

Carone Petroleum Corporation
Development of Carpinteria Field Area
(State Oil and Gas Leases PRC-4000, PRC-7911, & PRC-3133)

1. PROJECT DESCRIPTION

1.1 Project Objective

The proposed project is a Plan of Development (POD) that delineates the long-term plans of Carone Petroleum Corporation (Carone) for State leases PRC-4000, PRC-7911, and PRC-3133 within the Carpinteria Field (Figure 1). The Carpinteria Field includes State and federal leases, which are under the jurisdiction of the California State Lands Commission (CSLC) and Minerals Management Service (MMS), respectively.

Specifically, Carone proposes to drill up to 25 new production or injection wells from Outer Continental Shelf (OCS) Platform Hogan, including extended reach wells with bores located up to 12,000 feet “eastward” of the platform. Extended-reach drilling (ERD)—also called slant, directional, or horizontal drilling—is a method by which wells are drilled laterally at high angles. The project would use the existing infrastructure—platform, subsea pipelines, and onshore processing facility—currently used to develop federal lease OCS P-0166. Total production (i.e., production under the proposed POD and current and future federal development) would increase from approximately 1,300 to 1,500 barrels of oil per day (BOPD) to approximately 6,000 BOPD through January 2020 at which time total production would decline (Carone, 2001).

Few changes will need to be made to the existing infrastructure, which was originally designed for a higher production rate than will occur under the proposed POD and current and future federal development. Production levels and associated activities will not exceed existing permitted limits. Carone estimates that the POD will have a productive life of 10 to 12 years—controlled by the viable economic life of the federal lease. State lease re-development would not extend the life of the existing infrastructure (i.e., if the project were to be denied, project facilities would remain in place due to ongoing, concurrent development opportunities on the federal lease).¹

¹ In 1998, Pacific Operators Offshore, Inc. (POOI)—the operator of federal Platforms Hogan and Houchin and Carone’s designated Carpinteria Field operator—drilled six new infill wells from Hogan pursuant to an active MMS-approved program. POOI plans to drill additional infill wells in the federal lease and to implement a pilot waterflood near Platform Houchin. These activities are expected to increase production above the natural decline rate that otherwise would have occurred.

1.2 Project Location

The proposed project will be conducted from Platform Hogan, which is located in 154 feet of water in the Santa Barbara Channel, 3.7 miles offshore the City of Carpinteria, Santa Barbara County (Latitude 34°20'16" North; Longitude 119°52'22" West).

The only physical presence on State lands will be subsurface well bores located several thousand feet below the ocean floor, and the subsurface activities necessary to operate and produce the well bores. Oil and gas production from the State and federal leases will be commingled on Platform Hogan and sent via existing subsea pipelines to the La Conchita Processing Facility in Ventura County. This facility lies at the base of the Santa Ynez Mountains in a narrow strip of land 3,000 feet northwest of the community of La Conchita, one mile easterly of the Santa Barbara County line, south of the steeply rising coastal foothills, north of Highway 101 and the Union Pacific Railroad right-of-way, and approximately 150 feet from the shoreline.

1.3 State Leases History and Estimated Reserves

In 1966, Chevron installed Platforms Hope and Heidi to develop State leases PRC-4000 and PRC-3150 (lease PRC-7911 is the southern part of the original lease PRC-3150). Lease PRC-3133, on the eastern edge of the Carpinteria Field, was developed later by Exxon using extended-reach wells from Platform Heidi. Carpinteria Field production peaked in 1968 at a rate of 38,000 BOPD. In 1992, Chevron shut-in the wells on Hope and Heidi. In 1996 the wells were abandoned and the platforms removed.

In 1996, the CSLC assigned leases PRC-4000 and PRC-7911 to Carone. Carone has also applied to the CSLC for assignment of lease PRC-3133. Carone believes that sufficient reserves remain within the State leases to enable commercial wells to be drilled from an existing platform in federal waters. Estimated reserves are 4,900 million standard cubic feet (MMscf) of gas (gross) and 8,900,000 barrels (bbls) of oil (gross).

1.4 Proposed Drilling Program

As noted above, Carone proposes to directionally drill wells from Platform Hogan into the State leases. The extended reach well bores will extend approximately 1,400 to 12,000 feet "eastward" from Platform Hogan.² Generalized bottom hole

² The horizontal distances of the proposed ERD well bores are routinely accomplished within the industry. Exploration oil and gas wells have typically been drilled vertically, at depths ranging from several thousand feet to 26,000 feet. In recent years, the maximum reach for extended-reach wells (the lateral distance from the surface to the bottom of a well) has exceeded 36,000 feet. In 2000, Exxon-Mobil drilled a well offshore Santa Barbara County from Platform Heritage into the Sacate Field that had a lateral reach and vertical depth of more than 21,200 feet and 6,700 feet respectively. Exxon had planned to construct a new platform (Heather) to develop the Sacate Field, but advances

locations are provided for an initial set of wells (Figure 2). Specifics on the location, design, and depth targets for all the wells will become available after completion of detailed geophysical, geological, and engineering work for the State leases, and may need to be revised as drilling results are incorporated into the POD. The CSLC will approve all drilling programs and well hole locations prior to drilling, pursuant to lease terms and an operations agreement developed with the MMS.

Throughout the project duration, the Applicant proposes to use a silicon-controlled rectifier (SCR) drilling rig with electric mud pumps for drilling and for any well servicing needs that may arise. The SCR rig will be stacked on Platform Hogan's existing internal combustion (IC)-powered well servicing rig. Table 1 contains a description of a generic rig sized to drill the Pico Sand and Northern Thrust Fault play wells. The proposed drilling rig for deeper horizons (i.e., the Santa Margarita, Monterey, Vaqueros, and Sespe formations) has not yet been selected; however, Carone maintains that it will use an electrified rig that is of competent design, consistent with the integrity of the drilling rig cited for Pico Sand drilling, and substantiated with structural and seismic loading assessments by third parties to assure safe operation from Platform Hogan.

In 1998, POOI conducted structural and seismic assessments for Platform Hogan via a third-party professional engineering firm (IDEAS) as a prelude to using a drilling rig for the 1998 federal lease infill-drilling program. The assessments substantiated that the present structure could accommodate a drilling operation consistent with the typical weights, loads, and equipment contingent proposed for the State leases POD.

Project-related drill muds and drill cuttings will be disposed of via injection down a dedicated well or well annulus into subsurface rock strata. As proposed, produced water will be injected back into the reservoir or discharged in accordance with the General National Pollutant Discharge Elimination System (NPDES) permit issued by the U.S. Environmental Protection Agency (EPA). Air emissions are discussed in Section 2.1.1.

in ERD technology precluded the need for the platform. (MMS, 2000.)

Table 1. Drilling Rig Specification for State Leases POD (Generic Specifications, Pico Sands and Northern Thrust Fault Plays).

Drilling Range	10,000 feet with 4½-inch drill pipe.
Drawworks	1000 horsepower electrically powered with D.C. motor(s).
Top Drive	350 ton D.C. or A.C. driven electric top drive.
Rotary table	27-1/2" lockable rotary.
Mast	142-foot treble mast rated 500,000 lbs. Static hook load of 700,000 lbs. with 10 (1-1/4") lines.
Traveling Assembly	350-ton block hook. 350-ton swivel. 350-ton crown block.
Substructure	Box on Box substructure, 700,000 lb. capacity.
Mud pumps	Two 1000 horsepower triplex pumps driven by D.C. motors. Each equipped with centrifugal charge pumps.
Mud system	1000-bbl capacity (500 active/500 reserve). Equipped with mud agitation system, gas buster, dual flow line cleaners, mud cleaner, and centrifuge.
Water tank	250 barrel.
Power/Prime Movers	All electric rig. Receives power from platform grid.
SCR	3 bay SCR system capable of powering all equipment including top drive.
BOPE	13-5/8" x 5000 PSI class IV. Including choke manifold.
Emissions	Emission reduction from Platform while electric drilling rig is operating.

1.5 Project Infrastructure and Operations

A description of the existing facilities and proposed project-related modifications is provided below.

1.5.1 Platform Hogan

Platform Hogan is a nine leg, fixed-jacket platform that produces sweet gas and crude oil emulsion. The platform was installed in 1967, and has 66 well slots, 39 well conductors, and 36 current well bores. Drilling first began in 1968, and the first phase (50 wells) was concluded in 1979. Seventeen wells are currently productive. The current production rate from the platform is approximately 0.9 MMscf/day (MMscfd) of gas, 500 BOPD, and 3,100 barrels of water per day (BWPD); as of January 6, 2000, cumulative production was 18,615,619 MMscf of gas and 18,382,115 bbls of oil (MMS, 2000).

The project will require the installation and use of a SCR drilling rig with electric mud pumps for drilling from Platform Hogan into the State leases. Other proposed, minor project-related modifications to Platform Hogan involve the re-use of existing well slots for all new and re-drill wells, and the addition of conductors to existing slots as needed.

The MMS has primary regulatory jurisdiction for Platform Hogan. Platform equipment and platform-related marine vessel activity are regulated and permitted under Santa Barbara County Air Pollution Control District (APCD)

Permit to Operate (PTO) # 9108, pursuant to federal requirements that delegate authority to County APCDs to regulate OCS air emissions.³ Any changes to the Platform Hogan Development and Production Plan (DPP) would need to be reviewed by the California Coastal Commission (CCC) for consistency with the California Coastal Management Program (CCMP).

1.5.2 **La Conchita Processing Facility**

The La Conchita Processing Facility separates, treats, and pumps oil and gas which is sold to The Gas Company and/or other third parties at La Conchita sales meters. Produced water is clarified, filtered, and pumped back to Platform Hogan via an existing pipeline for offshore discharge or injection. The facility, which is located on approximately 16 acres in Ventura County, includes a 55,000 bbl crude oil storage tank (54 feet high and 40 feet in diameter), above-ground pipelines, a water pump, water filtration equipment, fencing, security lighting, and office buildings. Current OCS-related processes include: inlet separation; oil treating system (heater treaters, oil tanks, sales meter); gas processing system (compression, refrigeration, dehydration, sales meter); and water treating system (clarification tanks, water tankage, media filters).

Proposed processes for the State leases POD will be the same as the current OCS-related processes, and will not require facility modifications or changes to the permitted throughput. The facility is permitted under Ventura County Planning Conditional Use Permit (CUP) # 3149-1, Ventura County APCD PTO # 00033, and a Uniform Fire Code Permit issued by the County Fire District. The County Health Department approves sewage and waste disposal. The Assessors Parcel Number (APN) is 60-010-13, the Local Coastal Program (LCP) designation for the facility is "Industrial," and the zoning classification is "Coastal Manufacturing."

1.5.3 **Pipelines and Power Cable**

The State leases POD will use the four existing, 6.25-mile-long subsea pipelines that run between Platform Hogan and the La Conchita Processing Facility: a 10-inch oil-water emulsion line; a 12-inch gas line; a 10-inch gas lift line (currently out of service); and a 4-inch water disposal/injection line. Depending on the pipeline, ongoing protection, maintenance, and monitoring include: corrosion control and monitoring, visual inspections for leaks during weekly boat runs, external remote operated vehicle surveys, internal smart pig surveys to monitor corrosion and wall thinning trends, tri-weekly monitoring of rust inhibitor chemical levels, and a computer-controlled ultrasonic leak detection system

³ Section 328 of the 1990 Clean Air Act Amendments (CAAA) transfers authority for air quality on the OCS to the EPA. In 1992, the EPA Administrator promulgated requirements to control air pollution from OCS sources to attain and maintain federal and State air-quality standards and to comply with CAAA provisions for the Prevention of Significant Deterioration (40 CFR Part 55). The promulgated regulations require OCS sources to comply with applicable onshore air-quality rules in the corresponding onshore area.

capable of automatically shutting in Platform Hogan (Table 2). A system of onshore pipelines is used to transport oil and gas produced at the La Conchita Processing Facility.

Electric power is supplied to the platform via a subsea cable. An emergency generator on the platform can provide alternate electric power.

No project-related changes to the pipelines or power cable are proposed. The existing power supply is sufficient to run the drilling equipment proposed for the project (electric rig and electric mud pumps).

1.5.4 **Associated Operations: Crew, Logistics, and Support Boats**

The State leases POD requires no additional operating crew for Platform Hogan and the associated wells. Drilling rig and completion crews will be required during drilling and completion operations respectively. Additional workover crew time will be occasionally incurred due to active wells in the State leases.

Crew boat and work boat runs to and from the platform are permitted under an existing APCD permit.⁴ Redevelopment and operational activities associated with the State leases will not result in an increase in vessel traffic above the permitted levels. No additional crew boat runs will be necessary since the existing activity level is adequate to support platform operations, including operations when drilling rigs are active. One work boat run per week can be conducted during drilling, well completion, or well workover operations.

⁴ Crew boats are used primarily to transport personnel and operational supplies. Work boats are used primarily to transport rig, drilling, completion, and workover material and equipment.

Table 2. Existing Pipelines: Platform Hogan to Shore (Source: Carone, 2001).

	10" oil-water emulsion	12" gas	10" gas lift	4" water disposal/injection
Service/ Fluids	Mix of produced crude oil and produced water	Produced natural gas	High pressure, dehydrated, NGL processed tail gas used for gas lift.	Deoiled, clarified produced water for disposal/reinjection into producing sands.
Status	Fully operational	Fully operational	Currently offline; will be brought back into use when needed.	Fully operational
Current capacity	5,500 barrels per day (1,500 BOPD, 73% water cut);	500 to 750 Mscfd wet gas.		~4,000 BWPd.
Current System Pressure	Max. Allowable Operating Pressure (MAOP) = 500 psig. Typically 0 to 125 psig.	MAOP = 720 psig. Typically 25 to 46 psig, up to 150 psig.	MAOP = 1,440 psig. Previously 800 to 1,100 psig.	MAOP = 2,160 psig. Typically 900 psig.
Capacity/ Pressure – Future High Rate Scenario	30,000 barrels per day (6,000 BOPD, 80% water cut); ~160 to 175 psig at Hogan flowing to La Conchita.	At 22 MMscfd, ~95 to 110 psig at Hogan flowing to 40 psig at La Conchita.	At ~900 psig at La Conchita, capacity to Hogan can be 24,000 to 50,000 BWPd.	At ~1150 psig at La Conchita, capacity to Hogan is 6,000 to 10,000 BWPd.
Cleaning (Pigging)	Pigged 3x/week. Cup pigs normally used; wire brush/ cup pigs used 2x/mo.	Gas line is not pigged.	Not routinely pigged.	Pigged 1x/week. Cup pigs normally used; wire brush/ cup pigs used every other run.
Inspection (smart pigs)	1988, 1996, and 1999	None done.	1999	None done.
Corrosion monitoring	Corrosion coupons changed out and analyzed biannually.	Corrosion coupons changed out and analyzed biannually.	Line is currently out of service.	Corrosion coupons changed out and analyzed biannually.
Corrosion Control	<u>External</u> – cathodic protection at both ends of pipeline. <u>Internal</u> – corrosion inhibitor, regular cleaning pig runs.	<u>External</u> – cathodic protection at both ends of pipeline. <u>Internal</u> – corrosion inhibitor.	<u>External</u> – cathodic protection at both ends of pipeline. <u>Internal</u> – line is currently out of service.	<u>External</u> – cathodic protection at both ends of pipeline. <u>Internal</u> – corrosion inhibitor, regular cleaning pig runs.

1.6 Potential Future Projects

Three potential projects in the vicinity of the proposed POD are identified below.

1.6.1 Venoco, Inc. (Venoco) Full Field Development

Venoco has applied to the CSLC, Ventura County, and Santa Barbara County to allow for expanded development of the South Ellwood Field from Platform Holly, which lies in State waters offshore Goleta in Santa Barbara County (Venoco, 2001). As proposed, Venoco would construct a new 24.5-mile 12-inch oil pipeline that would originate at Holly, cross State and federal waters, and connect to an existing subsea pipeline from Platform Hogan. Venoco's proposal may require POOL to bring back into service the currently off-line, 10-inch gas lift line from Platform Hogan. From the offshore tie-in point (within lease PRC-3133 near the Santa Barbara/Ventura County line), oil would be piped to a new pipeline receiving station to be constructed within the La Conchita Processing Facility, then to Venoco's Rincon Onshore Separation Facility.

The environmental process for Venoco's Full Field Development Plan will begin after Venoco's application is filed as complete (in February 2001, the applications were deemed incomplete). The process would involve environmental and technical review of the project under the California Environmental Quality Act (CEQA), the preparation of an Environmental Impact Report (EIR), and concurrent review pursuant to the National Environmental Policy Act (NEPA).

1.6.2 Venoco, Cavern Point Unit (CPU)

Venoco has applied to the MMS to conduct exploration activities, including drilling two extended-reach exploratory wells from Platform Gail (located approximately 10 miles west-southwest of Oxnard). If economically recoverable hydrocarbons are found, Venoco would proceed with plans to develop and produce the unit. Oil and gas would be separated on Gail and sent via existing pipelines to Venoco's Carpinteria processing plant. Development of the CPU may require Venoco to revise the existing Platform Gail DPP or to submit a new DPP.

The process for the DPP revision, which could begin in 2002, would involve technical and environmental review by the MMS, including preparation of an appropriate NEPA document (MMS, 2000). Changes to the Platform Gail DPP would require review by the CCC for consistency with the CCMP.

1.6.3 Berry Petroleum, Montalvo Oil Field

Berry Petroleum is processing seismic information for further development of State Oil and Gas Lease PRC 3314, in the Montalvo Oil Field in Ventura County. The initial development would entail a two or three test well project from an onshore site (currently one well has been producing the field from the site since

1986), using extended reach drilling technology. The onshore site is capable of processing the oil and gas from the new wells. The CSLC staff anticipates that Berry Petroleum will submit an application within 12 to 18 months, and that drilling could begin as early as July 2003. Depending on the success of these wells, further development would be contemplated from the onshore site, with possible future drilling for natural gas from an existing federal platform.

1.7 Permits and Permitting Agencies

According to the Applicant, project facilities are currently in compliance with applicable regulations and permits. Agencies that have, or may have, approval or oversight over aspects of the proposed project include those agencies identified below.

Local	<ul style="list-style-type: none"> • Santa Barbara County APCD (PTO # 9108) • Ventura County APCD (PTO # 00033) • Ventura County Resource Management Agency, Planning Division (CUP # 3149-1)
State	<ul style="list-style-type: none"> • California State Lands Commission (Lead CEQA agency) • California Coastal Commission • Division of Oil and Gas and Geothermal Resources, California Department of Conservation • Office of Spill Prevention and Response (OSPR), California Department of Fish and Game • Regional Water Quality Control Board, Region 3 • State Fire Marshall
Federal	<ul style="list-style-type: none"> • Minerals Management Service • U.S. Army Corps of Engineers • U.S. Coast Guard • U.S. Environmental Protection Agency

2. SCOPE OF EIR

Pursuant to CEQA Guidelines Section 15060, the CSLC staff conducted a preliminary review of the proposed project. Based on the potential for significant impacts resulting from the proposed project, an EIR was deemed necessary. (A separate initial study was not prepared as provided in CEQA Guidelines Section 15060(d).) Issues to be discussed in the EIR are provided below. Additional issues may be identified at the public scoping meeting and in written comments. The EIR will also consider project alternatives, including the No Project alternative, as required by CEQA. Since a portion of the project will occur in federal waters, the EIR may address NEPA requirements.

2.1 Potentially Significant Impacts to be Addressed in the EIR

2.1.1 Air Quality

Setting:

The primary pollutant of concern in both Santa Barbara and Ventura Counties is ozone, which forms in the atmosphere through photochemical reactions involving sunlight, oxygen, nitrogen oxides (NO_x), and hydrocarbons. Ozone concentrations above State standards adversely affect public health, diminish the production and quality of many agricultural crops, reduce visibility, degrade materials, and damage native and ornamental vegetation.⁵

Santa Barbara County's air quality has historically violated both State and federal ozone standards. The County recently, and by a small margin, attained the federal ozone standard, but does not meet the State standards for ozone or PM₁₀. For other criteria pollutants, such as CO and SO_x, the County is either in attainment or unclassified. The County has adopted a significance threshold of 25 pounds per day NO_x and reactive organic compounds (ROC) for long-term projects. The County has also determined that short-term air quality impacts associated with construction activities are less than significant. APCD Rule 202.F.6 exempts drilling activities in State waters from permits, unless emissions from all drilling equipment exceed 25 tons per 12-month period.

Ventura County air has historically exceeded State and federal air quality standards for ozone and the State standard for PM₁₀. The most critical period of the year for ozone formation is May through October. However, since all applicable rules and regulations are applied uniformly throughout the year, no additional regulatory provisions are attributed to projects that occur during these periods of increased potential for air-quality standard violations.

Both County APCDs require permits for new, or modifications to existing, air pollution-emitting facilities. Facility operators are required to obtain an Authority to Construct (ATC) before construction or modification begins. After construction is completed, but before operation begins, operators are required to obtain a Permit to Operate (PTO). Upon determining that the facility is complying with all applicable APCD rules, staff may issue a PTO with enforceable permit conditions

⁵ The federal government has established ambient air-quality standards to protect public health (primary standards) and secondary standards to protect public welfare. California has established separate, more stringent ambient air-quality standards to protect human health and welfare. California and national standards are established for ozone, carbon monoxide (CO), NO_x, sulfur oxides (SO_x), suspended particulate matter less than 10 microns in diameter (PM₁₀) and less than 2.5 microns (PM_{2.5}), and lead. In addition, California has standards for sulfates, hydrogen sulfide

to ensure continuing rule compliance. Specific operations, equipment, or emission sources may be exempt from the requirement to have a permit, but must comply with specified emission standards and prohibitions. In such cases, the APCDs require the facility owner or operator to provide calculations, usage records, emissions records and/or operational data as necessary to substantiate any exemptions that apply to the facility.

Platform Hogan and the La Conchita Processing Facility are currently permitted under Santa Barbara County APCD PTO # 9108 and Ventura County APCD PTO # 00033, respectively (see Table 3 for permit limits). In addition, Condition #7 of Ventura County CUP # 3149-1 prohibits the emanation of petroleum odors from the onshore processing facility. According to the Applicant, the State leases POD drilling and production operations are designed to remain within the existing air emissions permit limits.

Local residents have previously raised concerns about air emissions associated with federal lease operations. In July 1983, the California Air Resources Board (CARB) initiated special purpose air monitoring at the La Conchita Processing Facility in response to requests by local residents. In October 1983, the monitoring was terminated after results indicated that concentrations at the facility did not exceed air quality standards. In 1999, the facility was identified as a "High Emitting Facility" for CO emissions in the South Central Coast Air Basin (CARB, 1999). The Ventura County APCD conducts an annual review of the facility prior to issuance of its yearly PTO, and the facility is subject to surprise inspections.

Impact Discussion:

According to the Applicant, the proposed project would result in short-term air emissions offshore that may have localized impacts. Current sources of air emissions are attributable to internal combustion (IC) engine usage, crane use associated with rig mobilization or demobilization or project logistics (e.g., fuel and water), crew and supply boat activity, and mobilization of ancillary equipment (e.g., welders, wire line units, and personnel). No changes to the permitted throughput or modifications to the onshore processing facility are proposed or anticipated.

(H₂S), vinyl chloride, and visibility reducing particles.

Table 3. Facility Air Emissions Permit Limits

Platforms Hogan and Houchin (information as of October 2000)⁶

	NOx	ROC	CO	SOx	PM	PM10
Peak Daily Allowable, lbs/day	1995	158	398.2	242.2	144.8	140.3
Peak Annual Allowable, tons/year	45.93	11.94	10.97	6.73	4.03	3.91

La Conchita Processing Facility (January through December 2000)

	Design Capacity	Permit Capacity
Oil Inlet	27,000 BOPD	No specific limit
Oil Processing/Sales	27,000 BOPD	55,000 bbl tank limited to 2.190 Mmbo/year (6,000 BOPD average)
Gas Inlet	22 MMscfd	No specific limit
Gas Processing/Sales	22 MMscfd	No specific limit
Fuel Gas System: <ul style="list-style-type: none"> • 4 Waukesha L7042G gas engines • Gas burners used on heaters and reboilers • 2 each 1.1 MMbtu/hr flare stacks 	<ul style="list-style-type: none"> • 39 MMscf/year • 64.2 MMscf/year • 96,769.4 MMbtu/year 	
Permitted Emissions: <ul style="list-style-type: none"> • ROCs • Nitrogen Oxides • Particulate Matter • Sulfur Oxides • Carbon Monoxide 	<ul style="list-style-type: none"> • 8.11 tons/year • 6.42 tons/year • 0.80 tons/year • 0.07 tons/year • 99.44 tons/year 	

However, the potential exists for total emissions (i.e., project-related emissions and the emissions associated with ongoing development of the federal lease) to violate federal or State ambient air quality standards, contribute substantially to an existing or projected air quality violation in Ventura and Santa Barbara Counties, and/or exceed threshold emission levels that have been determined by APCD Rules and Regulations to result in significant impacts to air quality. This is a potentially significant impact. The APCD staffs have raised concerns about the additional emissions associated with project operations, particularly in combination with the new, ongoing operations on the federal lease (personal communications with Chuck Thomas, Ventura County APCD, April 24, 2001, and Sanjib Mukherji, Santa Barbara County APCD, April 26, 2001). According to Santa Barbara County APCD staff, emissions from Platform Hogan have doubled with the onset of recent federal exploratory drilling on the platform. Additional concerns have been raised about crane use associated with equipment mobilization. Consequently, the EIR will model and analyze emissions from all sources including vessel traffic, drilling and production equipment, and ancillary

⁶ The platforms are considered a single contiguous source from an emissions standpoint. Permit limits for the platforms include associated operations (e.g., supply and crew boat runs).

platform equipment (such as crane engines needed during the loading of supplies onto the platform).

2.1.2 Biological Resources

Setting:

Activities associated with the proposed State leases POD will take place offshore on an existing platform (Hogan) or in vessels to and from the platform. No project-related modifications are proposed at the existing onshore oil and gas processing facility.

Platform Hogan lies in the Santa Barbara Channel, which is located in the northwestern portion of the Southern California Bight (SCB). The Channel is a relatively protected, benign environment for a diversity of habitats and marine species, including benthic algae and marine grasses (e.g., Giant kelp), invertebrates, fish, marine mammals, sea turtles, and seabirds. Point Conception is recognized as a faunal boundary of the Channel, with cold-water species found to the north and warm-water species found to the south, although migrations occur as environmental conditions fluctuate (MMS, 2000).

Located within the SCB are the Channel Islands National Marine Sanctuary (CINMS) and other federal- and State-protected areas, including the Channel Islands National Park, the Anacapa Island Ecological Reserve, and the San Miguel, Santa Rosa, and Santa Cruz Islands Area of Special Biological Significance (ASBSs). Marine sanctuaries, refuges, and preserves are areas that are legally defined and regulated by the federal or State governments with the primary intent of protecting marine resources for their inherent biological or ecological value (MMS, 2000).

Marine fishes in the SCB are described in detail in prior studies and environmental reports (see, for example, ADL, 1984; MBC, 1986; Moser, 1996; Dailey et al., 1993; Love et al., 1999; Horn and Allen, 1978; Miller and Lea, 1972: all cited in CSLC, 2001). Macrofaunal surveys were conducted at La Conchita Beach and adjacent beaches in 1996 (see Dugan et al., 2000). At least 481 species of fish inhabit the Santa Barbara Channel (Cross and Allen, 1993). According to the National Marine Fisheries Service (NMFS), numerous species that are federally managed in the Pacific Groundfish Fishery Management Plan (PGFMP) can be found in the vicinity of platforms in the Channel. Pelagic, nearshore, schooling fishes include Pacific barracuda, northern anchovy, Pacific herring, jack mackerel, and Pacific bonito. Rockfish are abundant in rocky areas, reefs, and deepwater canyons. Garibaldi, sheephead, seniorita, opaleye, and bass are found in rocky areas and reefs, kelp beds, and deepwater canyons. Demersal flat fish

are common on sandy bottoms (NOAA 2000). The MMS (1983) includes nine taxa (flatfishes, lingcod, midshipman, ratfish, rockfish, sablefish, soupfin and spiny dogfish sharks, and surfperch) as commonly occurring offshore demersal fishes of the Channel; pelagic taxa include northern anchovy, tuna, sharks, mackerel, salmon, bonito, yellowtail, and billfishes (e.g., swordfish).

The Channel also historically supports numerous commercial fisheries. Table 4 lists the 11 most abundant commercial taxa caught in CDFG Fish Block 652 during 1995-1999.

Table 4. Abundant Commercial Fish from CDFG Fish Block 652 (1995-1999) ⁷

Species	Total Pounds	Years in Top Five	Gear Type(s) Used
Crab (unspecified)	104,908	1995, 96, 97	Trap
Mackerel	101,860	95, 97	Seine
Sardine	97,500	95	Seine
Red urchins	64,052	95, 96, 97, 98, 99	Dive
Rock crabs	58,675	95, 96	Trap
Lobster	27,378	96, 97, 98, 99	Trap
Bonito	24,980	98	Seine
Ridgeback shrimp	20,130	99	Trawl
Anchovy	9,200	96	Seine
Spider crab	8,796	97, 98	Trap
Halibut	3,209	99	Set Net/Trawl/Unknown

Source: California Dept. of Fish & Game (CDFG), as compiled by de Wit (2001).

Thirty species of cetaceans occasionally visit, migrate through, or inhabit the SCB. At least nine species generally can be found in the area in moderate or high numbers either year-round or during annual migrations into or through the area. These include Dall's porpoise, Pacific white-sided dolphin, Risso's dolphin, bottlenose dolphin, short-beaked and long-beaked common dolphins, northern right whale dolphin, Cuvier's beaked whale, and gray whale (USN, 2000). Sightings of Humpback and Blue whales in the Santa Barbara Channel have also become more common in recent years. The common dolphins, white-sided dolphin, and Pacific bottlenose dolphin, are permanent residents of the region (BLM, 1981). Other cetacean species, such as the gray whale, migrate past and

⁷ The list comprises species/species groups that were one of the five most abundant during one or more of the years analyzed. Total pounds are for years in which the species/species group was in the top five. The CDFG reports commercial marine fish catch and gear type(s) by Fish Block, a system of 10 minute latitude by 10 minute latitude areas. Fish Block 652 extends along the coastline from west of Santa Barbara to Carpinteria and offshore about 5 miles; water depths range to 160 ft (de Wit, 2001). The CDFG data for the most recent five years indicates that seven commercial gear types [seine, drift net, hook and line (including trolling), trawl, set net, trap, and diving) have been used within Fish Block 652.

through the Santa Barbara Channel. In addition, at least one species of fissiped (the southern sea otter), and six species of pinnipeds (California sea lion, Stellar sea lion, harbor seal, northern elephant seal, northern fur seal, and Guadalupe fur seal) occasionally visit, migrate through, or inhabit the SCB.

Marine mammals are protected under the Marine Mammal Protection Act, and some species are also listed under the Endangered Species Act (ESA) as endangered (e.g., sperm whale, blue whale, fin whale, humpback whale, northern right whale) or threatened (e.g., Steller sea lion, Guadalupe fur seal, southern sea otter). Four listed sea turtle species may also occur within the project area: the Green, Pacific Ridley, and Leatherback sea turtles are listed as endangered, and the Loggerhead sea turtle is listed as threatened.

More than 195 species of seabirds use the open water, shore, and island habitats in the SCB, and 2.5 million seabirds may pass through or reside in the area at any one time. Based on aerial and ship surveys, average seabird densities in open water areas of the Santa Barbara Channel are between 90 and 125 birds per square mile (MMS, 1993: cited in USN, 2000). The marine avifauna population in the SCB fluctuates seasonally because the area is located along the Pacific Flyway. Endangered bird species found in the project area or nearby shores include the California brown pelican, California least tern, Western snowy plover, and Light-footed clapper rail.

Impact Discussion:

The potential exists for an oil spill, gas leak, or other upset associated with drilling and/or the transport of oil and gas that would significantly affect biological resources. The EIR will characterize the biological resources in the project vicinity, including threatened and endangered species and species of special concern, that could be impacted by an oil spill in the project area.

Vessel traffic creates a potential for an encounter with marine mammals and sea turtles. This impact, which is considered to be potentially significant depending on the frequency of contact and species, will be addressed in the EIR.

Offshore, the discharge from Platform Hogan of the produced water associated with the State leases may also significantly impact marine resources. While produced water discharges are regulated by the EPA under a General NPDES permit or the individual NPDES permit for Platform Hogan, these discharges are based on water quality criteria determined outside a 100-meter radius mixing zone beyond a platform's discharge pipe. This outfall is located directly underneath the platform, where numerous species that are federally managed have been documented. In its review of similar proposed drilling projects, the National Marine Fisheries Service (NMFS) has raised concerns that the potential

acute or chronic toxic threats on federally managed fishes inside the produced water mixing zone have not been specifically identified or quantified. Consequently, the EIR will include produced water modeling that looks at the 100-meter mixing zone around the Platform Hogan outfall.

2.1.3 Geology and Soils

Setting:

Geologically, the Carpinteria Field is an east to west trending anticline, plunging gently to the east with historic faulting. The coastal portion of the Santa Ynez Mountains, where the La Conchita Processing Facility is located, was formed by thrust faulting and is characterized by east-west trending elongated folds and faults. According to the Hazards Appendix of the Ventura County General Plan (Ventura Co., 1988), a number of possibly active faults are present in the area, including a number of faults that lie offshore in the Santa Barbara Channel.

The Red Mountain-Padre Juan Fault Zone—which extends from Highway 33 near Canada Larga Road, to the north coastal area of the County, and into the Pacific Ocean and Santa Barbara County—is the primary fault zone in the project area. Included within this fault zone are the coastal community of La Conchita and a county fire station on Highway 101 very close to or on the Padre Juan fault. Power transmission lines going to Santa Barbara County enter this fault zone as do many major gas lines, water transmission pipes and sewer mains. At ground surface, the Red Mountain Fault is adjacent to the La Conchita Processing facility, while the Red Mountain Thrust Fault is projected to occur offshore, approximately 15 miles to the west. Under the Alquist-Priolo Act of 1972, the California Division of Mines and Geology designated the Red Mountain Fault as a “special studies zone,” which means that engineering geology reports may be required for some new coastal development within the designated area.

Impact Discussion:

According to Carone, Platform Hogan’s legs are driven into the sea floor, and the platform is on a stable surface. Recorded seismicity within the project area has been relatively sparse and the potential for the occurrence of a major earthquake within the area is considered low. However, if the project were exposed to strong seismic ground shaking, seismic-related ground failure, or landslides, the resulting impacts would be potentially significant. Previous upsets to project facilities have been documented; for example, in March 1995, POOI replaced a segment of an onshore crude oil pipeline that was damaged during a major landslide above the community of La Conchita. Specifically, POOI replaced a 10-inch pipeline that was located predominantly underground along the slopes

above La Conchita with an above-ground 4-inch pipeline located within the boundaries delineated in Ventura County CUP-3149.

The EIR will evaluate the safety of critical project facilities including Platform Hogan, the La Conchita Processing Facility, and associated pipelines that are in hazardous proximity to active or potentially active faults, and will evaluate the need to strengthen structures to accommodate additional project-related equipment.

2.1.4 Hazards and Hazardous Materials/Risk of Upset

Setting:

The wells at Platform Hogan produce a mixture of oil, gas, and water. Produced fluids undergo partial processing and measurement on the platform, including the separation of natural gas from the oil/water emulsion from the producing wells. H₂S levels in the production stream are typically zero.

In compliance with relevant federal and State regulations, POOI has a variety of written plans in place to address pollution prevention, safety, and response in the event of an upset. Pursuant to EPA requirements, POOI has a Hazardous Waste Plan that describes the proper handling of hazardous materials generated and/or stored at its facilities. This Plan is current and no modifications are necessary. POOI is also required by OSPR, the U.S. Coast Guard, and MMS to establish, maintain, and exercise an Oil Spill Contingency Plan. This comprehensive working document provides for all actions to be taken in the event of an unintentional spill. The current plan (which is for federal-only Carpinteria Field operations) will be modified to incorporate operation of State leases from the federal platform. The Plan is on file with the MMS, OSPR, and CSLC. POOI is also a member of Clean Seas which is by definition a primary marine spill response organization on call 24 hours and capable of onsite response to a spill within 45 minutes of an initial report of any such event.

POOI has calculated, and the MMS has reviewed and approved, a Worst Case Oil Discharge Scenario of approximately 500 bbls for the federal development. Although POOI's calculated worst case spill falls below the 1,000 bbl threshold that would trigger the necessity of obtaining a Certificate of Financial Responsibility under 30 CFR Section 253, POOI maintains such protection in the event of any spill, regardless of volume.

The addition of oil and gas from the State leases has not been reviewed pursuant to CEQA. According to Carone, no incremental increase to POOI's worst case spill discharge scenario volume is anticipated for the following reason:

incrementally higher production would result in a correspondingly higher volume of gross fluid being transported from the platforms to shore per given unit of time; however, the volume of gross fluid in the pipeline at any given moment in time, and its corresponding water/oil ratio, as also noted at any given moment in time, would remain consistent with the current nominal water cut figure.

Impact Discussion:

The potential exists for an oil spill or other upset associated with drilling and/or the transport of oil and gas. A major oil spill in the project area would adversely impact biological resources, water quality, recreational activities, and other natural resources and uses. These impacts are considered to be potentially significant. Consequently, the EIR will address the following issues:

- Evaluation of the risk of an accident/explosion and release of hazardous substances and the impact on plant and animal life.
- Evaluation of the human and technological safety of platform, pipelines, and processing facility operations.
- Evaluation of the project's oil spill prevention and response and hazardous materials plans and their effectiveness, with emphasis on equipment and deployment capabilities and procedures.
- Modeling of the spread of an oil spill, which could occur, and evaluation of its potential impact on plant and animal life under different current conditions and seasonal variations.

2.1.5 Energy

The re-development of oil and natural gas from the Carpinteria Field will provide additional energy supply. This is a potentially significant beneficial impact. Implementation of the proposed State leases POD will also require an increase in electricity used on the platform to run the new SCR drill rig and electric mud pumps. This is a potentially significant adverse impact. These issues will be addressed in the EIR. Use of the platform's emergency generator for alternate electric power during blackouts or other interruptions in shore power supply would increase air emissions. This issue will be addressed in the air quality section of the EIR.

2.2 No Impact/Less Than Significant Impacts

Based on its preliminary review, the CSLC staff has determined that the proposed project would have a less than significant impact or no impact on the CEQA issue

areas identified below. The primary reasons for this preliminary determination are as follows.

- The project will use the existing infrastructure associated with the development of federal lease OCS P-0166.
- The proposed project-related activities are similar to current activities associated with the development of the federal lease, and proposed modifications to the existing equipment will not affect the issue areas identified below.
- State lease re-development would not extend the life of the platform or processing facility due to ongoing, concurrent development opportunities on the federal lease, and if the project were to be denied, both the platform and the processing facility would remain in place.

Additional information on these issue areas is summarized below.

2.2.1 Aesthetics

The proposed project will not result in any significant permanent changes to surface features, and will not alter the overall visual character of the area. The new drilling equipment and proposed modifications at Platform Hogan will not significantly alter the platform profile. No modifications are proposed at the onshore processing facility, which is industrial in nature and is screened by trees and other vegetation from the Highway 101 line-of-sight. Both the platform and processing facility are currently lighted at night in conformance with federal and State navigational and/or safety requirements; no new lighting is required. Conditions of Ventura County CUP # 3149-1 for the La Conchita Processing Facility include requirements for vegetative screening (#3), painting of structures in blending colors (#4), design and construction of all entrance gates (#5), shielding of lights so as not to shine on adjacent properties, with gas flaring allowed only to mitigate an upset or breakdown condition (#6), and burial of the offshore pipelines under the beach, freeway, and railroad (#36).

2.2.2 Agricultural Resources

Activities will be conducted primarily offshore, with no project-related modifications at the onshore processing facility. Although the land uses surrounding the La Conchita Processing Facility are agriculture and open space, the land use designation for the facility is industrial.

2.2.3 Cultural Resources

Access to the State leases will be accomplished solely through subsurface operations from Platform Hogan, with no project-related modifications at the onshore processing facility. Project-related activities, which are similar to current activities associated with development of the federal lease, will not affect any known or unknown historical or archaeological resources in the area.

2.2.4 Hydrology and Water Resources

The onshore area adjacent to the project is located in the South Coast Hydrologic Unit. This Unit occurs from near Point Arguello to Rincon Point and from the crest of the Santa Ynez Mountains to the coastline. The climate of the Hydrologic Unit is semi-arid Mediterranean-type. Approximately 90 percent of the precipitation occurs between the months of November and April. Precipitation is variable in the area, averaging 16 inches per year near the coast to over 30 inches per year in the high mountain slopes.

The proposed project would introduce offshore discharge of produced water to the marine environment. As discussed above, an assessment of this potentially significant impact will be included in the biological resources section of the EIR.

In the event of an oil spill, surface waters would be impacted in the project vicinity. As discussed above, an assessment of this potentially significant impact will be included in the hazards/risk of upset section of the EIR. Other project-related activities are not expected to impact surface or ground water quality.

According to the Hazards Appendix of the Ventura County General Plan, several small communities, including La Conchita, could be affected by a major tsunami; however, because of the small possibility of a major tsunami occurring in Ventura County, the General Plan does not recommend prohibiting all development near beaches, nor does it recommend drastic measures to protect existing coastline (Ventura Co., 1988).

2.2.5 Land Use and Planning

Ventura County's land use designation for the onshore processing facility is industrial. Existing land uses surrounding the facility are open space and agriculture. Production from the proposed offshore project will be processed at the existing La Conchita Processing Facility, which can accommodate additional oil and gas production without expansion and is not expected to impact the established nearby community of La Conchita.

2.2.6 Mineral Resources

Implementation of the State leases POD would result in the extraction and enhanced availability of oil and gas from existing (i.e., already been assigned) State leases. No impacts to other known mineral resources are anticipated as a result of the POD.

2.2.7 Noise

Major ambient noise sources in the vicinity of Platform Hogan and the La Conchita Processing Facility include vessel traffic and traffic on Highway 101. The State leases POD is typical of ongoing work associated with development of the federal lease and will not result in excessive noise levels or vibration beyond that experienced in existing operations. Such operations include temporary increases in noise levels during drilling and workover activities; however, no permanent increase in ambient noise levels will occur, and the platform's location 3.7 miles from shore will result in the transmittal of little, if any noise to sensitive onshore receptors. Noise impacts to marine mammals and sea turtles from project-related drilling operations and vessel traffic are anticipated to be less than significant.

Pursuant to Condition #31 of Ventura County CUP # 3149-1 for the La Conchita Processing Facility, POOI is "required to use the latest functional soundproofing equipment to insure that the operation is quiet, so that under no circumstances shall the noise be greater than the level of normal traffic noise which is perceptible without instruments at or beyond the zoning district boundary when the use is in customary operation." Similarly Condition #32 prohibits any discernible normal operational vibration at or beyond the zoning district boundary when the use is in customary operation. Therefore, short-term impacts due to the temporary or periodic increases in ambient noise levels in the project vicinity would be considered less than significant.

2.2.8 Population and Housing

Drilling rig and completion crews will be required on Platform Hogan during drilling and completion operations respectively, and additional workover crew time will be occasionally incurred due to active wells in the State leases. No additional crew will be required to operate the facilities or wells after drilling, and the project will not generate any changes to population, housing, or employment in the region.

2.2.9 Public Services

Project implementation is not expected to have any impact on Ventura or Santa Barbara County public service providers (e.g., fire protection, law enforcement, emergency medical services) or on schools, parks, governmental facilities, or other public facilities.

2.2.10 Recreation

Implementation of the proposed project will not result in any net increase in the use of existing parks or other recreational facilities, including surfing and diving areas or beaches within the area. The project does not involve and/or include the construction of recreational facilities. In addition, no additional crew boat runs will be necessary, since the existing activity level is adequate to support platform operations, including platform operations when rigs are active. Approximately one work boat run will occur during drilling, completion, or well workover operations. The existing crew and work boat activities are permitted within the existing APCD permit and do not interfere with sport fishing or other recreational activities.

2.2.11 Transportation and Traffic

Although drilling rig and completion crews will be required on Platform Hogan during drilling and completion operations respectively, and additional workover crew time will be occasionally incurred due to active wells in the State leases, the activity level is similar to activities currently associated with the development of federal lease OCS P-0166, including platform operations when rigs are active. The amount of material to be delivered to the platform is not substantially different from previous drilling or workover projects on Platform Hogan. No additional crew will be required to operate the facilities or wells after drilling. Therefore, the proposed project will generate little to no increase in vessel or vehicle trips, and will not impact either individually or cumulatively the level of service established by the County congestion management agency for designated roads or highways.

2.2.12 Utilities and Service Systems

All logistical needs (supplies, equipment, personnel, etc.) are ferried to and from Platform Hogan via either a crew or supply boat. Both the platform and the onshore processing facility currently have adequate stormwater drainage facilities. This project will have no impact on those facilities nor on additional stormwater handling needs. Previous periods with similar numbers of workers on the platform have not exceeded any wastewater treatment requirements. Few to no modifications to project facilities are necessary, as the facilities were originally designed for higher past rates than will occur under the proposed POD and current and future federal development. The proposed project will not generate any new requirements for infrastructure in the project area, either during or after drilling.

The project will generate solid waste in the form of drill muds and cuttings. According to the applicant, all non-recycled drill muds and all cuttings will be disposed of via a cuttings injection system (i.e., injected down a dedicated well or well annulus into subsurface rock strata). Other solid waste (e.g., trash) will be transported ashore during regular boat runs and disposed of in the appropriate facilities currently used in association with development of the federal lease.

Produced water will be treated and discharged pursuant to the new EPA NPDES General Permit. The Applicant will continue to comply with all statutes and regulations related to solid waste.

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- Venoco. 2001. Development Plan Application for Full Field Development of the South Ellwood Field, February 2001.
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LIST OF ACRONYMS

APCD	Air Pollution Control District	MMbo	Million barrels of oil
APN	Assessors Parcel Number	MMbtu	Million British Thermal Units
ASBS	Area of Special Biological Significance	MMscf	Million standard cubic feet (volume of natural gas)
ATC	Authority to Construct	MMscfd	Million standard cubic feet per day
BACT	Best Achievable Control Technology	Mscfd	Thousand standard cubic feet per day
bbl	barrel	MAOP	Maximum Allowable Operating Pressure
BLM	Bureau of Land Management	MMS	Minerals Management Service
BOPD	Barrels of Oil Per Day	MND	Mitigated Negative Declaration
BWPD	Barrels of Water Per Day	ND	Negative Declaration
CAAA	Clean Air Act Amendments	NEPA	National Environmental Policy Act
CARB	California Air Resources Board	NGL	Natural Gas Liquids
CCC	California Coastal Commission	NMFS	National Marine Fisheries Service
CCMP	California Coastal Management Program	NOAA	National Oceanic and Atmospheric Administration
CDFG	California Department of Fish and Game	NOX	Nitrogen Oxides
CEQA	California Environmental Quality Act	NPDES	National Pollutant Discharge Elimination System
CESA	California Endangered Species Act	OCS	Outer Continental Shelf
CFR	Code of Federal Regulations	OSPR	Office of Spill Prevention and Response (CDFG)
CINMS	Channel Islands National Marine Sanctuary	PGFMP	Pacific Groundfish Fishery Management Plan
CO	Carbon Monoxide	PM _{2.5}	Particulate Matter (≤ 2.5 microns)
CPU	Cavern Point Unit	PM ₁₀	Particulate Matter (≤ 10 microns)
CSLC	California State Lands Commission	POD	Plan of Development
CUP	Conditional Use Permit	POOI	Pacific Operators Offshore, Incorporated
DPP	Development and Production Plan	psig	pounds per square inch gauge
EIR	Environmental Impact Report	PTO	Permit to Operate
EPA	U.S. Environmental Protection Agency	ROC	Reactive Organic Compounds
ERD	Extended Reach Drilling	SCB	Southern California Bight
ESA	Endangered Species Act	SCR	Silicon Controlled Rectifier (drill rig)
H ₂ S	Hydrogen Sulfide	SO _x	Sulfur Oxide
IC	Internal Combustion	USFWS	U.S. Fish and Wildlife Service
LCP	Local Coastal Program	USN	U.S. Navy
m	meter		
M	Thousand		
MM	Million (thousand thousand)		