

MINUTE ITEM

This Calendar Item No 24  
 was approved as Minute Item  
 by the State Lands  
 Commission by a vote of 5  
 to 0 at its 4-24-81  
 meeting.

CALENDAR ITEM

24

4/81  
 W 40168  
 Kuehn

RESUMPTION OF DRILLING OPERATIONS  
 PIERPONT AREA  
 VENTURA COUNTY

LESSEE: Shell Oil Company  
 1200 Milan  
 Houston, Texas 77001

AREA, LAND TYPE AND LOCATION:  
 The project site is offshore tide and submerged  
 lands at the West Montalvo Offshore Field  
 (herein referred to as the Pierpont Area)  
 which is within the 5,430 acres currently  
 under State lease (PRC 3314.1). The Pierpont  
 Area is located near Oxnard, Ventura County.

PROJECT DESCRIPTION:  
 Shell Oil Company has requested authorization  
 from the State Lands Commission to drill  
 up to eight exploratory wells from either  
 a drillship, semi-submersible, or jack-up  
 drilling rig. Shell's primary objective  
 is the discovery of hydrocarbons. Shell  
 proposes to drill one initial exploratory  
 well on the lease at a location and to  
 a depth adequate to test the lease for  
 hydrocarbon accumulations. Depending upon  
 the results obtained in the initial test,  
 Shell has requested further evaluation  
 of the site by drilling up to three delineation  
 wells at this primary location. Additionally,  
 one exploratory well and up to three delineation  
 test wells may be drilled at a secondary  
 location. Shell has indicated in its application  
 that if the results are successful, a develop-  
 ment and production plan will be submitted  
 for approval prior to commencing further  
 activity on the lease.

The primary location is proposed as a deviated  
 9,800-foot True Vertical Depth (TVD) hole  
 to test the Pliocene sands at a favorable  
 structural position. The secondary location  
 is designed to test the Monterey and Sespe  
 section above the Oak Ridge Fault at an

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optimum position in a possible separate fault block. The three contingent test wells at each location are designed to provide delineation data as warranted for economic evaluation of the prospect. The length of time needed to complete the project will range from 25 days to 125 days depending on the results at each well and the final number of wells. Shell proposes to install, use, maintain, and test blowout prevention (BOP) equipment in a manner necessary to assure well control throughout the drilling and abandonment of the test wells. A low solids, gas-free, seawater gel mud will be maintained using a high-speed shale, shakers, desanders, desilters, and degassers. Oil-contaminated cuttings and contaminated liquid mud will be hauled to shore for disposal in an approved disposal site. Oil-free mud and cleaned drill cuttings will be discharged to the ocean, in accordance with an NPDES permit. At the conclusion of all testing, a decision will be made regarding final completion as a temporarily abandoned or a permanently abandoned test. All abandonment procedures will be in accordance with State Lands Commission regulations.

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.

OTHER PERTINENT INFORMATION:

1. A final EIR was prepared for the Commission by Chambers Consultants and Planners pursuant to CEQA and implementing regulations.

The final EIR for this project is on file in the principal office of the Commission, and is incorporated by reference as though fully set forth herein. An Executive Summary of the environmental document is attached hereto as Exhibit "B".

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As more fully discussed in the final EIR, there are some elements of the existing environment that could be significantly impacted by the proposed project. The major effects of the project that may have a significant impact include: Geologic and geophysical considerations, air quality, marine biology, and marine traffic.

Geologic and geotechnical considerations - Vibratory ground motion is the only geologic hazard that might produce significant impacts requiring mitigating procedures. The proposal will include proper engineering design by Shell that will give consideration to the maximum credible earthquake. Blowout prevention equipment, hydrogen sulphide gas safety procedures and oil spill contingency plans will be provided and adhered to by Shell throughout the entire project.

Air Quality - Construction and operational phases of the project should not produce emissions that exceed limits prescribed by the Federal, State and local agencies. Shell will have to comply with air quality standards of those agencies having jurisdiction.

Marine Biology - Potential impacts of the proposed project on marine biology consists of those resulting from 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. The possibility of a significant oil spill associated with the offshore drillships exists even though the possibility is low. Mitigation for oil spills is best accomplished by ensuring that they do not occur through strict enforcement of Commission regulations. Marine biology impacts are dependent on the size and duration of a spill. Any adverse impacts

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that may occur would tend to be short-term in duration.

Marine Traffic measures taken to reduce collision risks include:

- a) Coast Guard approved navigation aids.
  - b) Distinctive markings for early visual identification.
  - c) Notification of marine interests.
2. The project is situated on State land identified as possessing significant environmental values pursuant to PRC 6370.1 and is classified in a use category, Class B, which authorizes limited use. Staff has coordinated this project with those agencies and organizations which nominated the site as containing significant values. Mitigation measures have been included in the project to provide for the protection of the significant environmental characteristics identified.
  3. The EIR contains an adequate analysis demonstrating how the proposed project is fully consistent with the Coastal Act and the Commission's Coastal Regulations.
  4.
    - a) Approval of Shell's application would be conditioned on an amendment to Lease PRC 3314.1 to provide that the lessee comply with the Commission's regulations in effect on April 29, 1981.
    - b) Approval also is sought for an amendment to Lease PRC 3314.1 to allow the discharge to the ocean of drill cuttings and drilling muds which are free of oil and materials that are deleterious to marine life. Such discharge is currently prohibited by the

lease, but recent amendment to Section 6873(b) of the P.R.C. allow for such discharge if the activity is under the authorization of a Regional Water Quality Control Board. Shell must obtain a permit from the Central Coast Regional Water Quality Control Board before such ocean discharge would be allowed. The waste discharge permit provides specific discharge prohibitions, limitations and requires compliance with a monitoring and reporting program established by the Regional Board.

AGREEMENT FOR THE PROTECTION OF THIRD PERSONS:

Staff has prepared agreements additional to present lease requirements and acceptable to the lessee, affording increased protection to third persons for any damages arising from operations conducted under the lease. These agreements provide:

1. Shell Oil Company will furnish the State Lands Commission with a certificate of insurance in the amount of \$10 million, evidencing insurance against liability for damages to third persons.
2. Procedures shall be established for the prompt processing of all claims and the prompt payment of uncontested claims.
3. To facilitate the settlement of contested claims by third persons without the necessity of litigation, Shell will agree to mediation procedures approved by the Executive Officer after consultation with the Office of the Attorney General.

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

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT AN ENVIRONMENTAL IMPACT REPORT (EIR No. 281) HAS BEEN PREPARED BY THE STATE LANDS COMMISSION PURSUANT TO THE PROVISIONS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND SUCH DOCUMENT WAS REVIEWED AND CONSIDERED.

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2. FIND THAT THE FOLLOWING MITIGATION HAS BEEN INCORPORATED INTO THE PROJECT TO AVOID SIGNIFICANT ENVIRONMENTAL EFFECTS IDENTIFIED IN THE FINAL EIR.
  - A. GEOLOGIC AND GEOTECHNICAL CONSIDERATION - REQUIREMENTS HAVE BEEN INCORPORATED INTO THE PROJECT TO MITIGATE POTENTIAL GEOLOGIC HAZARD EFFECTS OF THE PROJECT.
  - B. AIR QUALITY - MITIGATION REQUIREMENTS TO LESSEN IMPACTS ARE WITHIN THE RESPONSIBILITY AND JURISDICTION OF ANOTHER PUBLIC AGENCY AND NOT THE STATE LANDS COMMISSION.
  - C. MARINE BIOLOGY - SUFFICIENT REQUIREMENTS HAVE BEEN INCORPORATED INTO THE PROJECT WHICH MITIGATE THE POTENTIAL SIGNIFICANT EFFECTS AN OIL RELATED PROJECT MAY HAVE ON THE MARINE ENVIRONMENT AS IDENTIFIED IN THE EIR.
  - D. MARINE TRAFFIC - SUFFICIENT CHANGES OR REQUIREMENTS HAVE BEEN INCORPORATED INTO THE PROJECT WHICH MITIGATE THE POTENTIAL SIGNIFICANT EFFECTS THE PROJECT MAY HAVE ON MARINE TRAFFIC AS IDENTIFIED IN THE EIR.
3. FIND THAT ADEQUATE PROVISIONS HAVE BEEN MADE FOR PROTECTION OF THE SIGNIFICANT ENVIRONMENTAL CHARACTERISTICS IDENTIFIED PURSUANT TO SECTION 6370.1 OF THE P.R.C.
4. DETERMINE THAT THE PROJECT IS CONSISTENT WITH THE PROVISIONS OF THE CALIFORNIA COASTAL ACT OF 1976.
5. CONDITION APPROVAL OF SHELL'S APPLICATION ON ITS ACCEPTANCE OF AN AMENDMENT OF STATE OIL AND GAS LEASE PRC 3314.1 TO PROVIDE FOR COMPLIANCE WITH STATE LANDS COMMISSION REGULATIONS IN EFFECT ON APRIL 29, 1981.
6. AUTHORIZE AMENDMENT OF SAID LEASE PRC 3314.1 TO ALLOW THE DISCHARGE TO THE OCEAN OF DRILL CUTTINGS AND DRILLING MUDS WHICH ARE FREE OF OIL AND MATERIALS THAT ARE DELETERIOUS TO MARINE LIFE, PROVIDED THAT THE LESSEE OBTAIN A REGIONAL WATER QUALITY CONTROL BOARD PERMIT FOR SUCH DISCHARGE.
7. AUTHORIZE THE RESUMPTION OF EXPLORATORY DRILLING OPERATIONS ON STATE OIL AND GAS LEASE 3314.1 IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE LEASE AND THE RULES AND REGULATIONS OF THE STATE LANDS COMMISSION SUBJECT TO THE UNDERSTANDING THAT SHELL OIL COMPANY, AS OPERATOR UNDER SAID LEASES, HAS AGREED TO THE FOLLOWING PROVISIONS.

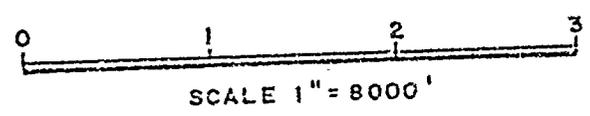
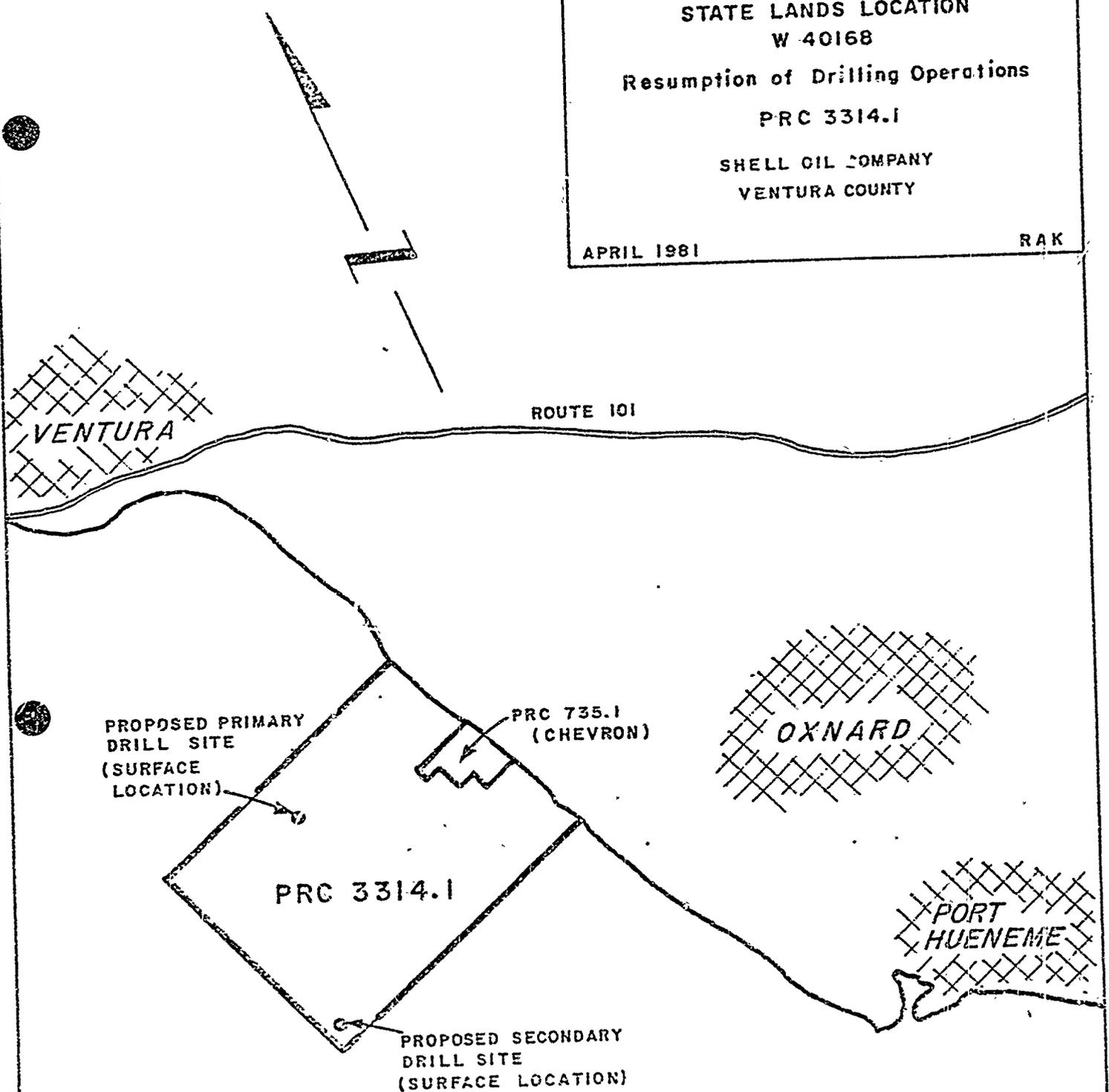
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- A. SHELL OIL COMPANY WILL FURNISH TO THE STATE LANDS COMMISSION A CERTIFICATE OF INSURANCE FROM A RECOGNIZED INSURANCE COMPANY, DOING BUSINESS IN CALIFORNIA, IN THE SUM OF \$10 MILLION, INCLUDING THE STATE AS A NAMED INSURED AND EVIDENCING INSURANCE AGAINST LIABILITY FOR DAMAGES TO THIRD PERSONS ARISING OUT OF ANY AND ALL DRILLING ACTIVITIES UNDER SAID LEASES--WHICH CERTIFICATE SHALL NOT BE CANCELABLE EXCEPT UPON 30 DAYS NOTICE, AND SHELL OIL COMPANY SHALL AGREE TO KEEP A CERTIFICATE OF INSURANCE MEETING THE ABOVE REQUIREMENTS IN EFFECT AT ALL TIMES UNTIL ALL DRILLING FROM SAID LEASES SHALL HAVE TERMINATED AND ALL WELLS HAVE BEEN PROPERLY ABANDONED IN THE MANNER REQUIRED BY LAW.
- B. SHOULD ANY EVENT OCCUR CAUSING A SUBSTANTIAL NUMBER OF CLAIMS FOR DAMAGES TO BE FILED AGAINST SHELL OIL COMPANY AS A RESULT OF OPERATIONS UNDER SAID LEASE, SHELL OIL COMPANY SHALL, WITHIN 10 DAYS AFTER SUCH EVENT, CAUSE TO BE OPENED, OR OPEN, A CLAIMS OFFICE WITHIN THE CITY OF VENTURA STAFFED WITH SUFFICIENT PERSONNEL AND AUTHORITY TO PROCESS ALL CLAIMS AND TO SETTLE ALL UNCONTESTED CLAIMS - BARRING UNUSUAL CIRCUMSTANCES, THE STAFFING OF SAID OFFICE SHALL BE SUFFICIENT TO PROCESS ALL CLAIMS AND SETTLE ALL UNCONTESTED CLAIMS WITHIN 60 DAYS OF THE ESTABLISHMENT OF SAID OFFICE;
- C. ALL DRILLING SHALL BE CONDUCTED UNDER SAID LEASE IN ACCORDANCE WITH APPLICABLE LAW, THE RULES AND REGULATIONS OF THE STATE LANDS COMMISSION AND THE DIVISION OF OIL AND GAS, AND AS REFERRED TO OR DESCRIBED IN THE FINAL ENVIRONMENTAL IMPACT REPORT RELATING TO EXPLORATORY DRILLING OPERATION BY SHELL OIL COMPANY, STATE OIL AND GAS LEASE PRC 3314.1 ADOPTED BY THE STATE LANDS COMMISSION;
- D. SHELL OIL COMPANY SHALL IMPLEMENT AND MAINTAIN PROPERLY AND EFFICIENTLY THE OIL SPILL CONTINGENCY PLAN ON FILE IN THE OFFICE OF THE COMMISSION;
- E. TO FACILITATE THE SETTLEMENT OF CONTESTED CLAIMS BY THIRD PERSONS WITHOUT THE NECESSITY OF LITIGATION, SHELL OIL COMPANY WILL AGREE TO MEDIATION PROCEDURES APPROVED BY THE EXECUTIVE OFFICER AFTER CONSULTATION WITH THE OFFICE OF THE ATTORNEY GENERAL.

STATE LANDS LOCATION  
W 40168  
Resumption of Drilling Operations  
PRC 3314.1  
SHELL OIL COMPANY  
VENTURA COUNTY

APRIL 1981

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## Section 1

## EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) has been prepared under a contractual agreement with the State Lands Commission in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (PRC Sec. 21000 et seq.), State EIR Guidelines (14 California Administrative Code Regulations Art. 10, Div. 3, Title 2), and the rules and regulations of the State Lands Commission.

## 1.1 PROJECT DESCRIPTION

From either a drillship, semi-submersible, or a Jack-up drilling rig, Shell Oil Company proposes to drill up to eight exploratory wells on the 5,340-acre State of California Lease PRC 3314.1 offshore Ventura County in the Santa Barbara Channel. Shell Oil's primary objective is the discovery of hydrocarbons. Shell proposes to drill one initial exploratory well on the lease at a location and to a depth adequate to test the lease for hydrocarbon accumulations. Depending upon the results obtained in the initial test, Shell has requested further evaluation of the site by drilling up to three delineation wells at this primary location. Additionally, one exploratory well and up to three delineation test wells may be drilled at a secondary location. Shell has indicated in their application that if the results are successful a development and production plan will be submitted for approval prior to commencing further activity on the lease.

The primary location is proposed as a deviated 9,800-foot True Vertical Depth (TVD) well to test the Pliocene sands at a favorable structural position. The

secondary location is designed to test the Monterey and Sespe section above the Oak Ridge Fault at an optimum position in a possible separate fault block. The three contingent test wells at each location are designed to provide delineation data as warranted for economic evaluation of the prospect. The drilling time on the lease will range from 16 days to 187 days depending on the results at each well and the final number of wells. Shell proposes to install, use, maintain, and test blowout prevention (BOP) equipment in a manner necessary to assure well control throughout the drilling and abandonment of the test wells. A low solids, gas-free, seawater gel mud will be maintained using a high-speed shale, shakers, desanders, desilters, and degassers. Oil-contaminated cuttings and contaminated liquid mud will be hauled to shore for disposal in an approved disposal site. Oil-free mud and cleaned drill cuttings will be discharged to the ocean, in accordance with the NPDES permit. At the conclusion of all testing, a decision will be made regarding final completion as a temporarily abandoned or a permanently abandoned test. All abandonment procedures will be in accordance with State Lands Commission regulations and will commence upon obtaining their approval.

## 1.2 ENVIRONMENTAL IMPACTS

While this document discusses impacts on all segments of the environment, attention has been focused on the major issues:

- Geologic and geophysical evaluations
- Air quality
- Marine biology
- Archaeologic and historic resources
- Marine traffic
- Oil spill projections and contingency

### 1.2.1 Geologic and Geophysical Considerations

Seismic-induced ground shaking is the only geologic hazard to the drill rig. The probability of any significant earthquake occurring (more than magnitude

6) during the relatively brief period the drill rig will be on the site, is extremely low. Maximum expected acceleration at the Pierpont site is 0.37 g with a duration of 24 seconds. The jack-up rig examined for this project is expected to survive such ground shaking (Martin, 1980).

Shear of the well by fault slippage can be reduced to an insignificant possibility if the wells avoid known faults. If they do cross faults, the drilling-testing plan outlined by Shell should be sufficient to minimize any danger.

Freshwater aquifers will be protected if the wells are properly cased and cemented through the upper 600 m of strata as planned.

### 1.2.2 Air Quality

Potential impacts on ambient air quality have been assessed by determining the atmospheric emissions associated with the proposed exploratory drilling by Shell at the Pierpont Prospect in Ventura County. Atmospheric dispersion modeling was conducted to determine whether there is any significant onshore impact expected from the proposed drilling. Sources of pollutants during the project include both the diesel generators that supply power for drilling, propulsion, pumping, and other uses aboard the drillship, and mobile sources such as supply vessels, crew boats, standby boats, helicopter, and land-based vehicles which move personnel, equipment and materials to and from the drilling site.

NMHC,  $\text{NO}_x$ ,  $\text{SO}_x$ , and TSP 1-hour concentrations were determined at 0.5-mile intervals along the plume centerline. The maximum 1-hour predicted increase in NMHC would be  $9 \mu\text{g}/\text{m}^3$ . If the worst-case combination of meteorology and emissions persisted for 3 hours, then this concentration would be 5 percent of the Federal 3-hour standard of  $160 \mu\text{g}/\text{m}^3$ . This increase would occur approximately at the shoreline.

The maximum hourly concentration increment of  $\text{NO}_2$  is  $162 \mu\text{g}/\text{m}^3$ , which is less than one-third of the California 1-hour  $\text{NO}_2$  standard of  $470 \mu\text{g}/\text{m}^3$ . This value is expected to occur at the shoreline. This concentration increment would be

added to the existing  $\text{NO}_2$  concentration of  $211 \mu\text{g}/\text{m}^3$ . This concentration increment would be a significant addition to the existing  $\text{NO}_2$  concentration in the area and may interfere with the maintenance of the State 1-hour  $\text{NO}_2$  Ambient Air Quality Standards (AAQS). It is important to note that the predicted 1-hour increase of  $162 \mu\text{g}/\text{m}^3$  of  $\text{NO}_x$  is the result of a number of simultaneous worst-case occurrences. The probability of the chosen meteorological conditions (direct onshore winds, low wind speeds, very stable atmosphere) coinciding with an hour when on-rig emissions would be at maximum and while all support vessels would be operating at the drilling rig would be very low. It is important to note that  $\text{NO} \rightarrow \text{NO}_2$  conversion is not taken into account. By using the conversion factor, this value of  $162 \mu\text{g}/\text{m}^3$  will be much lower. The predicted annual concentration increment of about  $1 \mu\text{g}/\text{m}^3$  is far below the Federal  $\text{NO}_x$  standard of  $100 \mu\text{g}/\text{m}^3$ .

Onshore impacts of  $\text{SO}_x$  are expected to be minimal for all averaging periods. The annual average value of less than  $0.1 \mu\text{g}/\text{m}^3$  onshore would be well below all applicable California and Federal AAQS. No interference with the maintenance of any  $\text{SO}_x$  standard in Ventura County is expected as a result of the proposed project.

The predicted 1- and 8-hour CO concentration increases are negligible. Therefore, it is not expected that CO emissions from the proposed project would have any significant onshore effect.

As is the case with  $\text{SO}_x$  and CO, the modeled hourly increment of  $5 \mu\text{g}/\text{m}^3$  and annual increase of  $0.1 \mu\text{g}/\text{m}^3$  for TSP are well below the daily California standards of  $100 \mu\text{g}/\text{m}^3$  and the annual State AAQS of  $60 \mu\text{g}/\text{m}^3$ . However, due to the fact that there is an existing violation of the California annual standard for TSP in the Ventura County area, the expected increases may minimally add to the problem.

Besides the routine emissions from the project activities, no considerable hydrocarbon emissions could result from the project, except due to a major oil spill during the drilling stage. Studies of air quality impacts from known spills have not shown any measurable air quality degradation. Nevertheless,

theoretical modeling studies of large oil spills (6,000 to 8,000 barrels) in southern California waters have predicted ozone impacts from 0.17 ppm to 0.60 ppm (Stage III episode levels). It is reasonable to assume that a large project spill could conceivably cause the California 1-hour ozone standard of 0.10 ppm to be exceeded.

1.2.3 Marine Biology

Impacts to the local biota during normal exploratory drilling operations could come from the placement and removal of the drilling rig, boat traffic to and from the rig, increased noise and activity in the project area, the discharge of cuttings, mud and treated sewage, and discharge of seawater of greater than ambient ocean temperature.

The most direct marine impacts of Shell's proposed exploratory program will be on benthic biota in the vicinity of the test wells. The installation of the drilling vessel will kill or displace some organisms in the immediate area and temporarily increase turbidity for a small distance around the rig. The presence of the drilling vessel may attract fishes which might forage on the benthic fauna. The discharge of drill muds and cuttings will also impact benthic organisms in the project area. Benthic organisms living in the immediate area of the cuttings deposits will be buried. Those in the surrounding vicinity will be subjected to the effects of increased turbidity. The presence of the cuttings deposits will change the relief of the bottom, and cuttings in the sediment will alter the nature of the sediment for benthic organisms.

Planktonic organisms could be affected by the substances discharged from the drilling rig. The turbidity plume from the on-site disposal of drilling muds could decrease phytoplankton photosynthesis in the immediate area by obstructing light penetration within and immediately below the plume. The turbidity may also have a smothering effect on some zooplankton species in the plume area. The discharge of treated sewage may have small, localized impacts such as the stimulation of phytoplankton productivity around the discharge points due to increased nutrients or depression of photosynthesis by chlorine in the effluent.

Potential fishing space will be temporarily lost at the site occupied by the drilling rig. Marine mammals passing through the project area could be affected by the noise, boat activity, and turbidity.

While an oil spill during exploratory drilling is unlikely, such a spill would have the greatest potential impacts of the proposed drilling program to the biological communities in the project area. An oil spill could damage significant biological resources over a potentially wide area.

#### 1.2.4 Marine Traffic

Primary areas of potential impact related to the proposed drilling activities, with respect to marine traffic and navigation, are the movement of tankers to and from the nearby offshore marine terminals and the high level of recreational fishing and boating from the nearby marinas. Adverse impacts of the proposed drilling operation on vessel traffic and navigation are minimal, and they can be further reduced by actions that diminish the human error component of risk-exposure situations. Specific actions recommended are advanced notice and warning to vessel operators.

#### 1.2.5 Archaeology and Historic Resources

No isolated artifacts are identifiable in the records nor are any expected. No submerged or buried landforms of archaeological significance are identifiable. No shipwreck sites were interpreted from the records. However, the masking of shipwrecks by oil-exploration materials on the seafloor may be a problem in the vicinities of three known well sites.

If relocation of the proposed drill sites is contemplated near an unexplained magnetic or side-scan sonar anomaly, it should be further investigated. Unconsolidated sediment cores should be examined by an archaeologist if taken by Shell during their drilling program.

### 1.2.6 Oil Spill Projections and Contingency

The probability of a major oil spill occurring during the time period that Shell will be in contact with an oil-producing zone, 2 to 3 days per well, is extremely low, but the project does add to the oil-related activities for the region, and therefore, increases the probability of a major spill for the Santa Barbara Channel

Based on the wind data, the area most likely to be threatened by an oil spill is a stretch of Ventura County shoreline from the Ventura River on the north to the Santa Clara River, and Mugu Lagoon on the south. This length of shoreline contains several biologically sensitive areas, several harbor/marinas, and water inlets for two power plants.

Local plans and capabilities for response to an oil spill associated with the proposed drilling operation, in addition to Federal (U.S. Coast Guard, etc.) and State resources, fall into three categories. These are:

1. On-scene equipment;
2. Spill response cooperative equipment and resources, and existing contingency plans; and
3. Contractor equipment and resources.

Shell has submitted an Oil Spill Contingency Plan for the Pierpont Lease as part of its exploration program to the State Lands Commission. The plan was developed by Shell to direct its company personnel in their response to an oil spill emergency and help them in their prevention and cleanup areas.

### 1.2.7 Alternatives to the Proposed Project

Alternatives to the proposed project include no project, delaying the project, and exploratory drilling from future facilities on adjacent Federal Lease CCS-P 0301 (Minerva).

A decision to abandon or deny the project would maintain the status quo. The project region would continue to be affected by all current natural processes including human activities and use. No additional impacts would be generated.

If the proposed project were delayed, further environmental review might be required. Steadily increasing costs would probably make the project more expensive, but the value of any recoverable resources would also be greater.

Determination of the recoverable petroleum reserves on the Pierpont Lease could be delayed until a time when an exploratory drilling project is implemented on the adjacent Federal Lease. Potentially, such a program may produce sufficient information concerning the Pierpont Lease to obviate the need for part or all of the proposed project.

As an alternative to the ocean discharge of oil-free drilling muds and cuttings from the vessel, these materials may be barged to Port Heuneme and trucked to an approved Class I or II-1 land disposal site. A total production of approximately 4,200 barrels of mud and 1,400 barrels of cuttings for the first well at each location is anticipated; disposal of the 5,600 barrels would require an estimated 40 truck trips. This traffic would create periodic incremental increases in the existing congestion and air pollution at the Port. If the nearest disposal site (J&J) in Oxnard were not available, each truck round trip to the next nearest site in Santa Barbara, Kern or Los Angeles Counties would approximate 200 miles. Such dump sites are in short supply and this dumping would represent an incremental increase over existing dumping (roughly 35,000 barrels per month at J&J alone) which is generally associated with muds and cuttings from onshore wells. Subsequent delineation wells at each location would produce lesser quantities of muds and cuttings for land disposal.