

MINUTE ITEM

This Calendar Item No. 36
was approved as Minute Item
No. 36 by the State Lands
Commission by a vote of 3
to 0 at its 2/27/70
meeting.

CALENDAR ITEM

36.

5/80
W 40118
PRC 2879.1
Willard

APPROVAL OF RESUMPTION OF DRILLING OPERATIONS
ON STATE OIL AND GAS LEASE PRC 2879.1,
SANTA BARBARA COUNTY

LEASE: PRC 2879.1

LESSEE: Union Oil Company of California
P. O. Box 6176
Ventura, California 93003
Attn: Mr. R. M. Barnds

COUNTY: Santa Barbara

AREA: Point Conception.

BACKGROUND: On February 1, 1969, in response to an oil and gas well blowout on Federal UCS in the Santa Barbara Channel, the State Lands Commission declared a moratorium on further drilling on State offshore oil and gas leases, and announced that no new wells would be approved pending a complete review of all offshore drilling regulations, techniques, and procedures.

On July 31, 1969, the Commission unanimously adopted a resolution rejecting the staff's recommendation that oil and gas drilling on State offshore leases be resumed. However, the resolution did provide that:

Recommendations for drilling wells on existing leases may be brought to the Commission for consideration on a well-by-well basis if there are unique circumstances that justify and require such drilling". (Minutes, State Lands Commission, 1969, p. 867.)

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In accordance with this resolution the Commission, on September 27, 1973, authorized the drilling of two wells on PRC 2879.1 from upland locations.

In December 1973, the Commission authorized (1) the adoption of procedures for drilling and production operations from existing platforms, piers, and islands on existing offshore leases, and (2) the resumption of drilling operations on a lease-by-lease basis, such resumption to be predicated upon a review by the State Lands Commission for compliance with the procedures, compliance with requirements of the California Environmental Quality Act, and upon final approval by the State Lands Commission.

Subsequent to its 1973 action, the Commission has authorized resumption of drilling operations on seven leases in the Santa Barbara Channel (Mobil's pier lease at Rincon, Cabot oil and Gas Corporation upland location at Rincon, ARCO's So. Ellwood Field leases and Chevron's Summerland and Carpinteria Field leases) and seven leases in the Orange County area (Chevron's Island Esther, Exxon's Belmont Island and Aminoil's leases in the Huntington Beach field). In addition, applications have been filed by Shell Oil Company on two leases offshore Santa Barbara County and Ventura County, and Atlantic Richfield Oil and Gas Company on two leases offshore Santa Barbara County, and this application by Union Oil Company.

PROJECT DESCRIPTION:

Union has requested authorization from State Lands Commission to resume exploratory drilling operations approximately 2.75 miles offshore Pt. Conception within Lease PRC 2879.1. The purpose of the exploratory program is to evaluate the hydrocarbon resource potential of the Monterey, Vaqueros, Gaviota, Sacate and Matilija geologic formations that underlie the lease.

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Up to four exploratory wells will be drilled over a period of 250 to 260 days from either a self-propelled drilling vessel or a self-propelled semisubmersible drilling unit. Extensive testing is planned in the potential oil-bearing formations. All fluids recovered from the drill stem tests would be separated on board the drilling vessel and shipped to shore for disposal. Gas will be metered and then flared in accordance with local air quality requirements.

Assuming the proposed exploratory project is successful in the location of commercial quantities of petroleum and natural gas, Union's ultimate objective would be to produce, process, refine and market the resource. This project is, however, limited to the exploratory phase and any subsequent production, processing or shipment of oil and gas would be subject to further Commission approval and additional environmental analysis.

ENVIRONMENTAL IMPACT:

On September 27, 1978, the Commission, after solicitation of proposals for preparation of the EIR, authorized the Executive Officer to execute a contract with Westec Services, Inc., for its preparation, with all costs to be borne by Union.

In accordance with the State Guidelines for Implementation of CEQA, a draft environmental impact report was prepared and circulated for comment. On March 1, 1980, a public hearing was held in Santa Barbara County for the purpose of receiving comments on the draft report. The comments made at the hearing and all other written comments have been reviewed by the Consultant and the staff; those comments and the necessary responses have been incorporated into the final EIR No. 255. Mitigating measures include oil spill prevention and control procedures. Such procedures include the use of appropriate safety equipment during drilling and testing operations, in strict compliance with applicable laws and regulations of Federal, State and local governmental agencies. Additionally, air quality mitigation

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measures have been developed at the request of Santa Barbara County Air Pollution Control District. The emissions inventory and offset analysis include such possible trade-offs as physical changes of existing Union emission sources, subsidizing programs for rapid transit in Santa Barbara County and cessation of marketing in the County.

Approval of Union's application would include an amendment of Lease PRC 2879.1 to provide that the lessees comply with the Commission's regulations in force on July 10, 1980. Those Regulations are being considered today in a separate Calendar Item.

The drilling vessel will be equipped with conventional drilling equipment and operations conducted in strict compliance with applicable regulations. Well control training will be conducted daily until each crew is thoroughly trained, and, thereafter at least once each week for each crew. The company drilling supervisor will be responsible for instructing all drilling crews in blowout prevention and State regulations for drilling operations. In addition, all Union and drilling contractor supervisory staff will be required to have attended, on an annual basis, a formal Blowout Control Training School.

As an added safety measure, certain specific drilling operations will be monitored by on-site inspection by Commission staff empowered to shut down drilling or testing operations, if in their judgement, safety considerations so warrant.

The staff of the Commission finds that the project will not have a significant effect on the environment.

AGREEMENTS FOR THE PROTECTION OF THIRD PERSONS:

With assistance of the Office of the Attorney General, 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:

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1. Union 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, Union 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 Summary.

IT IS RECOMMENDED THAT THE COMMISSION:

1. DETERMINE THAT A FINAL ENVIRONMENTAL IMPACT REPORT HAS BEEN PREPARED FOR THIS PROJECT BY THE COMMISSION FOLLOWING EVALUATION OF COMMENTS AND CONSULTATION WITH PUBLIC AGENCIES WHICH WILL ISSUE APPROVALS FOR THE PROJECT.
2. CERTIFY THAT THE FINAL ENVIRONMENTAL IMPACT REPORT (EIR NO. 225) HAS BEEN COMPLETED IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT OF 1970, AS AMENDED, AND THE STATE GUIDELINES AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
3. DETERMINE THAT THE PROJECT WILL NOT HAVE A SIGNIFICANT ADVERSE EFFECT ON THE ENVIRONMENT.
4. AUTHORIZE AMENDMENT OF STATE OIL AND GAS LEASE PRC 2879.1 TO PROVIDE FOR COMPLIANCE WITH STATE LANDS COMMISSION REGULATIONS IN FORCE ON JULY 10, 1980.
5. AUTHORIZE THE RESUMPTION OF EXPLORATORY DRILLING OPERATIONS ON STATE OIL AND GAS LEASES PRC 2879.1 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 UNION OIL COMPANY OF CALIFORNIA AS OPERATOR OF SAID LEASE, HAS AGREED TO THE FOLLOWING PROVISIONS:

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- A. UNION OIL COMPANY OF CALIFORNIA 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 AND PRODUCTION ACTIVITIES UNDER SAID LEASES--WHICH CERTIFICATE SHALL NOT BE CANCELABLE EXCEPT UPON 30 DAYS NOTICE, AND UNION OIL COMPANY OF CALIFORNIA SHALL AGREE TO KEEP A CERTIFICATE OF INSURANCE MEETING THE ABOVE REQUIREMENTS IN EFFECT AT ALL TIMES UNTIL ALL DRILLING FROM SAID LEASE 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 UNION OIL COMPANY OF CALIFORNIA AS A RESULT OF OPERATIONS UNDER SAID LEASE, UNION OIL COMPANY OF CALIFORNIA SHALL, WITHIN 10 DAYS AFTER SUCH EVENT, CAUSE TO BE OPENED, OR OPEN, A CLAIMS OFFICE WITHIN THE CITY OF SANTA BARBARA 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 AND PRODUCTION 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 OPERATIONS BY UNION OIL COMPANY OF CALIFORNIA, LEASE PRC 2879.1, POINT CONCEPTION ADOPTED BY THE STATE LANDS COMMISSION IN PART TWO OF THIS RESOLUTION;
- D. UNION OIL COMPANY OF CALIFORNIA 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, UNION OIL COMPANY OF CALIFORNIA WILL AGREE TO MEDIATION PROCEDURES APPROVED BY THE EXECUTIVE OFFICER AFTER CONSULTATION WITH THE OFFICE OF THE ATTORNEY GENERAL.

EXHIBIT "A"

**STATE LANDS COMMISSION
W 4018**

**Resumption of Drilling Operations
PRC 2879.I**

**UNION OIL COMPANY of CALIFORNIA
SANTA BARBARA COUNTY**

May 1980

T. 5 N., R. 34 W.

T. 5 N., R. 33 W.

35 MILES TO
SANTA BARBARA

POINT
CONCEPTION

P.R.C.
2879

P.R.C.
2725
TEXACO

P.R.C.
2726
ATLANTIC
et al

P.R.C.
2206
TEXACO

14-6

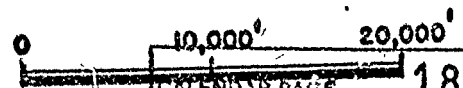
H-1

3499

400'

PROPOSED
WELLS

SANTA BARBARA CHANNEL



CALENDAR PAGE	187
MINUTE PAGE	1053

EXHIBIT "B"

EXECUTIVE SUMMARY

AGENCY JURISDICTION

This Environmental Impact Report (EIR) has been prepared under contract to the State Lands Commission, using the State EIR Guidelines which implement the California Environmental Quality Act (CEQA) of 1970, as amended.

The project, as proposed, involves actions primarily on State Tidelands, and therefore the California State Lands Commission is serving as Lead Agency.

PROJECT DESCRIPTION

The Union Oil Company of California (Union) is proposing to resume exploratory drilling operations approximately 2.75 miles (4.4 km) offshore of the Point Conception (Santa Barbara County) area. The purpose of the exploratory program is to evaluate the hydrocarbon resource potential of the Monterey, Vaqueros, Gaviota, Sacata, and Matilija geologic formations that underlie State Oil and Gas Lease P.R.C. 2879.1.

Up to four exploratory wells will be drilled over a period of 250 to 260 days from either a self-propelled drilling vessel (e.g., Coral Sea), or a self-propelled semisubmersible drilling unit (e.g., Diamond M General), and will attempt to penetrate the same hydrocarbon-bearing sands along the same structural trend which was found to be productive in the Exxon State 2879.1 No. H-1 and Union State 2879.1 No. 14-6 wells.

Extensive testing is planned in the potential oil-bearing formations. A detailed testing procedure, which will indicate the down-hole and surface equipment to be used, the intended test intervals, and the proposed testing procedures, will be submitted to the State Lands Commission staff for approval, after well logs have been run and evaluated. The maximum flow period of a drill stem test of any one particular interval will be 48 hours, and the total liquid recovery from any one interval will not exceed 750 barrels.

All fluids recovered from drill stem tests will be separated on board the drilling vessel, and shipped to shore for disposal. Natural gas production from zones tested is estimated to be from 0.29 to 0.7 million cubic feet per day. The gas will be metered, and then flared in accordance with local air quality requirements.

A detailed program abandonment procedure will be submitted to the State Lands Commission staff for approval along with the testing procedure.

Assuming the identification and delineation of commercial quantities of petroleum and natural gas, Union's ultimate objective would be to recover, process, refine and market the produced resource. However, this Environmental Impact Report is expressly concerned with the proposed exploration activities within State Lease P.R.C. 2879.1. It is not concerned with any subsequent production, processing, or shipping of the hydrocarbon resource, if development of a reservoir should proceed. Any such development would be preceded by additional environmental analysis pursuant to the California Environmental Quality Act (CEQA), with accompanying

public review and comment. In reference to growth-inducing impacts, however, a description of potential production scenarios (Section 2.6) and impacts (Section 5.0) have been included in this document for informational purposes.

ENVIRONMENTAL IMPACTS/MITIGATION

In accordance with recent amendments to CEQA stressing a focused environmental report, this document identifies the key environmental issues of the project, and utilizes the extensive data base which exists for the project area. These major issues include:

- o Geologic and geotechnical considerations
- o Air quality
- o Oil spills
- o Marine Archaeologic/historic resources
- o Marine Biology

Other issues which received analysis include:

- o Economics and fiscal impacts
- o Energy supply and demand
- o Coastal policies and land use
- o Oceanography/water quality

1. Geologic and Geotechnical Considerations

Impacts related to geotechnical factors have been analyzed for both features and processes which might occur as a result of, or be affected by, the exploratory program, and the potential effects of natural geologic hazards.

Emphasis is placed on the potential for subsidence due to oil withdrawal, reservoir pressure conditions which could lead to blowouts, conditions which might disrupt the natural hydrocarbon seep regime, induced earthquakes, and adverse seafloor sediment conditions. Site specific data was derived from a geophysical survey and geologic hazards analysis (Appendix D) performed in conjunction with the preparation of this document.

The results of these analyses show that there are no significant hazards or adverse environmental impacts associated with the exploratory operations.

Analysis of geologic processes such as faulting and earthquakes, and their associated phenomena such as liquefaction, landsliding, and tsunamis, indicates that only earthquakes and possibly seafloor fault rupture appear to represent a significant potential hazard. However, because the exploratory nature of this project does not require any major engineered structures to be emplaced on the seafloor, the environmental impact of the earthquakes will be slight.

The proposed well casing program and blowout prevention equipment, along with the actual reservoir properties, should provide adequate protection against release of hydrocarbons into the ocean by blowout or hydraulic fracturing. Therefore, proper engineering design and review is considered sufficient mitigation. Also, adherence to the seismic design parameters presented for the maximum credible earthquake (Section 3.1.2.1) should provide sufficient safety factors for any earthquake activity.

2. Air Quality

Sources of air pollutants during the project result from the diesel generators which supply power for drilling, propulsion, pumping and other uses aboard the drillship, and mobile source emissions from tugboats, crewboats and supply vessels. Nominal emissions from gas flaring may result during testing of the wells.

In terms of order of magnitude, the Nitrogen Oxide (NOx) emissions from the diesel generators represent the single most important project emission source. The diesel engine NOx far exceeds the total emissions of all other pollutant species combined. Since several support activities may occur simultaneously with drilling operations, hourly NOx emissions may approach 205 pounds/hour (93 kg/hr) with a daily total of over 4,500 pounds/day (2,045 kg/day). While, due to the temporary nature of the exploratory program, there are no clearly defined emission limitation policies that affect these NOx emissions, they do in fact represent a substantial pollutant burden compared to the South Coast sub-basin estimate of 15.2 tons per day (Section 3.3). Because of the prevailing winds at the source, not all of the project-related emissions may come onshore in Santa Barbara County, but the combustion emissions from the drillship diesel generators must nevertheless be considered as causing a potentially adverse impact on County air quality.

The area of highest NO₂ concentrations should occur well offshore, approaching the California hourly NO₂ standard of 0.25 ppm, with levels as high as 0.15 ppm possibly occurring at the shoreline. It should be noted that the calculations assume steady-state, unidirectional winds, with no wind shear. To the extent that the actual meteorological conditions deviate from these assumptions during a given hour, the air quality model utilized is artificially forced to predict a conservative (over-predictive) impact.

For sulfur dioxide, the significance of the predicted shoreline impact of 0.02 ppm (40 µg/m³) was compared to the air quality degradation increment allowed under the Prevention of Significant Deterioration (PSD) guidelines for Class II areas. These areas allow for 3-hour ambient SO₂ concentrations of 512 µg/m³. With an hourly impact of less than 10 percent of the 3-hour increment, the shoreline SO₂ impact is minimal.

For other pollutant species emitted during drilling by the diesel generators, the low percentage of other species emissions compared to NOx makes their ambient air quality impact correspondingly small. Since the federal hydrocarbon air quality standard is similar in magnitude to the hourly NO₂ standard and hydrocarbon emissions are less than NOx by a factor of 30, the hydrocarbon impact from the point-source emissions is well below the applicable standard. Similarly, with CO emissions less than NOx by a factor of 7 and the hourly CO standard more than 100 times greater than the hourly NO₂ clean air levels, CO impacts are also not significant. TSP emission factors from diesel engines are unavailable, but TSP impacts are expected to be comparably small.

The potential for effective mitigation of air quality impacts is limited. Except perhaps for the waste gas flare, there is no equipment used in this operation for which an air quality permit could potentially be required. Accordingly, there are no likely requirements for specific mitigation in reference to Santa Barbara County Air Pollution Control District regulations. If drilling and support activities are planned during periods of high background pollution levels, operations could be curtailed or halted as an interim mitigation measure.

3. Oil Spills

Impacts associated with the spillage or accidental release of oil during exploratory operations could potentially impact several areas of the environment. These include effects on biological organisms, water quality, coastal land use and associated economic and recreational benefits, and air quality.

It is assumed that the primary source of a major spill (greater than 240 barrels) from this exploratory program would be that resulting from a collision of transiting shipping and the drilling vessel. As established in Appendix C of this document, the probability of such a collision with associated damage to the drillship would be 1.15×10^{-2} for the period of the exploratory program. The probability of a spill consequent to such damage is of course lower (2×10^{-3}), as is a major spill caused by the release of oil from a formation (1×10^{-3}).

For this study, it has been assumed that (1) an oil spill will approach sensitive shoreline areas (Section 4.6) within a matter of hours; and (2) natural forces which normally disperse or modify slicks will have only minimal effect on the characteristics of the spilled oil.

The primary means to mitigate the effects of oil spills is to take precautions to ensure that they do not occur. However, if spillage does take place, oil spill contingency plans are initiated. The national legal and administrative framework for oil spill response procedures is provided by the Federal Water Pollution Control Act of 1970 (PL 92-500), as amended in 1971 and 1972. In keeping with the 1972 amendments to PL 92-500 which fix liability with the spiller, both federal and state contingency plans urge industry to plan for and commit resources towards oil spill containment and removal operations. In this regard, Union Oil Company has prepared a Spill Contingency Plan for their Santa Barbara Channel operations. This regional plan has been updated and augmented by two site-specific contingency plans. In 1977, a plan was prepared for Union's onshore facilities at Point Conception and was revised in 1979. Also in 1979, Union submitted a site-specific oil spill contingency plan for the exploratory program discussed in this EIR. The plan's stated objective is to prevent pollution through careful training of personnel and to also have set procedures for implementation in the event of an oil spill.

The plan provides for use of the containment and cleanup capabilities of Clean Seas Incorporated (CSI) or other petroleum cooperatives along the California Pacific coast such as Clean Coastal Waters or the Southern California Petroleum Contingency Organization. In addition to Union, each of these cooperatives has its own detailed contingency plan. Further, suggestions have been incorporated into this document (Appendix B) in reference to enhancement of the contingency plans. Specifically, it has been recommended that additional training in the use of chemical containment and cleanup agents be provided for personnel, and a second spill control vessel and ancillary equipment be located on or near the drill ship, in order to improve spill response capabilities.

4. Archaeologic/Historic Resources

In association with a site specific magnetometry survey of the site area, one potential anomaly has been identified which cannot be traced to known features, such as abandoned wells or distinctive geologic features. Since the project area has seen extensive historical maritime activity, there is the potential that this anomaly represents an historical resource.

Since the drill site location is not within the immediate area of the unidentified magnetic anomaly, no direct mitigation is necessary.

5. Marine Biology

Impacts from the proposed exploratory drilling program can be separated into those derived from routine (day-to-day) activities and those resulting from a catastrophic event such as an oil spill. Routine activities of potential concern include transportation of personnel to and from the drilling vessel, operation of the vessel within the drilling area, processing of wastes of vessel personnel on-station, drilling of wells including cleansing and depletion of drill cuttings and drilling muds, recovery and testing of fluids from exploratory wells, and plugging and abandonment of wells. Although some limited runoff of fuel oils, lubricants, and chemicals, etc., can be expected during the drilling operations and transportation of personnel to and from the drilling vessel, potential impacts should be minimal and localized near the surface. Treatment of sewage and solid waste disposal aboard the drilling vessel will be facilitated by a Dahlogy Sewage Treatment System equipped with primary and secondary aeration capabilities. Solid waste materials will be transported to shore at Port Hueneme for disposal, and therefore should have no impact on the marine environment. The disposal of treated sewage wastes at sea will result in minor and probably insignificant inputs of nutrients; rapid dilution of discharged sewage should be accomplished by the well-mixed surface waters near Point Conception. Union Oil proposes to separate and subsequently ship to shore all fluids recovered from drill stem tests and to meter and flare gas in accordance with local air quality requirements. These procedures should result in minimal impact on the marine environment. A detailed abandonment procedure will be submitted by Union Oil to the State Lands Commission for approval, which in general, should result in only small localized impacts on marine benthic communities. The cleansing and deposition of drill cuttings and drilling muds represents the source of the most significant impact on the marine communities inhabiting the Point Conception region (particularly the benthic organisms) in reference to the routine activities of the proposed Union Oil program.

The principal impacts of the deposition of drill cuttings and drilling muds are assumed to be similar to those of dredging (although no dredging is proposed as part of this proposal), i.e., increased water turbidity and smothering of organisms, although the presence of barium and chromium in many drilling muds adds a further complication. Generally, the organisms inhabiting the benthic environment near the exploratory wells will be subjected to the greatest impact due to the discharge of the drill cuttings and drilling muds, as a portion of the ocean floor will be buried. Increased turbidity will also occur near the drilling site due to the increased presence of fine particles in the water. The particles causing this turbidity can clog the respiratory organs and feeding mechanisms of many of the marine animals inhabiting the benthic environment.

The greatest potential impact of the proposed exploratory program would be expected to result from a catastrophic event such as 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 epilithic communities.

Alterations of the benthic communities can be reduced by disposing of muds and cuttings at a site onshore. Mitigation in reference to the impacts of oil spills on biological organisms is included in regional and site specific contingency plans, and includes the protection of identified biologically sensitive areas through the application of containment and cleanup procedures developed for each specific habitat type and location.

6. Other Impacts

Impacts associated with social/cultural resources, marine traffic, energy supply and demand, oceanography and water quality, are expected to be less significant than those identified above.

Specifically, the short-term duration of the project and absence of any new permanent support facilities located onshore will preclude significant impacts in the areas of land and water use, recreational opportunities, socioeconomic structure, and aesthetics.

The mooring of a drilling vessel in navigable waters will increase from zero the probability of a ramming accident at any such location. The probability of damage to a transiting vessel operating in the Santa Barbara Channel in the vicinity of the drill ship is estimated to be about 5×10^{-6} /transit for Northbound vessels and 2.5×10^{-6} for southbound vessels. Effects of such a collision may lead to the spillage of oil. Such impacts are noted above, with accompanying mitigation measures.

While the risks associated with the preceding probability estimates appear to be acceptable, they can be further reduced by various actions which provide advance warning to vessel operators.

The proposed project will have minimal direct effect on either local, regional or national energy supply and demand structures. However, confirmation of the quantities of any identified resource may greatly assist in the allocation of future energy stocks.

Water quality-related impacts associated with muds and cuttings disposal, and thermal and wastewater discharges can be considered minor in nature, but the spillage of oil may lead to more significant effects. Disposal of muds, cuttings, and wastewater onshore will lessen any already minor impact. The implementation of oil spill containment and cleanup operations will result in mitigating associated impacts, but the effectiveness of such contingency plans are highly dependent on oceanographic and meteorological conditions at the time of the spill. Additionally, the specific physical or chemical containment and cleanup method utilized may result in further impacts within the ocean regime.

ALTERNATIVES

Alternatives to the proposed exploratory program include withdrawal or denial of the project application ("no project"), delay of the action, or modifications to the proposed drilling method.

Elimination of the project proposal would result in complete absence of any environmental impacts detailed in Section 4.0 of this document. However, the project environs would continue to be modified by natural processes, along with current activities and uses.

Deferred action would result in a delay of all related impacts. If exploration led to commercial extraction of the resource, postponement would also mean a slight increase in petroleum imports in the interim.

Two alternatives are available in reference to modifying the drilling method proposal. These include directional drilling from onshore locations, and subsea well locations. Both alternatives are considered technologically and/or economically infeasible, due to the application of such methods in reference to the specific type of drilling program proposed.