

MINUTE ITEM

This Calendar Item No. 20  
was approved as Minute Item  
No. 20 by the State Lands  
Commission by a vote of 3  
to 0 at its 3/22/84  
meeting.

CALENDAR ITEM

20 1:

3/22/84  
W 40397  
PRC 2920  
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CONTINUATION OF OFFSHORE  
EXPLORATORY DRILLING OPERATIONS ON  
STATE OIL AND GAS LEASE PRC 2920.1  
SANTA BARBARA COUNTY

OPERATOR: Shell California Production, Inc.  
P. O. Box 11164  
Bakersfield, CA 93389-1164  
Attn: John Hallett

AREA, TYPE LAND AND LOCATION:  
State Oil and Gas Lease PRC 2920.1 contains  
approximately 4,250 acres of submerged  
lands located in Santa Barbara County,  
California (see Exhibit "A").

LEASE INFORMATION:  
State Oil and Gas Lease PRC 2920.1 was  
originally issued to Shell Oil Company,  
now Shell California Production, Inc. (SCPI)  
(50 percent) and to Standard Oil of California,  
now Chevron, USA. (50 percent), on July 19,  
1962. The lease provided for an initial  
drilling term of three years and a continuous  
drilling obligation of no more than 120  
days between wells.

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The Molino natural gas field, discovered and initially developed during 1962 and 1963, currently produces gas from the Miocene Vaqueros and Oligocene Sespe formations at an average depth of approximately 1,828 m (6,000 feet) subsea. PRC 2920.1 has had as many as five wells producing gas. Only one of these five wells is presently potentially productive and the known productive reservoirs are believed to be nearly depleted. Since the initial drilling in the early 1960s, several other formations have proved productive in the Santa Barbara Channel. These formations have not been tested in the Shell Molino Lease.

An Environmental Impact Report, certified by the State Lands Commission on December 16, 1980, addressed the environmental impact of resumption of drilling operations on the lease and examined specific sites proposed for drilling at that time. Resumption of drilling operations was approved by the Commission after the environmental review, and SCPI has drilled and abandoned one exploratory well on PRC 2920.1 since that approval.

SUMMARY:

As operator of the jointly-owned state lease, SCPI proposes to continue its exploratory activities by drilling up to three exploratory wells at three of six selected drill site locations. The proposed well sites are located about 3.2-4.0 km (2.0-2.5 miles) offshore at Molino in approximately 70-73 m (230-240 feet) of water. The wells will range in depth from approximately 5,000 to approximately 14,000 feet subsea. Each well will take about 120 days to drill. By drilling from a jack-up drilling unit, the plan is to explore Miocene and Eocene age objectives through the Matilija formation, below previous development in the offshore Molino Field. SCPI's proposal is for exploratory activities only; upon confirmation of commercially viable quantities of hydrocarbons as a result of the drilling and testing activities, SCPI must prepare a development and production plan, subject to further

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environmental review and analysis prior to consideration by the State Lands Commission.

OTHER PERTINENT INFORMATION:

Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Adm. Code 15025), the staff has caused to be prepared a supplemental Environmental Impact Report (EIR) identified as EIR No. 354, State Clearinghouse No. 83110901. The document was circulated for public review and comment pursuant to the provisions of the California Environmental Quality Act (CEQA). The following significant environmental impacts were identified in the EIR. These are followed by proposed changes, alterations, or permit conditions which should be required in or incorporated into the proposed project.

1. Geology

Impact: Geologic processes that could result in significant environmental impacts are associated with seismic groundshaking. Other processes such as fault rupture, liquefaction, landsliding, turbidity currents, tsunamis, gas-charged sediments, erosion, uplift, and subsidence should not produce significant impacts within the site environment.

Mitigation: Proper engineering design, considering the maximum credible earthquake, is considered sufficient mitigation.

2. AIR QUALITY

Emissions associated with the proposed resumption of drilling activities by SCPI in the Molino field offshore Santa Barbara County would occur in two phases: actual drilling activities and testing for recoverable quantities of gas and/or oil. Drilling activities will include movement and positioning of the drilling unit (move-in), drilling, casing, cementing and move-out. The majority

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of air emissions associated with drilling would occur either at the offshore drilling site or in an area between the offshore site and adjacent port areas (due to transit of support vessels and the drill rig). Emissions resulting from the testing of gas and/or oil would occur at the drilling unit. The emission levels associated with drilling activities would vary considerably, depending on the particular operation; however, emissions resulting from gas and/or oil testing would be relatively constant during the period of actual well flow.

Air quality modeling was performed for  $\text{NO}_2$ ,  $\text{SO}_2$ , and  $\text{O}_3$ , considering the SCPI proposed drilling program and other recent operations. Particulate matter emissions were derived from the  $\text{SO}_2$  projected impacts.

Impact: The short-term (one-hour) worst-case impact forecast for nitrogen dioxide ( $\text{NO}_2$ ) is estimated to be 0.28 ppm (537  $\mu\text{g}/\text{m}^3$ ).

Mitigation: Upon review of SBCAPCD Rule 205.C, the District has determined that only nitrogen oxides emissions need to be offset for this project. The calculated nitrogen oxide emissions produced at the rig and by vessel serving the rig are 582 pounds per day. Rule 205.C requires a 1.2 to 1 offset of the project emissions. To achieve the required reduction, a 1,100 horsepower internal combustion engine compressor at the SCPI Nolino gas plant will be replaced by an electric motor driven compressor and the two remaining internal combustion engine compressors will be retrofitted with catalytic converters. The resulting nitrogen oxide reduction would be 713 pounds per day (15 pounds per day more than required to meet Rule 205.C).

3. Oceanography/Water Quality

Impact: Significant adverse impacts could result from the spillage of oil. Such impacts include reduction in dissolved oxygen content of seawater, reduction in light transmission and penetration, and creation of odors.

Oil-spill cleanup activities are partially effective in removing spilled oil from the environment and thus reducing the adverse effects of the oil spill. However, the cleanup procedure itself can have adverse effects.

Mitigation: The implementation of cleanup activities will consider these potential impacts and employ those which result in the least overall adverse impacts of both oil-spill and cleanup.

#### 4. Marine Biology

Impact: The greatest potential impact of the SCPI drilling program would be expected to result from an episodic (catastrophic) event such as a well blowout resulting in gas discharge or an oil spill. Since the exploratory wells are in coastal waters, the impact of an oil spill would most likely pose the greatest threat to the species-rich and biologically important intertidal and shallow-water communities. Additionally, the complicated and seasonably variable patterns of surface circulation of coastal waters would likely present containment problems if a spill occurred. The anticipated impact of a significant oil spill on the marine biological communities near the Molino Field include: 1) considerable impact to intertidal communities due to the nearshore drilling location; 2) possible significant damage to subtidal communities due to reduced time for dispersion and dilution of the spill; 3) possible significant, but unquantifiable, impact to kelp communities; 4) potential lethal and sublethal effects on planktonic communities; 5) short-term direct mortalities to fishes (but quick recovery of populations expected); and 6) possible significant mortalities to marine birds, particularly, pelagic birds.

Mitigation: Mitigation of oil spill impacts are related to the effectiveness of oil spill contingency plans. These have been developed for the proposed project and are supplemented with Federal, State, and local provisions for oil spill cleanup.

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Although not identified as a significant potential impact, in order to avoid potential conflicts with fishing vessels, SCPI has agreed as a part of its project that support vessel transportation will follow a course in open water beyond 30 fathoms of water depth from Port Hueneme to the drilling vessel.

The marine biological survey completed as part of the environmental process has established that none of the areas surrounding the six proposed drill sites include significant or endemic resources which are unique to the Molino "transition zone" area. Also, pursuant to a NPDES Permit issued to SCPI in November 1983, authorizing the discharge of muds and cuttings, a monitoring program will be implemented to determine the extent to which benthic organisms may be adversely impacted and able to re-colonize the areas affected by muds and cuttings discharges.

In response to concerns expressed through the environmental review process regarding potential conflicts with fishing vessels or activities, SCPI has agreed to incorporate, as a part of the project, the following: support vessels associated with the project will follow a course in open water beyond the 30-fathom bathymetric contour from Port Hueneme to a point opposite the drilling unit. The vessels would directly approach the drilling unit from offshore and then depart directly from the drilling unit to the 30-fathom contour and remain outside that contour to Port Hueneme.

The project is situated on lands identified as possessing significant environmental values pursuant to P.R.C. 6370.1, et seq. Based on the staff's consultation with the persons nominating such lands and of the CEQA review process it is staff's opinion that the project, as proposed, is consistent with its use classification.

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STATUTORY AND OTHER REFERENCES.

- A. P.R.C. Div. 6, Parts 1 and 2.
- B. Cal. Adm. Code: Title 2, Div. 3; Title 14, Div. 6.

AB 884: 10/28/84.

- EXHIBITS:
- A. Location Map.
  - B. EIR Executive Summary.

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT AN EIR, NO. 354 (STATE CLEARINGHOUSE NO. 8310901), WAS PREPARED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF CEQA, AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
2. FIND THAT THE FOLLOWING SIGNIFICANT ENVIRONMENTAL EFFECTS IDENTIFIED BY THE EIR WILL BE MITIGATED BY CHANGES, ALTERATIONS, OR PERMIT CONDITIONS WHICH HAVE BEEN REQUIRED FOR OR INCORPORATED INTO THE PROPOSED PROJECT:

A. GEOLOGY

IMPACT: GEOLOGIC PROCESSES THAT COULD RESULT IN SIGNIFICANT ENVIRONMENTAL IMPACTS ARE ASSOCIATED WITH SEISMIC GROUND MOVEMENT.

FINDING: CHANGES OR ALTERATIONS HAVE BEEN REQUIRED IN, OR INCORPORATED INTO, THE PROJECT WHICH AVOID OR SUBSTANTIALLY LESSEN THE SIGNIFICANT ENVIRONMENTAL EFFECT AS IDENTIFIED IN THE FINAL EIR.

THE REGULATION OF DRILLING ACTIVITIES AND WELL CONSTRUCTION ARE ALSO WITHIN THE RESPONSIBILITY AND JURISDICTION OF ANOTHER PUBLIC AGENCY IN ADDITION TO THE AGENCY MAKING THE FINDING. SUCH CHANGES HAVE BEEN ADOPTED, OR CAN AND SHOULD BE ADOPTED, BY SUCH OTHER AGENCY.

FACTS SUPPORTING FINDING: STATE LANDS COMMISSION REGULATIONS (CAL. ADMIN. CODE, TITLE 2, DIVISION 3, ARTICLE 3.2, SECTIONS 2125 THROUGH 2128) PROVIDE FOR DRILLING OPERATIONS AND PIPELINE DESIGN AND CONSTRUCTION AND OPERATIONS.

THESE REGULATIONS ARE INCORPORATED  
HEREIN BY REFERENCE.

IN ADDITION, THE CALIFORNIA DIVISION  
OF OIL AND GAS HAS SIMILAR REGULATORY  
RESPONSIBILITY AND AUTHORITY OVER DRILLING  
ACTIVITIES AND WELL DESIGN, CONSTRUCTION  
AND OPERATION.

3. AIR QUALITY

IMPACT: SHORT-TERM NITROGEN OXIDE  
EMISSIONS ARE EXPECTED TO EXCEED THE  
ONE-HOUR CALIFORNIA STANDARD.

FINDING: (A) CHANGES OR ALTERATIONS  
HAVE BEEN REQUIRED FOR, OR INCORPORATED  
INTO, THE PROJECT WHICH AVOID OR  
SUBSTANTIALLY LESSEN THE SIGNIFICANT  
ENVIRONMENTAL EFFECT AS IDENTIFIED  
IN THE FINAL EIR; AND (B) SUCH CHANGES  
OR ALTERATIONS ARE WITHIN THE RESPONSIBILITY  
AND JURISDICTION OF ANOTHER PUBLIC  
AGENCY AND NOT THE AGENCY MAKING THE  
FINDING. SUCH CHANGES HAVE BEEN ADOPTED  
BY SUCH OTHER AGENCY OR CAN AND SHOULD  
BE ADOPTED BY SUCH OTHER AGENCY.

FACTS SUPPORTING FINDING: JURISDICTION  
AND REGULATORY AUTHORITY OVER AIR QUALITY  
IN THE LEASE AREA RESIDES WITH THE  
SANTA BARBARA COUNTY AIR POLLUTION  
CONTROL DISTRICT AND THE AIR RESOURCES  
BOARD. THE DISTRICT HAS AND ENFORCES  
RULES AND REGULATIONS APPLICABLE TO  
OIL AND GAS PROJECTS IN THE WATERS  
OF THE STATE OF CALIFORNIA. THESE RULES  
AND REGULATIONS REQUIRE THE USE OF  
BEST AVAILABLE CONTROL TECHNOLOGY,  
TRADEOFFS OF EMISSIONS WHERE STANDARDS  
ARE VIOLATED, AND OTHER APPLICABLE  
MEASURES.

THE EIR IDENTIFIES SEVERAL POTENTIAL  
MITIGATION MEASURES THAT THESE AGENCIES  
SHOULD CONSIDER. THESE INCLUDE:

- A) A NITROGEN OXIDE EMISSION REDUCTION  
PROGRAM AT THE SHELL OIL AND GAS  
PLANT.

2) INTAKE AIR COOLING AND PRE-INJECTION CHAMBERS FOR PRIMARY POWER ENGINES ON THE DRILLING RIG, AS WELL AS TUNING OF THOSE ENGINES.

C) SCRUBBING OF H<sub>2</sub>S GAS IF NECESSARY.

C. OCEANOGRAPHY/WATER QUALITY

IMPACT: SIGNIFICANT ADVERSE IMPACTS COULD RESULT FROM THE SPILLAGE OF OIL. CLEANUP PROCEDURES CAN HAVE ADVERSE EFFECTS.

FINDING: CHANGES OR ALTERATIONS HAVE BEEN REQUIRED IN, OR INCORPORATED INTO, THE PROJECT WHICH AVOID OR SUBSTANTIALLY LESSEN THE SIGNIFICANT ENVIRONMENTAL EFFECTS AS IDENTIFIED IN THE FINAL EIR.

FACTS SUPPORTING FINDING: POTENTIAL MEASURES TO MITIGATE THESE IMPACTS ARE OF TWO TYPES: (1) PREVENTIVE; AND (2) REACTIVE TO ANY POSSIBLE ACCIDENT WHICH COULD RESULT IN THE DISCHARGE OF HYDROCARBONS INTO THE MARINE ENVIRONMENT.

- (1) PREVENTATIVE: THE CALIFORNIA PUBLIC RESOURCES CODE AND THE COMMISSION'S IMPLEMENTING REGULATIONS GOVERN AND CONTROL OIL AND GAS ACTIVITIES ON STATE LANDS, SPECIFICALLY, COMMISSION REGULATIONS "... PERTAINS TO OIL AND GAS DRILLING OPERATIONS ON STATE OIL AND GAS LEASES LOCATED ON STATE TIDE AND SUBMERGED LANDS UNDER THE JURISDICTION OF THE STATE LANDS COMMISSION, AND IS APPLICABLE TO OPERATIONS CONDUCTED FROM MOBILE RIGS, FIXED OFFSHORE STRUCTURES AND UPLAND LOCATIONS SERVING THESE LEASES." (2 CAL. ADMIN. CODE SECTION 2125(a)) THE SPECIFIC REFERENCES TO THE ADMINISTRATIVE CODE ARE AS FOLLOWS: (1) ARTICLE 3.2 - OIL AND GAS DRILLING REGULATIONS; (2) ARTICLE 3.4 - OIL AND GAS DRILLING AND PRODUCTION OPERATIONS: POLLUTION CONTROL. (THESE PROVISIONS ARE INCORPORATED HEREIN BY REFERENCE).

THE REGULATIONS AS A WHOLE SIGNIFICANTLY REDUCE THE LIKELIHOOD OF ANY POLLUTION INCIDENT, i.e., AN OIL SPILL. IN ADDITION TO ENGINEERING REQUIREMENTS (BLOWOUT PREVENTERS, ETC.), TRAINING AND SUPERVISION COMPETENCY, INSPECTION AND EQUIPMENT TESTING, ETC., THE REGULATIONS REQUIRE THE SUBMISSION AND APPROVAL BY COMMISSION STAFF OF "CRITICAL OPERATIONS AND CURTAILMENT PLANS" WHICH "... PROVIDE ADDITIONAL PRECAUTIONARY MEASURES TO MINIMIZE THE LIKELIHOOD OF AN OIL SPILL INCIDENT RESULTING FROM OFFSHORE DRILLING AND PRODUCTION WELL WORK DURING (1) ADVERSE WEATHER AND SEA CONDITIONS WHEN OIL SPILL CONTAINMENT AND RECOVERY EQUIPMENT, MATERIAL AND TECHNIQUES ARE NOT EFFECTIVE AND MARINE TRANSPORTATION IS SEVERELY HAMPERED; AND (2) THE TIME THAT OIL SPILL CONTAINMENT AND RECOVERY EQUIPMENT, MATERIAL, MANPOWER, AND TRANSPORTATION THEREOF ARE NOT READILY AVAILABLE TO THE SITE OF OPERATION." (2 CAL. ADMIN. CODE SECTION 2141) THE COMMISSION STAFF WILL CONSULT WITH VARIOUS SPECIAL INTEREST GROUPS INCLUDING LOCAL GOVERNMENT, ENVIRONMENTALISTS, FISHING INDUSTRY AND THE OIL INDUSTRY IN REVIEWING AND CERTIFYING THESE PLANS FOR THE PROJECT AREA.

- (2) REACTIVE: COMMISSION REGULATIONS FURTHER REQUIRE THE SUBMISSION AND APPROVAL BY THE STAFF OF THE COMMISSION OF AN OIL SPILL CONTINGENCY PLAN PRIOR TO ANY DRILLING OR PRODUCTION ACTIVITIES. (2 CAL. ADMIN. CODE SECTIONS 2139 AND 2140) THESE REGULATIONS PROVIDE THAT SPECIFIC POLLUTION CONTROL AND REMOVAL EQUIPMENT ARE REQUIRED TO BE ONSITE, BOTH AT MOBILE ONSHORE LOCATIONS. THE REGULATIONS STATE IN PERTINENT PART THAT, "EQUIPMENT FOR THE CONTROL AND REMOVAL OF LARGER OIL SPILLS SHALL BE MAINTAINED AT AN OFFSHORE OR ONSHORE LOCATION NEAR THE AREA OF LEASE OPERATIONS WHERE DEPLOYMENT AND RESPONSE TO THE SPILL WOULD PROVIDE THE MOST FEASIBLE PROTECTION OF COASTAL RESOURCES. ALL

EQUIPMENT SHALL BE INSPECTED REGULARLY AND SHALL BE MAINTAINED IN GOOD CONDITION FOR IMMEDIATE USE." 2 CAL. ADMIN. CODE SECTION 2140(b). (THESE REGULATIONS ARE INCORPORATED HEREIN BY REFERENCE.)

D. MARINE BIOLOGY

IMPACT: THE GREATEST POTENTIAL IMPACT OF THE PROJECT WOULD RESULT FROM AN EPISODE (CATASTROPHIC) EVENT SUCH AS A WELL BLOW OUT RESULTING IN GAS DISCHARGE OR AN OIL SPILL.

FINDING: CHANGES OR ALTERATIONS HAVE BEEN REQUIRED IN, OR INCORPORATED INTO, THE PROJECT WHICH AVOID OR SUBSTANTIALLY LESSEN THE SIGNIFICANT ENVIRONMENTAL EFFECTS AS IDENTIFIED IN THE FINAL EIR.

FACTS SUPPORTING FINDING: THE FACTS SUPPORTING THIS FINDING OF MITIGATION ARE THE SAME AS THOSE STATED ABOVE CONCERNING OIL SPILL IMPACTS ON WATER QUALITY. THE ARE THEREFORE INCORPORATED HEREIN BY REFERENCE.

3. FIND THAT THIS PROJECT IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED FOR THE LAND PURSUANT TO P.R.C. SECTION 6370.1.
4. AUTHORIZE THE PROPOSED CONTINUED EXPLORATORY DRILLING OPERATIONS ON STATE OIL AND GAS LEASE PRC 2920.1 IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE LEASE AS AMENDED IN 1980 AND THE RULES AND REGULATIONS OF THE STATE LANDS COMMISSION.

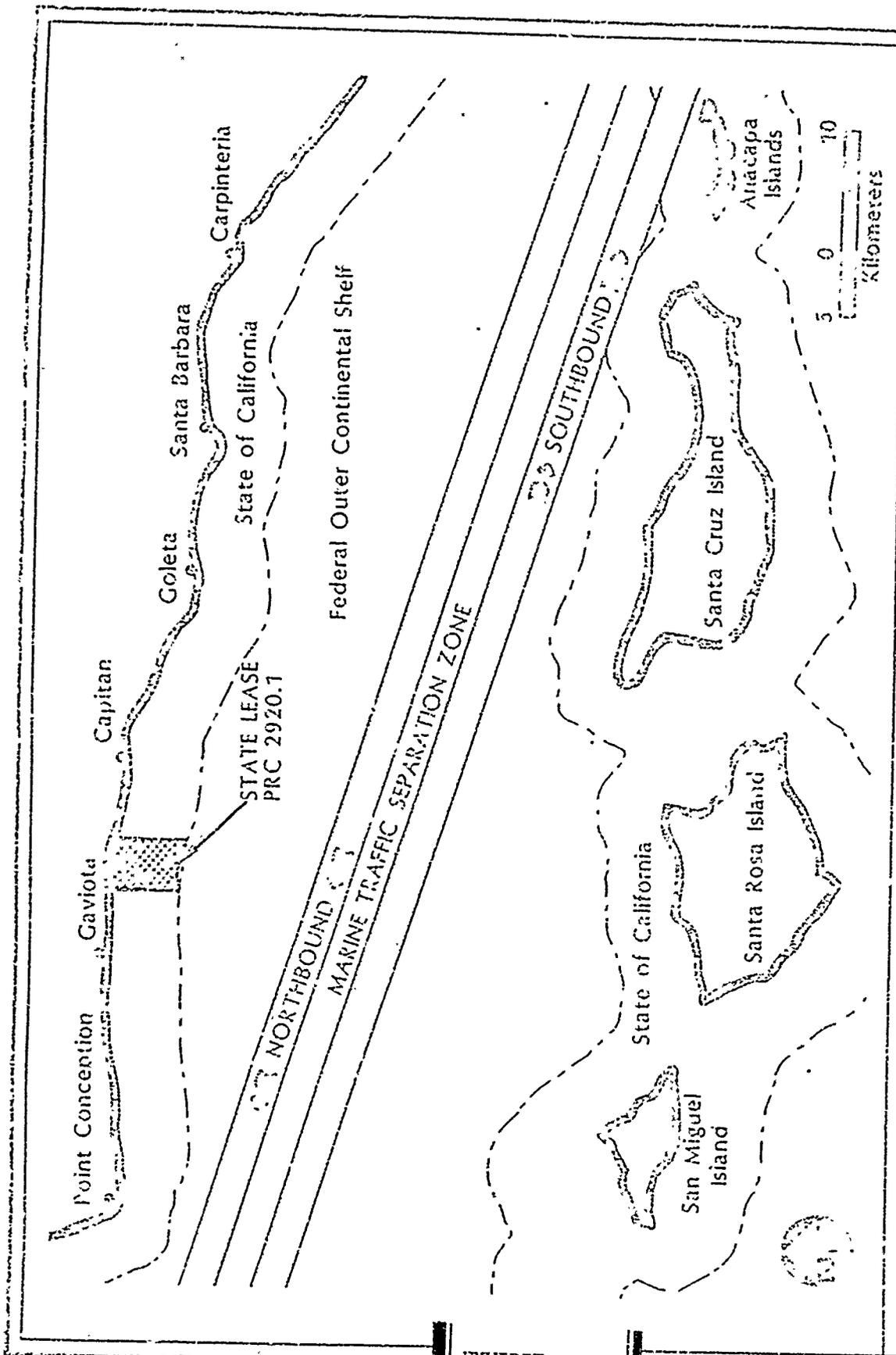


FIGURE  
22-1

Regional Vicinity

EXHIBIT A  
Location Map

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EXHIBIT B  
EXECUTIVE SUMMARY

A. AGENCY JURISDICTION

This supplemental Environmental Impact Report (EIR) has been prepared under a contractual agreement with the State Lands Commission (SLC) utilizing the State EIR Guidelines implementing the California Environmental Quality Act (CEQA) of 1970, (with amendments, 1983). The project, as proposed, involves actions solely on State Tidelands and therefore the SLC is acting as Lead Agency. It addresses the environmental impacts of exploratory drilling operations proposed by Shell California Production Inc. (SCPI) on State Oil and Gas Lease PRC 2920.1, Molino Field, offshore Santa Barbara County.

B. PROJECT DESCRIPTION

Utilizing a mobile jack-up drilling unit, SCPI is proposing to continue exploratory drilling operations within State Oil and Gas Lease PRC 2920.1. No production operations are proposed as part of this project. If commercial quantities of hydrocarbons are discovered as a result of the drilling program, the SLC will require a development and production plan and extensive environmental review and analysis prior to approval of the plan.

The primary objective of the SCPI exploratory program is the determination of the existence of economically recoverable oil and/or natural gas supplies from the geologic formations that underlie the project area. Drilling operations are expected to require 126 days/well. Thus, total project duration would be approximately 378 days assuming that the three (3) proposed wells are drilled consecutively. All three wells will be tested for natural gas and/or crude oil.

SCPI proposes to install, maintain and test blowout prevention (BOF) systems to assure well control throughout the project period. Oil-contaminated drilling muds and cuttings will be transported to shore for disposal at the Casmalia or other appropriate disposal site; non-contaminated muds and oil-free and cleaned cuttings will be discharged to the ocean in accordance with National Pollutant Discharge Elimination System (NPDES) permit requirements.

Well testing will be performed in order to determine flow and composition characteristics of the hydrocarbon reservoir and to determine if a subsea wellhead or platform type of completion is feasible. Up to 24 hours of flaring the produced gas to the atmosphere may be required for each well. Total flaring will not exceed 35 million cubic feet (MMCF) per well. This flaring will be performed in accordance with

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procedures approved by the Santa Barbara Air Pollution Control District. In addition, oil production from zones tested is anticipated to be approximately 2000 - 3000 barrels of liquid (water and oil mixture) per day from each well. A total production of approximately 350 barrels/well of oil condensate is expected while testing the Matilija Formation.

SCPI has developed contingency plans for potential oil spill and hydrogen sulfide gas. Critical operations and curtailment plans have also been developed which identify various critical operations and specify the conditions under which such operations would not be started.

C. ENVIRONMENTAL IMPACTS/MITIGATION

1. Geology

Geologic processes that could result in significant environmental impacts are associated with seismic groundshaking. Other processes such as fault rupture, liquefaction, landsliding, turbidity currents, tsunamis, gas-charged sediments, erosion, uplift, and subsidence should not produce significant impacts within the site environment. A 7.5 magnitude event on the Santa Ynez fault, located about 9.9 km (6.2 miles) from the site, and a 5.9 magnitude quake on the southern frontal fault of the Molino trend would be capable of producing ground accelerations at the site on the order of 0.4 to 0.7 g and would probably have the greatest effect on the site. Proper engineering design, considering the maximum credible earthquake, is considered sufficient mitigation.

2. Air Quality

Emissions associated with the proposed resumption of drilling activities by SCPI in the Molino field of shore Santa Barbara County would occur in two phases - actual drilling activities and testing for recoverable quantities of gas and/or oil. Drilling activities would include movement and positioning of the drilling unit (move-in), drilling, casing, cementing and move-out. The majority of air emissions associated with drilling would occur either at the offshore drilling site or in an area between the offshore site and the adjacent port areas (due to transit of the support vessels and the drilling rig). Emissions resulting from the testing of gas and/or oil would occur at the drilling unit. The emission levels associated with drilling activities would vary considerably, depending on the operation; however, emissions resulting from gas and/or oil testing would be relatively constant during the period of actual well flow.

Air quality modeling was performed for  $\text{NO}_2$ ,  $\text{SO}_2$ , and ozone ( $\text{O}_3$ ), considering the SCPI proposed drilling program and other recent operations (specifically

those of Phillips and EXXON). Particulate matter emissions for SCPI proposed activities and Phillips activities were almost identical to the  $\text{SO}_2$  emissions for the same equipment and activity, and thus particulate levels for SCPI's operation are derived from the  $\text{SO}_2$  predicted impacts.

For nitrogen oxides, the predicted annual impact of SCPI's proposed activity is  $2 \text{ ug/m}^3$ . The annual cumulative impact is predicted to be  $5 \text{ ug/m}^3$ , occurring at receptor 3 (see Figure 4-1 for location of receptor 3). Even when combined with an  $\text{NO}_2$  background value of  $19 \text{ ug/m}^3$  ( $5 + 19 = 24 \text{ ug/m}^3$ ), this impact is well below the annual standard of  $100 \text{ ug/m}^3$ .

The short-term (1-hour) worst-case impact forecast for nitrogen dioxide is estimated to be  $0.28 \text{ ppm}$  ( $535 \text{ ug/m}^3$ ), consisting of  $0.17 \text{ ppm}$  of generated  $\text{NO}_2$  and  $0.11 \text{ ppm}$  of background  $\text{NO}_2$ . This resultant level is greater than the 1-hour California standard for  $\text{NO}_2$  of  $0.25 \text{ ppm}$  ( $470 \text{ ug/m}^3$ ). Mitigation measures will be provided for this impact.

Impacts of  $\text{SO}_2$  were predicted to be minimal. The predicted concentration of  $59 \text{ ug/m}^3$  for the worst-case hourly averaging period, respectively, and  $4 \text{ ug/m}^3$  for the 24-hour averaging time would both be well below the applicable California standards of  $1310 \text{ ug/m}^3$  1-hour, and  $131 \text{ ug/m}^3$  over 24 hours. The Federal 24-hour standard of  $365 \text{ ug/m}^3$  would also be met.

The predicted TSP impacts resulting from the SCPI operation are predicted to be well below the applicable standard. The 24-hour average impact would be similar in concentration to the  $\text{SO}_2$  impact, less than  $1 \text{ ug/m}^3$ , which is well below the California standard of  $100 \text{ ug/m}^3$ . The predicted annual TSP impact would be even less than the 24-hour predicted impact which is well below the state and federal standards of  $60 \text{ ug/m}^3$  and  $75 \text{ ug/m}^3$ , respectively.

The predicted 1-hour maximum concentration of ozone with the addition of SCPI's activities is  $124 \text{ ug/m}^3$ . The  $124 \text{ ug/m}^3$  impact is less than the maximum 1-hour national standard of  $240 \text{ ug/m}^3$  and the California oxidant standard of  $200 \text{ ug/m}^3$ , so no exceedances are predicted due to SCPI's proposed activity.

The primary mitigation measure will be a nitrogen oxide emission reduction program at the SCPI Molino Gas Plant. Upon review of SBAPCD Rule 205.C, the district has determined that only nitrogen oxides emissions need to be offset for this project. The calculated nitrogen oxide emissions produced at the rig and by vessel serving the rig are 582 pounds per day. Rule 205.C requires a 1.2 to 1 offset of the project emissions. To achieve the required reduction, a 1100 horsepower internal

combustion engine compressor will be replaced by an electric motor driven compressor and the two remaining internal combustion engine compressors will be fitted with catalytic converters. The resulting nitrogen oxide reduction will be 713 pounds per day (15 pounds per day more than required to meet Rule 205.(c)).

3. Oceanography/Water Quality

Oceanographic parameters of the Molino area are not expected to be significantly impacted by the proposed exploratory program. The physical behavior of currents, tides, and waves in the project area will not be affected.

Impacts to water quality will occur from discharges of drilling muds and cuttings, thermal discharges, and discharge of wastewaters. However, these impacts have been determined to be minor in nature.

More significant are the impacts that could result from the spillage of oil. Such impacts include reduction in dissolved oxygen content of seawater, reduction in light transmission and penetration, and creation of odors. Oil-spill cleanup activities are partially effective in removing spilled oil from the environment and thus reducing the adverse effects of the oil spill. However, the cleanup procedure itself can have adverse effects. The implementation of cleanup activities should consider these potential impacts and employ those which result in the least overall adverse impacts of both oil-spill and cleanup.

4. Marine Biology

Potential impacts of the proposed exploratory program can be separated into those resulting from routine (day-to-day) activities associated with drilling, testing, and recovery, and those due to a catastrophic event such as a well blowout or oil spill. Organisms inhabiting the benthic environment near the proposed well site will be subjected to the greatest impacts from day-to-day operations since the drilling unit footings will cover over about 106 m<sup>2</sup> of bottom habitat, and the discharge of muds and cuttings will cover over additional bottom areas. The effects of bottom coverage is not expected to be significant since the material discharged is similar in particle size to the existing environment and benthic organisms would be able to migrate through it or to recolonize it. However, SCPI has agreed to conduct a benthic monitoring program and attempt to document changes in the benthic community brought about by drilling activities.

Clearly, the greatest potential impact of the SCPI drilling program would be expected to result from an episodic (catastrophic) event such as a well blowout resulting in gas discharge or an oil spill. Since the exploratory wells are in coastal

waters, the impact of an oil spill would most likely pose the greatest threat to the species-rich and biogeographically important intertidal and shallow-water communities. Additionally, the complicated and seasonably variable patterns of surface circulation of coastal waters would likely present containment problems if a spill occurred. The anticipated impact of a significant oil spill on the marine biological communities near the Molino Field include: 1) considerable impact to intertidal communities due to the near shore drilling location, 2) possible significant damage to subtidal communities due to reduced time for dispersion and dilution of the spill, 3) possible significant, but unquantifiable, impact to kelp communities, 4) potential lethal and sublethal effects on planktonic communities, 5) short-term direct mortalities to fishes but quick recovery of populations expected, and 6) possible significant mortalities to marine birds particularly pelagic birds.

Mitigation of oil spill impacts are related to the effectiveness of oil spill contingency plans. These have been developed for the proposed project and are supplemented with federal, state, and local provisions for oil spill cleanup.

5. Marine History/Archaeology

Three bottom surface anomalies in the area of proposed well sites were investigated for possible historic significance. This was accomplished by direct observation from a manned submersible vessel which videotaped each anomaly. Results of this survey showed that the anomalies were likely to be anchor scars and did not have any historical or archaeological significance.

6. Socioeconomics

No significant impacts are expected to occur to the existing socioeconomic structure as a result of the exploratory project. Significant impacts on fishing and kelp harvesting activities would occur as a result of an accidental oil spill. Impacts related to oil spills would be significantly lessened or alleviated by the efficient implementation of SCPI's Oil Spill Contingency Plan for the project leasehold (refer to Section 5, Oil Spill Contingency Planning).

7. Relevant Coastal Policies and Regulations

The proposed project will use existing onshore support facilities at Port Hueneume for the duration of the project. Staging of equipment and personnel would continue at Port Hueneume with no modifications required to accommodate the project. The proposed exploratory program entails no onshore activities or development. Consequently, no onshore policy conflicts or land use impacts are anticipated.

The project's compliance with coastal policies both onshore and offshore is primarily centered around the issuance of a coastal development permit by the California Coastal Commission. The granting of a coastal development permit will be evaluated in relation to the project's conformance with the policies set forth in the California Coastal Act. Detailed analysis in Section 4.7 shows compliance with all relevant policies.

8. Visual Resources

Although the project would temporarily impact with the coastal viewshed, it would not generate a long-term significant impact. Thus, the project does meet the long-range policies of Section 30251. Short-term visual impacts would be experienced to the greatest degree during the June, July and August tourist season.

As the proposed project would not produce any significant or long-lasting visual impact during normal operations, no mitigation measures are considered necessary. However, an oil spill would temporarily degrade the aesthetic qualities of the local coastline. Contingency plans to prevent oil from reaching the shoreline are discussed in Section 5.

9. Marine Traffic and Navigation

The potential for accidents between the temporary drilling vessel and commercial vessels is extremely small, primarily due to the location of the proposed wells. The proposed exploratory drilling area is approximately 13.7 km (8.5 miles) north of the northbound lane of the Santa Barbara Channel Vessel Traffic Separation Scheme (VTSS). Given that commercial vessels should never stray more than 1.6 km (1 mile) outside of the VTSS lanes, the probability of a vessel ramming a drilling vessel is extremely low. A potential traffic hazard exists due to vessels entering and exiting the Getty Gaviota marine terminal located approximately 3 miles west of PRC 2920.1. Vessels calling at Getty Gaviota are required to follow a direct course to and from the VTSS and should have no problem avoiding the lease area in clear weather. In adverse weather, vessels are directed to approach under constant radio contact or not at all, thus minimizing potential conflicts.

The drilling vessel is not expected to significantly impact recreational boating or fishing since the area is not generally used for commercial fishing and the harbor at Santa Barbara is some 43 km (27 miles) away.

Overall, the impact of the proposed project on marine traffic and navigation are minimal and do not appear to present unacceptable increases in risks associated with ongoing marine activities in the project area. However, there are a number

of actions which could further reduce risks. These are primarily in the form of advance warnings to marine vessel operators, including fishermen which SCPI intends to do.

D. ALTERNATIVE OF THE PROPOSED PROJECT

Alternatives to the proposed exploratory program include withdrawal or denial of the project application ("no project"), delay of the action, modifications to the proposed drilling methods, alternative drilling locations or drilling of less than three exploratory wells.

Elimination of the project proposal would result in complete absence of any environmental impacts detailed in Section 4 of this document. However, the project environs would continue to be modified by natural processes, along with current adjacent hydrocarbon exploration activities and uses.

Deferring action on the proposed project would result in a delay, and not mitigation, of all related impacts, both positive and negative in nature, unless significant technological changes occur in the interim. If exploration led to the commercial extraction of the resources, postponement could result in an increase in consumption of other fuels (ex., coal) with an associated increase in air pollutant emissions due to the compositional and combustion characteristics of this fuel. Such emissions would not occur in the study area, however, and are considered minor. Also, postponement of the action would not facilitate the acquisition of knowledge concerning the proven and strategic reserves of the lease and would reduce competitive opportunities.

Selecting alternative drilling locations within the subject lease tract would not substantially alter project impacts, unless particular drilling site-specific impacts were to be avoided. However, the particular drilling sites proposed were selected on the basis of sophisticated analyses as offering the best prospects for successful exploration, and analyses conducted for this supplemental EIR have not revealed any significant impacts that could be avoided by employing alternative sites.

Drilling of less than three wells may provide a less than desirable sampling of the lease's hydrocarbon potential. This alternative may reduce the impacts described in Section 4 to some degree, particularly air quality.

Onshore disposal of all muds and cuttings (as an alternative to ocean discharge of uncontaminated muds and cuttings and onshore disposal only of oil-contaminated materials) would avoid any potential impacts of these discharges on biota and water quality. However, onshore disposal would pose potential impacts related to onshore and offshore waste transport and handling, increased air pollutant emissions from barging and truck hauling, increased fuel usage, increased marine vessel traffic and increased port congestion.

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E. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

The proposed exploratory program will not result in significant growth-inducing impacts related to the identification of recoverable hydrocarbon resources because the project would involve very little, if any, population in-migration. Potential growth inducement (individually or cumulatively) from possible future proposals for petroleum exploration/production by SCPI, by other lessees of State Tidelands oil and gas leases, and/or by lessees of federal tracts in the Santa Barbara Channel will be addressed in the environmental review process specific to each of these proposed projects.

F. UNAVOIDABLE ADVERSE IMPACTS

Unavoidable impacts will be localized in scale and will last only as long as the project (approximately 373 days). The unavoidable impacts are as follows:

1. The project as proposed will result in the use of substantial amounts of fuel per day by the drilling unit, with additional fuel necessary to power support vessels. However, the potential for discovery and extraction of future hydrocarbons could potentially and indirectly mitigate this short-term impact.
2. The project as proposed would potentially expose the drilling crew or the drill rig to vibratory ground motion which is the only geologic hazard that might produce significant impacts requiring mitigation. However, the application of proper engineering design, considering the maximum credible earthquake, should provide sufficient mitigation of this impact.
3. In the event of an accidental oil spill, habitat for marine plants and animals could be substantially diminished. Since the exploratory wells are in coastal waters, the impact of an oil spill would pose the greatest threat to the species-rich and biogeographically important intertidal and shallow-water communities. Additionally, the complicated and seasonally variable patterns of surface circulation of coastal waters would likely present containment problems if a spill occurred. Mitigation of these impacts will be provided by the proper design and operation of blowout prevention equipment, adequate training of drilling personnel in emergency procedures. Further, and assuming an actual discharge of oil into the marine environment, the application of oil spill containment and cleanup contingency plans specified in Section 5 and Appendix A of this document will serve as additional mitigation of impacts. However,

as noted in Section 4.4, complete protection of marine organisms and habitat from hydrocarbon contamination is not possible.

4. Project discharges of uncontaminated drilling muds and cuttings, treated sewage and cooling water would have a minor, localized and temporary impact on water quality, chemical oceanography and marine biota. Onshore disposal of muds and cuttings would mitigate onsite impacts of disposal but would create new impacts in the transport and handling of the wastes and their onshore disposal. Other mitigation measures for onsite disposal include adherence to National Pollutant Discharge Elimination System (NPDES) permit requirements which would require SCPI to monitor benthic environments in the Moïno field to document changes to the benthic organisms.

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