77	0.31	0.12	0.12	0.00	1.57	210
		Water truck (1)	3.74	0.37	0.13	0.13	0.00	0.96	334
		Total	*7.62*	*0.82*	*0.32*	*0.31*	*0.01*	*3.12*	*645*
Build foundation	1	Tractor/loader/backhoe (1)	1.44	0.24	0.13	0.13	0.00	0.82	114
		Gas Compactor (1)	0.03	0.06	0.00	0.00	0.00	0.89	2
		Cement/mortar mixer (1)	0.02	0.00	0.00	0.00	0.00	0.01	2
		Total	*1.48*	*0.30*	*0.13*	*0.13*	*0.00*	*1.72*	*119*
Setting equipment	1	Crane (1)	0.57	0.06	0.02	0.02	0.00	0.22	52
Piping associated with the VR System	1	Welder (1)	0.69	0.30	0.07	0.07	0.00	0.76	68
		Crane (1)	2.87	0.29	0.11	0.11	0.00	1.12	259
		Tractor/loader/backhoe (1)	1.20	0.20	0.11	0.11	0.00	0.68	95
		Total	*4.76*	*0.79*	*0.29*	*0.29*	*0.00*	*2.56*	*422*
Refurbishment of HT #1									
Lifting and setting equipment	1	Crane (1)	0.57	0.06	0.02	0.02	0.00	0.22	52

Phase	Number of Days	Equipment (Quantity)	Emissions (lb/day)[1]						
			NO_x	VOC	PM_{10}	$PM_{2.5}$[2]	SO_x	CO	CO_2
Construction II									
Installation of HT #2									
Excavation for foundation	1	Excavator (1)	0.99	0.13	0.06	0.06	0.00	0.51	86
		Concrete/Industrial saw (1)	0.13	0.02	0.01	0.01	0.00	0.07	16
		Dozer (1)	2.77	0.31	0.12	0.12	0.00	1.57	210
		Water truck (1)	3.74	0.37	0.13	0.13	0.00	0.96	334
		Total	*7.62*	*0.82*	*0.32*	*0.31*	*0.01*	*3.12*	*645*
Build foundation	1	Tractor/loader/ backhoe (1)	1.44	0.24	0.13	0.13	0.00	0.82	114
		Gas Compactor (1)	0.03	0.06	0.00	0.00	0.00	0.89	2
		Cement/mortar mixer (1)	0.02	0.00	0.00	0.00	0.00	0.01	2
		Total	*1.48*	*0.30*	*0.13*	*0.13*	*0.00*	*1.72*	*119*
Setting equipment	1	Crane (1)	1.15	0.12	0.04	0.04	0.00	0.45	104
Piping associated with HT #2	1	Welder (1)	0.69	0.30	0.07	0.07	0.00	0.76	68
		Crane (1)	2.87	0.29	0.11	0.11	0.00	1.12	259
		Tractor/loader/backhoe (1)	1.20	0.20	0.11	0.11	0.00	0.68	95
		Total	*4.76*	*0.79*	*0.29*	*0.29*	*0.00*	*2.56*	*422*
Installation of Reinjection Compressor									
Excavation for foundation	1	Excavator (1)	0.99	0.13	0.06	0.06	0.00	0.51	86
		Concrete/Industrial saw (1)	0.13	0.02	0.01	0.01	0.00	0.07	16
		Dozer (1)	2.77	0.31	0.12	0.12	0.00	1.57	210
		Water truck (1)	3.74	0.37	0.13	0.13	0.00	0.96	334
		Total	*7.62*	*0.82*	*0.32*	*0.31*	*0.01*	*3.12*	*645*
Build foundation	1	Tractor/loader/backhoe (1)	1.44	0.24	0.13	0.13	0.00	0.82	114
		Gas Compactor (1)	0.03	0.06	0.00	0.00	0.00	0.89	2
		Cement/mortar mixer (1)	0.02	0.00	0.00	0.00	0.00	0.01	2
		Total	*1.48*	*0.30*	*0.13*	*0.13*	*0.00*	*1.72*	*119*
Setting equipment	1	Crane (1)	1.15	0.12	0.04	0.04	0.00	0.45	104
Piping associated with the reinjection compressor	1	Welder (1)	0.69	0.30	0.07	0.07	0.00	0.76	68
		Crane (1)	2.87	0.29	0.11	0.11	0.00	1.12	259
		Tractor/loader/backhoe (1)	1.20	0.20	0.11	0.11	0.00	0.68	95
		Total	*4.76*	*0.79*	*0.29*	*0.29*	*0.00*	*2.56*	*422*
Conversion of Reinjection Well	1	Workover rig (1)[3]	2.87	0.29	0.11	0.11	0.00	1.12	259

Phase	Number of Days	Equipment (Quantity)	Emissions (lb/day)[1]						
			NO_x	VOC	PM_{10}	$PM_{2.5}$[2]	SO_x	CO	CO_2
Construction III									
Installation of three additional MTs, gas sales, and odorant system[4]									
Excavation for foundation	1	Excavator (1)	0.99	0.13	0.06	0.06	0.00	0.51	86
		Concrete/Industrial saw (1)	0.13	0.02	0.01	0.01	0.00	0.07	16
		Dozer (1)	2.77	0.31	0.12	0.12	0.00	1.57	210
		Water truck (1)	3.74	0.37	0.13	0.13	0.00	0.96	334
		Total	*7.62*	*0.82*	*0.32*	*0.31*	*0.01*	*3.12*	*645*
Build foundation	1	Tractor/loader/backhoe (1)	1.44	0.24	0.13	0.13	0.00	0.82	114
		Gas Compactor (1)	0.03	0.06	0.00	0.00	0.00	0.89	2
		Cement/mortar mixer (1)	0.02	0.00	0.00	0.00	0.00	0.01	2
		Total	*1.48*	*0.30*	*0.13*	*0.13*	*0.00*	*1.72*	*119*
Setting equipment	1	Crane (1)	1.15	0.12	0.04	0.04	0.00	0.45	104
Piping associated with the MTs, gas sales, and odorant system	1	Welder (1)	0.69	0.30	0.07	0.07	0.00	0.76	68
		Crane (1)	2.87	0.29	0.11	0.11	0.00	1.12	259
		Tractor/loader/backhoe (1)	1.20	0.20	0.11	0.11	0.00	0.68	95
		Total	*4.76*	*0.79*	*0.29*	*0.29*	*0.00*	*2.56*	*422*

1. Emissions (lb/day) calculated by multiplying the emission factor (lb/hr) x adjusted load factor (dimensionless) x operating hours (hrs/day).
2. The fraction of PM_{10} that is $PM_{2.5}$ is calculated based on SCAQMD (2006) - Final methodology to Calculate PM2.5 and PM2.5 Significance Threhsolds, Appendix A.2.
3. The workover rig is similar to a crane and is simulated as such for the purposes of OFFROAD.
4. Emissions for Construction III represent the total emissions for construction and installation of the three separate systems (i.e., microturbines, gas sales, and odorant systems). For calculation purposes, the activities and emissions are shown together; however, construction of each individual system will occur on separate days.

There will be additional emissions associated with construction worker commuting during construction of the final proposed project. These emissions are negligible (i.e., 0.1 lb/day NO_x; <0.1 lb/day PM) and are not included in the emissions summarized above.

Table C.5. Daily construction emissions separated into fugitive dust and off-road combustion emissions.

Phase	Criteria Pollutant Emissions (lb/day)[1,2]								CO_2 Emissions (metric tonnes CO_2eq)
	NO_x	VOC	PM_{10}		$PM_{2.5}$		SO_x	CO	
			Combustion	Dust	Combustion	Dust			
Construction Phase I	7.62	0.82	0.32	0.09	0.31	0.02	0.01	3.12	2.60
Construction Phase II									
HT#2	7.62	0.82	0.32	0.09	0.31	0.02	0.01	3.12	1.84
Reinjection Compressor	7.62	0.82	0.32	0.09	0.31	0.02	0.01	3.12	1.84
Reinjection Well	2.87	0.29	0.11	0.09	0.11	0.02	0.00	1.12	0.42
Construction Phase III[3]									
Microturbines (three additional)	2.54	0.27	0.11	0.09	0.10	0.02	0.00	1.04	0.58
Gas Sales	2.54	0.27	0.11	0.09	0.10	0.02	0.00	1.04	0.58
Gas Sales Odorant System	2.54	0.27	0.11	0.09	0.10	0.02	0.00	1.04	0.58
Maximum Daily Emissions	7.62	0.82	0.32	0.09	0.31	0.02	0.01	3.12	
Significance Threshold	100	75	150		55		150	550	NA
Significant?	No	No	No		No		No	No	

1. Emissions were calculated using OFFROAD for all combustion emissions and URBEMIS version 9.2.4 for fugitive dust emissions and GHG emissions.
2. Per ARB (2010), emissions were reduced by 33% by reducing the load factor. (ARB. 2010. Workshops on information regarding the Off-road, truck and bus and drayage truck regulations. August/September 2010 Workshop Series. September 3, 2010.
3. Construction Phase III emissions shown in Table C.4. represent total combined daily emissions for construction and installation of the three systems (i.e., three additional MTs, gas sales, and gas sales odorant system). The construction and installation of these three systems will occur on separate days. The daily emissions shown in Table C.5. are total emissions divided by three to accurately reflect estimated emissions for each individual system.

As part of the construction emissions, construction workers will commute to the site for the construction activities. URBEMIS was used to estimate the emissions associated with additional vehicular traffic to the site. The trip length was assumed to be a rural trip to be conservative. The vehicles were assumed to be 50% light duty autos and 50% light duty trucks, comprised of 50% less than 3,750 lbs and 50% between 3,751 and 5,750 lbs. In addition, additional emissions will be associated with one monthly heavy duty truck trip due to delivery of odorant during operation of the final proposed project (i.e., gas sales). URBEMIS was used to model the emissions assuming one 100% heavy duty vehicle making a two-way trip one day each month. These emissions were negligible, as mentioned above.

Fugitive VOC Emissions

Fugitive emissions are categorized as tankage, bulkloading, and general fugitives (e.g., valves, flanges, etc.).

Fugitive emissions for additional valves, flanges, etc. to be installed with the proposed project were estimated using the SCAQMD's *Guidelines for Fugitive Emission Calculations* (June 2003). A summary of the input parameters and emission estimates per fugitive source are included in Table C.6.

Table C.6. Fugitive emissions resulting from equipment currently operating at the WTU Central Facility and included in the proposed project.

Component type	Components[1,2] (< 10k ppmv)	SVRFs for THC[3] (lb/hr/source; < 10k ppmv)	THC Emissions (lb/day)	Speciated Emissions[4] (lb/day)				
				ROC	Methane	Ethane	Inerts	Benzene
Flare King								
Valves	4	7.70E-05	0.007	0.001	0.005	0.000	0.001	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	12	6.20E-05	0.018	0.001	0.013	0.000	0.003	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	0	2.60E-05	0.000	0.000	0.000	0.000	0.000	0.000
Open-ended lines	0	5.30E-05	0.000	0.000	0.000	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	2	3.20E-04	0.015	0.001	0.011	0.000	0.003	0.000
			TOTALS	0.003	0.035	0.001	0.009	0.000
Heater Treater #1								
Valves	12	7.70E-05	0.022	0.002	0.016	0.001	0.004	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	50	6.20E-05	0.074	0.005	0.053	0.002	0.014	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	0	2.60E-05	0.000	0.000	0.000	0.000	0.000	0.000
Open-ended lines	0	5.30E-05	0.000	0.000	0.000	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	15	3.20E-04	0.115	0.008	0.083	0.003	0.022	0.001
			TOTALS	0.015	0.158	0.005	0.042	0.001

Component type	Components[1,2] (< 10k ppmv)	SVRFs for THC[3] (lb/hr/source; < 10k ppmv)	THC Emissions (lb/day)	Speciated Emissions[4] (lb/day)				
				ROC	Methane	Ethane	Inerts	Benzene
Heater Treater #2								
Valves	12	7.70E-05	0.022	0.002	0.016	0.001	0.004	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	50	6.20E-05	0.074	0.005	0.053	0.002	0.014	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	0	2.60E-05	0.000	0.000	0.000	0.000	0.000	0.000
Open-ended lines	0	5.30E-05	0.000	0.000	0.000	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	15	3.20E-04	0.115	0.008	0.083	0.003	0.022	0.001
			TOTALS	0.015	0.158	0.005	0.042	0.001
Vapor Recovery								
Valves	10	7.70E-05	0.018	0.001	0.013	0.000	0.004	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	10	6.20E-05	0.015	0.001	0.011	0.000	0.003	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	8	2.60E-05	0.005	0.000	0.004	0.000	0.001	0.000
Open-ended lines	0	5.30E-05	0.000	0.000	0.000	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	3	3.20E-04	0.023	0.002	0.017	0.001	0.004	0.000
			TOTALS	0.005	0.050	0.002	0.013	0.000
Microturbines								
Valves	8	7.70E-05	0.015	0.001	0.011	0.000	0.003	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	24	6.20E-05	0.036	0.002	0.026	0.001	0.007	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	6	2.60E-05	0.004	0.000	0.003	0.000	0.001	0.000
Open-ended lines	1	5.30E-05	0.001	0.000	0.001	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	6	3.20E-04	0.046	0.003	0.033	0.001	0.009	0.000
			TOTALS	0.008	0.078	0.002	0.021	0.001

Component type	Components[1,2] (< 10k ppmv)	SVRFs for THC[3] (lb/hr/source; < 10k ppmv)	THC Emissions (lb/day)	Speciated Emissions[4] (lb/day)				
				ROC	Methane	Ethane	Inerts	Benzene
Bekaert CEB								
Valves	4	7.70E-05	0.007	0.001	0.005	0.000	0.001	0.000
PRDs[5]	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Flange sets	12	6.20E-05	0.018	0.001	0.013	0.000	0.003	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	0	2.60E-05	0.000	0.000	0.000	0.000	0.000	0.000
Open-ended lines	0	5.30E-05	0.000	0.000	0.000	0.000	0.000	0.000
Compressors	0	3.20E-04	0.000	0.000	0.000	0.000	0.000	0.000
Others	2	3.20E-04	0.015	0.001	0.011	0.000	0.003	0.000
			TOTALS	0.003	0.035	0.001	0.009	0.000
Reinjection System								
Valves	5	7.70E-05	0.009	0.001	0.007	0.000	0.002	0.000
PRDs[5]	2	3.20E-04	0.015	0.001	0.011	0.000	0.003	0.000
Flange sets	10	6.20E-05	0.015	0.001	0.011	0.000	0.003	0.000
Pumps	0	2.20E-03	0.000	0.000	0.000	0.000	0.000	0.000
Connectors	1	2.60E-05	0.001	0.000	0.000	0.000	0.000	0.000
Open-ended lines	1	5.30E-05	0.001	0.000	0.001	0.000	0.000	0.000
Compressors	1	3.20E-04	0.008	0.001	0.006	0.000	0.001	0.000
Others	3	3.20E-04	0.023	0.002	0.017	0.001	0.004	0.000
			TOTALS	0.005	0.052	0.002	0.014	0.000

1. The Screening Value Range (SVR) Method was used according to the AQMD's "Guidelines for Fugitive Emissions Calculations" (June 2003). This Method was chosen based on Warren's previous assessment in the 2006-2007 AER using the SVR Method and using gas analytical data from Warren.
2. The number of components are estimates obtained from Warren. The distribution around 10k ppmv is based on Warren's 2006-07 AER and the assumption that emissions from these new components should be similar to existing equipment.
3. All SVR Factors (SVRFs) obtained from Table IV-2c for gas/light liquid in AQMD's "Guidelines for Fugitive Emissions Calculations" (June 2003).
4. Speciated emissions are based on THC Emissions and the gas analysis provided by Warren.
5. The SVRF for "Others" was used for PRDs (based on 2006-2007 AER).
6. ROC percent = 6.96% (calculated using a mass balance, i.e., 100$ - sum of methane, ethane, inerts, and benzene); methane = 71.8%, ethane = 2.26%, and inerts = 18.97% (the percentages of methane, ethane, and inerts were obtained from Warren's gas analytical data); and benzene = 0.6% (the percentage of benzene was obtained from Warren's 2006-2007 AER).

Proposed Project Phase Emissions

Implementation of the proposed project is separated into distinct phases with specific combinations of operational combustion equipment, construction and commuting activities, and fugitive emissions. The proposed phases are as follows:

- Phase 0: Baseline; Fugitives (HT#1, Flare King, tankage, bulkloading, and general)
- Phase I: Interim I; Construction I; Fugitives (HT#1, Flare King, 6 MTs, tankage, bulkloading, and general)
- Phase II: Interim II; Construction II; Fugitives (HT#1, Bekaert CEB®, 6 MTs, tankage, bulkloading, and general)
- Phase III: Interim III; Construction III; Fugitives (HT#2, Bekaert CEB®, 6 MTs, gas reinjection, tankage, bulkloading, and general)
- Phase IV: Final proposed Project; Fugitives (HT #1, HT#2, Bekaert CEB®, 9 MTs, gas reinjection/gas sales, tankage, bulkloading, and general)

Emissions during each phase of the proposed project implementation, as well as emissions from the final proposed project, are included in Table C.7.

Table C.7. Total emissions during each phase of the proposed project implementation: combustion, fugitives, construction, and delivery trucks.

Device/Process	VOC (lb/day)	NO_x (lb/day)	SO_x (lb/day)	CO (lb/day)	PM, PM_{10}, $PM_{2.5}$ (lb/day)
Baseline (2006 Project)					
Baseline Combustion	0.6	2.3	0.1	2.9	0.5
Fugitives	12.6	0.0	0.0	0.0	0.0
TOTAL[(1)]	13.2	2.3	0.1	2.9	0.5
Phase I (Interim I, Construction I)					
Interim I Combustion	16.2	15.1	0.7	46.1	3.3
Fugitives	12.6	0.0	0.0	0.0	0.0
TOTAL[(1)]	28.8	15.1	0.7	46.1	3.3
Difference from baseline	15.7	12.8	0.6	43.2	3.3
Construction I	0.8	7.6	<0.1	3.1	0.4
TOTAL[(1)]	16.5	20.4	0.6	46.4	3.7
Phase II (Interim II, Construction II)					
Interim II Combustion	10.0	11.9	0.6	9.6	1.8
Fugitives	12.6	0.0	0.0	0.0	0.0
TOTAL[(1)]	22.6	11.9	0.6	9.6	1.8
Difference from baseline	9.5	9.6	0.5	6.8	1.3
Construction II	0.8	7.6	<0.1	3.1	0.4
TOTAL[(1)]	10.3	17.2	0.5	9.9	1.7
Phase III (Interim III, Construction III)					
Interim III Combustion	10.1	10.0	0.6	12.4	2.3
Fugitives	12.6	0.0	0.0	0.0	0.0
TOTAL[(1)]	22.7	10.0	0.6	12.4	2.3
Difference from baseline	9.6	7.6	0.5	9.5	1.8
Construction III	0.3	2.5	<0.1	1.0	0.2
TOTAL[(1)]	9.8	10.2	0.5	10.6	2.0
Final Project, average day					
Final Combustion	14.5	13.0	0.7	15.5	2.7
Fugitives	12.6	0.0	0.0	0.0	0.0
TOTAL[(1)]	27.1	13.0	0.7	15.5	2.7
Difference from baseline	13.9	10.7	0.6	12.6	2.3
Heavy Duty Vehicle Trips	0.1	0.9	0.0	0.3	0.0
TOTAL[(1)]	14.0	11.6	0.6	12.9	2.3

Final Project, daily maximum					
Final Combustion	16.7	22.6	1.4	21.4	4.3
Fugitives	13.9	0.0	0.0	0.0	0.0
TOTAL[(1)]	30.6	22.6	1.4	21.4	4.3
Difference from baseline	17.4	20.3	1.3	18.5	3.8
Heavy Duty Vehicle Trips	0.1	0.9	0.0	0.3	0.0
TOTAL[(1)]	17.5	21.2	1.3	18.8	3.8
Final Project, annual maximum					
Final Combustion	16.0	19.8	1.3	18.2	3.6
Fugitives	13.9	0.0	0.0	0.0	0.0
TOTAL[(1)]	30.0	19.8	1.3	18.2	3.6
Difference from baseline	16.8	17.4	1.1	15.3	3.1
Heavy Duty Vehicle Trips	0.1	0.9	0.0	0.3	0.0
TOTAL[(1)]	16.9	18.3	1.1	15.6	3.1

1. Totals may not sum due to rounding.

Table A.1a: Heater Treater #1 Emission Factors

ENVIRON calculations (data from application, Warren, and vendor information)

1. Given values

Category	Value	Units	Source
HHV - refined	1,050	MMbtu/MMscf	SCAQMD Default
H_2S concentration in fuel[1]	10	ppm	Gas analytical data
NO_x Concentration	30	ppm at 3% O_2	Per source test data provided by AQMD

[1] Based on Warren's gas analytical data

2. Assumed values

Category	Value	Units	Source
Heat input	2.5	MMbtu/hr	HT #1 permit
HHV	1,050	MMbtu/MMscf	SCAQMD Default
NO_X molecular weight[1]	46	lb/lb-mole	Periodic table
H2S molecular weight	34	lb/lb-mole	Periodic table
SO_X molecular weight[2]	64	lb/lb-mole	Periodic table

[1] The molecular weight of NO_x assumes NO_2.

3. Conversion factors

Category	Value	Units	Source
Fuel burned per energy unit	8,710	dscf/MMbtu	
Oxygen correction	1.17	O_2/corrected O_2	20.9/(20.9-3)
Volume conversion	385.44	scf/lb-mole	
Parts in one million	1,000,000	ppm	
Molar ratio (SO2/H2S)	1	lb-mole SO2/lb-mole H2S	Conservatively assumes complete combustion of H2S to SO2

4. Calculation of VOC emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
VOC EF	7.00	lb/MMscf	AQMD default

5. Calculation of NO_X emission factor

Category	Value	Units	Source
Per AQMD Data	0.036	lb/MMbtu	Calculation
NO_X EF	38.23	lb/MMscf	Per data provided by AQMD.

6. Calculation of SO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.002	lb/MMbtu	
SO_X EF	1.66	lb/MMscf	AQMD default

7. Calculation of CO emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO EF	35.00	lb/MMscf	AQMD default

8. Calculation of PM emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
PM, PM_{10}, and $PM_{2.5}$ EF[1]	7.50	lb/MMscf	AQMD default

[1] Per CEIDARS List for Gaseous Fuel Combustion, the PM_{10} and $PM_{2.5}$ fraction is equal to PM.

9. Calculation of CO_2 emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4

10. Emission factors Default? N

Category	Value	Units	Source
VOC EF	7	lb/MMscf	AQMD default
NO_X EF	38.23	lb/MMscf	Per data provided by AQMD.
SO_X EF	1.660440017	lb/MMscf	AQMD default
CO EF	35	lb/MMscf	AQMD default
PM, PM_{10}, and $PM_{2.5}$ EF	7.5	lb/MMscf	AQMD default
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4
CH4 EF	2.3	lb/MMscf	Per AP-42 Chapter 1.4
N2O EF	2.2	lb/MMscf	Per AP-42 Chapter 1.4

Table A.1b: Heater Treater #2 Emission Factors

ENVIRON calculations (data from application, Warren, and vendor information)

1. Given values

Category	Value	Units	Source
NO_X emitted concentration[1]	15	ppm	Manufacturer guarantee
H_2S concentration in fuel[2]	10	ppm	Gas analytical data
HHV - refined	1,050	MMbtu/MMscf	SCAQMD Default

[1] Based on pending application

[2] Based on Warren's gas analytical data.

2. Assumed values

Category	Value	Units	Source
Heat input	12	MMbtu/hr	HT #2 application
HHV	1,050	MMbtu/MMscf	SCAQMD Default
NO_X molecular weight[1]	46	lb/lb-mole	Periodic table
H2S molecular weight	34	lb/lb-mole	Periodic table
SO_X molecular weight[2]	64	lb/lb-mole	Periodic table

[1] The molecular weight of NO_x assumes NO_2.

[2] The molecular weight of SO_x assumes SO_2.

3. Conversion factors

Category	Value	Units	Source
Fuel burned per energy unit	8,710	dscf/MMbtu	
Oxygen correction	1.17	O_2/corrected O_2	20.9/(20.9-3)
Volume conversion	385.44	scf/lb-mole	
Parts in one million	1,000,000	ppm	
Molar ratio (SO2/H2S)	1	lb-mole SO2/lb-mole H2S	Conservatively assumes complete combustion of H2S to SO2

4. Calculation of VOC emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
VOC EF	7.00	lb/MMscf	AQMD default

5. Calculation of NO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.018	lb/MMbtu	Calculation
NO_X EF	19.12	lb/MMscf	Based on manufacturer's guarantee (see 5)

$$\frac{EF parts}{10^6\ parts} \times \frac{20.9\%}{20.9\% - 3\%} \times 8{,}710 \frac{dscf}{MMBtu} \times MW \frac{lb}{lb-mole} \times \frac{1 lb-mole}{385.44\ ft^3} = EF \frac{lb}{MMBtu}$$

6. Calculation of SO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.002	lb/MMbtu	Calculation
SO_X EF	1.66	lb/MMscf	AQMD default

7. Calculation of CO emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO EF	35.00	lb/MMscf	AQMD default

8. Calculation of PM emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
PM, PM_{10}, and $PM_{2.5}$ EF[1]	7.50	lb/MMscf	AQMD default

[1] Per CEIDARS List for Gaseous Fuel Combustion, the PM_{10} and $PM_{2.5}$ fraction is equal to PM.

9. Calculation of CO_2 emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4

10. Emission factors Default? N

Category	Value	Units	Source
VOC EF	7	lb/MMscf	AQMD default
NO_X EF	19.12	lb/MMscf	Based on manufacturer's guarantee (see 5)
SO_X EF	1.660440017	lb/MMscf	AQMD default
CO EF	35	lb/MMscf	AQMD default
PM, PM_{10}, and $PM_{2.5}$ EF	7.5	lb/MMscf	AQMD default
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4
CH4 EF	2.3	lb/MMscf	Per AP-42 Chapter 1.4
N2O EF	2.2	lb/MMscf	Per AP-42 Chapter 1.4

Table A.1c: Bekaert CEB Emission Factors

ENVIRON calculations (data from application, Warren, and vendor information)

1. Given values

Category	Value	Units	Source
NO_X emitted concentration	15	ppm	Burner application (supplemental information packgage); Manufacturer guarantee; spec sheet
CO emitted concentration	10	ppm	Flare application (supplemental information packgage); Manufacturer guarantee; spec sheet
VOC emitted concentration	10	ppm	Manufacturer guarantee (CxHy)
PM emitted concentration[1]	40	µg/L	AP 42-13.5-1, note C (Industrial flares)
H_2S emitted concentration[2]	10	ppm	Gas analytical data
HHV - refined	1,050	MMbtu/MMscf	SCAQMD Default

[1] The PM concentration assumes lightly smoking flare. This may significantly overestimate PM emissions for the Bekaert CEB.
[2] Based on Warren's gas analytical data.

2. Assumed values

Category	Value	Units	Source
Heat input	17	MMbtu/hr	Burner application (cover letter); manufacturer spec sheet
HHV	1,050	MMbtu/MMscf	SCAQMD Default
NO_X molecular weight[1]	46	lb/lb-mole	Periodic table
CO molecular weight	28	lb/lb-mole	Periodic table
VOC molecular weight[2]	16	lb/lb-mole	Periodic table
H2S molecular weight	34	lb/lb-mole	Periodic table
SO_X molecular weight[3]	64	lb/lb-mole	Periodic table

[1] The molecular weight of NO_x assumes NO_2.
[2] The molecular weight of VOC assumes CH4 (per AQMD)
[3] The molecular weight of SOx assumes SO2

3. Conversion factors

Category	Value	Units	Source
Fuel burned per energy unit	8,710	dscf/MMbtu	
Oxygen correction	1.17	O_2/corrected O_2	20.9/(20.9-3)
Volume conversion	385.44	scf/lb-mole	
Parts in one million	1,000,000	ppm	Conversion
Mass conversion	453.59	g/lb	Conversion
Volume conversion	28.32	L/scf	Conversion
Conversion	1,000,000	dscf/MMscf; µg/g	Conversion
Molar ratio (SO2/H2S)	1	lb-mole SO2/lb-mole H2S	Conservatively assumes complete combustion of H2S to SO2

4. Calculation of VOC emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.004	lb/MMbtu	Calculation
VOC EF	4.43	lb/MMscf	Based on manufacturer's guarantee (see 4)

5. Calculation of NO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.018	lb/MMbtu	Calculation
NO_X EF	19.12	lb/MMscf	Based on manufacturer's guarantee (see 5)

$$\frac{EFparts}{10^6\ parts} \times \frac{20.9\%}{20.9\% - 3\%} \times 8{,}710 \frac{dscf}{MMBtu} \times MW \frac{lb}{lb-mole} \times \frac{1 lb-mole}{385.44\ ft^3} = EF \frac{lb}{MMBtu}$$

6. Calculation of SO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.002	lb/MMbtu	
SO_X EF	1.66	lb/MMscf	AQMD default

7. Calculation of CO emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.007	lb/MMbtu	Calculation
CO EF	7.76	lb/MMscf	Based on manufacturer's guarantee (see 7)

8. Calculation of PM emission factor

Category	Value	Units	Source
AP 42 EF	40.0	µg/L	AP 42
PM, PM_{10}, and $PM_{2.5}$ EF[1]	2.50	lb/MMscf	Based on AP 42 (see 8)

[1] Per CEIDARS List for Flares, the PM_{10} and $PM_{2.5}$ fraction is equal to PM.

9. Calculation of CO_2 emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO_2 EF[1]	126,621	lb/MMscf	Table 4.1, American Petroleum Institute, Compendium of greenhouse gas emissions methodologies for the oil and gas industry

[1] American Petroleum Institute, *Compendiium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry* , February 2004. http://www.api.org/ehs/climate/new/upload/2004_COMPENDIUM.pdf

10. Emission factors Default? N

Category	Value	Units	Source
VOC EF	4.43	lb/MMscf	Based on manufacturer's guarantee (see 4)
NO_X EF	19.12	lb/MMscf	Based on manufacturer's guarantee (see 5)
SO_X EF	1.66	lb/MMscf	AQMD default
CO EF	7.76	lb/MMscf	Based on manufacturer's guarantee (see 7)
PM, PM_{10}, and $PM_{2.5}$ EF	2.50	lb/MMscf	Based on AP 42 (see 8)
CO_2 EF	126,621	lb/MMscf	Table 4.1, American Petroleum Institute, Compendium of greenhouse gas emissions methodologies for the oil and gas industry
CH4 EF	2.3	lb/MMscf	Per AP-42 Chapter 1.4
N2O EF	0.64	lb/MMscf	Per AP-42 Chapter 1.4

Table A.1d: Flare King Emission Factors

ENVIRON calculations (data from application, Warren, and vendor information)

1. Given values

Category	Value	Units	Source
HHV - refined	1,050	MMbtu/MMscf	SCAQMD Default
H_2S emitted concentration[1]	10	ppm	Gas analytical data

[2] Based on Warren's gas analytical data.

2. Assumed values

Category	Value	Units	Source
Heat input	4	MMbtu/hr	Old flare
HHV	1,050	MMbtu/MMscf	SCAQMD Default
H2S molecular weight	34	lb/lb-mole	Periodic table
SO_X molecular weight[2]	64	lb/lb-mole	Periodic table

3. Conversion factors

Category	Value	Units	Source
Fuel burned per energy unit	8,710	dscf/MMbtu	
Oxygen correction	1.17	O_2/ corrected O_2	20.9/(20.9-3)
Volume conversion	385.44	scf/lb-mole	
Parts in one million	1,000,000	ppm	

4. Calculation of VOC emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
VOC EF	77.28	lb/MMscf	Per A/N 305487 (provided by AQMD)

5. Calculation of NO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
NO_X EF	75.39	lb/MMscf	Per A/N 305487 (provided by AQMD)

6. Calculation of SO_X emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
SO_X EF	4.31	lb/MMscf	Per A/N 305487 (provided by AQMD)

7. Calculation of CO emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO EF	415.49	lb/MMscf	Per A/N 305487 (provided by AQMD)

8. Calculation of PM emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
PM, PM_{10}, and $PM_{2.5}$ EF[1]	21.21	lb/MMscf	Per A/N 305487 (provided by AQMD)

[1] Per CEIDARS List for Flares, the PM_{10} and $PM_{2.5}$ fraction is equal to PM.

9. Calculation of CO_2 emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO_2 EF[1]	126,621	lb/MMscf	Table 4.1, American Petroleum Institute

[1] American Petroleum Institute, *Compendiium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry* , February 2004. http://www.api.org/ehs/climate/new/upload/2004_COMPENDIUM.pdf

10. Emission factors Default? N

Category	Value	Units	Source
VOC EF	77.28	lb/MMscf	Per A/N 305487 (provided by AQMD)
NO_X EF	75.39	lb/MMscf	Per A/N 305487 (provided by AQMD)
SO_X EF	4.31	lb/MMscf	Per A/N 305487 (provided by AQMD)
CO EF	415.49	lb/MMscf	Per A/N 305487 (provided by AQMD)
PM, PM_{10}, and $PM_{2.5}$ EF	21.21	lb/MMscf	Per A/N 305487 (provided by AQMD)
CO_2 EF	126,621	lb/MMscf	Table 4.1, American Petroleum Institute, Compendium of greenhouse gas emissions methodologies for the oil and gas industry
CH4 EF	2.3	lb/MMscf	Per AP-42 Chapter 1.4
N2O EF	0.64	lb/MMscf	Per AP-42 Chapter 1.4

Table A.1e: Microturbines Emission Calculations
ENVIRON calculations (from application, Warren, and vendor information)

1. Given values

Category	Value	Units	Source
Number of MTs	6	microturbines	MT application cover letter
VOC emitted concentration	50	ppm at 15% O_2	Data provided by AQMD, BACT Achieved in Practice
VOC emitted concentration, option a	48	ppm at 15% O2	
NO_X emitted concentration	12	ppm at 15% O_2	Data provided by AQMD, BACT Achieved in Practice
CO emitted concentration	20	ppm at 15% O_2	Data provided by AQMD, BACT Achieved in Practice
H_2S emitted concentration[1]	10	ppm	Gas analytical data
Mass conversion	453.59	g/lb	
Conversion	0.000001	MMbtu/btu	
Conversion	1,000,000	dscf/MMscf; µg/g	
HHV - refined	1,050	MMbtu/MMscf	SCAQMD Default

[1] Based on Warren's gas analytical data.

2. Assumed values

Category	Value	Units	Source
Nominal power output	92	kW	Ingersoll Rand specs, @0F
Nominal HHV	13550	btu/kWh	Ingersoll Rand specs, with gas booster
Heat input	0.9485	MMbtu/hr/MT	Calculation
Heat input	5.691	MMbtu/hr	Calculation
HHV	1,050	MMbtu/MMscf	SCAQMD Default
VOC molecular weight[1]	16	g/mol	Per data provided by AQMD
NO_X molecular weight[2]	46	g/mol	Periodic table
H2S molecular weight	34	lb/lb-mole	Periodic table
SO_X molecular weight[3]	64	lb/lb-mole	Periodic table
CO molecular weight	28	g/mol	Periodic table

[1] The molecular weight of VOC assumes methane.
[2] The molecular weight of NO_x assumes NO_2.
[3] The molecular weight of SO_x assumes SO_2.

3. Conversion factors

Category	Value	Units	Source
Fuel burned per energy unit	8,710	dscf/MMbtu	
Oxygen correction	3.54	O_2/corrected O_2	20.9/(20.9-15); Manufacturer specified 15% O_2
Oxygen correction	1.17	O_2/corrected O_2	20.9/(20.9-3)
Volume conversion	385.44	scf/lb-mole	
Parts in one million	1,000,000	ppm	
Molar ratio (SO2/H2S)	1	lb-mole SO2/lb-mole H2S	Conservatively assumes complete combustion of H2S to SO2

4. Calculation of VOC emission factor

Category	Value	Units	Source
Per AQMD Data	0.064	lb/MMbtu	Calculation
VOC EF	67.24	lb/MMscf	Calculated per data provided by AQMD

$$\frac{Conc}{10^6\ parts}\times\frac{20.9\%}{20.9\%-15\%}\times 8{,}710\frac{dscf}{MMBtu}\times MW\frac{lb}{lb-mole}\times\frac{1 lb-mole}{385.44 ft^3}=EF\frac{lb}{MMBtu}$$

5. Calculation of NO_x emission factor

Category	Value	Units	Source
Per AQMD Data	0.044	lb/MMbtu	Calculation
NO_X EF	46.40	lb/MMscf	Calculated per data provided by AQMD

6. Calculation of SO_x emission factor

Category	Value	Units	Source
Manufacturer guarantee	0.002	lb/MMbtu	Calculation
SO_X EF	1.66	lb/MMscf	AQMD default

7. Calculation of CO emission factor

Category	Value	Units	Source
Per AQMD Data	0.045	lb/MMbtu	Calculation
CO EF	47.07	lb/MMscf	Calculated per data provided by AQMD

8. Calculation of PM emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
PM, PM_{10}, and $PM_{2.5}$ EF[1]	6.93	lb/MMscf	Per data provided by AQMD

[1] Per CEIDARS List for Gaseous Fuel Combustion, the PM_{10} and $PM_{2.5}$ fraction is equal to PM.

9. Calculation of CO_2 emission factor

Category	Value	Units	Source
Manufacturer guarantee	n/a	lb/MMbtu	
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4

10. Emission factors Default? N

Category	Value	Units	Source
VOC EF	67.24	lb/MMscf	Calculated per data provided by AQMD
VOC EF, option a	64.55	lb/MMscf	
NO_X EF	46.40	lb/MMscf	Calculated per data provided by AQMD
SO_X EF	1.66	lb/MMscf	AQMD default
CO EF	47.07	lb/MMscf	Calculated per data provided by AQMD
PM, PM_{10}, and $PM_{2.5}$ EF	6.93	lb/MMscf	Per data provided by AQMD
CO_2 EF	120,000	lb/MMscf	Per AP-42 Chapter 1.4
CH4 EF	2.3	lb/MMscf	Per AP-42 Chapter 1.4
N2O EF	2.2	lb/MMscf	Per AP-42 Chapter 1.4

APPENDIX D

AIR DISPERSION MODELING

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APPENDIX D
AIR DISPERSION MODELING

Introduction

The Industrial Source Complex-Short Term Version 3 (ISCST3) model, a USEPA approved model, was used to simulate the air dispersion from the emission sources of the project. Breeze ISC GIS Pro v5.21 was used for developing ISCST3 input files and modeling the air dispersion.

Model Scenarios

Changes in criteria pollutant concentrations resulting from implementation of the proposed project and from the final proposed project were estimated by modeling the "CEQA baseline" scenario, project phases I through III (i.e., interim operational phases I through III plus construction phases I through III), and the final proposed project at full build-out (see emissions in Appendix C and Table D.1 and Table D.2). The CEQA baseline impacts were then subtracted from the impacts from each project implementation phase (i.e., operational and construction) to evaluate incremental impacts of the proposed project. The following assumptions should be taken into consideration when interpreting the results of this modeling analysis:

- As discussed in the text, the CEQA baseline excludes six microturbines that are currently operating at the facility. As a result, incremental impact estimates are conservative since it assumes the six microturbines are new.
- All sources except fugitive and construction emissions are treated as point sources within the dispersion model. Each of the sources was considered as one single point source with the exception of HT #2. Because HT #2 has two stacks, this piece of equipment was split into two individual point sources for modeling (model parameters can be found in Table D.3).
- Fugitive emissions of criteria pollutants are modeled as a rectangular area source covering the area in which the additional sources are to be added to the WTU Central Facility. The area source was visually placed in the dispersion model using the base map image as a reference. This source was modeled assuming a ground-level release covering a total area of approximately 6,756 m^2.
- Construction emissions occur in three areas: construction north, construction south, and construction west. Construction of HT#2 occurs in construction south and conversion of wells occurs in construction west, with all other activities occurring in construction north.
- Fugitive dust emissions resulting from construction activities are modeled as a rectangular area source covering construction north, construction south, or construction west (depending on the phase being modeled). Combustion emissions during construction activities are modeled as adjacent volume sources covering the construction areas (see Table D.1 and Table D.2).
- Appendix C discusses project emissions from mobile sources. These offsite emissions sources were not included in the modeling impacts assessment since their emissions occur almost entirely offsite.

Dispersion modeling was conducted to evaluate 1-hour average, 8-hour average, and 24-hour average impacts (short-term), as well as annual average impacts (long-term). Operational emissions are presented in Appendix C. Table D.1 and Table D.2 below summarize the emissions rates for the individual construction phases. According to the construction schedule, construction activities occur no more than a few days in a single year; however, both short-term construction impacts (1-hr, 8-hr, and 24-hr averaged concentrations) and long-term construction impacts (annual averaged concentrations) are evaluated here.

Table D.1. Emission sources and maximum emission rates for each construction phase.

Phase	Criteria Pollutant Emissions (g/s/# vol src)[1,2]							
	NO_x	VOC	PM_{10}		$PM_{2.5}$		SO_x	CO
			Combustion	Dust	Combustion	Dust		
Construction Phase I	4.00E-03	4.31E-04	1.65E-04	1.16E-03	1.64E-04	2.41E-04	3.67E-06	1.64E-03
Construction Phase II								
HT#2	1.60E-02	1.72E-03	6.62E-04	1.16E-03	6.56E-04	2.41E-04	1.47E-05	6.54E-03
Reinjection Compressor	4.00E-03	4.31E-04	1.65E-04	1.16E-03	1.64E-04	2.41E-04	3.67E-06	1.64E-03
Reinjection Well	6.02E-03	6.08E-04	2.33E-04	1.16E-03	2.31E-04	2.41E-04	5.35E-06	2.35E-03
Construction Phase III								
Microturbines	1.33E-03	1.44E-04	5.51E-05	1.16E-03	5.47E-05	2.41E-04	1.22E-06	5.45E-04
Gas Sales	1.33E-03	1.44E-04	5.51E-05	1.16E-03	5.47E-05	2.41E-04	1.22E-06	5.45E-04
Gas Sales Odorant System	1.33E-03	1.44E-04	5.51E-05	1.16E-03	5.47E-05	2.41E-04	1.22E-06	5.45E-04

1. Emission rates are based on maximum daily construction emission rates for each phase/activity.
2. Dust emission rates are associated to model area sources and are in g/sec. However, exhaust emissions are associated to volume sources and thus are divided by the number of volume sources that are representing a specific construction phase.

Table D.2. Emission sources and average emission rates for each construction phase.

Phase	Criteria Pollutant Emissions (g/s/# vol src)[1,2]							
	NO_x	VOC	PM_{10}		$PM_{2.5}$		SO_x	CO
			Combustion	Dust	Combustion	Dust		
Construction Phase I	2.75E-05	3.63E-06	1.41E-06	8.80E-06	1.40E-06	2.45E-06	2.55E-08	1.39E-05
Construction Phase II								
HT#2	8.64E-05	1.17E-05	4.52E-06	5.29E-06	4.48E-06	1.48E-06	8.05E-08	4.51E-05
Reinjection Compressor	2.16E-05	2.91E-06	1.13E-06	1.05E-05	1.12E-06	2.57E-06	4.83E-07	1.13E-05
Reinjection Well	1.65E-05	1.67E-06	6.38E-07	8.23E-07	6.32E-07	2.86E-07	1.47E-08	6.43E-06
Construction Phase III	2.16E-05	2.91E-06	1.13E-06	1.43E-05	1.12E-06	3.36E-06	2.01E-08	1.13E-05

1. Emission rates are based on average annual construction emission rates over each phase/activity.
2. Dust emission rates are associated to model area sources and are in g/sec. However, exhaust emissions are associated to volume sources and thus are divided by the number of volume sources that are representing a specific construction phase.

Model Parameters and Data

Model Parameters

Model parameters for the ISCST3 simulations, were based on two South Coast Air Quality Management District (SCAQMD) Guidance Documents:

1. SCAQMD 2005. Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588). July 2005. Available at: http://www.aqmd.gov/prdas/AB2588/pdf/AB2588_Guidelines.pdf
2. SCAQMD 2003. Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis. August 2003. Available at: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/diesel_analysis.doc

Per both documents, the following model control options are used:

- Use regulatory default? No
- Urban or Rural? Urban
- Gradual plume rise? No
- Stack tip downwash? Yes
- Buoyancy induced dispersion? Yes
- Calms processing? No
- Missing data processing? No

It should be noted that point sources are not known to be located on or in close proximity to any buildings and therefore building downwash is not considered in this analysis. ENVIRON also assumed none of the point sources in the model had rain caps or horizontal stacks.

Receptors

Three sets of receptors were evaluated, each using spacing consistent with the guidance documents cited above:

1. Boundary receptors along the facility fence-line spaced at 20-meter intervals
2. A Cartesian grid at 50 m spacing centered at the facility and extending approximately 250 to 300 m in each direction from the property boundary.
3. A Cartesian grid at 100 m spacing surrounding the 50-m grid and extending approximately 1 mile in each direction from the property boundary.

ENVIRON evaluated criteria pollutants at each grid point. Figure D.1 shows the extent of the large and small grid as well as the boundary receptors.

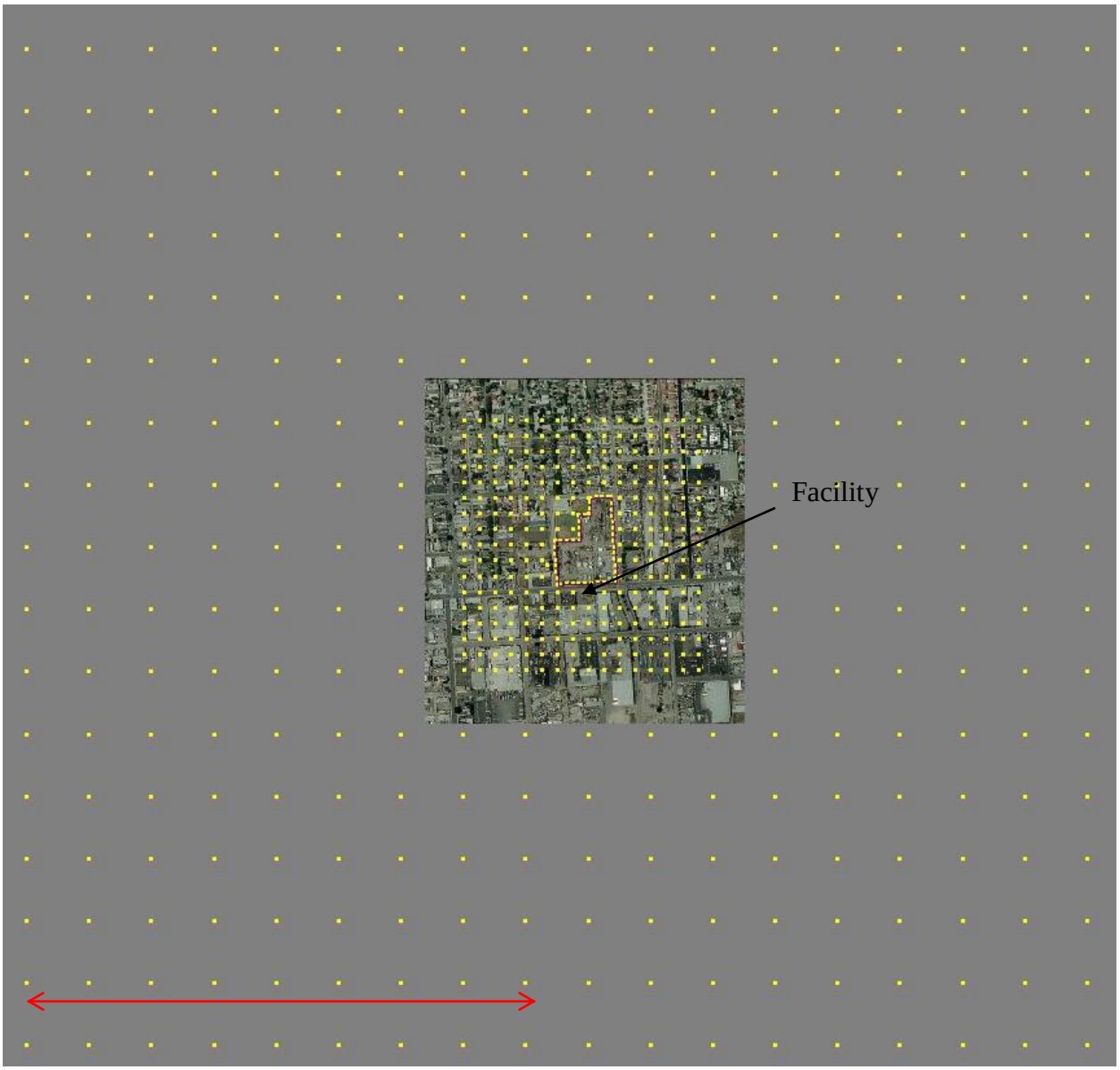

Figure D.1. Extent of receptor grids. Red line represents approximately 1 mile.

Meteorology data

The SCAQMD monitoring station with meteorological data located closest to the facility's location of Wilmington, California is the Long Beach station. The 1981 SCAQMD meteorological data of this station was used in the model.

Terrain data

Elevations were imported into the dispersion model using two adjacent 7.5-minute USGS Digital Elevation Model (DEM) files with 10 m spacing. The DEM files were downloaded from www.mapmart.com in SDTS format and are identified as "Long Beach" and "Torrance". The DEM files were imported into the Breeze software, which uses the U.S.EPA's AERMAP program to calculate the elevations of the sources and receptors using an interpolation scheme.

Operational source parameters

Emission sources included in the CEQA Baseline modeling are HT #1 and the existing Flare King. Emission sources included in the implementation phases include combinations of HT #1, HT #2, nine identical microturbines, the planned Bekaert CEB flare, and fugitive emissions associated with the new equipment. Table D.3 presents the parameters used to model those sources.

The locations of the existing and planned point sources were provided by facility staff to ENVIRON on a map of the facility (see Chapter 1), and these were visually located in the model using a satellite image of the facility as a base map. Figure D.1 shows a satellite image of the facility, the boundary receptors, and the grid receptors.

Table D.3. Point source parameters.

Source ID	Description	Stack Height	Temp	Velocity	Stack Diameter
		meter	K	m/sec	meter
Heater treater 1	Heater treater	6.1	477	1.3	0.61
Flare*	Flare King	5.33	1,033	1.3	0.92
Heater treater 2 (2)	Heater treater	6.1	477	2.7	0.91
Flare	Bekaert CEB	6.1	1,367	2.1	1.0
Microturbines (9)	Microturbine	3.1	533	25.4	0.25

Construction source parameters

The two types of construction sources that were modeled were fugitive dust emissions (PM_{10} and $PM_{2.5}$ only) and exhaust emissions (all pollutants). Model representation of these sources followed the methodology used by the SCAQMD to develop Localized Significance Thresholds as described in:

- SCAQMD 2008. Final Localized Significance Threshold Methodology. June 2003, Revised July 2008. Available at: http://www.aqmd.gov/CEQA/handbook/LST/Method_final.pdf

Exhaust emissions are modeled using adjacent volume sources covering each of the two construction areas (north and south). Volume sources had a release height of 5 m, initial lateral dimension of 10 m, and initial vertical dimension of 1.2 m. Fugitive dust sources are modeled using area sources that cover each of the two construction areas with a release height of 0 and conservatively assumed to have 0 initial depth.

Figure D.2. Image of the facility and surrounding neighborhood. The purple line delineates the project boundary. Blue points represent point sources (see Chapter 1 for source descriptions); green area represents the area of fugitive emissions.

Air Quality Impacts

To reduce the individual model runs necessary for each pollutant, we implement a "chi over Q" approach (i.e., χ/Q, $\mu g/m^3$ per g/sec) using ISCST3. Using this approach each source is assigned an equivalent 1 g/s emissions rate in the model, which then generates χ/Q (or dispersion factors) for each source -receptor combination. Those factors are combined with emission rates in a database in the post-processing step to evaluate the incremental criteria pollutant concentrations and health impacts. Table D.4 shows the maximum impact from the proposed project corresponding to each threshold. The impacts from each interim phase (i.e., construction plus operation) are shown in Table D.5.

NO_2 Emissions

Emissions of NO_2 were evaluated using the χ/Q approach. However, the USEPA default factor of 0.75 NO_2/NO_x was applied to all operational NO_x emissions to account for the conversion of NO to NO_2. In addition, a factor of 0.114 was applied to NO_x emissions from construction activities. The value of 0.114 represents a NO_2/NO_x ratio to account for conversion of NO to NO_2 at distances of 200 m per the LST methodology. This factor was applied because all of the receptors with a combined "construction plus operational" impact (assuming all NO_x was NO_2) greater than the significance threshold were dominated by construction sources and were found within 200 meters of the construction emissions (Table D.4, Table D.5).

Sulfate and SO_2 Emissions

Emissions of sulfate and SO_2 were also evaluated using the χ/Q approach. Per the LST methodology, the analysis and results shown assume 2 percent conversion of SO_x to sulfate and 98 percent conversion of SO_x to SO_2 (Table D.4, Table D.5).

PM Emissions

Impacts due to emissions of construction PM (PM_{10}, $PM_{2.5}$) were determined by directly modeling PM emissions in the model (i.e., rather than using the dispersion factors in the post-processing step) in order to accurately account for simultaneous construction and operational impacts. Results shown in Table D.4 and Table D.5 reflect the results obtained from the model.

Table D.4. Maximum impacts from the proposed project.

Criteria Pollutant		Background concentration (Station No. 70072)	Incremental difference (Project minus baseline)[2]	Resulting concentration (Background plus incremental)[2]	SCAQMD Threshold (operational)[3]	Significant?
NO_2 **(μg/m³)**	1-hr	188	26	214	339	No
	Annual	40	1.1	42	57	No
CO **(μg/m³)**	1-hr	4,578	114	4,692	23,000	No
	8-hr	3,891	45	3,936	10,000	No
PM_{10} **(μg/m³)**	24-hr	--	2.3	--	2.5	No
	Annual	--	0.2	--	1	No
$PM_{2.5}$ **(μg/m³)**	24-hr	--	1.8	--	2.5	No
Sulfate **(μg/m³)**	24-hr	--	0.01	--	25	No
SO_2 **(μg/m³)**	1-hr	--	1.4	--	197	No
	24-hr	--	0.5	--	105	No

1. The operational and construction emissions specific to each interim operating scenario were analyzed. The results represent maximum impacts modeled for all interims (i.e., Interims I, II, and III) and final project. The operational thresholds were used, even though the impacts from both peak construction and operation activities were analyzed.

2. The incremental difference shown is the maximum incremental difference (i.e., greatest impact) obtained from all of the modeled scenarios.

3. The threshold for pollutants in attainment is the concentration resulting from the operational and construction emissions and background concentration (i.e., background plus incremental). The threshold for pollutants in nonattainment is the operational and construction emissions only (i.e., incremental).

Table D.5. Impacts from implementation of the proposed project (i.e., interim phases with operation and construction).

Phase I (Interim I, Construction I)						
Criteria Pollutant		**Background concentration (Station No. 70072)**	**Incremental difference (Project minus baseline)[2]**	**Resulting concentration (Background plus incremental)[2]**	**SCAQMD Threshold (operational)[3]**	**Significant?**
NO_2 **(μg/m³)**	1-hr	188	18	206	339	No
	Annual	40	0.9	41	57	No
CO **(μg/m³)**	1-hr	4,578	114	4,692	23,000	No
	8-hr	3,891	45	3,936	10,000	No
PM_{10} **(μg/m³)**	24-hr	--	2.3	--	2.5	No
	Annual	--	0.2	--	1	No
$PM_{2.5}$ **(μg/m³)**	24-hr	--	1.7	--	2.5	No
Sulfate **(μg/m³)**	24-hr	--	0.06	--	25	No
SO_2 **(μg/m³)**	1-hr	--	0.99	--	197	No
	24-hr	--	0.30	--	105	No

Phase II (Interim II, Construction II)						
Criteria Pollutant		**Background concentration (Station No. 70072)**	**Incremental difference (Project minus baseline)[2]**	**Resulting concentration (Background plus incremental)[2]**	**SCAQMD Threshold (operational)[3]**	**Significant?**
NO_2 **(μg/m³)**	1-hr	188	26	214	339	No
	Annual	40	0.7	41	57	No
CO **(μg/m³)**	1-hr	4,578	98	4,676	23,000	No
	8-hr	3,891	39	3,930	10,000	No
PM_{10} **(μg/m³)**	24-hr	--	2.3	--	2.5	No
	Annual	--	0.1	--	1	No
$PM_{2.5}$ **(μg/m³)**	24-hr	--	1.7	--	2.5	No
Sulfate **(μg/m³)**	24-hr	--	0.005	--	25	No
SO_2 **(μg/m³)**	1-hr	--	0.73	--	197	No
	24-hr	--	0.22	--	105	No
Phase III (Interim III, Construction III)						
Criteria Pollutant		**Background concentration (Station No. 70072)**	**Incremental difference (Project minus baseline)[2]**	**Resulting concentration (Background plus incremental)[2]**	**SCAQMD Threshold (operational)[3]**	**Significant?**
NO_2 **(μg/m³)**	1-hr	188	6	194	339	No
	Annual	40	0.6	41	57	No
CO **(μg/m³)**	1-hr	4,578	31	4,609	23,000	No
	8-hr	3,891	15	3,907	10,000	No
PM_{10} **(μg/m³)**	24-hr	--	2.0	--	2.5	No
	Annual	--	0.1	--	1	No
$PM_{2.5}$ **(μg/m³)**	24-hr	--	1.3	--	2.5	No
Sulfate **(μg/m³)**	24-hr	--	0.005	--	25	No
SO_2 **(μg/m³)**	1-hr	--	0.53	--	197	No
	24-hr	--	0.23	--	105	No
Final Project – Emissions shown are average (worst-case)						
Criteria Pollutant		**Background concentration (Station No. 70072)**	**Incremental difference (Project minus baseline)[2]**	**Resulting concentration (Background plus incremental)[2]**	**SCAQMD Threshold (operational)[3]**	**Significant?**
NO_2 **(μg/m³)**	1-hr	188	2 (3)	190 (191)	339	No
	Annual	40	0.8 (1.1)	41 (42)	57	No
CO **(μg/m³)**	1-hr	4,578	18 (26)	4,596 (4,604)	23,000	No
	8-hr	3,891	13 (16)	3,904 (3,907)	10,000	No
PM_{10} **(μg/m³)**	24-hr	--	1.3 (1.8)	--	2.5	No
	Annual	--	0.2 (0.2)	--	1	No
$PM_{2.5}$ **(μg/m³)**	24-hr	--	1.3 (1.8)	--	2.5	No
Sulfate **(μg/m³)**	24-hr	--	0.01 (0.01)	--	25	No
SO_2 **(μg/m³)**	1-hr	--	0.7 (1.4)	--	197	No
	24-hr	--	0.32 (0.46)	--	105	No

APPENDIX E

HEALTH RISK EVALUATION

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WARREN E&P NEW EQUIPMENT PROJECT – INITIAL STUDY

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HEALTH RISK EVALUATION

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APPENDIX E
HEALTH RISK EVALUATION

Health Risk Evaluation

Emissions

Emissions of toxic air contaminants (TACs) were calculated for the equipment operating in the baseline, in the interim scenarios, and in the final proposed project using the emission factors shown below (see Table E.1, Table E.2, and Table E.3).

Toxicity

Toxicity studies with laboratory animals or epidemiological studies of human populations are relied upon to develop toxicity criteria. The toxicities of many of the volatile TACs emitted from the proposed project are relatively well-known with well-established toxicity criteria. Toxicological values used in this assessment are listed in Table E.4. Unless otherwise noted in Table E.4, values are taken from Cal/EPA OEHHA and CARB's Consolidated Table of Approved Risk Assessment Health Values as provided in the Hotspots and Reporting Program (HARP) version 1.4.[1]

[1] See Cal/EPA. 2004. Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values. Office of Environmental Health Hazard Assessment and Air Resources Board. (April 4, 2005) and HARP version 1.4 available at http://www.arb.ca.gov/toxics/harp/harp.htm

Table E.1. TACs emissions during operation of the baseline.

TACs	Fuel Flow (MMscf/yr)	Emission Factor (lb/MMscf)	TACs Emissions (lb/yr)
Heater Treater #1			
benzene	21	0.008	0.17
formaldehyde		0.017	0.35
Total PAHs (excluding naphthalene)		0.0001	0.00
naphthalene		0.0003	0.01
acetaldehyde		0.0043	0.09
acrolein		0.0027	0.06
ammonia		3.2	66.74
ethyl benzene		0.0095	0.20
hexane		0.0063	0.13
toluene		0.0366	0.76
xylene		0.0272	0.57
Flare King flare			
benzene	33	0.159	5.31
formaldehyde		1.169	39.01
Total PAHs (excluding naphthalene)		0.003	0.10
naphthalene		0.011	0.37
acetaldehyde		0.043	1.43
acrolein		0.01	0.33
ethyl benzene		1.444	48.19
hexane		0.029	0.97
toluene		0.058	1.94
xylene		0.029	0.97
General Fugitives (connections, flanges, etc.)			
Benzene			0.59

Table E.2. TACs emissions during operation of the interim phases (Interim I through III).

Interim I			
TACs	**Fuel Flow (MMscf/yr)**	**Emission Factor (lb/MMscf)**	**TACs Emissions (lb/yr)**
Heater Treater #1			
benzene	21	0.008	0.17
formaldehyde		0.017	0.35
Total PAHs (excluding naphthalene)		0.0001	0.00
naphthalene		0.0003	0.01
acetaldehyde		0.0043	0.09
acrolein		0.0027	0.06
ammonia		3.2	66.74
ethyl benzene		0.0095	0.20
hexane		0.0063	0.13
toluene		0.0366	0.76
xylene		0.0272	0.57
Flare King flare			
benzene	33	0.159	5.31
formaldehyde		1.169	39.01
Total PAHs (excluding naphthalene)		0.003	0.10
naphthalene		0.011	0.37
acetaldehyde		0.043	1.43
acrolein		0.01	0.33
ethyl benzene		1.444	48.19
hexane		0.029	0.97
toluene		0.058	1.94
xylene		0.029	0.97
Microturbine (individual microturbine, 6 assumed operating)			
benzene	8	0.0122	0.10
1,3-butadiene		0.000439	0.00
formaldehyde		0.724	5.73
Total PAHs (excluding naphthalene)		0.000918	0.01
naphthalene		0.00133	0.01
acetaldehyde		0.0408	0.32
acrolein		0.00653	0.05
ammonia		3.2	25.32
ethyl benzene		0.0326	0.26
propylene oxide		0.0296	0.23
toluene		0.133	1.05
xylene		0.0653	0.52
General Fugitives (connections, flanges, etc.)			
Benzene			0.59

Interim II			
TACs	**Fuel Flow (MMscf/yr)**	**Emission Factor (lb/MMscf)**	**TACs Emissions (lb/yr)**
Heater Treater #1			
benzene	21	0.008	0.17
formaldehyde		0.017	0.35
Total PAHs (excluding naphthalene)		0.0001	0.00
naphthalene		0.0003	0.01
acetaldehyde		0.0043	0.09
acrolein		0.0027	0.06
ammonia		3.2	66.74
ethyl benzene		0.0095	0.20
hexane		0.0063	0.13
toluene		0.0366	0.76
xylene		0.0272	0.57
Bekaert CEB®			
benzene	71	0.159	11.28
formaldehyde		1.169	82.90
Total PAHs (excluding naphthalene)		0.003	0.21
naphthalene		0.011	0.78
acetaldehyde		0.043	3.05
acrolein		0.01	0.71
ethyl benzene		1.444	102.4
hexane		0.029	2.06
toluene		0.058	4.11
xylene		0.029	2.06
Microturbine (individual microturbine, 6 assumed operating)			
benzene	8	0.0122	0.10
1,3-butadiene		0.000439	0.00
formaldehyde		0.724	5.73
Total PAHs (excluding naphthalene)		0.000918	0.01
naphthalene		0.00133	0.01
acetaldehyde		0.0408	0.32
acrolein		0.00653	0.05
ammonia		3.2	25.32
ethyl benzene		0.0326	0.26
propylene oxide		0.0296	0.23
toluene		0.133	1.05
xylene		0.0653	0.52
General Fugitives (connections, flanges, etc.)			
Benzene			0.59

Interim III			
TACs	**Fuel Flow (MMscf/yr)**	**Emission Factor (lb/MMscf)[1,2]**	**TACs Emissions (lb/yr)**
Heater Treater #2			
benzene	31	0.0058	0.18
formaldehyde		0.0123	0.38
Total PAHs (excluding naphthalene)		0.0001	0.00
naphthalene		0.0003	0.01
acetaldehyde		0.0031	0.10
acrolein		0.0027	0.08
ammonia		3.2	100.11
ethyl benzene		0.0069	0.22
hexane		0.0046	0.14
toluene		0.0265	0.83
xylene		0.0197	0.62
Bekaert CEB®			
benzene	13	0.159	2.03
formaldehyde		1.169	14.93
Total PAHs (excluding naphthalene)		0.003	0.04
naphthalene		0.011	0.14
acetaldehyde		0.043	0.55
acrolein		0.01	0.13
ethyl benzene		1.444	18.45
hexane		0.029	0.37
toluene		0.058	0.74
xylene		0.029	0.37
Microturbine (individual microturbine, 6 assumed operating)			
benzene	8	0.0122	0.10
1,3-butadiene		0.000439	0.00
formaldehyde		0.724	5.73
Total PAHs (excluding naphthalene)		0.000918	0.01
naphthalene		0.00133	0.01
acetaldehyde		0.0408	0.32
acrolein		0.00653	0.05
ammonia		3.2	25.32
ethyl benzene		0.0326	0.26
propylene oxide		0.0296	0.23
toluene		0.133	1.05
xylene		0.0653	0.52
General fugitives			
Benzene			1.62

Table E.3. TACs emissions during operation of the final proposed project.

TACs	Average Fuel Flow (MMscf/yr)	Maximum Fuel Flow (MMscf/yr)	Emission Factor (lb/MMscf)[1,2]	Average TACs Emissions (lb/yr)	Peak TACs Emissions (lb/yr)
Heater Treater #1					
Benzene	0	21	0.0058	0.00	0.17
Formaldehyde			0.0123	0.00	0.35
Total PAHs (excluding naphthalene)			0.0001	0.00	0.00
Naphthalene			0.0003	0.00	0.01
Acetaldehyde			0.0031	0.00	0.09
Acrolein			0.0027	0.00	0.06
Ammonia			3.2	0.00	66.74
ethyl benzene			0.0069	0.00	0.20
Hexane			0.0046	0.00	0.13
Toluene			0.0265	0.00	0.76
xylene			0.0197	0.00	0.57
Heater Treater #2 (individual burner)					
benzene	31	38	0.0058	0.18	0.22
formaldehyde			0.0123	0.38	0.46
Total PAHs (excluding naphthalene)			0.0001	0.00	0.00
naphthalene			0.0003	0.01	0.01
acetaldehyde			0.0031	0.10	0.12
acrolein			0.0027	0.08	0.10
ammonia			3.2	100.11	120.14
ethyl benzene			0.0069	0.22	0.26
hexane			0.0046	0.14	0.17
toluene			0.0265	0.83	0.99
xylene			0.0197	0.62	0.74
Bekaert CEB®					
benzene	13	142	0.159	2.03	22.55
formaldehyde			1.169	14.93	165.80
Total PAHs (excluding naphthalene)			0.003	0.04	0.43
naphthalene			0.011	0.14	1.56
acetaldehyde			0.043	0.55	6.10
acrolein			0.01	0.13	1.42
ethyl benzene			1.444	18.45	204.80
hexane			0.029	0.37	4.11
toluene			0.058	0.74	8.23

TACs	Average Fuel Flow (MMscf/yr)	Maximum Fuel Flow (MMscf/yr)	Emission Factor (lb/MMscf)[1,2]	Average TACs Emissions (lb/yr)	Peak TACs Emissions (lb/yr)
xylene			0.029	0.37	4.11
Microturbine (individual microturbine, 9 assumed operating)					
benzene	8	8	0.0122	0.10	0.10
1,3-butadiene			0.000439	0.00	0.00
formaldehyde			0.724	5.73	5.73
Total PAHs (excluding naphthalene)			0.000918	0.01	0.01
naphthalene			0.00133	0.01	0.01
acetaldehyde			0.0408	0.32	0.32
acrolein			0.00653	0.05	0.05
ammonia			3.2	25.32	25.32
ethyl benzene			0.0326	0.26	0.26
propylene oxide			0.0296	0.23	0.23
toluene			0.133	1.05	1.05
xylene			0.0653	0.52	0.52
General fugitives					
Benzene				1.62	1.62

Table E.4. Toxicity values used in the health risk assessment.

TAC	CAS	Cancer Risk			Chronic HI		Acute HI
		CP	MPw	MPr	CREL	MPr/MPw	AREL
1,3-butadiene	106-99-0	6.00E-01	1.00	1.00	2.00E+01	1.00	-
acetaldehyde	75-07-0	1.00E-02	1.00	1.00	140	1.00	470
acrolein[2]	107-02-8	-	-	-	0.35	1.00	2.5
ammonia	7664-41-7	-	-	-	2.00E+02	1.00	3.20E+03
benzene	71-43-2	1.00E-01	1.00	1.00	6.00E+01	1.00	1.30E+03
ethyl benzene[3]	100-41-4	8.70E-03	1.00E+00	1.00E+00	2.00E+03	1.00	-
formaldehyde	50-00-0	2.10E-02	1.00	1.00	9	1.00	55
hexane	110-54-3	-	-	-	7.00E+03	1.00	-
Naphthalene	91-20-3	1.20E-01	1.00	1.00	9.00E+00	1.00	-
PAHs (without naphthalene)	1150	3.90E+00	14.62	29.76	-	-	-
propylene oxide	75-56-9	1.30E-02	1.00	1.00	3.00E+01	1.00	3.10E+03
toluene	108-88-3	-	-	-	3.00E+02	1.00	3.70E+04
xylene	1330-20-7	-	-	-	7.00E+02	1.00	2.20E+04

1. Averaging factor to account for acute impacts for individual TACs whose REL is based on periods longer than 1-hr exposure, taken from SCAQMD Risk Assessment Procedures for Rules 1401 and 212 Version 7.0 July 2005.
2. Acute impacts of acrolein are currently being reviewed by OEHHA – historical REL value of 1.9 is used here.
3. Ethyl benzene designated as a carcinogen in November 2007.

Health Effects

Compounds were evaluated for their potential health effects in two categories, carcinogenic (cancer) and non-carcinogenic (non-cancer). Almost all compounds produce non-carcinogenic effects at sufficiently high doses, but only some compounds are associated with carcinogenic effects. Most regulatory agencies consider carcinogens to pose a risk of cancer at all exposure levels (i.e., a "no-threshold" assumption); that is, any increase in dose is assumed to be associated with an increase in the probability of developing cancer. In contrast, non-carcinogens generally are thought to produce adverse health effects only when some minimum exposure level is reached (i.e., a threshold).

The health effects due to emissions of TACs are evaluated using the maximum incremental cancer risk (MICR), chronic hazard indices (HICs), and acute hazard indices (HIAs). Table E.5 summarizes the health risk methodology which follows the SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0, July 2005. Primary and secondary exposure pathways include inhalation, non-inhalation primary, and non-inhalation secondary exposure pathways. The primary non-inhalation pathways include dermal exposure, water ingestion, crop ingestion (direct deposition), and soil ingestion. The secondary non-inhalation pathways include ingestion of mother's milk, fish, dairy products, all types of meat and eggs, and crop ingestion (root uptake). All of these exposure pathways are conservative and evaluated using multi-pathway factors per the Rule 1401/212 guidance.

Cancer risk, chronic HI, and acute HI were calculated for the CEQA baseline, for the interim scenarios, and for the final proposed project.

1) CEQA Baseline: operation of HT #1 and the Flare King flare based on the 2006 MND

2) Interim I: operation of HT #1, the Flare King flare, and six microturbines; construction phase I

3) Interim II: operation of HT#1, the Bekaert CEB®, and six microturbines (before gas reinjection); construction phase II

4) Interim III: operation of HT #2, the Bekaert CEB®, and six microturbines (with gas reinjection); construction phase III

5) Final proposed project: maximum permitted operation of HT #1, HT #2, Bekaert CEB®, gas reinjection and/or gas sales, and nine microturbines

The impacts for the baseline and proposed project were calculated at each grid receptor using the "chi over Q" approach (i.e., χ/Q, $\mu g/m^3$ per g/sec) described in Appendix D. The difference in health impacts between the baseline and proposed project were calculated at each receptor, which is considered the CEQA incremental impact for that receptor. After calculating the incremental impact for each receptor, the maximum difference over all receptors was identified; this maximum difference is the maximum

impact for the proposed project. All calculations and processing were done in an Access database.

Table E.5. Health risk assessment methodology.

Health Impact	Approach & Parameter Values
Cancer Risk (resident exposure)	Methodology follows SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0 July 2005 **Maximum Individual Cancer Risk (MICR) = Cancer Potency (CP) x Dose-Inhalation (DI) x Multipathway Factor (MPr)** **DI = Emissions(Q) x χ/Q x DBRr x EVFr x AF_{ann} x 10^{-6}** **Total MICR = Σ MICR over all TACs** CP: inhalation slope factor MPr: residential carcinogen multipathway factor χ/Q: annual average dispersion factor found using EPA's ISCST3 dispersion model DBRr: Resident Daily Breathing Rate DBR = 302 (m^3/kg-day) EVFr: Resident Exposure Value Factor EVF = 0.96 AF_{ann}: Adjustment factor to account for time-of-day residential exposure = 1 CP, MPr, DBRr, EVFr and AF_{ann} from Rule 1401 and 212 Package L revised Sep. 10th, 2010
Cancer Risk (worker exposure)	Methodology follows SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0 July 2005
	Maximum Individual Cancer Risk (MICR) = Cancer Potency (CP) x Dose-Inhalation (DI) x Multipathway Factor (MPw)
	DI = Emissions(Q) x χ/Q x DBRw x EVFw x AF_{ann} x 10^{-6}
	Total MICR = Σ MICR over all TACs
	CP: inhalation slope factor
	MPr: residential carcinogen multipathway factor
	χ/Q: annual average dispersion factor found using EPA's ISCST3 dispersion model
	DBRw: Worker Daily Breathing Rate DBR = 149 (m^3/kg-day)
	EVFw: Worker Exposure Value Factor EVF = 0.38
	AF_{ann}: Adjustment factor to account for time-of-day worker exposure = 1 (emissions rates assumed not to change during work hours)
	CP, MPw, DBRw, EVFw, from Rule 1401 and 212 Package L revised Sep. 10th, 2010
Chronic Health Index (resident exposure)	Methodology follows SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0 July 2005 **Chronic HI (HIC) = Emissions(Q) x χ/Q x Multipathway Factor (MPr) / Chronic REL** **Total HIC = Σ HIC over all TACs** χ/Q: annual average dispersion factor found using EPA's ISCST3 dispersion model MPr: residential multipathway factor for chronic hazards per Rule 1401 and 212 Package L revised Sep. 10th, 2010
	REL: Chronic Relative Exposure Limits (RELs) from Rule 1401 and 212 Package L revised Sep. 10th, 2010

Health Impact	Approach & Parameter Values
Chronic Health Index (worker exposure)	Methodology follows SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0 July 2005
	Chronic HI (HIC) = Emissions(Q) x χ/Q x Multipathway Factor (MPw) / Chronic REL
	Total HIC = Σ HIC over all TACs
	χ/Q: annual average dispersion factor found using EPA's ISCST3 dispersion model
	MPw: worker multipathway factor for chronic hazards per Rule 1401 and 212 Package L revised Sep. 10th, 2010
	REL: Chronic Relative Exposure Limits (RELs) from Rule 1401 and 212 Package L revised Sep. 10th, 2010
Acute Health Index	Methodology follows SCAQMD RISK ASSESSMENT PROCEDURES for Rules 1401 and 212 Version 7.0 July 2005 **Acute HI (HIA) = Emissions(Q) x χ/Q / Acute REL** **Total HIA = Σ HIA over all TACs** χ/Q: maximum 1-hr average dispersion factor found using EPA's ISCST3 dispersion model REL: Acute Relative Exposure Limits (RELs) from Rule 1401 and 212 Package L revised Sep. 10th, 2010

Impacts

For cancer risk and HIC, both residential and worker exposure scenarios were considered for each grid receptor. Since there is no difference in resident and worker HIC multi-pathway factor for the TACs considered here, HIC is the same for resident and worker exposure assumptions. The maximum cancer risk and HIC were evaluated at all off-site receptors, while the maximum HIA was evaluated at all the receptors including boundary and off-site receptors. The maximum health impacts are reported in Table E.6. Health impacts from each phase of the proposed project are shown in Table E.7.

It should be noted that risk was calculated using both worker and residential exposure assumptions at all offsite receptors including those that are not physically located at residences or workplaces. This was done to provide the most comprehensive and conservative assessment possible. The point of maximum impact for both residential and worker risk was at a location that was neither a resident nor workplace. Using residential exposure assumptions at this location overestimates cancer risk; in other words, the estimated risk experienced by the maximum exposed resident would be lower than the value reported in Table E.6 and Table E.7.

Table E.6. Maximum incremental health impacts from the proposed project.

Health Impact	Maximum Incremental Risk Impact from Project Emissions	SCAQMD Threshold
Maximum increase in cancer risk using residential exposure assumptions	1.8 in a million	10 in a million
Maximum increase in cancer risk using worker exposure assumptions	0.3 in a million	10 in a million
Maximum Incremental Acute Hazard Index (HIA)	0.189	≥ 1.0
Maximum Incremental Chronic Hazard Index (HIC)	0.005	≥ 1.0

Table E.7. Incremental health impacts from the proposed project.

Interim I		
Health Impact	**Maximum Incremental Risk Impact from Project Emissions**	**SCAQMD Threshold**
Maximum increase in cancer risk (residential or worker)	1.3 in a million	10 in a million
Maximum Incremental Acute Hazard Index (HIA)	0.123	≥ 1.0
Maximum Incremental Chronic Hazard Index (HIC)	0.003	≥ 1.0
Interim II		
Health Impact	**Maximum Incremental Risk Impact from Project Emissions**	**SCAQMD Threshold**
Maximum increase in cancer risk (residential or worker)	1.8 in a million	10 in a million
Maximum Incremental Acute Hazard Index (HIA)	0.189	≥ 1.0
Maximum Incremental Chronic Hazard Index (HIC)	0.004	≥ 1.0

Interim III		
Health Impact	**Maximum Incremental Risk Impact from Project Emissions**	**SCAQMD Threshold**
Maximum increase in cancer risk (residential or worker)	0.8 in a million	10 in a million
Maximum Incremental Acute Hazard Index (HIA)	0.044	≥ 1.0
Maximum Incremental Chronic Hazard Index (HIC)	0.003	≥ 1.0
Final proposed Project		
Health Impact	**Maximum Incremental Risk Impact from Project Emissions**	**SCAQMD Threshold**
Maximum increase in cancer risk (residential or worker)	1.6 in a million	10 in a million
Maximum Incremental Acute Hazard Index (HIA)	0.012	≥ 1.0
Maximum Incremental Chronic Hazard Index (HIC)	0.005	≥ 1.0

APPENDIX F

EVALUATION OF GREENHOUSE GAS EMISSIONS

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APPENDIX F
EVALUATION OF GREENHOUSE GAS EMISSIONS

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APPENDIX F
EVALUATION OF GREENHOUSE GAS EMISSIONS

Emissions Calculation

Greenhouse gas (GHG) emissions consist of direct emissions (e.g., combustion) and indirect emissions (e.g., water use and electricity). Direct GHG emissions, including emissions from combustion and construction, were calculated using emission factors from AP-42 and the American Petroleum Institute. Table F.1 and Attachment A1 provide details on these emission factors. Indirect GHG emissions include emissions arising from water usage and the purchase of electricity produced off-site. The proposed project is not expected to require additional water at the site. Additional electricity will be required but will be supplied by the microturbines. As a result, no indirect GHG emissions were calculated for the proposed project.

Evaluation of Significance

As described in the MND, to determine whether or not GHG emissions from the proposed project may be significant, impacts will be evaluated and compared to the SCAQMD's interim 10,000 metric tonnes (MT) CO_2eq/year threshold for industrial sources. Following SCAQMD methodology, construction impacts are amortized over 30 years for the final overall project emissions; interim year GHG emissions are also presented.

Emissions from the final proposed project (with nine microturbines) were calculated and compared to the baseline. In addition, emissions from all interim scenarios are shown (Table F.2).

Table F.1. GHG Emission Factors.

Equipment	GHG Emission Factors		
	CO_2 EF (lb CO_2/MMscf)	CH_4 EF (lb CH_4/MMscf)	N_2O EF (lb N_2O/MMscf)
Heater Treater #1	120,000	2.3	2.2
Heater Treater #2	120,000	2.3	2.2
Flare King flare	126,621	2.3	0.64
Bekaert CEB®	126,621	2.3	0.64
Microturbines	120,000	2.3	2.2

Table F.2. Annual Greenhouse Gas Emissions During Construction and Operation of the Proposed Project.

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/yr)	Percent of rating (%)	CO_2 (MT CO_2/yr)	CH_4[1,2] (MT CO_2eq/yr)	N_2O[2,3] (MT CO_2eq/yr)	CO_2eq[1,2,3] (MT CO_2eq/yr
Baseline: HT#1 and the Flare King (2006 Project)							
Heater treater #1	2.5	20,860	100%	1,136	0.5	6.5	1,143
Flare King Flare	4.0	760	2%	44	0.0	0.2	44
Totals	--	21,620	--	1,179	0.5	6.7	1,186
Phase I: Interim I (Operation of HT#1, 6 microturbines, and the Flare King) and Construction I (Construction and installation, but not operation, of the Bekaert CEB® and removal of the Flare King flare and hot water heater							
Heater treater #1	2.5	20,857	100%	1,136	0.5	6.5	1,143
Flare King Flare	4.0	33,371	100%	1,917	0.7	3.0	1,921
Microturbines	5.7	47,479	100%	2,585	1.0	14.7	2,601
Total (Combustion)	--	101,708	--	5,638	2.2	24.1	5,664
Construction	--	--	--	2.6	--	--	2.6
Totals	--	101,708	--	5,640	2.2	24.1	5,667
Incremental Emissions (Project minus Baseline)							4,480
Significant?							No
Phase II: Interim II (Operation of HT#1, 6 microturbines, and the Bekaert CEB®) and Construction II (Construction and installation, but not operation, of HT #2, refurbishment of HT #1, compressor pad, compressor, and conversion of the reinjection well)							
Heater treater #1	2.5	20,857	100%	1,136	0.5	6.5	1,143
Bekaert CEB® (as limited by the OOA)	17.0	70,914	50%	4,074	1.6	6.4	4,082
Microturbines	5.7	47,479	100%	2,585	1.0	14.7	2,601
Total (Combustion)	--	139,251	--	7,795	3.1	27.5	7,825
Construction	--	--	--	4.1	--	--	4.1
Totals	--	139,251	--	7,799	3.1	27.5	7,829
Incremental Emissions (Project minus Baseline)							6,643
Significant?							No
Phase III: Interim III (Operation of HT#2, 6 microturbines, and the Bekaert CEB®) and Construction III (Construction and installation, but not operation, of gas sales equipment, three additional microturbines, and conditioning equipment)							
Heater treater #2	12.0	62,571	63%	3,407	1.4	19.4	3,428
Bekaert CEB®	17.0	12,775	9%	734	0.3	1.1	735
Microturbines	5.7	47,479	100%	2,585	1.0	14.7	2,601

Device/Process	Heat Input Rating (MMbtu/hr)	Fuel flow (Mscf/yr)	Percent of rating (%)	CO_2 (MT CO_2/yr)	CH_4[1,2] (MT CO_2eq/yr)	N_2O[2,3] (MT CO_2eq/yr)	CO_2eq[1,2,3] (MT CO_2eq/yr
Total (Combustion)	--	122,826	--	6,726	2.7	35.2	6,764
Construction	--	--	--	1.8	--	--	1.8
Totals	--	122,826	--	6,728	2.7	35.2	6,765
Incremental Emissions (Project minus Baseline)							5,579
Significant?							No
Final Project (Annual average with 9 microturbines):							
Heater treater #1	2.5	0	0%	0	0	0	0
Heater treater #2	12	62,571	63%	3,407	1.4	19.4	3,428
Bekaert CEB[4]	17	12,775	9%	734	0.3	1.1	735
Microturbines	8.5	71,219	100%	3,878	1.6	22.0	3,901
Total (Combustion)	--	146,565	---	8,018	3.2	42.5	8,064
Construction emissions	--	--	--	0.3	--	--	0.3
Totals	--	146,565	--	8,019	3.2	42.5	8,064
Incremental Emissions (Project minus Baseline)							6,878
Significant?							No
Final Project (Annual average if gas reinjection/sales interrupted for full year with 6 microturbines):							
Heater treater #1	2.5	0	0%	0	0	0	0
Heater treater #2	12	62,571	63%	3,407	1.4	19.4	3,428
Bekaert CEB[4]	17	141,829	100%	8,148	3.1	12.8	8,164
Microturbines	5.7	47,479	100%	2,585	1.0	14.7	2,601
Total (Combustion)	--	251,879	--	14,140	5.5	46.8	14,192
Amortized Construction	--	--	--	0.3	--	--	0.3
Total	--	251,879	--	14,140	5.5	46.8	14,193
Incremental Emissions (Project minus Baseline)							13,006
Significant?							**Yes without mitigation**

1. The global warming potential for CH_4 (21 tonne CO_2eq per 1 tonne CH_4) was used to convert CH_4 to CO_2eq.
2. The global warming potential for N_2O (310 tonne CO_2eq per 1 tonne N_1O) was used to convert N_2O to CO_2eq.
3. The global warming potentials used are consistent with California's Mandatory Reporting Rule.
4. As described in the Findings of Fact in the Stipulated Order of Abatement, the Bekaert CEB® will be maintained in ready-standby mode once the gas reinjection system is operational, except in the cases of breakdowns or scheduled maintenance.

As seen in Table F.2, operating without the gas reinjection and/or sales and using the Bekaert at 100% all year exceeds the SCAQMD's GHG significance threshold without mitigation. For incremental project GHG emissions to be less than significant, they must be less than 10,000 MT CO_2e/yr. Limiting fuel flow rate to less than 199,000 Mscf/year results in incremental GHG emissions below the SCAQMD GHG significance threshold. This is demonstrated in the table below.

Table F.3. Final Project: Derivation of the facility fuel flow cap.

Device/Process	Total GHGs (metric ton CO_2eq/yr)	CO_2 (metric ton CO_2eq/yr)	CH_4 (metric ton CO_2eq/yr)	N_2O (metric ton CO_2eq/yr)	Fuel Flow (Mscf/yr)
Max Allowable Facility GHGs *(Baseline 1,186 MT/yr + Below Significance Threshold 9,999 MT/yr = 11,185)*	11,185	-	-	-	-
Heater treaters at 5,000 bpd oil production (HT#2, or HT#1 and HT#2 in operation) [1]	3,428	3,407	1.4	19.4	62,571
Microturbines (6) [1]	2,601	2,585	1.0	14.7	47,479
Balance from threshold and baseline[2]	*5,156*	5,126	2.0	27.6	89,265
TOTAL facility fuel flow cap to ensure no exceedance of GHG significance threshold:					199,315

1. GHG emissions and fuel flow from Final Project in Table F.2
2. Fuel flow to Bekaert and/or additional three microturbines. Worst-case emission factors assumed.

Combustion of 199,000 Mscf/year of oil field gas in any equipment combination produces less than 11,185 MT CO_2e/yr. Thus, a mitigation measure limiting oil field gas combustion less than 199,000 Mscf/yr ensures that project GHG emissions are less than significant (i.e., incremental GHG emissions would be less than 10,000 MT CO_2e/yr).

In addition, we report projected year-by-year emissions (see Table F.4 for total emissions and Table F.5 for incremental emissions).

Table F.4. Projected Year-by-Year Total for the Proposed Project

Year	Construction Emissions (MT CO_2e/yr)	Operation Emissions (MT CO_2e/yr)	Total GHG Emissions (MT CO_2e/yr)	Notes
2006 MND Project	0.0	1,186	1,186	Baseline emissions.
2011	6.7	6,102	6,109	Existing emissions (i.e., Interim I) from 1/1/11 through 8/31/11; then Phase I from 9/1/11 through 10/18/11; then Phase II from 10/19/11 through 12/31/11.
2012	0.0	6,764	6,764	Interim III emissions for entire year (i.e., no construction).
2013	0.0	6,764	6,764	Interim III emissions for entire year (i.e., no construction).
2014	1.8	6,906	6,908	Interim III emissions from 1/1/14 through 9/30/14; then Phase III from 10/1/14 through 11/21/14; then Final from 11/22/14 through 12/31/14.
2015+	0.0	8,064	8,064	Final project emissions for entire year (i.e., no construction).

Table F.5. Projected Year-by-Year Incremental Emissions for the Proposed Project

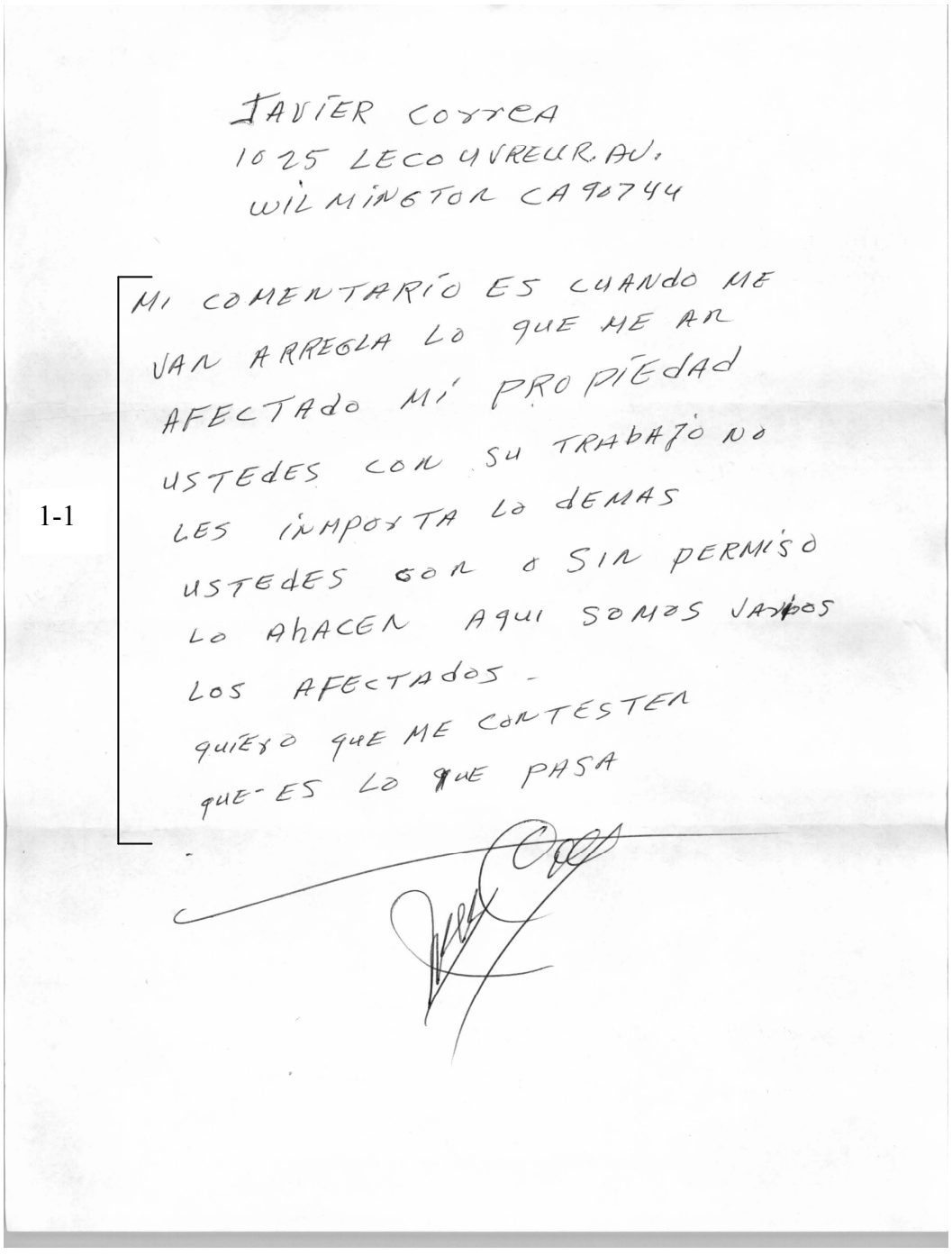
Year	Incremental GHG Emissions (MT CO_2e/yr)[1,2]	Notes
2006 MND Project	--	Baseline emissions.
2011	4,923	Existing emissions (i.e., Interim I) from 1/1/11 through 8/31/11; then Phase I from 9/1/11 through 10/18/11; then Phase II from 10/19/11 through 12/31/11.
2012	5,577	Interim III emissions for entire year (i.e., no construction).
2013	5,577	Interim III emissions for entire year (i.e., no construction).
2014	5,722	Interim III emissions from 1/1/14 through 9/30/14; then Phase III from 10/1/14 through 11/21/14; then Final from 11/22/14 through 12/31/14.
2015+	6,878	Final project emissions for entire year (i.e., no construction).
SCAQMD CEQA Significance Threshold	10,000	

1. For years 2011 through 2014, six microturbines emit 2,601 MT CO2e/yr. In 2015, nine microturbines emit 3,091 MT CO_2e/yr.

2. In the event that gas reinjection and/or gas sales is interrupted, emissions would be greater. MMAir-3 restricts total gas combustion rate to less than 199,000 Mscf per year, ensuring that incremental 2015+ emissions are below 10,000 MT CO2e. Thus, all interim years would also be less than 10,000 MT CO2e.

APPENDIX G

COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT SUBSEQUENT MITIGATED NEGATIVE DECLARATION



JAVIER CORREA
1025 LECOUVREUR AV.
WILMINGTON CA 90744

MI COMENTARIO ES CUANDO ME VAN ARREGLA LO QUE ME AN AFECTADO MI PROPIEDAD USTEDES CON SU TRABAJO NO LES IMPORTA LO DEMAS USTEDES CON O SIN PERMISO LO AHACEN AQUI SOMOS JAMBOS LOS AFECTADOS - QUIERO QUE ME CONTESTEN QUE ES LO QUE PASA

1-1

COMMENT LETTER NO. 1
JAVIER CORREA
MAY 10, 2011

Comment (English version):

My comment is when are you guys going to fix what has affected my property. You, with your work do not care about others. You, with or without permission, do it. Here, there are various people that are affected. I want you to answer me what is going on.

Response 1-1 (English version)

The letter does not provide information on whom or what has affected your property and the property of others, what needs to be fixed, or when your property was affected. Assuming that your letter relates to impacts allegedly from the existing WTU Central Facility, there have been no odor complaints attributed to the WTU Central Facility since approximately 2008. Further, as is required by the California Environmental Quality Act, the Draft Subsequent Mitigated Negative Declaration analyzes impacts from the proposed modifications at the WTU Central Facility, not operations that currently exist at the site. It is not possible for the SCAQMD to identify the problem you are raising and discern whether it is related to the proposed project.

Response 1-1 (Versión en Español)

La carta no proporciona información acerca de quien o que ha afectado su propiedad y la propiedad de otros, lo que debe ser arreglado, o cuando su propiedad fue afectada. Si se assume que su carta se relaciona a los alegados impactos de la existente Facilidad Central de WTU, no han habido quejas de olor atribuidas a la Facilidad Central de WTU desde aproximadamente el 2008. Aún más, como es requerido por la ley de la calidad del medio ambiente de California, la subsiguiente declaración negativa mitigada (anteproyecto) analiza los impactos de las modificaciones propuestas para la Facilidad Central de WTU, no las operaciones que existen actualmente en el sitio. No es posible para el SCAQMD identificar el problema que Usted describe y determinar si es relacionado al proyecto propuesto.

COMMUNITIES FOR A BETTER ENVIRONMENT

5/25/2011

Mr. Michael Krause (c/o Planning/CEQA)
SCAQMD
By e-mail
mkrause@aqmd.gov

Re: **Comments on Draft Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility New Equipment Project (SCH. NO. 2006041043)**

Dear Mr. Krause,

2-1 On behalf of our members living near the Warren E&P facility and many other CBE members in the region, we submit the following comments on Warren's proposed expansion (Warren E&P Inc. WTU Central Facility New Equipment Project (SCH. NO. 2006041043)). Because this is the latest in a long series of public proceedings, and because of the failings of the regulatory process of many government agencies to address the severe impacts to neighbors caused by this facility, it is important not only to comment on the Draft Subsequent Mitigated Negative Declaration (DSMND) for the proposed project ("the project"), but to note the history of failed attempts by the community to get any agency to pay proper attention to this facility.

2-2 Instead, this latest DSMND takes a mechanistic yet incomplete approach to evaluating this facility, without showing the context, the ongoing risk, the past violations, or the full extent of likely future significant impacts, while barely acknowledging the many repeated complaints by neighbors about this facility. The true impacts are largely dismissed in the SMND as either: 1) what we are stuck with due to the past decision in 2006 by the City of Los Angeles for existing operations, or 2) a narrative that for the new expansion this new flare allows, existing regulations plus minimal conditions will prevent any future significant impacts. Neither of these is correct; if existing regulations were sufficient, there would not have been the history of problems with the facility.

2-3 CEQA requires additional evaluation and protections, beyond other regulations, to identify and address the significant impacts that this project is very likely to cause on top of the already unacceptable burden.

2-4 Unfortunately this contentious process has apparently made both sides somewhat frustrated and defensive, and for AQMD to lose sight of its strong powers to provide evaluation and necessary protections. At this point, however, we are only interested in solutions, and beg that you take a fresh look at this facility. It is obvious that the siting of

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2-4 Cont

extensive oil drilling operations and flaring in the middle of a residential neighborhood was a bad land use mistake by the City of LA, but now the AQMD has the opportunity and duty to address the impacts, and not to exacerbate the mistake.

2-5

As recently as last night, Warren's neighbors confirmed to our community organizer Alicia Rivera that the issues that we have identified in this comment letter are prevailing and ongoing. For example, smells, air emissions, and especially noise are creating a severe problem that needs to be addressed and monitored. One neighbor described a feeling of being very depressed because she is unable to open her window which faces directly toward Warren, due to noise, dust, and odors. Her bathroom faces Warren. There have been several instances when she has been taking a bath, the equipment pounds suddenly, and she has almost fallen down from fright. At night, when she is trying to sleep she suddenly hears a loud metal dropping sound, which causes shaking, jarring her and making it impossible for her to relax. The feeling of impotence at being unable to change this intolerable situation is taking a severe toll on neighbors' mental well being.

2-6

Warren neighbors believe and have stated that their situation would be eased by having monitoring equipment for noise, odors, residue, etc.

2-7

They have tried to call the AQMD to describe this problem, but say they have not been able to speak to a real person, and, anxious, have not left a message. Neighbors worry that once the company gets its new permit and can expand its throughput, it will only get worse.

2-8

While we appreciate that this DSMND includes permit conditions to limit throughput to 5,000 bpd, it includes very few other mitigation measures, and fails to address significant impacts, including cumulative impacts caused. At a very minimum, AQMD can provide neighbors with desperately needed oversight that does not rely solely on inspectors (who are sent to the community sometimes long after the releases of bad odors, oil onto houses and cars, or other releases, when the extent or cause of exposure can be hard to confirm).

2-9

Serious and permanent installation of continuous or semi-continuous monitoring equipment with sufficient quality assurance protocols is needed if the assumptions of no significant impacts used in the DSMND are to be confirmed and enforced as permit conditions. (See details later.)

I. The AQMD Should Not Rely on an Environmental Review Document that is Five Years Old.

2-10

CEQA limits the use of environmental impact reports (EIRs) in subsequent environmental review documents that are prepared five years or more after the original document. (*Pub. Res. Code* § 21157.6.) An EIR analysis is the most comprehensive of the review documents required under CEQA, and the policy underlying this provision is that even the comprehensive analysis of an EIR will eventually be an inadequate foundation from which to gauge later environmental impacts. Thus, this provision is even

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2-10 Cont more critical when applied to original and subsequent MNDs, which are far less comprehensive.

The environmental impacts of the Project have never been analyzed in an EIR. Instead, in 2006 the City of Los Angeles certified a mitigated negative declaration (MND) for the Project, an analysis that, by the very terms of CEQA, only "briefly" described the environmental effects of the Project. (*Pub. Res. Code* § 21064.) Had the Project been the subject of a full EIR analysis in 2006, CEQA would prohibit the use of the EIR to analyze this project "modification." Because AQMD has relied on the subsequent mitigated negative declaration process—a process that is a creation of the CEQA Guidelines and is not mentioned in the Act itself—it appears that the reliance on the 2006 MND here is the result of the absurd conclusion that MNDs have a longer shelf-life than that afforded to more comprehensive EIRs. Relying on the 2006 MND thus undermines the purpose of CEQA where, as is the case here, the subsequent MND allows significant environmental impacts to be dismissed by reliance on another brief and outdated document. The end result for residents living near the Warren facility is continual exposure to pollutants without the benefit of an analysis of all the potential significant impacts or the addition of mitigation measures. This result is plainly inconsistent with CEQA.

2-11

II. The DSMND Ignores Significant Impacts, Cumulative Impacts, and Mitigation Measures.

2-12

Relying on a document from half a decade ago, rather than creating a mitigated negative declaration or EIR for this new project poses other problems, such as a failure to consider new information that could change the 2006 analysis. For instance, the 2006 MND considered the environmental impacts in a scenario where gas was sold offsite; yet, in the intervening time period, it has become apparent that the facility may not be able to sell the gas, and will dispose of the gas through the flare or reinjection instead. The DSMND also failed to analyze the cumulative impacts caused by the adding together of the impacts caused by the 2006 Project and the modification, which de-bottlenecks the oil drilling process and greatly allows expanded production. (Instead, the DSMND analyzes the "cumulative" impacts caused only by the added emissions of the modification only, which the AQMD asserts do not exceed significance thresholds and therefore somehow automatically do not contribute to cumulative impacts. (DSMND, 2-17-18.))

2-13

2-14

2-15 Furthermore, contrary to the requirements of CEQA, mitigation for this project does not include a reporting or mitigation monitoring program. *Public Res. Code* § 21081.6(a)(1); CEQA Guidelines § 15074(d), 15097. Since 2006, CBE has also raised potential and significant impacts of the Project, described below and in the attachments to this letter.

2-16

2-17 Additionally, it is important to note that the baseline used by the AQMD is confusing. While the AQMD correctly acknowledges that the baseline is the existing conditions of the HT #1 and the Flare King (at 100 percent and 2 percent, respectively)

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2-17 Cont.

(DSMND, 2-15), it relies on the impacts analysis of 5000 bpd in the 2006 MND. The appropriate baseline is defined by CEQA as what is happening in the physical environment now. This is acknowledged by the DSMND as current operation at 2600 to 3000 barrels per day (DSMND, 1-4), and should not be confused with the anticipated level back in 2006 of 5000 bpd.

A. CBE's Comment Letters Since 2008 Detail a Pattern of Significant Impacts and Suggest Mitigation Measures that DSMND Fails to Address.

2-18

Since 2008, CBE has submitted extensive comments detailing actual and potential significant impacts on the environment, and has suggested mitigation measures. These include comments by neighbors documenting the ongoing impacts of the facility on their health and environment. Please see CBE's previous comments and attachments to those comments, and incorporate them by reference into this letter, which detail issues still relevant to the project, and which the DSMND has not addressed:

2-19

- **CBE comments, September 2010,**[1] attached, identified these still relevant issues, among others:
    - Evidence that Warren admitted that in order to continue expanding drilling Warren would need the new equipment currently identified to handle all the gases generated. That means that the AQMD cannot separate the impacts from the drilling of wells from the installation of this "New Equipment Project" (even if such drilling was previously proposed in 2006 through the City of LA process). All those impacts must be included, evaluated, and many of them are significant. Furthermore, the new equipment by itself causes significant impacts, as documented in this and other comments we previously submitted and attach now;

2-20

    - The need for the AQMD to seriously evaluate upset conditions, and the real impacts of hydrogen sulfide from drilling and other issues still relevant (see below), which are handled dismissively in the DSMND. (See below);

2-21

    - Intolerable impacts due to this facility that the neighbors have reported. This is the baseline, and increased production with new emissions points must be considered cumulatively significant, given that no increase is tolerable. The DSMND has not even acknowledged the proximity to this facility of people with asthma who have become nauseated and impacted in many other ways. (CBE comment, page 3, *"Common symptoms and*

[1] *Warren neighbors concerns about Warren E&P Inc. WTU and additional impacts left out of the Negative Declaration*, CBE comment to SCAQMD, 9/6/2010. We incorporated the attachments to that comment, which we submitted to the AQMD, by reference.

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2-21 Cont.

impacts include: nausea; asthma and allergy exacerbation; eye, skin, and nose irritation; itching, and burning; headaches; strong rotten, fishy, chemical odors; oily residue; dust; bright lights into bedrooms; deterioration of house and outdoor plants; and, explosive noises.") These neighbors seriously need protection from the increased production at this facility;

- **CBE comments, August 13, 2010,**[2] attached, identified issues still relevant to the current proposal, and is incorporated with its attachments, by reference, including, among others:

2-22

  - Not only the issue of increased oil production and its impacts, but also the lack of verification of emissions assessment assumptions, for instance using an unjustified and extremely high combustion efficiency for the Baekert burner, gas sulfur content issues, fugitive emissions issues, facility debottlenecking , and in general underestimation of emissions that are still relevant;

2-23

  - The need for specific evaluations and monitoring as follows:

    1. Evaluations and implementation of the following plans:

       a. Evaluation by an independent noise expert for eliminating noises and installing accoustical shields for the whole facility, with installation of permanent, continuous noise monitoring.

2-24

       b. Evaluation and implementation of an alternative lighting plan with elimination of bright lights shining into neighboring houses, including evaluation of barriers, moving lights to ground level, and identifying the Best Practices for minimizing light pollution impacts.

2-25

       c. Evaluation of hazards from earthquakes, related fires, and other accidental release hazards from the facility, with a plan for minimization of these hazards.

2-26

       d. Evaluation of radioactivity / safety plan in order to identify and mitigate those hazards identified in the EPA documents submitted with CBE's first comment.

2-27

    2. Establishing a fund for repair of neighbors' foundations within a reasonable distance of the facility in order to mitigate the impacts of

[2] *Negative Declaration for Warren E&P Inc. WTU Central Facility New Equipment Project -- Addendum to CBE Comments of May 26, 2009*, CBE, 8/13/2010, attached

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2-27 Cont.

shaking due to oil operations, and also for the installation of tight windows and filtration systems.

3. Permanent monitoring of pollutants:

2-28

a. Development of a state of the art odor prevention plan and permanent monitoring of H2S, other sulfur gases, and odorous petroleum products, including a BACT evaluation of measures used at other oil drilling facilities.

2-29

- **CBE's two comment letters, May 26, 2009**[3] (with the attachments we previously submitted to the AQMD incorporated by reference), documented still relevant issues, including, among others:
  - The potential for oil drilling to bring radioactive materials to the surface and contaminating equipment. The DSMND did not evaluate this potentially significant impact;

2-30

  - The impacts of fires and explosions related to earthquake must be considered significant due to the new project, due to increased production and handling of at least 2000 barrels per day of flammable and explosive materials (crude oil and field gas), which also includes acutely hazardous hydrogen sulfide gas. These issues were discussed in the comment but still have not been addressed in the DSMND.

2-31

- **Additional relevant CBE comments**, attached, which have their own attachments previously submitted to the AQMD, which we incorporate by reference:
  - CBE comments in AQMD abatement order hearing.[4]

2-32

  - CBE comments to City of LA Zoning Administrator.[5]

2-33

B. The DSMND Fails to Consider Upsets, Odors, Accidental and Fugitive Releases of Odorous and Hazardous Materials.

In particular, we find it astonishing that the AQMD concludes that there is not a significant impact from odors due to the project or for a significant potential for

[3] *Warren E&P Inc. WTU Central Facility New Equipment Project*, 5/26/09, CBE, Julia May, attached, and *Communities for a Better Environment's Comments on Notice of Intent to Adopt a Draft Negative Declaration for Warren E&P Inc. WTU Central Facility New Equipment Project*, same date, Sarah Kern, CBE

[4] *Declaration of Julia May in Support of Communities for a Better Environment re: Draft Order of Abatement Case No. 3563-3 For Warren E&P*, 2008

[5] *Declaration of Julia May in Support of Communities for a Better Environment* Re: Approval of Plans 20725(O)(PA2) -- Warren E&P,

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2-33 Cont. hazardous releases (DSMND, 2-9). In addition, neither the health risk assessment nor the air modeling evaluated impacts of releases of the acutely hazardous gas hydrogen sulfide, well known to be released by oil production operations (not just drilling) and to cause severe odors at extremely low concentrations. (*See* CBE Comments, Sept. 6, 2010, p. 7, attached.) Clearly CEQA requires evaluation of such a highly hazardous substance. Quantities of emissions of hydrogen sulfide potentially emitted was not assessed.

2-34 Because there are also many new pieces of equipment, accidental or fugitive emission releases will certainly be emitted by this equipment at some point if not continuously. To assume that no significant odors or releases will ever occur due to this project is so unlikely as to be virtually impossible, because of the highly odorous and acutely hazardous nature of hydrogen sulfide and other compounds always present in field gas and crude oil, and the close proximity of neighbors.

2-35 The DSMND relies mainly on measures that were already present before (e.g., Warren will check for odors, neighbors can report them to the AQMD, there are existing fugitives and odor regulations, log books are kept), but these have not been sufficient to prevent significant odors in the past.

2-36 Since there is a history of odor complaints and operating without permits and out of compliance with land use conditions of operation at this particular facility, it is clear that Warren has far from a perfect record for past operation of the existing equipment.

The DSMND appears to justify the assumption of no odors or releases, by the following plainly incorrect statement:

> 2-37 Further, the proposed project does not include any odor emitting equipment such as new oil tanks or tanks of any kind, or increases in daily oil production beyond the average of 5,000 BPD previously analyzed and approved in the 2006 MND. (DSMND, 2-28.)

The project does include odor emitting equipment. All of the new equipment most be connected together and must include flanges, valves, pressure relief devices, and seals, among other equipment, all of which are fugitive emission points. Please correct this inaccuracy in the DSMND.

2-38 Furthermore, during accidents when equipment breaks down, normal operations can be bypassed, and releases can occur through alternative vents or even physical breaks in equipment. The AQMD is well aware of these kinds of problems, and we urge you to address the potential by acknowledging that there is a significant risk of odors and releases due to the new project, and by requiring, at the very least, that Warren install continuous monitoring both at the facility and within the community as a condition of the expansion.

2-39 *We request that the AQMD carry out a detailed public assessment and public workshop on the types of monitoring equipment that are available and can be permanently installed in order to accurately records and identify future releases.*

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The AQMD also appears to state that the 2006 project assessed all reasonably foreseeable upset conditions and addressed them. However, the AQMD has carefully repeated that this was the conclusion of the City of LA and has not identified its own opinion about the matter. We imagine the AQMD would have come to a different conclusion.

According to the DSMND,

> [t]he City of Los Angeles Planning Department analyzed and approved the existing operations at the WTU Central Facility and certified the 2006 MND. That approval, among other things, analyzed the impacts of drilling up to 540 wells. The proposed project would not expand oil drilling operations over the 540 wells previously analyzed in the 2006 MND. Potential adverse hazard and hazardous materials impacts (e.g., hazardous emissions, hazardous materials, increased fire hazard, etc.) from the drilling of 540 wells, the construction of the well cellars, and/or the increase of oil production to 5,000 BPD were analyzed by the City of Los Angeles in the 2006 MND. **Based on that analysis, the lead agency concluded that, after incorporation of the proposed mitigation measures, any potentially significant hazard and hazardous materials impacts resulting from the 2006 project would be reduced to a level of insignificance. These impacts included the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.** The 2006 MND included mitigation measures related to hazardous substances (VII a1.) and explosion/release of methane gas (VII b2). Where relevant all mitigation measures imposed by the City of Los Angeles will remain in effect during construction and operation of the currently proposed project.

2-40

(DSMND, 2-60 *et seq.*)

The AQMD cannot rely on the 2006 MND to cover all potential releases; (and, incidentally, that assessment was clearly not borne out in its assumption that there would not be significant air releases or impacts caused by the 2006 project). Because of the issues identified in this comment, the new project will have significant impacts that must be addressed, including that there is more than a reasonably foreseeable chance that upset conditions will occur, as they do at all industrial facilities.

C. The DSMND Also Improperly Failed to Find a Significant Energy Impact.

2-41

The DSMND also found that the electricity generated by the project would be a benefit only to offset the increase needed at the facility, and burning gases that would otherwise be wasted (for instance, flared). However, because the new project debottlenecks expanded production and thus greatly expands gas production, this additional waste gas would not be present if not for the expansion. Alternatives should

2-42

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2-42 Cont.

have been considered. The DSMND found that there is no existing energy conservation plan or regulatory process that would find any problem with the burning of the waste gases onsite, but that is not necessarily the case. The California Public Utilities commission has a standing Loading Order Priority[6] for its statewide electricity planning:

Loading Order Priority:

1. Energy Efficiency
2. Demand Response
3. Renewable Sources
4. Distributed Generation
5. Clean and Efficient Fossil-Fuel Generation

2-43

The relation to this detailed planning process should have been considered, including the CPUC and CEC Loading Order Priority, and renewable energy alternatives, as required in the statewide energy plan. This plan prioritizes environmentally preferable options first rather than burning fossil fuels.

2-44

In conclusion, we are very hopeful that the AQMD will provide an assessment of available best practices for permanent monitoring options for this facility, with a first step of holding a public workshop and providing a detailed set of options for monitoring oil residue (such as plate sampling), VOC and sulfur gas releases, particulate matter, noise, ground-shaking, and other impacts of the project, both inside the facility and in the community. We are also hopeful that you will amend the DSMND to identify and assess the issues identified in this comment. Let's make some progress on truly improving the conditions for neighbors, rather than holding another rubber stamping of Warren's proposal. Please contact us if you have any questions.

Sincerely,

/s/	/s/	/s/
Alicia Rivera	Maya Golden-Krasner	Julia May
Wilmington Organizer	Staff Attorney	Senior Staff Scientist

Cc
Steve Smith
Vera Tiyagi
Barry Wallerstein

[6] Southern California Edison, *AB 57 Bundled Procurement Plan*, Before the Public Utilities Commission of the State of California, Rosemead, California, March 25, 2011, page 7

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COMMENT LETTER NO. 2
COMMUNITIES FOR A BETTER ENVIRONMENT
MAY 25, 2011

Response 2-1

This comment asserts that because this California Environmental Quality Act (CEQA) analysis of the proposed project "is the latest in a long series of public proceedings and because of the failings of the regulatory process of many government agencies" the commenter must also "note the history of failed attempts by the community to get any agency to pay proper attention to this facility." First, the comment does not provide examples of failures of other government agencies or identify the government agencies. As such, there are no specific failures to respond to. Second, actions undertaken by other public agencies in the past are outside the scope of the analysis for the proposed project. The only connection with past approvals is that the CEQA document prepared for the proposed project is a Subsequent Mitigated Negative Declaration (SMND) to a 2006 MND, which is used to establish baseline conditions at the WTU Central Facility. This is a modification of the project approved by the City of Los Angeles in 2006 The 2006 MND was prepared and certified by the City of Los Angeles and was not challenged in court. Consequently, any previous project approvals at the WTU Central Facility have vested and are outside the scope of the public comment process here.

Response 2-2

The comment asserts that the SMND takes a mechanistic approach to evaluating the facility. First, it is unclear what "mechanistic approach" refers to. If it refers to performing a quantitative analysis, quantitative analyses have been prepared for those topics where a quantitative approach is possible, e.g., air quality. Other environmental topic areas do not easily lend themselves to a quantitative approach, so a qualitative analysis was performed, e.g., land use and planning, population and housing, recreation, etc. The SMND complies with all relevant CEQA requirements for preparing an SMND and includes a comprehensive analysis of direct and indirect impacts, including potential downstream effects of the project on related pieces of equipment that are not directly part of the proposed project. The analysis includes a robust description of the baseline (existing setting), which, as described in the DSMND, consists of the operation of the facility based on the final 2006 Project in the 2006 MND. The baseline for the proposed project is considered to be the 2006 Project because the proposed project is a modification of that previously approved project. This is appropriate under CEQA. (*Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 326; *Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1476.) The 2006 Project, approved by the City of L.A., included a gas handling system, which was analyzed in the 2006 MND. The baseline includes that which Warren has a legal vested right to do and the SCAQMD does not have the legal right to abrogate, and which, most importantly, has already been evaluated under CEQA. Furthermore, the SMND shows that even if the baseline were 2600 to 3000 barrels per day, the project would not exceed any additional thresholds. Finally, the CEQA Guidelines §15162(c) states that information appearing after an approval does not require reopening of that approval. This means that approval of the proposed project in an SMND does not require reopening of the previous CEQA document approval.

The comment also asserts that the DSMND does not evaluate past violations or future impacts. The comment specifically notes past complaints that were made before release of the SMND and, therefore, are unrelated to the proposed project. While a CEQA document is not required to analyze past violations, the SMND does analyze future impacts from the proposed project. Responses to specific comments on the analysis of impacts from the proposed project have been prepared and can be found below.

The commentator states that true impacts of the proposed project are dismissed as "what we are stuck with due to the past decision in 2006 by the City of Los Angeles for existing operations." Impacts from the previously approved 2006 project are part of the baseline. The SMND relies on the 2006 MND to help establish the existing baseline conditions of the facility. Guidance for determining the baseline of a project that consists of modifications to a previously approved project comes primarily from CEQA case law. The baseline established for the proposed project is consistent with the CEQA Guidelines and, in particular, CEQA case law (see Response 2-17). The SMND analyzes potential impacts from the proposed project during construction and operations compared to the baseline to determine whether an impact is significant. This approach is consistent with all relevant CEQA requirements for analyzing impacts from a project.

The comment states that existing regulations plus minimal conditions are not sufficient because they haven't addressed "historical problems with the facility." The WTU Central Facility is legally required to adhere to the 2006 MND mitigation measures, as well as to the legally binding conditions that were imposed in the 2006 and 2008 Zoning Determinations. These measures were designed to mitigate potential impacts from the 2006 Project to a level that is less than significant, as well as to address and mitigate past complaints from the community related to past operations. These measures have been implemented by the City of Los Angeles and are included as part of the baseline. In addition, Warren E&P will be legally required to adhere to the mitigation measures identified in the SMND by the SCAQMD. To ensure that these measures are enforceable by SCAQMD inspectors, they will be included in the mitigation monitoring and reporting plan (MMRP) and the permits will include conditions to comply with all measures identified in the MMRP. The WTU Central Facility is and will continue to be subject to inspections by SCAQMD inspectors; any violations could result in fines or penalties and enforcement by injunction, if needed. Taken in combination, the SCAQMD has concluded that mitigation measures in the SMND, relevant mitigation measures from the 2006 MND, relevant conditions in the 2006 and 2008 ZDs, and applicable laws and regulations will reduce potentially significant adverse impacts to less than significant and ensure that environmental impacts from the proposed project determined to be less than significant will remain less than significant. With regard to the applicability of rules, regulations, conditions, or laws and mitigation measures imposed on the proposed project, see also Response 2-3.

Response 2-3

The comment states that "CEQA requires additional evaluations and protections beyond other regulations to identify and address the significant impacts that this project is very likely to cause on top of the already unacceptable burden." The comment does not, however, identify any potentially significant impacts requiring additional evaluation and protection.

The required contents of mitigated negative declaration are provided in CEQA Guidelines §15071, which include among other things:

(c) A proposed finding that the project will not have a significant effect on the environment; and

(d) An attached copy of the Initial Study documenting reasons to support the finding.

The Initial Study includes a comprehensive analysis that provides substantial support for the conclusion that, with mitigation, the proposed project would not create significant adverse impacts. When analyzing impacts from a project it is necessary to take into consideration existing legally binding rules, regulations, conditions, and laws, otherwise the results would be inaccurate and the project would be in violation before beginning operation. For example, all of the conditions in the 2006 and 2008 ZDs are currently in effect and will remain in effect through construction and operation of the proposed project. ZD conditions "run with the land", in other words, apply to the property irrespective of the property owner, and, thus, the conditions apply to the 2006 Project and proposed project (see Appendices A and B, the discussions of Transferability). The analysis in the DSMND takes such actions into consideration as part of the analysis, as is appropriate. Moreover, the impacts analyzed in the 2006 MND are part of the baseline for the proposed project. See also Response 2-17

The comment implies that the DSMND does not include mitigation measures beyond existing requirements. This is not correct. Not only does the DSMND include a robust analysis of potential impacts of the proposed project, but the document also includes measures unique to the proposed project that further mitigate to less than significant those impacts that could be potentially significant. Specifically, the SMND lists MMAir-1 through MMAir-3 (see pages 2-40 and 2-41), which mitigate impacts related to air quality and greenhouse gas emissions to a level of less than significant. Warren E&P is legally required to implement these mitigation measures, and a mitigation monitoring and reporting program will be prepared as required under CEQA (CEQA Guidelines §15097). In addition to the mitigation measures, the SMND lists various conditions from the 2006 and 2008 ZDs that the WTU Central Facility is and will be required to comply with (see pages 1-5, 1-12, 2-5, 2-6, 2-11, 2-40, 2-44, 2-50, 2-60, 2-68, 2-77, 2-84, and 2-91).

Response 2-4

The commentator states that SCAQMD has lost "sight of its strong powers to provide evaluation and necessary protections." The SCAQMD disagrees with this assertion. Under this authority, the SCAQMD has reinforced the concept of making applicable mitigation measures from the 2006 MND and conditions from the 2006 and 2008 ZDs apply to the proposed project analyzed in the SMND and has also imposed its own mitigation measures on the proposed project, see for example MMAir-1, MMAir-2, and MMAir-3, page 2-40. In addition, the SCAQMD imposed conditions on the project itself including a limit on the monthly average number of barrels of oil produced per day (see page 1-1), which was not previously imposed, and a limit on total project emissions from all equipment included as part of the proposed project. These conditions assure that non-air quality impacts from drilling and oil production will not exceed that analyzed in the 2006 MND. They also ensure that GHG emission will be insignificant. Project-related air quality impacts were determined to be less than significant. The SCAQMD has no authority, as part of this approval, to require modifications to equipment that is not part of the proposed project and/or that has no nexus to potential impacts resulting from the proposed project. SCAQMD will continue to enforce all applicable SCAQMD rules and regulations on the facility

and its operations, as well as all mitigation measures in the MMRP and permit conditions through its enforcement authority over the facility.

The comment indicates that locating drilling and flaring operations in the middle of a residential neighborhood was a mistake on the part of the City of Los Angeles. The SCAQMD is a single-purpose agency that regulates emissions primarily from stationary sources and, as such, has no land use authority. Although the SCAQMD is the lead agency for the proposed project, CEQA does not grant an agency new powers independent of the powers granted to the agency by other laws (CEQA Guidelines §15040(b). This means the SCAQMD has no authority to change or eliminate a particular type of land use where the project complies with all SCAQMD rules and its CEQA impacts are determined to be less than significant, as this is not within the SCAQMD's statutory authority. General land use authority is typically granted primarily to agencies with general authority over police, fire, sanitation, etc., services, as well as land use zoning and other related land use decisions, e.g., cities or counties. The SCAQMD has imposed mitigation measures and conditions on the proposed project that reduce potentially significant impacts to less than significant, to the extent within its statutory authority. The measures and conditions imposed on the proposed project serve to limit potential impacts on the local community (see also Response 2-3).

Response 2-5

The commentator contends that neighbors have recently stated that smells, air emissions, and noise continue to create a problem in the neighborhood. As described in the SMND, several odor complaints were made after approval of the 2006 Project. Warren modified the related operations and eliminated the sources of these odors (see SMND page 2-27). These same complaints were brought up again in a review in 2008 by the Zoning Administrator who then adopted the 2008 Zoning Determination, which continues to be in effect today. In addition, Warren now routinely makes a daily odor inspection of the facility whereby employees patrol the facility. If they notice any odors emanating from the site, they promptly diagnose and address the problem to eliminate the odors. Since the 2008 Zoning Determination, the SCAQMD has received one to three odor complaints per year, but none of those have been verified as being caused by Warren. No complaints have been received by the SCAQMD regarding air, noise, or groundborne vibration attributable to the Warren facility. As already noted, the facility is subject to existing mitigation measures (from the 2006 MND) and conditions (from the 2006 and 2008 ZDs) that appear to have reduced impacts from the facility given that the number of complaints has been greatly reduced since 2008. It is expected that these ongoing conditions, in addition to specific mitigation measures identified in the SMND and permit conditions imposed on the proposed project, will continue to minimize odor, air, and noise impacts. Furthermore, SCAQMD inspectors have visited the WTU Central Facility and in only one instance in 2006 identified an odor problem specifically attributable to Warren. As discussed in the SMND, there are many industrial uses in the vicinity of the WTU Central Facility which are responsible for creating objectionable odors. When the proposed equipment is installed, the WTU Central Facility will continue to be subject to the existing mitigation measures and conditions in the ZDs, which are under the authority of the Zoning Administrator, as well as the mitigation measures proposed in the SMND. These mitigation measures are expected to continue to reduce impacts to less than significant. However, if odor and dust complaints are received in the future, SCAQMD inspectors will investigate them as per SCAQMD's usual procedures.

The comment states that an "intolerable situation" regarding operations at the WTU Central Facility is affecting neighbors. If the comment is referring to drilling activity, the activity cited as causing the situation is not part of the proposed project since, with the exception of the six microturbines, it has not been constructed or in operation. In addition, the proposed project consists primarily of gas collection and combustion equipment that would not result in sudden equipment pounding, loud metal dropping sounds, or other noise intensive activities (see DSMND, Chapter 2, Section XII). Similarly, some of the equipment consists of closed systems, e.g., the reinjection compressor, while other equipment consists primarily of combustion, e.g., the microturbines and HT #2. In neither case do these equipment release residues. If the comment refers to impacts from drilling new wells and oil production up to 5,000 bpd, these impacts are part of the existing setting (baseline). See Response 2-17 regarding the baseline for the proposed project. Regardless, it is important for any affected residents to inform the SCAQMD of any air quality-related problems or problems associated with the proposed project, if it is approved and constructed, so complaints can be logged and inspectors sent to investigate the complaint. If odor complaints from the WTU Central Facility are confirmed, the facility would be found in violation of SCAQMD Rule 402 – Nuisance, and subject to enforcement actions or other penalties. In addition to contacting the SCAQMD, the 2008 ZD established a complaint line with the direct number to the WTU Central Facility Operator (310.505.4028) and a complaint line to a 24-hour bilingual phone number (310.507.3639). Taking advantage of these resources allows nearby residents to take action to identify odor nuisances from all sources in the area.

Response 2-6

The previous 2006 MND and ZDs did not impose noise, odor, or residue monitoring requirements on the 2006 project operations because it was concluded by the lead agency and the City of Los Angeles Zoning Administrator that the mitigation measures in the 2006 MND and the conditions in the 2006 ZD were sufficient to reduce impacts from the 2006 project to less than significant. This conclusion was upheld in the 2008 ZD after public hearing and testimony. Analysis of the proposed project indicates that potential noise, odor, and residue would not be significant so mitigation measures, including monitoring, are not required. Further, accurate odor and residue monitoring equipment has not been identified. In addition, the WTU Central Facility is in an industrial area with nearby refineries and the San Pedro Bay Ports and related transportation sources. Monitoring equipment, as proposed by the commentator, would be affected by all of these other industrial sources and register impacts from facilities other than the WTU Central Facility. Therefore, any monitoring equipment would not accurately identify impacts from existing operations at the WTU Central Facility, let alone from the proposed project.

Response 2-7

The commentator notes that neighbors have not left messages with the SCAQMD to register complaints "because they have not been able to speak to a real person." The SCAQMD has a hotline that accepts complaints 24 hours a day. The hotline is intended to increase accessibility and may revert to an answering machine, especially after close of normal business hours, to further ensure that that the SCAQMD can respond to all messages received. Without leaving a message, the SCAQMD has no way of knowing that a problem may exist and, therefore, cannot react. The following information is requested when leaving a complaint: type of problem (e.g., smoke, noise, dust, etc.), time of day, is the problem still occurring, has the problem occurred in

the past, can the caller locate source of the problem, and have others experienced the problem. The SCAQMD also requests the caller's name, address, and telephone number; this information is optional and is kept confidential, but is helpful to obtain more information about the complaints. It also allows the SCAQMD to inform the caller when the issue has been addressed. Regardless of when the call is received, the complaint is immediately sent to a supervisor. The supervisor will then assign the complaint to an inspector who is located in or nearest to the area where the complaint was received and/or the industry that is potentially causing the problem. The inspector will follow up on the complaint and will contact the source as needed. If the inspector concludes that the problem was caused by a violation or other error on the part of an operator, appropriate action will be taken (e.g., Notice of Violation, penalties, etc.). For this system to work correctly, messages detailing the complaints must be left with the hotline; otherwise the SCAQMD is unable to log, verify, or rectify the activities or operations causing the complaints. Finally, as previously noted in Response 2-5, in addition to contacting the SCAQMD, the 2008 ZD established a complaint line with the direct number to the WTU Central Facility Operator (310.505.4028) and a complaint line to a 24-hour bilingual phone number (310.507.3639).

The comment states that neighbors are worried the issues will worsen once the "company gets its new permit and can expand its throughput." The modified permits and new permits for the proposed equipment do not allow the WTU Central Facility to expand its oil production beyond the level assessed in the 2006 MND. Instead, the modified permits will actually limit oil production (i.e., monthly average of 5,000 bpd) as opposed to the currently unlimited production (i.e., no oil production limits were placed on the 2006 Project). With regard to potential impacts generated by the proposed project relative to: noise and vibration, see DSMND Chapter 2 Section XII and residues vibration see DSMND Chapter 2 Section IX, discussion c) and d). See also Response 2-5.

Response 2-8

The comment acknowledges that the SCAQMD has included a permit condition on the proposed project that would limit crude production to a daily average of 5,000 bpd, but then states generally that the SMND includes few other mitigation measures and does not address "significant impacts, including cumulative impacts," without providing any details of how the analysis may be deficient. The SMND includes a comprehensive and robust analysis of all potentially adverse significant impacts that could be generated by the proposed analysis in Chapter 2 of the SMND. For environmental topic areas where impacts were analyzed and concluded to be less than significant, no new mitigation measures were required as CEQA does not require mitigation measures for impacts that are not found to be significant (CEQA Guidelines §15126.4(a)(3)). Where potentially significant adverse impacts are identified that could be generated by the proposed project (air quality), the SMND includes appropriate measures to mitigate those potentially significant impacts to less than significant. In addition to the mitigation measures included in the SMND, where applicable the WTU Central Facility is also subject to mitigation measures from the 2006 MND as well as the conditions imposed by the 2006 and 2008 ZDs. As already noted in Response 2-3, ZD conditions "run with the land" and, thus, the conditions apply to the 2006 Project and the currently proposed project (see Appendices A and B, Transferability).

With regard to cumulative impacts, as already noted, the DSMND includes a comprehensive and robust analysis of potentially significant adverse impacts from the proposed project. The

analysis concluded that with mitigation measures identified for the proposed project and applicable measures and applicable conditions from the 2006 MND and 2006 and 2008 ZDs, impacts from the proposed project would not be significant. Potentially significant adverse cumulative air quality impacts were evaluated in Section 3, discussion item c) and were determined not to be cumulatively considerable and, therefore, it was concluded cumulative air quality impacts would be less than significant. The SMND also includes a comprehensive analysis of potentially significant adverse cumulative impacts in Section 18, discussion item b) that demonstrates that the proposed project will not be cumulatively considerable and would not create significant adverse cumulative impacts. Finally, the comment letter does not explain in what ways the cumulative impacts analysis is deficient. As a result, it is difficult for staff to address the alleged deficiencies.

Response 2-9

The commentator states that the SCAQMD should not rely solely on inspectors to address the problems identified by the neighbors, but should also require continuous monitoring equipment with sufficient quality assurance protocols. SCAQMD inspectors are an important component of the SCAQMD's efforts to ensure that facilities are complying with the conditions in their air quality permits; they also are the first line of investigation when nuisance complaints are received by the SCAQMD.

As noted in Response 2-6, odor and residue impacts from the proposed project were concluded to be less than significant, so additional mitigation measures, including monitoring equipment, are not required. Moreover, accurate monitors for odors and residue have not been identified. As also noted, the types of monitors suggested by the comment may be impractical because they could potentially monitor odors and residue that are not generated by the WTU Central Facility, but from other industrial facilities in the area. Controlling gas flow and corresponding emission controls, in particular the gas reinjection equipment, are the main focus of the gas handling and control project proposed in the SMND and will serve to further reduce fugitive emissions and odors from affected equipment. In addition, meters are currently installed at the facility. The meters monitor and record oil field gas flow rates as required in existing SCAQMD permits and will continue to be required after implementation of the proposed project. The oil field gas flow meters are an important means of ensuring that air quality impacts, in particular GHG impacts, remain less than significant. Proper gas handling equipment; BACT where required; and proper gas measurement, recording, and recordkeeping will be required pursuant to conditions imposed through the new permits for the proposed project and are expected to ensure that potential air quality impacts remain less than significant. WTU Central Facility operators are also required to make records available for review by SCAQMD inspectors to ensure compliance.

Response 2-10

The comment asserts that CEQA limits the use of EIRs in subsequent review documents that are prepared five years or more after the original document and cites PRC §21157.6. The cited section refers specifically to Master EIRs and states that a Master EIR shall not be used if it is more than five years old. There is no such limitation in CEQA, either in the Public Resources Code or the California Code of Regulations (CEQA Guidelines) for subsequent EIRs or MNDs. Even if the metric in PRC §21157.6 were applicable, the 2006 MND was certified in May 2006, less than five years from the date the applications for the proposed project were filed, which were filed from October of 2007 to December of 2010.

Reliance on the 2006 MND is necessary because it is used to establish the baseline against which the current project impacts should be evaluated. Impacts that were previously analyzed as part of the 2006 project do not need to be analyzed as part of a modification of the project. See also Response 2-17. Although the focus of the 2006 MND was to evaluate environmental impacts from the project, it also established operating parameters for affected equipment, which, for the most part remain in effect at the facility. Under established case law (Refer to *Benton* in Response 2-17), it is appropriate to use the previously permitted project parameters as the baseline against which impacts from a modified project are measured, provided the previously permitted project underwent CEQA review and the previous CEQA document was not successfully challenged as inadequate, which is the case for the proposed project. See also Response 2-6.

Finally, CEQA recognizes and encourages streamlining of the environmental review by using or relying on information, data and analyses in previously prepared documents, either through tiering or preparing a subsequent CEQA document to a previously prepared document. For example, CEQA Guidelines §15152(b) states, "Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plans, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review."

Similarly, CEQA Guidelines §15162(b) states, "If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation." As noted in the SMND, the currently proposed project is a modification of the previously approved 2006 project. Therefore, preparation of a SMND for the proposed project is an appropriate use of a subsequent review document and conforms to the CEQA Guidelines.

Response 2-11

The comment states that impacts from the proposed project have never been analyzed in an EIR. Further, the comment asserts that the CEQA document for the 2006 project approved by the City of Los Angeles was a MND and then states that because PRC §21064 requires that impacts only be "briefly" described. However, CEQA Guidelines §15071 identifies the required contents of an ND, which include, among other requirements, an initial study (IS). CEQA Guidelines §15063 specifies requirements for an IS that include the following.

> All phases of project planning, implementation, and operation must be considered in the Initial Study of the project (CEQA Guidelines §15063 (a)(1)).
>
> An initial study may rely upon expert opinion supported by facts, technical studies or other substantial evidence to document its findings… (CEQA Guidelines §15063 (a)(3)).

The IS included as part of the SMND includes comprehensive analyses for environmental topics. The analyses rely on expert technical data and technical studies that, along with mitigation, provide substantial evidence that all impacts from the proposed project are either less than significant or would be mitigated to less than significant. For example, all phases of the proposed project as described in Chapter 1 (see Tables 1 through 3, pages 1-22 through 1-23) were analyzed. The air quality and GHG analyses of these phases are described on pages 2-8

through 2-41. Total mass daily emissions from all phases are shown in Table III-6 (see page 2-17) and Table C.7 (see Appendix C, pages C-21 through C-22), ambient air quality impacts from the final project are shown in Table III-8 (see page 2-21), maximum air quality impacts from the project are shown in Table D.4 (see Appendix D, page D-9), and ambient air quality impacts from all phases are shown in Table D-5 (see Appendix D, pages D-9 through D-10). Peak (i.e., maximum) health risk impacts from the project are shown in Table III-9 (see page 2-26) and Table E.6 (see Appendix E, page E-13) and health risk impacts from all phases are shown in Table E.7 (see Appendix E, pages E-13 through E-14). Greenhouse gas emissions from construction and operation of the final project are shown in Table III-13 (see page 2-39), GHG emissions from all phases are shown in Table F.2 (see Appendix F, pages F-2 through F-3), and annual total and incremental GHG emissions projected through project implementation are shown in Tables F.4 and F.5 (see Appendix F, pages F-5 through F-6). Analysis of the proposed project relative to other environmental topic areas can be found in Chapter 2 of the SMND. For non-air quality topics, the baseline includes the impacts analyzed in the 2006 MND. See also Response 2-17

As discussed in Response 2-10, the five-year limit on relying on an earlier EIR pertains only to Master EIRs and not to other types of EIRs. Even if the limitation were to apply, the applications were received within the five-year timeframe and would thus comply with Public Resources Code section 21157.6, even if it were applicable. Furthermore, case law makes clear that the CEQA Guidelines are to be afforded great weight unless the provision is clearly unauthorized or erroneous under CEQA. (*Laurel Heights Improvement Ass'n. v. Regents of University of California* (1988) 47 Cal.3d 376, 391, fn. 2.)

Response 2-12

The commentator asserts that relying on a previous document creates the problem that new information is not included [in the SMND] that was not available at the time of the previous analysis. The analysis of the proposed project does not rely on the analysis of impacts from the 2006 project because the two projects are not identical projects. However, the 2006 project does constitute the baseline for the proposed project. Refer to Response 2-17. The 2006 project consisted primarily of increasing the number of wells that can be drilled up to 540, whereas the proposed project consists of modifications to that project to provide greater control over, and reduce potential fugitive emissions from, increased gas production resulting from the 2006 project. As noted in Responses 2-2, 2-10, and 2-17, the 2006 project, including mitigation measures from the 2006 MND and conditions from the 2006 and 2008 ZDs, form the baseline for the proposed project, consistent with CEQA case law. The SMND for the proposed project includes new analysis of impacts from installing new equipment and modifying existing equipment that are part of the proposed project, but were not part of the 2006 analysis. In addition, new analysis requirements that became effective after certification of the 2006 MND, e.g., analysis of GHG and PM2.5 emissions, have also been included in the SMND. With regard to the analysis of impacts specific to the proposed project, see Response 2-11.

Response 2-13

The commentator states that the 2006 MND analyzed a scenario where gas would be sold offsite, but it appears that gas will not be sold, but will instead be disposed of through flare or reinjection. Although offsite gas sales were part of the 2006 project and analyzed in the 2006 MND, as noted on page 1-12 of the SMND, due to the small amount of produced oil field gas, no

sales outlet existed to sell the oil field gas, and the installation of gas sales equipment was not economically viable and continues to be unviable at this time.

Although gas is not currently being sold, the emissions impact of the proposed project is analyzed against a baseline consistent with the 2006 MND, i.e., the flare operating at only two percent capacity. The SMND includes an analysis of the maximum daily emissions scenario, i.e., 6,000 bpd oil production, HT #1 at 100 percent capacity (unlikely), HT #2 at 75 percent (equivalent to 6,000 bpd oil), gas reinjection/sales system interrupted, and the Bekaert at 100 percent capacity.

Oil field gas sales are included as part of the currently proposed project in the event it becomes economically feasible, which would be based on the total amount of gas recovered in the future. As a result potential adverse environmental impacts from oil field gas sales were analyzed in the SMND. As noted on page 1-15 of the SMND, there currently is an insufficient supply of gas to make gas sales economically feasible. For oil field gas sales to be economically feasible, it would require sustained production of approximately one million scf of oil field gas per day for a period of at least one year. Consequently, the SCAQMD has required the proposed project to include immediate installation of gas reinjection equipment, which requires less gas handling and, therefore, would result in less fugitive emissions. The primary means of handling recovered oil field gas is expected to be combustion in the microturbines, the heater treater, and/or reinjection. The comment incorrectly suggests that recovered oil field gas would be combusted in the existing flare. Once the new Bekaert CEB ® burner is installed, the old Flare King flare will be removed. Further, as noted on page 1-17 of the SMND, the Bekaert CEB ® burner will be operated in ready-standby mode. The permit for the Bekaert CEB ® burner will also include a permit condition requiring the Bekaert CEB ® flare to operate in standby mode once the oil field gas reinjection system is in place and operating. Only under limited conditions set forth in the mitigation measures and permit conditions can the Bekaert CEB ® burner operate otherwise.

Response 2-14

The comment asserts that the SMND did not evaluate cumulative impacts from the proposed project because impacts from the proposed project were not added to impacts from the 2006 Project. As indicated in Responses 2-10 and 2-17, the 2006 project forms the baseline for subsequent changes to that project that undergo a CEQA analysis (Refer to *Benton* in Response 2-17). The court in the *Benton* case stated that this approach is proper even where, "…no physical changes have resulted from the first project approval."

With regard to the approach used to evaluate cumulative impacts in a negative declaration, refer to Response 2-8. Emissions from the 2006 Project, i.e., emissions from increased drilling operations were analyzed in the 2006 MND. As already noted, impacts and resulting conditions created by the 2006 Project constitute the baseline, which was discussed and considered as the existing setting for the proposed project. Moreover, the gas handling system in the proposed project will replace the existing gas handling system, which means that the potential gas handling impacts from the existing project were evaluated in the SMND. In other words, since the old Flare King flare is being replaced with the microturbines and the Bekaert burner, the potential impacts of all gas produced from the facility were evaluated as part of the project.

Based on the approaches discussed above, the baseline established for the proposed project and the cumulative impacts analysis were prepared in accordance with all relevant CEQA requirements and are consistent with the CEQA case law identified above.

Response 2-15

There are no requirements in either the Public Resources Code or the California Code of Regulations to circulate the mitigation monitoring plan at the time of the release of the draft CEQA document. SCAQMD's past and current practice has been to prepare the mitigation monitoring plan after the close of comments for a CEQA document to facilitate incorporation of any changes to existing mitigation measures or add additional feasible mitigation measures recommended by the public that have a direct nexus to reducing potentially significant adverse impacts from the proposed project. Consequently, a mitigation monitoring and reporting plan will be prepared and available to the decisionmaker before considering certification of the SMND.

Response 2-16

The commentator notes that CBE has raised specific comments since 2006 regarding "the Project." If the Project refers specifically to the 2006 project, the CEQA document for this project has already been certified and was not challenged in court. Any comments submitted before April 22, 2011, are unrelated to the currently proposed project because that was the date the SMND was released for public review and comment. The comment also indicates that specific comments follow Comment 2-16 and are attached to the comment letter. Responses have been prepared for those comments related to the currently proposed project. Although responses to comments unrelated to the proposed project are not required, information has been provided in response to such comments.

Response 2-17

The commentator states that the baseline used by the AQMD is confusing and that the baseline should be the present physical environment. As discussed in Responses 2-2, 2-10 and 2-14, the SCAQMD consistently defined the baseline as the 2006 Project because this project is a modification of that previously approved project. This is appropriate under CEQA. (*Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 326; *Sunnyvale West Neighborhood Assn. v. City of Sunnyvale City Council* (2010) 190 Cal.App.4th 1351, 1377-78; *Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1476.) The 2006 Project, approved by the City of L.A., included a gas handling system, which was analyzed in the 2006 MND. That gas handling system contemplated that gas would be sold and that the Flare King would be operated in ready standby mode at 2% of its rated capacity. (SMND pages 1-13, C-4) Since, as discussed in the SMND, gas sales ultimately proved infeasible, the Flare King became the primary method of gas disposal and is currently being used at 100% of its rated capacity. (*Id.*) As a result, a modification to the 2006 Project became necessary to eliminate the use of the flare and find other beneficial uses for the gas. For this reason, the current analysis is truly a modification of a previously approved project and does not involve any increase in use from the previous analysis. The baseline includes that which Warren has a legal vested right to do and the SCAQMD does not have the legal right to abrogate, and which, most importantly, has already been evaluated under CEQA. Furthermore, the SMND shows that even if the baseline were 2,600 to 3,000 bpd, the project would not exceed any applicable thresholds.

Response 2-18

The commentator states that CBE has submitted comments regarding impacts on the environment since 2008. In general, comments submitted since 2008 refer to the 2006 project not the proposed project because, except for the microturbines, it has not been constructed nor have affected equipment begun to operate. As noted in Response 2-16, comments submitted before April 22, 2011, are unrelated to the currently proposed project because that was the date the SMND was released for public review and comment. The 2006 project constitutes the baseline for the proposed project. See Response 2-17 for additional information. There are no requirements in CEQA to respond to comments unrelated to a project analyzed in a CEQA document. In fact, there are no requirements in CEQA to respond to any comments received on an ND or MND. CEQA Guidelines §§15070 through 15075 contain the substantive and procedural requirements regarding NDs and MNDs. Nowhere in these sections are there explicit or implicit requirements to responds to comments received on the CEQA document as opposed to EIRs (see CEQA Guidelines §15132(d)). As a matter of practice, the SCAQMD responds to comments submitted on NDs and MNDs to provide full disclosure of potential environmental impacts from the proposed project to the public as well as the decision-making body. Any comments relating to issues specific to the proposed project will be addressed as they are raised below.

Response 2-19

The September 6, 2010 letter cited in the comment was submitted to the SCAQMD to provide additional information and recommendations on the WTU Central Facility gas handling project that was analyzed in a 2009 ND that was not certified. The project analyzed in the 2009 ND was somewhat different than the project analyzed in the SMND because, in part, the 2009 project did not include a limitation on daily oil production or total emissions from the project. This letter contributed, in part, to the SCAQMD's decision to impose additional conditions on the proposed project and revise and recirculate a CEQA document for the gas handling project.

The comment states that Warren admitted the facility needed the additional equipment identified in the SMND to continue expanding drilling and, therefore, the drilling of wells from the 2006 Project cannot be separated from the proposed project. Drilling 540 new wells was part of the 2006 Project and impacts from expanding drilling operations were previously analyzed in the 2006 MND. The 2006 project and 2006 MND were approved and authorized by the City of Los Angeles, which allows Warren to drill up to 540 new wells regardless of whether or not the gas handling project is installed. The 2006 project constitutes the baseline for the proposed project, which is a modification of that project, as described below. This means that potential adverse impacts from drilling 540 new wells have already been analyzed. The 2006 Project assumed oil field gas associated with the oil production would be handled through installation of equipment that would allow the facility to sell oil field gas to a local gas utility. However, as described in the SMND on page 1-1, the "circumstances at the site changed whereby the gas sales did not occur. Further, as noted in Response 2-13, no sales outlet existed to sell the oil field gas and the installation of gas sales equipment was not economically viable and continues to be unviable at this time. Because gas sales equipment was not installed, the 2006 project needed to be revised (i.e., "modified," see Response 2-17) to allow the facility to handle oil field gas that would otherwise have been handled by the gas sales equipment. Accordingly, the proposed project described in the SMND is a modification of the 2006 Project that includes installation of new

equipment and modifications to existing equipment to handle oil field gas until gas sales become economically feasible.

Because impacts from drilling new wells have already been analyzed in the certified 2006 MND, there are no requirements to reanalyze these impacts in the SMND. The 2006 MND assumed that drilling 540 new wells would result in oil production of 5,000 barrels of oil per day (bpd) (see SMND pages 1-1 and 1-15) and analyzed impacts from producing 5,000 bpd; however, the lead agency did not impose any conditions limiting oil production to 5,000 bpd. The proposed project does not allow Warren to increase oil production limits, but instead limits the monthly average oil production to 5,000 bpd. Otherwise, the proposed project does not affect equipment related to drilling operations or alter conclusions in the 2006 MND regarding potential impacts from drilling operations.

The primary relationship between the 2006 project and the currently proposed project is that the 2006 project establishes the baseline for the currently proposed project. See Responses 2-10, 2-14, and 2-17 for additional information regarding the appropriateness of using the analysis of an original certified CEQA document as the baseline in CEQA documents analyzing changes to the original project.

Response 2-20

The comment states that the SCAQMD must evaluate upset conditions and the impacts of hydrogen sulfide (H_2S) from drilling. First, as already noted, impacts from drilling operations were the subject of the analysis in the 2006 MND and impacts from drilling operations are not required to be analyzed further in the SMND (see Responses 2-10 and 2-14 regarding using the 2006 MND to establish the baseline for the currently proposed project).The 2006 MND was certified by the City of Los Angeles and not challenged in court. The SCAQMD does not have the authority to abrogate that entitlement nor the authority to mitigate any perceived impacts from that project.

The upset conditions comments discussed in the September 2010 letter include: (1) drilling operations as a source of air pollutant emissions, (2) waste pits storing hydrocarbon laden cuttings, (3) well blowouts, (4) emissions from gas/liquid separation processes, and (5) flash losses. The first three upset conditions are related primarily to oil drilling operations, which were analyzed as part of the 2006 project and need not be analyzed for the proposed project. As discussed in previous responses, drilling up to 540 new wells was analyzed in the 2006 MND and authorized upon approval by the City of Los Angeles in the 2006. Well-blowouts from the gas reinjection equipment were discussed in the SMND (see page 2-57), and blow-out prevention equipment must be installed as part of the proposed project because it is required by DOGGR. Emissions from new gas/liquid separation processes associated with the proposed project (i.e., heater treater #2) have been analyzed in the SMND and are included in the results shown in Table III-6 (see page 2-17), Table III-8 (see page 2-21), and Table III-9 (see page 2-26).

The primary hazard concern identified in the 2010 letter from CBE appears to be the potential for gas flashing "as the fluid moves from the high pressure lines to atmospheric pressure." This is presumably as the fluid moves through the processing equipment at the WTU Central Facility. Warren's process begins at approximately 55 psi at the wellhead and continues through various pieces of equipment such as free water knockouts and the heater treater at successively lower pressures. It ultimately ends up in the storage tanks at atmospheric pressure. As the fluid flows through the system, any gas flashing as a result of reduced pressure is collected in a closed

system (the vapor recovery system) and routed to its ultimate destination. Fugitive emissions from the closed vapor recovery system are subject to surveillance requirements pursuant to SCAQMD Rule 1173, and, as noted in Response 2-34, fugitive emissions of both criteria pollutants and toxic air contaminants are analyzed in the SMND.

The proposed project includes the addition of new gas handling and oil/water separation equipment, refurbishing of equipment, and removal of older equipment. These changes would not increase hazards resulting from an earthquake as described on pages 2-61 and 2-62. The 2006 MND includes a mitigation measure that mitigates hazard impacts from the potential release of methane gas, as described in the SMND (see page 2-63). Additional hazardous materials will not be generated due to the proposed project (see page 2-63), and the risk of fire would not increase (see pages 2-63 through 2-64). In addition, the SMND discusses emergency response plans that are currently in place at the facility (see page 2-64).

Specifically with regard to H_2S, the SMND included an evaluation of potential H_2S impacts from the proposed project (pages 2-28 and 2-29). The evaluation concluded that potential H_2S emission impacts would be less than significant for the following reasons. Each drill rig at the facility is equipped with continuous H_2S monitoring and recording devices as required by the 2006 and 2008 ZDs. This means that, if drilling results in increased H_2S, the monitoring and recording devices would alert the facility operator who can take immediate action.

Affected facilities are subject to reporting of monthly gaseous fuel consumption and SO_x emissions as required by SCAQMD Rule 431.1. Operators of the WTU Central Facility routinely measure H_2S in all of its produced gas streams, and the data indicate zero, non-detectable, or exceedingly low concentrations (i.e., 4.5 average ppm H_2S). Since these measurements are from existing gas streams, it is expected that any gas streams through equipment that are part of the proposed project would continue to be at non-detectable levels or low concentrations. In summary, the information about increased hazards resulting from upsets or hydrogen sulfide in the comment was reviewed and assessed, and no evidence was identified of potentially significant impacts due to the proposed project. Thus, the conclusion of the SMND that there are no significant adverse incremental impacts of the proposed project related to the risk of upsets is not altered.

Response 2-21

The commentator references the previous comment letter regarding “intolerable impacts due to this facility”, including asthma. The SMND discusses the sensitivity of asthmatics and analyzes both the ambient air quality impacts as well as the health risk impacts due to the proposed project (see pages 2-19 through 2-26). The analysis of localized air quality impacts in the SMND is based primarily on whether or not emissions from a project would cause or contribute to an exceedance of the most stringent ambient air quality standard (AAQS). The AAQSs are health based standards developed to protect public health, including asthma for example, from the adverse impacts of poor air quality. According to the analysis in the SMND, localized air quality impacts from the proposed project are less than the SCAQMD’s significance thresholds as shown in Table III-8 (page 2-21; ambient air quality impacts from the final project), i.e., will not cause or contribute to an exceedance of any AAQS, Table D.4 (see Appendix D, page D-9; maximum air quality impacts), and Table D.5 (see Appendix D, pages D-9 through D-10; air quality impacts from all phases of the proposed project). Similarly, all health risk impacts are less than the SCAQMD’s significance thresholds, as shown in Table III-9 (page 2-26; peak

health risk impacts), Table E.6 (Appendix E, page E-13; maximum health impacts), Table E.7 (Appendix E, pages E-13 through E-14; health risk impacts from all phases of the proposed project).

The comment states further that the baseline should be added to the project impacts and must be considered cumulatively significant. As noted in Response 2-21, the cumulative impact analysis approach suggested in the comment is not consistent with CEQA requirements for analyzing cumulative impacts. See also Response 2-14 with regard to the appropriate approach for analyzing cumulative impacts in a ND.

Response 2-22

The August 13, 2010 letter cited in the comment was submitted to the SCAQMD to provide additional information and recommendations on the WTU Central Facility gas handling project that was analyzed in a 2009 ND. The project analyzed in the 2009 ND was somewhat different than the project analyzed in the SMND because in part, the 2009 project did not include a limitation on daily oil production or total emissions from the project.

The comment indicates the need to address increased oil production, lack of verification of emissions assessment assumptions, and underestimation of emissions. Potential impacts from drilling up to 540 new wells, including oil production from these wells, were analyzed in the 2006 MND. Mitigation measures were imposed as part of the 2006 MND that reduced any potential impacts to a level less than significant. The 2006 MND was certified by the City of Los Angeles, the 2006 MND was not challenged in court, and the statute of limitations period to challenge the document has passed (see CEQA Guidelines §15112). As noted in Responses 2-10 and 2-14, the 2006 MND is used to establish the baseline for the proposed project.

Contrary to the comment, established and approved methodologies and assumptions were used to estimate emissions and are described in the SMND in the air quality and greenhouse gas analyses section (see pages 2-8 through 2-41) and provided in more detail in Appendices C through F. The assumptions and emission factors are based on commonly accepted methodology including manufacturer's guarantees (the Bekaert CEB ® burner, for example), SCAQMD emission factors, EPA emission factors (e.g., AP-42), and other published references (e.g., American Petroleum Institute documents). In combination, the selected methodology provides reasonable estimates of emissions during construction and operation of the proposed project. Sulfur content of the oil field gas at the WTU Central facility is based on past source tests. Based on the information above, the analysis of air quality impacts is accurate and representative of emission impacts from the proposed project. In addition, permit conditions and mitigation measures have been imposed on the proposed project to ensure that air quality impacts remain less than significant. The comment does not explain in what way the assumptions used to analyze impacts from the propose project are inappropriate and does not offer any alternative assumptions that could be evaluated by staff. As a result, staff disagrees that emissions impacts from the proposed project are underestimated.

Response 2-23

The comment refers to comments from the August 13, 2010 letter, which states that an evaluation by an independent noise expert, as well as additional measures and monitoring, is required to eliminate noise from the facility. The comment appears to refer to existing noise related to oil drilling. As discussed in previous responses, potential impacts from drilling up to

540 new wells, including oil production from newly drilled wells, were analyzed in the 2006 MND. Noise mitigation measures were required as part of the 2006 MND, and further conditions were imposed in the 2006 and 2008 ZDs, as described in the SMND (see page 2-77). These measures and conditions are in place and will be enforced through construction and operation of the proposed project. Any additional noise impacts from drilling are beyond the jurisdiction of the SCAQMD and should be raised with the City of L.A. Zoning Administrator as was done in 2008. If the comment is referring to potential noise resulting from the proposed project, noise impacts from the proposed project were fully analyzed and evaluated in the SMND (see pages 2-76 through 2-82). The expected noise levels from the new gas handling equipment were not found to result in significant impacts as compared to the SCAQMD significance thresholds.

Response 2-24

The comment is from the August 13, 2010 letter, which notes that an evaluation of an alternative lighting plan is required to minimize light pollution impacts. Existing lighting at night is part of the drilling operations currently allowed at the site as part of the 2006 Project and analyzed in the approved 2006 MND. Condition 20 from the 2008 ZD (See SMND Appendix B for more detail) specifies that all lighting must be shielded and directed on to the site. Construction activities for the proposed project are not anticipated to require additional lighting because they will be required to take place during daylight hours per Condition 9 (Hours of Operation) of the 2008 ZD. In addition, none of the five new types of equipment will require a new light source to operate safely during nighttime operations (post-construction). With regard to a light barrier, Condition 17 (Visual Mitigation) includes the requirement to install an eight-foot high solid masonry block wall set back five feet from the property lines. This wall currently serves as a light barrier, at least for low elevation lights. Based on existing requirements from 2008 ZD and the fact that new lighting is not required as part of the proposed project, no increase in lighting associated with the project at the WTU Central Facility is expected; therefore, light and glare impacts were concluded to be less than significant. Consequently, mitigation measures such as an alternative lighting plan or additional barriers are not required.

Response 2-25

The comment asserts that hazards from earthquakes, fires, and accidental releases must be evaluated and minimized. This comment is from the August 13, 2010 comment letter from CBE, which identified these issues and cited examples at other types of industrial facilities where these events occurred and resulted in hazardous impacts. Several of the examples referenced in the previous letter are not related to the proposed project and/or the WTU Central Facility (e.g., no gas or naptha storage tanks are currently located at the facility or proposed as part of the proposed project). This response addresses the broader concerns expressed by the comment relative to increased hazards from earthquakes, fires, or other upsets related to oil and gas operations as discussed in the SMND (see pages 2-49 through 2-65). The proposed project includes the addition of new gas handling and oil/water separation equipment, refurbishing of equipment, and removal of older equipment. These changes would not increase hazards resulting from an earthquake for the following reasons:

1. Hazards resulting from an earthquake are not increased due to the proposed project. The proposed project does not alter the existing oil and water storage tanks (and related piping, etc.), and no additional storage capacity or new equipment is necessary. Thus there is no

change in hazards related to the proposed project if an earthquake were to occur that are not within the scope of the previously certified 2006 MND (see pages 2-61 through 2-62).

2. Oil is extracted by submerged electric pumps located at the bottom of each new oil well, thousands of feet below the surface. The pumping rate of the submerged pumps is limited by the power rating of the pump. Pumping is immediately halted (manually or automatically) in the event of an emergency, including fire and explosions. Once pumping is halted, no new oil or gas is produced and sent to the facility, so the hazards (and responses) remain the same regardless of the proposed Project.

3. Crude oil at the facility is stored in atmospheric tanks at ambient temperatures, which is below its boiling point and therefore, there is no need for chilling or refrigeration.

4. The new equipment will be required to meet UBC requirements and the latest safety standards and thus will reduce the impacts related to an earthquake event upon the removal of the older permitted equipment (e.g., the replacement of the Flare King flare with the Bekaert CEB ® and the refurbishment of the existing Heater/Treater No. 1).

5. New equipment will be more reliable and less susceptible to breakdowns and upsets, thereby reducing the potential for emergencies, upsets, and breakdowns.

6. The WTU Central Facility is subject to two emergency response plans. These plans dictate procedures to follow in the case of accidents or emergencies. These plans are described in the SMND (see page 2-64).

In summary, the information about increased hazards resulting from an earthquake or other upsets in the comment was reviewed and assessed in the SMND, and no evidence of potentially significant impacts due to proposed project was identified. Thus, the conclusion in the SMND that incremental impacts of the proposed project related to the risk of fires, earthquakes, and other upsets are less than significant is not altered.

Response 2-26

The commentator states that a radioactivity/safety plan must be evaluated and impacts mitigated; this comment is from the August 13, 2010 CBE comment letter. The August 13, 2010 comment letter discusses radioactive waste and radon gas that could be brought to the surface by oil and gas drilling activities. Oil drilling operations are not part of the proposed project, are within the scope of the previously certified 2006 MND, and are part of the baseline, so do not need to be analyzed in the SMND. In addition, the proposed project limits the monthly average rate of oil production to 5,000 bpd that was part of the analysis by the City of Los Angeles in the 2006 MND, assuring that impacts are limited to those resulting from the 5,000 bpd analyzed in the 2006 MND.

The proposed project does not affect drilling operations in any way, except that it limits oil production to a monthly average of 5,000 bpd. Crude oil has been extracted from the Wilmington Oil Field since 1932. It is the third largest oil field in the United States and approximately 90 percent of the total reserves (approximately three billion barrels) have been extracted. A literature search did not identify any evidence that the Wilmington Oil Field has levels of radioactivity that pose a danger to human health. Radioactivity and radon levels are

primarily associated with uranium deposits. In California, most uranium deposits are relatively small in areal extent and are located in rural areas (Churchill, 1991[1]). Wilmington is not considered a rural area. More specifically, the majority of the uranium bearing materials in California are located in south Sierra Nevada and the Mojave Desert geomorphic provinces. Clusters of uranium deposits also occur: west of Ojai in Ventura County, in western Kern County, the Kern River Canyon northeast of Bakersfield, near the town of Mojave, the Olancha Area of Inyo County, and astern Plumas County and southeastern Lassen County. The Los Angeles Basin, including Wilmington, was not identified as an area with uranium deposits (Churchill, 1991). Based on this information, it is concluded that radioactivity and radon contamination is not associated with crude oil extracted at the WTU Central Facility associated with drilling. Since the proposed project does not affect drilling operations, it does not affect or alter the conclusion that drilling operations do not create radioactivity and/or radon exposure impacts.

Response 2-27

The comment is from the August 13, 2010 letter, which states that a fund should be established to repair neighbors' foundations "to mitigate the impacts of shaking due to oil operations" and to install tight windows and filtration systems. As discussed in previous comments and stated in the SMND, the proposed project does not expand oil drilling operations and in fact limits monthly average oil production to 5,000 bpd (see page 1-1). Any potential impact that is related to the existing operation and siting of the facility are beyond the scope of the SMND; the drilling of up to 540 new wells has already been evaluated, authorized, and approved in the 2006 MND.

Response 2-28

The comment notes that there needs to be permanent monitoring of pollutants, including odor, H_2S, and other sulfur gases. With regard to permanent monitoring, see Responses 2-6 and 2-9. The SMND evaluated the potential for odor and found that no significant impact would result from the proposed project (see pages 2-27 through 2-30). Moreover, accurate odor monitors have not been identified. Similarly, the SMND analyzed H_2S and other sulfur gases and found that no significant impact would result from the proposed project (see pages 2-21 and 2-28 through 2-29; Table III-6, page 2-17; and Table III-8, page 2-21). In addition, the proposed project must comply with conditions in the 2006 and 2008 Zoning Determinations as discussed in the SMND (see page 2-11). These conditions include H2S monitoring. For additional information regarding odor impacts, see Responses 2-5, 2-9, and 2-20. Finally, CEQA only requires mitigation to reduce significant environmental impacts (CEQA Guidelines §15126.4(a)(3)). Because no significant impacts were found for these environmental effects, no additional mitigation (e.g., monitoring) is required under CEQA.

Response 2-29

The May 26, 2010 letter cited in the comment was submitted to the SCAQMD in response to the 2009 ND prepared for WTU Central Facility gas handling project. The project analyzed in the 2009 ND was somewhat different than the project analyzed in the SMND because in part, the

[1] Churchill, Ronald. 1991. Geologic Controls on the Distribution of Radon in California. For the Department of Health Services. January 25. http://www.consrv.ca.gov/cgs/minerals/hazardous_minerals/radon/Geo_Controls_Dist_Radon.pdf.

2009 project did not include a limitation on daily oil production or total emissions from the project.

The commentator refers to a previous comment (from CBE comment letters dated May 26, 2009) discussing the need to evaluate the potential for radioactive material to be brought to the surface, thereby contaminating equipment, during oil drilling. With regard to potential radioactivity impacts, refer to Response 2-26.

Response 2-30

The comment is from the CBE comment letter dated May 26, 2009), which discusses the need to consider that the impacts of fires and explosions related to earthquakes and argues these must be considered significant due to the increased production and handling of explosive materials. With regard to potential risks of fires and explosions resulting from earthquakes, refer to the SMND (see pages 2-49 through 2-65). The proposed project includes the addition of new gas handling and oil/water separation equipment, refurbishing of equipment, and removal of older equipment. These changes would not increase hazards resulting from an earthquake, as discussed in detail in Response 2-25.

In summary, the information about increased hazards resulting from an earthquake or other upsets in the comment was reviewed and assessed, and no evidence of potentially significant impacts due to the proposed project was identified. Further, the commentator does not explain how the proposed project would increase the risk of fires and explosions related to earthquakes. Thus, the conclusion in the SMND that impacts of the proposed project related to the risk of fires and explosions related to earthquakes are less than significant is not altered.

Response 2-31

The commentator references a previous letter from CBE for an abatement order hearing (comment letter dated August 5, 2008) and focuses on violations related to the Flare King flare. With the exception of the fact that the Flare King flare will be disassembled and replaced by the Bekaert CEB ® burner, comments in this letter are unrelated to the proposed project or impacts from the proposed project analyzed in the SMND.

Response 2-32

The commentator references CBE comments to the City of Los Angeles Zoning Administrator, but did not provide a copy of this document. These comments are not relevant to the proposed project because they appear to be comments to the City of Los Angeles Zoning Administrator on the 2006 project. CBE's 2008 comments were addressed in the conditions of the Zoning Determinations. Furthermore, the commentator does not show how those comments relate and still apply to the proposed project. The commentator did not demonstrate the need for any further mitigation measures.

Response 2-33

The commentator disagrees with the conclusions in the SMND that the proposed project would not create significant adverse odor impacts and asserts that the health risk assessment and air modeling did not evaluate releases of H_2S. This assertion is incorrect. The SMND evaluated the potential for odor and found that no significant impact would result from the proposed project (see pages 2-27 through 2-30). See also Responses 2-5, 2-9, and 2-20. Similarly, the SMND analyzed H_2S and other sulfur gases and found that no significant impacts to either ambient air

quality or health risk would result from the proposed project (see pages 2-21 and 2-28 through 2-29; Table III-6, page 2-17; and Table III-8, page 2-21). See also Response 2-20.

Response 2-34

The commentator asserts that because there are so many pieces of new equipment, accidental or fugitive emission releases would likely occur. Whenever a project involves new connections, valves, etc., fugitive emissions are likely. However, all equipment that is included as part of the proposed project is accounted for in the SMND. Fugitive emissions of both criteria pollutants and toxic air contaminants (TAC) are analyzed in the SMND; in addition, BACT to control fugitive emissions is required and included in the proposed project. Specifically, fugitive VOC emissions due to new equipment are discussed on page 2-15 and included in the emissions shown in Table III-6 (see page 2-17), fugitive TAC emissions are discussed on page 2-25 and included in the results shown in Table III-9 (see page 2-26), and fugitive odors are discussed on page 2-27. Detailed information on fugitive emissions is provided in Appendix C (see pages C-16 through C-19) and Appendix E (see pages E-2 through E-7). See also Responses 2-5 or 2-9 for additional information on odors and Response 2-20 specifically related to odors from H_2S.

Response 2-35

The commentator states that existing measures have been insufficient to prevent significant odors in the past. As noted in Response 2-5, the SCAQMD has received complaints regarding odors in the neighborhood but none has been verified as attributable to the Warren facility. Further, as acknowledged by the commentator, Warren routinely makes a daily odor inspection of the facility to ensure that no odors are detected by facility employees. In addition, the SCAQMD has a hotline that accepts complaints 24 hours a day (see Response 2-7 for detailed information on this hotline). For this system to work correctly, messages detailing the complaints must be left with the hotline; otherwise the SCAQMD is unable to log the complaints (see Response 2-7). In addition to the SCAQMD hotline, the mitigation measures and conditions in the 2006 and 2008 ZDs that relate to existing activity are intended to protect the neighbors by minimizing impacts. Compliance with these conditions, where relevant, will also be evaluated during any SCAQMD inspections of the facility. Finally, the SMND evaluated the potential for odor (see pages 2-27 through 2-30) and found that no significant impact would result from the proposed project. In addition, the proposed project must comply with conditions in the 2006 and 2008 Zoning Determinations as discussed in the SMND (see page 2-11).

Response 2-36

The commentator asserts that there is a history at the WTU Central Facility of odor complaints, operating without permits, and operating out of compliance with land use conditions. With regard to odors, refer to Responses 2-5, 2-9, and 2-35. See also see pages 2-27 through 2-30 of the SMND. With regard to operating without permits, it is assumed this comment refers to the microturbines. Regarding operating without permits, the microturbines are currently operating under a Stipulated Order of Abatement. As noted in the SMND, there was confusion regarding which regulations the microturbines were subject to. After installation of the microturbines pursuant to SCAQMD Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II, WTU Central Facility operators were alerted that the microturbines were subject to permit requirements pursuant to Health and Safety Code §41514.9 and 17 Cal. Code Regs § 94201. When informed that the exemption was not applicable for equipment using oil field gas, permit applications for the microturbines were submitted to the SCAQMD (see discussion on

pages 1-4 and 1-5 of the SMND). The proposed project includes installation of the microturbines. If the SMND is certified, then the WTU Central Facility operators will be able to obtain permits for the six existing and three proposed microturbines.

With regard to the comment that the WTU Central facility operates out of compliance with land use regulations, the commentator does not identify which land use regulations the facility does not comply with. As noted on page 1-7 of the SMND, the WTU Central Facility operations are consistent with the land use designations for the facility's location. If the comment refers to the conditions in the 2006 and 2008 ZDs, as already noted, the SCAQMD has not received any complaints about the facility since 2008. Further, as noted in Response 2-35, compliance with these conditions, where relevant, will also be evaluated during any SCAQMD inspections of the facility. Finally, the proposed project does not include modifications to the WTU Central Facility's operations that would require a general plan amendment or Conditional Use Permit allowing nonconforming uses at the site. Similarly, no changes are proposed to the conditions in the 2006 and 2008 ZDs. Therefore, questions or complaints concerning existing land use issues should be directed to the agency with general land use authority, which in this case is the City of Los Angeles.

Response 2-37

The commentator notes that the SMND assumes no odors or releases, citing a statement from page 2-28 of the SMND. This paragraph refers to oil handling equipment, correctly stating that the proposed project does not include any new odor emitting equipment associated with oil drilling or increased production. However, fugitive emissions, which could potentially result in the release of odors, were analyzed in the SMND. In addition, the proposed project incorporates the comprehensive leak detection, surveillance, and repair standards of Rule 1173 as well as BACT requirements where applicable to control VOC emissions, including VOC odorants, corresponding to fugitive emissions. The following are examples of minor source BACT for fugitive VOC emissions that will be required of the facility. Centrifugal compressors will be required to include a seal system with a higher pressure barrier fluid and compliance with SCAQMD Rule 1173. Rotary compressors will be required to use an enclosed seal system connected to a closed vent system and will be required to include a seal system with a higher pressure barrier fluid and compliance with SCAQMD Rule 1173. Pressure relief valves will be required to be connected to a closed vent system or equipped with rupture disc or equivalent, if available and will be required to include a seal system with a higher pressure barrier fluid and compliance with SCAQMD Rule 1173. Pumps in light liquid service will required to include sealless connections, if available or compatible, or double or tandem seals and vented to a closed vent system and will be required to include a seal system with a higher pressure barrier fluid and compliance with SCAQMD Rule 1173. Sampling connections will be required to include closed-purge, closed loop, or closed vent system and will be required to include a seal system with a higher pressure barrier fluid and compliance with SCAQMD Rule 1173, etc. SCAQMD permitting engineers assess the project equipment design and determine BACT requirements for project equipment permits. Based in part on these BACT requirements, odors associated with fugitive emissions were concluded to be less than significant. See also Response 2-34.

Response 2-38

The comment asserts that the potential for odors releases in the event of equipment breakdown must be addressed. With regard to the potential for odor impacts, see page 2-27 of the SMND.

Detailed information on fugitive emissions that could contribute to odors is provided in Appendix C (see pages C-16 through C-19) and Appendix E (see pages E-2 through E-7). See also Responses 2-5 or 2-9 for additional information on odors and Response 2-20 specifically related to odors from H_2S. Finally, see Response 2-37 with regard to BACT equipment that is used to reduce fugitive emissions, which may also contribute to odors. An evaluation of such impacts has been done in the SMND. In addition, Warren has emergency response plans in place as described in the SMND (see page 2-64).

With regard to the potential for accidental releases as discussed on page 2-57 of the SMND, Warren (or its contractor) will install DOGGR required Class III blow-out prevention equipment to ensure automatic control of potential releases of well fluids during the well re-working. The existing formation pressure gradient is low enough that liquids (oil or water) cannot reach the surface during the workover procedure. Due to the nature of the equipment, however, there is a slight chance of spillage of either produced fluids or hydrocarbons on the concrete surface in the immediate vicinity of the well head due to compromised hoses, tubing or leaking vessels. Any leaks are contained in the existing concrete well cellar and cleaned up immediately using absorbent pads and hot water scrubbing. Gas leaks from the formation would not occur during this procedure because gas injection would have not started.

Further, as discussed on page 2-54, the injection of oil field gas into an underground formation is a common practice and does not impact the surface or subsurface structures under the normal operating conditions in effect at the facility. The injection of oil field gas into an underground formation for storage follows very specific safety procedures and requires protective actions throughout the process. Before issuing a permit for gas injection, the DOGGR requires the Applicant to submit detailed data on the underground reservoir characteristics, analysis of the injection gas, mechanical details and drawings for the well, geologic description of the zone of injection including stratigraphy and the base of fresh water, anticipated rate and pressures of injection, details on a proposed monitoring plan, and a gas migration study. The selection of the subsurface zone to re- inject oil field gas is carefully analyzed by DOGGR to ensure oil field gas does not flow through fractures in the formation, or through the cement placed to isolate the injection zone from other zones in the well.

Finally, as discussed on pages 2-61 and 2-62 of the SMND, oil is extracted by submerged electric pumps located at the bottom of each new oil well, thousands of feet below the surface. Regardless of the rate of daily oil production, pumping is immediately halted (manually or automatically) in the event of an emergency, including fire and explosions. Once pumping is halted, no new oil or gas is produced and sent to the facility, so the hazards (and responses) remain the same for oil production regardless of the proposed Project. For additional information on equipment breakdowns at the facility, see Responses 2-20 and 2-27.

As shown by the above information, the SMND contains a comprehensive analysis of potential equipment breakdowns, which were shown to be less than significant. As a result, potential odor impacts from breakdown conditions would not be expected as a result of implementing the proposed project.

Response 2-39

The commentator requests the SCAQMD to carry out a detailed public assessment of monitoring equipment that can record and identify future releases. It is not clear what is meant by a detailed and public assessment. As noted in Responses 2-9 and 2-20, meters are currently installed at the

facility and oil productions are currently monitored. The flow meters monitor and record oil field gas flow rates as required in existing SCAQMD permits and will continue to be required after implementation of the proposed project. The WTU Central Facility will also be required to limit oil production and natural gas fuel flows as described in MMAir-1 through MMAir-3 (see pages 2-40 through 2-41) and will be subject to a Mitigation Monitoring Plan prepared pursuant to CEQA Guidelines §15097. For additional information on requests for monitoring equipment, see Responses 2-6 and 2-9.

As already indicated, odor impacts from the proposed project were concluded to be less than significant, so mitigation measures are not required. Further, as noted in Responses 2- 9 and 2-20, each drill rig at the facility is already equipped with continuous H_2S monitoring and recording devices as required by the 2006 and 2008 ZDs. However, if odors are detected from the facility in the future resulting in SCAQMD Rule 402 – Nuisance, violations, then a process could be initiated to address these nuisances. As part of this process, community meetings to solicit input from the local residents could sometimes occur.

Response 2-40

The comment states that the SCAQMD relies on the 2006 MND to evaluate reasonably foreseeable upset conditions, citing a paragraph from discussing hazards associated with drilling oil wells. As note in Responses 2-10 and 2-14, the SMND relies on the 2006 MND to establish baseline conditions for the proposed project. The SMND included a comprehensive analysis of the potential for upset conditions associated with the proposed project (see pages 2-57 and 2-60 through 2-67). For additional information on the analysis risk of upset impacts from the proposed project see Responses 2-20, 2-27, and 2-38. Finally, Warren has a comprehensive emergency response plans in place in case an accidental condition occurs (see page 2-64 of the SMND).

Response 2-41

The comment states that the SMND failed to find a significant energy impact, which would is asserted because the proposed project expands production, and expands gas production. The comment implies that producing electricity to reduce reliance on electricity provided by LADWP is an adverse energy impact. As noted in the SMND and in previous responses, the proposed project does not expand oil production beyond the 2006 Project levels; instead, the SMND limits monthly average oil production to 5,000 bpd as was analyzed in the 2006 MND but was not reflected in the permit conditions, which therefore would allow for an unlimited production level. In the short-term, onsite production of electricity rather than flaring the oil field gas, as opposed to reducing future reliance on electricity provided by LADWP reduces potential energy demand impacts. If all nine microturbines are installed and operated in the future, the proposed project could produce a net reduction in electricity demand from LADWP of 80 kW, which is a beneficial impact. If only the six existing microturbines are operated in the future, energy demand impacts from the proposed project, 550 kW, would be mitigated by 420 kW, with a net increase in energy demand of approximately 130 kW. Even under the scenario of operating only six microturbines in the future, an increased electricity demand of 130 kW to recover another energy source, crude oil, is not considered to be a wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal (see PRC §21100(b)(3) and CEQA Guidelines §15126.4 (1) and Appendix F, D.1.).

Response 2-42

The comment states that alternatives should have been considered. Because this comment is in the discussion entitled, "C. The DSMND… Energy Impacts," it is assumed that this comment refers specifically to alternative sources of energy, although the comment does not identify any examples of alternative sources of energy. As indicated in Response 2-41, the proposed project uses oil field gas as a combustion fuel for the microturbines, which would produce electricity for use onsite at the WTU Central Facility. In the absence of the microturbines, the oil field gas would be used as a combustion fuel for the HTs and/or reinjected into the subsurface reservoir. Once the reinjection system is installed, the Bekaert CEB® burner will be operated at ready-standby mode. A permit condition will limit operation of the Bekaert CEB® burner to standby mode, except during maintenance, breakdown, or testing of gas injection or gas treatment systems. Other types of alternative fuels would likely consist of some form of natural gas, i.e., LPG, CNG, etc., that would have to be trucked to the facility or a new pipeline constructed. In either of these cases, environmental impacts would be greater than impacts under the proposed project. Other types of energy sources, such as solar or wind, are impractical due to space constraints onsite. If the commentator is referring to an alternative projects analysis, an alternatives analysis is required only when significant adverse impacts are identified for a proposed project (CEQA Guidelines §15126.6). Because none of the impacts from the proposed project were determined to be significant after mitigation, an EIR, including an alternatives analysis, is not required.

Response 2-43

The comment notes that the California Public Utilities Commission Loading Order Priority should have been considered, specifically stating that environmentally preferable options should be considered first over burning of fossil fuels. In fact, the primary handling of the oil field gas will be as a replacement fuel to offset the use of purchased gas in the heater treaters and the microturbines. Use as fuel in the microturbines provides an important secondary benefit of reducing the amount of electric power purchased by the facility from offsite power plants. For additional information on the energy benefits of the proposed project, refer to Response 2-41. The comment also asserts that the analysis of energy impacts from the proposed project should have considered the Loading Order Priority, Assembly Bill (AB) 57, codified as Public Utilities Code §454.5. AB 57 applies specifically to the following three major investor-owned utilities: Pacific Gas and Electric Company, San Diego Gas and Electric Company, and Southern California Edison. AB 57 established a comprehensive set of procurement policies, practices and procedures that apply to investor-owned utilities. AB 57 does not apply to individual facilities generating electricity on-site. As such, the Loading Order Priority is not applicable to the WTU Central Facility.

Response 2-44

The comment letter closes by summarizing the comments previously mentioned in the comment letter. With regard to equipment monitoring, refer to Responses 2-6, 2-9, and 2-39. With regard to residue monitoring, refer to Response 2-6. With regard to VOC and H_2S emissions from upset conditions, refer to Responses 2-20, 2-27, and 2-33. With regard to noise, refer to Responses 2-5 and 2-23. With regard to ground shaking (vibration), refer to Response 2-5.

The comment also expresses the opinion that approval of the proposed WTU Central Facility project would simply be "another rubber stamping of Warren's proposal." Several components

of the proposed project were required by the SCAQMD Hearing Board because of past violations, e.g., violations of Flare King flare permit conditions and installation of the six microturbines without a permit. To address the flare violations, the proposed project includes demolishing the Flare King flare and installing the much more efficient and, therefore, lower emitting, Bekaert CEB® burner. The proposed project also includes analyses of potential environmental impacts from installing and operating the microturbines. In addition to requirements for installing BACT, the SCAQMD has imposed an oil production cap consisting of a monthly average of 5,000 bpd. Further, mitigation measures have been imposed, which will also be incorporated as legally binding permit conditions that limit the use of the Bekaert CEB® burner (mitigation measures MMAIR-1 and MMAIR-2). Mitigation measure MMAIR-3 would limit the total fuel usage in the equipment of the proposed project (e.g., heater treater #1 and #2, microturbines, and Bekaert CEB® burner), including oil field gas as well as natural gas, to less than or equal to 199,000,000 standard cubic feet per calendar year to ensure that annual GHG emissions do not exceed 10,000 MTCO2e per year. The proposed project has been comprehensively analyzed in the SMND and impacts from the proposed project on all environmental topic areas were evaluated and it was concluded that impacts would not exceed any of the relevant significance thresholds or, with mitigation, could be reduced to less than significant. Most of the comments in this letter relate to the 2006 project and MND, which were approved and certified, respectively, by the City of Los Angeles. The commentator has not explained how those comments relate to the proposed project. The 2006 MND was not challenged in court and preparing an SMND does not open up that previously certified MND for comment.