MINUTE ITEM

This Calendar Item No. _____ was approved as Minute Item No. _____ by the State Lands Commission by a vote of _____ to _____ at its _____ meeting.

CALENDAR ITEM

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4/22/82
W 40205
Willard

RESUMPTION OF
OFFSHORE EXPLORATORY DRILLING OPERATIONS
ON STATE OIL AND GAS LEASES
PRC'S 2206.1, 2725.1, AND 2955.1,
SANTA BARBARA COUNTY

LESSEE: Texaco, Inc.
3350 Wilshire Boulevard
P. O. Box 3758
Los Angeles, California 90051

AREA, TYPE LAND AND LOCATION:
State Oil and Gas Lease PRC 2206.1 was issued to Texaco on July 25, 1958 and contains approximately 3,840 acres of tide and submerged lands west of Gaviota. State Oil and Gas Lease PRC 2725.1 was issued to Texaco on May 4, 1961 and contains approximately 4,250 acres of tide and submerged lands halfway between Gaviota and Pt. Conception. State Oil and Gas Lease PRC 2955.1 was issued to Texaco on October 20, 1962 and contains approximately 4,250 acres due south of Refugio. (Location map attached).

SUMMARY:

Texaco, Inc. has submitted applications to resume exploratory drilling operations on the subject leases. The primary objective of this resumption of drilling is to explore several previously unexplored areas of each lease in an effort to locate recoverable oil and gas resources.

Texaco, Inc. proposes to use a semi-submersible jack-up rig to drill two wells in PRC 2206.1 and two wells in PRC 2725.1. Texaco plans to use a conventional drill rig at an upland location to directionally drill one well in PRC 2955.1. If exploratory tests indicate the presence of reserves in commercial quantities, up to five delineation wells may be drilled, one associated with each of the proposed exploratory wells.

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BACKGROUND: On February 1, 1969, in response to an oil and gas well blowout on the Federal OCS 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, page 862).

In December, 1974, the Commission authorized (1) the adoption of procedures for drilling and production operations from existing offshore leases, and (2) the resumption of drilling operations on a lease-by-lease basis, such resumption predicated upon a review by the Staff for compliance with these procedures and the requirements of CEQA, with final approval by the State Lands Commission.

AB 884: N/A.

PERTINENT INFORMATION:

Texaco proposes to explore and evaluate the resource potential of certain strata in structural traps located in PRC 2206.1 and PRC 2725.1, and one exploratory well from an onshore location, in PRC 2955.1. If the information obtained from these five wells warrants, up to five delineation wells may be drilled to further define the extent of each prospective reservoir. After each well is completed and all needed information obtained, Texaco will plug and abandon or suspend each well in a manner that will allow re-entry should development be considered at a later time.

Because of the similarity of environment and the proximity of the three lease areas to one another, one environmental assessment was prepared to cover all three lease area projects. A Final EIR was prepared for the Commission by Environmental Resources Group, a division of Jacobs Engineering Group Inc., pursuant to CEQA and the State EIR Guidelines. It was found that the project will not have a significant effect on the environment.

The Final EIR for this project is on file in the 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".

The project is situated on lands identified as possessing significant environmental values pursuant to P.R.C. 6370.1, and is classified in use category Class "B" which authorizes Limited Use. The project as proposed will not have a significant effect upon the identified environmental values.

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.

AGREEMENTS FOR THE PROTECTION OF THIRD PERSONS:

Staff has prepared agreements which are additions to the present lease requirements, are acceptable to the Lessee, and offer increased protection to third persons for any damages that may arise from operations conducted under the lease. The agreements provide:

1. Texaco, Inc. 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. Texaco, Inc. will agree to mediation procedures approved by the Executive Officer, after consultation with the Office of the Attorney General, to facilitate the settlement of contested claims by third persons without the necessity of litigation.

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

IT IS RECOMMENDED THAT THE COMMISSION:

1. DETERMINE THAT A FINAL EIR HAS BEEN PREPARED FOR THIS PROJECT BY THE COMMISSION, FOLLOWING EVALUATION OF COMMENTS AND CONSULTATION WITH PUBLIC AGENCIES HAVING JURISDICTION BY LAW; INCLUDING ALL RESPONSIBLE AND TRUSTEE AGENCIES.

2. CERTIFY THAT FINAL EIR NO. 301 (SCH 8101130) HAS BEEN COMPLETED IN ACCORDANCE WITH CEQA, THE STATE EIR GUIDELINES AND THE COMMISSION'S ADMINISTRATIVE REGULATIONS, AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN

3. DETERMINE THAT THE PROJECT WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND THAT MITIGATION MEASURES HAVE BEEN INCORPORATED INTO THE PROJECT TO AVOID SIGNIFICANT ENVIRONMENTAL EFFECTS IDENTIFIED IN THE FINAL EIR.

4. CONDITION APPROVAL OF TEXACO'S APPLICATION ON ITS ACCEPTANCE OF AN AMENDMENT OF STATE OIL AND GAS LEASES PRC 2206.1, PRC 2725.1 AND PRC 2955.1 TO PROVIDE FOR COMPLIANCE WITH STATE LANDS COMMISSION REGULATIONS IN EFFECT ON APRIL 22, 1982.

5. AUTHORIZE THE RESUMPTION OF EXPLORATORY DRILLING OPERATIONS ON STATE OIL AND GAS LEASES PRC 2206.1, PRC 2955.1 AND PRC 2725.1 IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE LEASES AND THE RULES AND REGULATIONS OF THE STATE LANDS COMMISSION SUBJECT TO THE UNDERSTANDING THAT TEXACO, INC. HAS AGREED TO THE FOLLOWING PROVISIONS:

   A. TEXACO, INC. 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 EVIDENCE INSURANCE AGAINST LIABILITY FOR DAMAGES TO THIRD PERSONS CAUSED BY ANY AND ALL DRILLING ACTIVITIES UNDER SAID LEASES. THIS CERTIFICATE SHALL NOT BE CANCELLED, EXCEPT UPON 30 DAYS NOTICE AND TEXACO REPLACING SAID CERTIFICATE OF INSURANCE WITH A SIMILAR ONE WHICH FULFILLS THE ABOVE REQUIREMENTS, AND SHALL BE IN EFFECT AT ALL TIMES UNTIL ALL DRILLING FROM SAID LEASES TERMINATE 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 TEXACO, INC. AS A RESULT OF OPERATIONS UNDER SAID LEASES, TEXACO SHALL WITHIN TEN 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. TO FACILITATE THE SETTLEMENT OF CONTESTED CLAIMS BY THIRD PERSONS WITHOUT THE NECESSITY OF LITIGATION, TEXACO, INC. AGREES TO MEDIATION PROCEDURES APPROVED BY THE EXECUTIVE OFFICER AFTER CONSULTATION WITH THE OFFICE OF THE ATTORNEY GENERAL;

D. ALL DRILLING SHALL BE CONDUCTED UNDER EACH LEASE IN ACCORDANCE WITH APPLICABLE LAWS, THE RULES AND REGULATIONS OF THE STATE LANDS COMMISSION AND THE DIVISION OF OIL AND GAS, AND AS REFERENCED OR DESCRIBED IN THE FINAL ENVIRONMENTAL IMPACT REPORT RELATING TO EXPLORATORY DRILLING OPERATIONS BY TEXACO, INC., STATE OIL AND GAS LEASES PRC 2206.1, 2725.1, AND 2955.1 ADOPTED BY THE STATE LANDS COMMISSION;

E. TEXACO, INC. SHALL IMPLEMENT AND MAINTAIN PROPERLY AND EFFICIENTLY THE OIL SPILL CONTINGENCY PLAN ON FILE IN THE OFFICE OF THE COMMISSION.

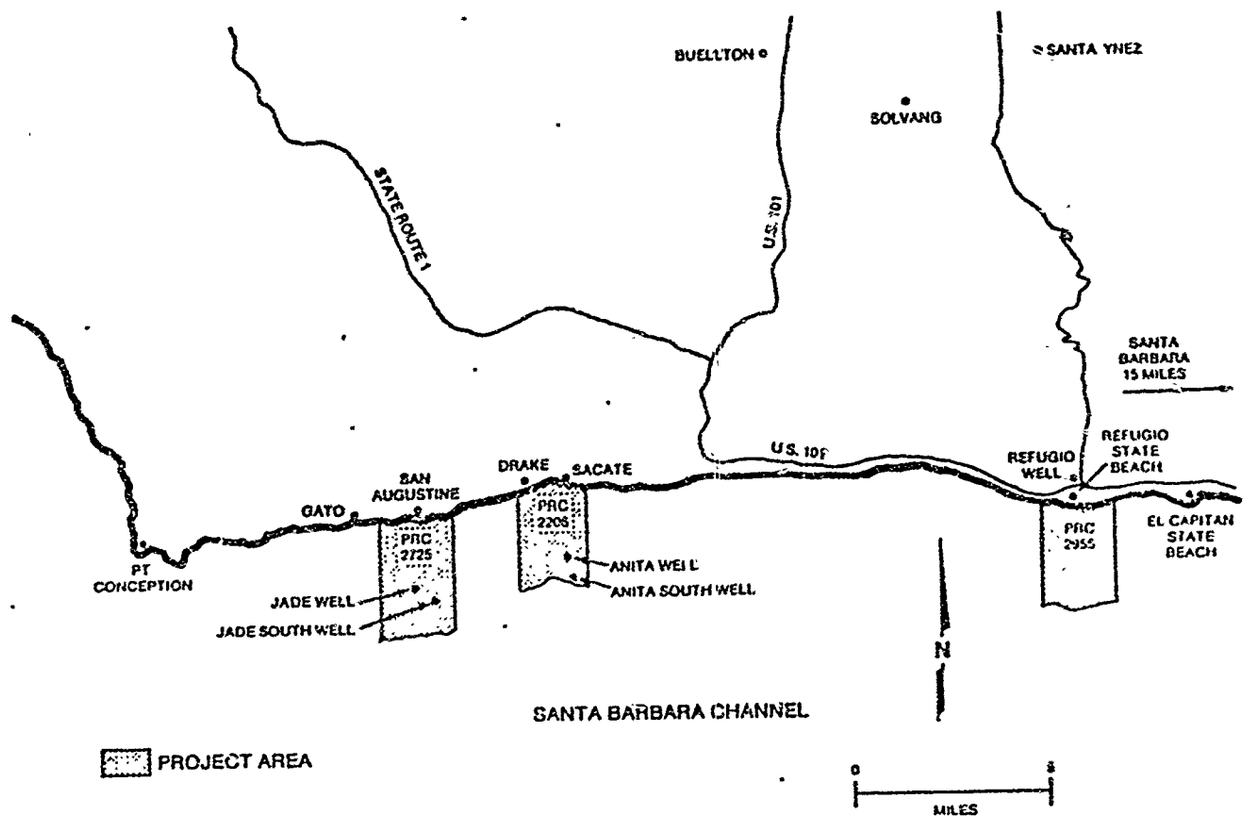

EXHIBIT "A"
STATE LANDS COMMISSION
PRC 2206,2725 & 2955
LOCATION MAPS

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EXHIBIT "B"

EXECUTIVE SUMMARY

A. INTRODUCTION

This Environmental Impact Report (EIR) has been prepared in accordance with the State EIR Guidelines implementing the California Environmental Quality Act of 1970 (CEQA). The EIR has been developed under a contractual agreement with the Lead Agency, the California State Lands Commission (SLC). It addresses the environmental impacts of exploratory drilling proposed by Texaco, Inc. on oil and gas lease areas in State Tidelands offshore Santa Barbara County.

B. PROJECT DESCRIPTION

Texaco proposes to drill five exploratory wells: four offshore wells in State Leases PRC 2206.1 and 2725.1; and a single well that would be directionally drilled from an onshore location into State Lease PRC 2955.1. The offshore wells would be drilled with mobile drilling units (e.g., drillships, semisubmersible or jack-up rigs). The onshore well would be drilled with a conventional land-based drill rig. Upon completion of short-term production testing, the proposed wells would be plugged and abandoned in accordance with SLC regulations. If exploratory tests indicate the presence of commercially recoverable resources, up to five additional delineation wells might be drilled, each associated with one of the proposed exploratory wells. It is expected that the possible offshore delineation wells would be located near the original four sites; the possible onshore delineation well would be drilled directionally from the same site as the proposed exploratory well.

The primary objective of Texaco's exploratory program is the determination of the existence of economically recoverable hydrocarbons from specific geologic formations which underlie the project area. The wells to be drilled would range in depth from 2,500 feet (760 meters) to 7,500 feet (2,300 meters). Each well would require 30 to 60 days to complete, depending primarily upon the well's depth. The entire project could require up to one and one-half years. However, this could be substantially reduced if some wells were drilled concurrently.

Texaco proposes to install, maintain and test blowout prevention (BOP) systems to assure well control throughout the project period. Oil-contaminated drilling muds and cuttings from offshore exploratory activities would be transported to shore for disposal at an approved onshore disposal site; non-contaminated muds and oil-free and cleaned cuttings would be discharged to the ocean in accordance with National Point Discharge Elimination System (NPDES) permit requirements.

Texaco anticipates that up to 15 days of production testing may be required per well. A maximum of 1,000 to 2,000 barrels (160 to 320 cubic meters) of crude oil per well could be produced during testing, with associated natural gas produced during testing being flared in accordance with Santa Barbara Air Pollution Control District requirements. [The maximum of gas

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to be flared per well would be less than one million cubic feet (283 cubic meters).] Any crude oil produced would be taken to Ventura for processing.

Project personnel would receive training in well control procedures. Texaco also has developed contingency plans to cope with possible oil spills and other potentail emergency conditions (e.g., the presence of hydrogen sulfide gas). Critical operations and curtailment plans also have been developed which identify various "critical" operations and specify the conditions under which such operations would not be started.

C. ENVIRONMENTAL IMPACTS AND MITIGATION

1. Geologic and Geotechnical Considerations

The proposed exploratory activities (both offshore and onshore) are not expected to have any significant direct effects on the geologic environment. The most significant geologic features or processes in the lease areas that might adversely affect drilling operations, and thus indirectly possibly cause adverse environmental impacts are earthquake-related (seismic shaking, fault rupture, tsunamis, liquefaction and submarine landslides). The probability of potentially damaging earthquakes occurring during the relatively short timeframe of the proposed project is considered extremely small, however.

Significant seismic shaking (peak horizontal bedrock accelerations of about 0.45g) may result from the maximum probable earthquakes on major faults in the region. The likelihood of seismic shaking-caused damage to project equipment is low; however, it could be further reduced by selecting appropriate drilling rigs and other equipment. Damage to wells or drilling equipment due to fault rupture is unlikely because none of the proposed offshore drilling sites is near a known fault. The proposed onshore Refugio well crosses a known fault. The chances of fault movement during onshore drilling activities are remote; the well could be damaged if movement occurred, however. Although the potential for liquefaction in the project areas has not been fully evaluated, the likelihood of a strong seismic event triggering liquefaction during exploratory drilling is very small. A large tsunami (seismic sea wave) could adversely affect offshore drilling activities in shallow waters. However, a major tsunami is unlikely during the relatively short project period. Drilling activities would not be expected to be affected by submarine mass-movement processes, as seafloor gradients in the project areas are low and no evidence has been found of submarine landslides or other mass-movement processes near the proposed drilling sites.

The two proposed drilling sites in the Jade Prospect (Lease PRC 2725.1) are in areas of exposed bedrock or rock covered by a thin mantle of recent sediment. This conceivably could cause problems for supporting jack-up rigs (which rest on the seafloor) or in anchoring floating rigs. Selection of drilling rigs designed to operate in such areas and appropriate foundation studies should mitigate any potential problems, however.

Gas zones may be present at depths below the proposed drilling sites. Deep gas zones might be under abnormally high pressure and could be hazardous if encountered unexpectedly. However, any adverse impacts are unlikely if

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drilling is performed in accordance with standard industry practice and applicable state regulations, and with the knowledge that gas zones may be encountered. No impacts on freshwater aquifers are expected as a result of either offshore or onshore activities.

2. Air Quality

Air emission sources would differ somewhat between proposed onshore and offshore activity sites. For the onshore drilling site, the major emission sources during site preparation/set-up and site reconditioning/move-out would be the internal combustion engines powering the heavy-duty construction equipment. For drilling and testing at the onshore site, the major source of emissions would be the engines powering the drilling rig. For offshore activities, major emission sources would be the diesel reciprocating engines generating power for drilling vessels movement/positioning, well drilling, testing, and other miscellaneous uses; and the internal combustion engines powering the support vessels (e.g. supply boats and crew boats). Support vessel emissions generated offshore would be a significant portion of total emissions and, on a maximum hourly and daily basis, would be similar in magnitude to pollutants produced by the drilling rig engines. Other emissions from offshore activities would result from the flaring of gas produced during well production testing, the loading of crude oil produced during testing, employee vehicles, and helicopter use, although emissions from these sources would be relatively insignificant.

For both onshore and offshore activities, the type of pollutant emitted, by far, in the largest quantities would be nitrogen oxides (NO_x). On an annual basis, nitrogen oxide emissions would be approximately five times greater (for offshore activities) and two times higher (for the onshore site) than that of the second highest pollutant, carbon monoxide. Daily emission levels of nitrogen oxides associated with onshore drilling may reach 168 pounds (76 kilograms) during site preparation/set-up and well abandonment/moveout, 302 pounds (137 kilograms) during drilling, and 352 pounds (160 kilograms) during testing. For offshore activities, daily nitrogen oxide emission levels may exceed 3,094 pounds (1,403 kilograms) during move-in and move-out, 3,131 pounds (1,420 kilograms) during drilling, and 2,432 pounds (1,103 kilograms) during testing. On an annual basis, emissions associated with the onshore Refugio site would be 9.5 tons (8.6 metric tons) for nitrogen oxides, 4.7 tons (4.3 metric tons) for carbon monoxide, 0.6 tons (0.5 metric tons) for sulfur oxides, 1.0 tons (0.9 metric tons) for total suspended particulates, and 1.0 tons (0.9 metric tons) for total hydrocarbons. Annual emissions from offshore drilling activities would be 229.2 tons (208.1 metric tons) for nitrogen oxides, 45.6 tons (41.4 metric tons) for carbon monoxides, 15.5 tons (14.1 metric tons) for sulfur oxides, 13.5 tons (12.3 metric tons) for total suspended particulates, and 12.7 tons (11.5 metric tons) for total hydrocarbons.

Computer simulation modeling indicates that the maximum project emissions from the onshore site would be expected to result in hourly increments up to 45 micrograms/cubic meter ($\mu g/m^3$) for nitrogen dioxide, 3 $\mu g/m^3$ for sulfur dioxide, 9 $\mu g/m^3$ for carbon monoxide, 3 $\mu g/m^3$ for total suspended particulates,

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and 3 $\mu g/m^3$ for total hydrocarbons. Annual onshore increments are expected to be insignificant. It is not expected that onshore drilling activities would result in any violations of short-term or long-term ambient air quality standards.

The two highest hourly onshore increments resulting from offshore emissions would be 247 $\mu g/m^3$ for total hydrocarbons and 134 $\mu g/m^3$ for nitrogen dioxide and would result from drilling and testing activities (at the Jade Well). It seems unlikely that the maximum three-hour non-methane hydrocarbon increment resulting from project-related emissions would cause violations of the federal three-hour standard of 160 $\mu g/m^3$. However, background non-methane hydrocarbon levels, which must be added to project pollutant increments to determine if a standards violation might occur, are not known. The modeled maximum one-hour nitrogen dioxide increment is not expected to result in violations of the California one-hour standard of 470 $\mu g/m^3$.

In terms of annual impacts, the largest project-related increment resulting from offshore drilling activities would be 0.14 $\mu g/m^3$ for nitrogen dioxide. It is not expected that a violation of the federal AAQS of 100 $\mu g/m^3$ would occur. The contribution of the project to annual ambient levels of hydrocarbons, sulfur dioxide, carbon monoxide and total suspended particulates would be insignificant (i.e., much less than one $\mu g/m^3$).

Should project emissions be subject to Santa Barbara County's New Source Review requirements, emission offsets may be required. It appears that the only pollutant potentially subject to offsets would be nitrogen oxides. The amount of project nitrogen oxide emissions potentially subject to trade-offs could be up to 200 pounds (91 kilograms) per hour for the duration of the project (maximum hourly emissions) and/or up to 94.3 tons (85.6 metric tons) per quarter.

Three hypothetical nitrogen oxide trade-off candidates were analyzed: the installation of residential insulation and solar heating devices, a vanpool program, and transportation alternatives outlined in Santa Barbara's Air Quality Attainment Plan. The usage of insulation and solar heating would result in reductions totaling 16 percent of the quarterly offsets required while implementation of the transportation alternatives could provide 30 percent of the required quarterly offsets. A vanpool program involving 489 vans transporting nearly 6,650 employees traveling 90 miles (145 kilometers) would offset 100 percent of the project's quarterly emissions. However, the feasibility of implementing a program of such magnitude is questionable. Ultimately, if offsets are required, Texaco would have to develop a trade-off package consistent with Santa Barbara County APCD regulations and policies. Such a program might include some of the candidates assessed in this study. However, other nontraditional/innovative measures not discussed here may be proposed by the applicant and accepted by the Santa Barbara APCD.

3. Oceanography

The impact of exploratory drilling on currents and tides in the project area would be limited to a negligible increase in local turbulence. Wave activity would not be impacted, although high waves and winds associated with

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severe local storms could hamper drilling operations. Ocean discharge of drilling fluids, drill cuttings, treated sewage and cooling water would be expected to have a negligible impact on the temperature, salinity and density of ambient seawater. Impacts on nutrient and dissolved oxygen levels should be minor. Rapid dilution of heavy metals and other chemical pollutants from discharged liquid materials would be expected. These discharges would have minimal impact on seawater transparency at the drill sites.

The effects of mud and cuttings discharges would be mitigated by adherence to NPDES limitations and prohibitions. Drilling muds contain primarily barite and clay, but may also include lime, sodium hydroxide, polyphosphates, silicates, iron, aluminum oxides, tannins, and ferrochrome lignosulfate (although sodium lignosulfate is used to a greater extent on the West Coast). Drill cuttings are composed of shattered and pulverized sediment and rock material. Water clarity impacts could be mitigated by discharging mud and cuttings continuously during drilling, thus avoiding large volume slug discharge and by reducing the elevation of the discharge point to as near the sea floor as possible.

4. Water Quality

The proposed exploratory activities could impact offshore water quality by the discharge of drilling muds and cuttings, by warm cooling water discharge, by discharge of treated sewage, and by various other normal operating activities. Water quality at the Refugio site would be expected to be impacted to a lesser degree due to limited effluent discharges. Offshore discharge of drilling muds and drill cuttings would not be expected to result in significant long-term elevations in the concentrations of trace metals or hydrocarbons. Significant changes in transparency, dissolved oxygen, conductivity, pH or temperature would not be expected. Any minor impacts would be located close to discharge points and would be temporary in nature. Any thermal discharges would be expected to rapidly cool to ambient temperature. The discharge of treated sewage could result in a minor increase in oxygen demand, nutrients, residual chlorine and light attenuation; however, any such effects would be highly localized and temporary in nature. The above impacts could be eliminated altogether with the disposal of all project muds and cuttings onshore. This disposal, however, would entail other significant costs and potential impacts involved in the ocean and onshore transport and handling of the materials, and in their disposal at an approved onshore site.

The most serious potentially adverse impact on offshore water quality would come in the event of a major oil spill. Oil spills could cause a temporary decrease in oxygen concentrations in the surface waters; an increase in odor and toxic components would also be expected. The implementation of federal, state, and oil company spill containment and cleanup procedures would be expected to mitigate oil spill-related water quality impacts, the extent to which would depend on the prevailing oceanographic and meteorological conditions. Care must be taken in the use of chemical dispersants for spilled oil to avoid impacts above and beyond those related to any actual oil spillage.

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At the onshore drilling site, Canada del Refugio Creek surface water would be of concern because of its value to wildlife and to the aesthetic and recreational enjoyment of Refugio State Beach. Water quality in Refugio Creek would not be expected to be significantly impacted by the proposed project. All effluent discharge would comply with applicable National Point Discharge Elimination System (NPDES) permit rquirements, and in almost all instances, would be collected and transported away from the drilling site. Construction at the site could result in a temporary minor increase in erosion and possibly an almost negligible increase in sedimentation in Canada del Refugio Creek. The proposed project would not be expected to adversely affect the existing groundwater which is highly mineralized. Any possible seepage from sumps could be mitigated through the use of polyethylene liners. Berms around the drilling site would contain any fluid spills or leaks.

5. Marine Biology

Biological impacts from the proposed offshore exploratory program can be separated into those stemming from equipment and activities associated with routine drilling operations, including discharges of waste material, and those due to a catastrophic, although unlikely, event such as a well blowout or oil spill. The most direct impact from routine operations would be from the temporary crushing, burying or displacing of benthic organisms in the immediate vicinity of the drilling sites. Disposal of drill cuttings and muds would temporarily impact organisms in the water column and benthos. Impacts would be primarily from burial, loss of habitat or increased sedimentation and turbidity. Any minor impacts from trace metals contained in drilling muds would be temporary and highly localized in nature. Drilling operations would be expected to have little effect on intertidal communities and result in minor impacts to fish or marine birds. Some marine mammals might alter their migratory routes as a result of the exploratory activities.

While the probability of a catastrophic accident such as an oil spill occurring during offshore exploratory activities may be low, significant and widespread impacts on biotic communities could result. The extent of such impacts, however, cannot be predicted because of the many variables that come into play. Sessile (non-mobile) intertidal and subtidal organisms, and diving marine birds would be the most susceptible to damage. Recovery to biotic communities from a major oil spill could take up to a number of years. Should floating oil reach the Channel Islands, piniped (seals, sea lions) breeding populations could be impacted. In addition, unique biological communities of the Channel Islands and along the mainland coastline also could suffer harm. Rare or endangered species potentially impacted in the event of a major oil spill are the California brown pelican, California least tern, Belding's Savannah sparrow and the Guadalupe fur seal.

Impacts to biota from drilling operation muds and cuttings discharges could be reduced by lowering the discharge point, thus reducing the discharge and settling area. The substitution of sodium lignosulfonate for the more toxic ferrochrome lignosulfonate would reduce any potential impacts from trace metals metals contained in drilling muds. The potential abandonment of its migratory routes by the gray whale could be mitigated by limiting drilling activities to months when whales are not migrating. The mitigation of impacts due to a

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catastrophic oil spill is a function of an effective oil spill contingency program, including methods for prevention and rapid and thorough cleanup. Careful use of chemical dispersants would be warranted.

6. Terrestrial Biology

Impacts to terrestrial fauna and flora from onsite drilling at the Refugio site would be expected to be minor. The proposed drilling site is already disturbed relative to its natural state. Routine activities would not be expected to significantly affect the limited vegetation and wildlife, including the sole oak tree on the site. Any oil-contaminated muds and cuttings would be contained and transported away from the site. Any effects from grading and clearing would be temporary and restricted to the immediate area of disturbance. No species designated as endangered, threatened or rare are endemic to the project site. Canada del Refugio Creek itself, however, has been designated as one of nine streams in Santa Barbara County deserving special attention because of its aesthetic and scientific value. The proposed project would not be expected to degrade the creek area, particularly if the drill site is bermed to contain any accidental discharges. Any potential impacts in the unlikely event of a well blowout or fluid spill could be mitigated by containment by dikes and berms around the site and immediate cleanup activities.

7. Socioeconomics

The proposed project would generate a maximum of roughly 135 jobs. No significant impacts on Santa Barbara County population or employment are anticipated; most drilling crew and subcontractor jobs would originate from outside the County, many workers are presently in similar jobs (and therefore, no new employment would be represented by project jobs), and all jobs are temporary--for the period of exploratory drilling only (or shorter). Housing impacts would not be expected to be significant. Local payroll spending, together with local spending for materials and equipment, would generate some temporary indirect employment. This is also expected to be insigificant.

Some temporary minor space use conflicts with commercial and sport-fishing activities would result from the offshore drilling activities; bottom trawl and purse seine fishermen would have to temporarily avoid drilling units. A major oil spill, although considered unlikely, could preclude spill area fishing activities. No significant impacts on recreational activities would be anticipated from normal project operations at either the offshore or onshore drilling sites. An oil spill, however, could adversely affect local marine and coastal recreation for a period of time.

8. Land Use

No significant land use impacts would result from the proposed offshore activities. Staging of equipment, materials and personnel would take place from Port Hueneme, which currently has the needed facilities in place.

Proposed offshore drilling activities are generally consistent with the policies of the Santa Barbara Local Coastal Program (LCP) and the Coastal Act. Project activities are also consistent with the Draft County Coastal

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Zoning Ordinance. No impacts are anticipated on agricultural areas. A project oil spill, although unlikely, conceivably could reach the Channel Islands National Monument area (i.e. the northwest shore of San Miguel Island), depending on meteorlogical and oceanographic conditions.

The onshore site at Refugio lies within the Gaviota Coast Planning area of the County LCP, which designates the site Agriculture II (100-320 acres or 40-130 hectares/Dwelling Unit minimum). The Draft County Coastal Zoning Ordinance allows onshore exploratory oil wells as a permitted use (Section 35-69), but requires a Conditional Use Permit (CUP) (Section 35-172). The proposed drilling site is roughly 100 feet (30 meters) from Canada del Refugio Creek. The areas along and immediately on either side of the creek are designated ESH (Environmentally Sensitive Habitat Areas Overlay District) in the County's Local Coastal Plan.

The issuance of a CUP would require conformance with the development standards and other permit conditions of the ESH designation (Section 35-97), including development standards for native grassland habitats, native plant community habitats, and stream habitats. Among these requirements, several are particularly relevant to the proposed project. Grading, materials and equipment staging, on-site drilling crew camping and parking, and other activities could disturb native grassland areas. However, any disturbance should be temporary. The development standards also require preservation of native trees and plants, particularly oak trees, including root zone aeration and stability of native trees. Although the proposed drilling site has been laid out to minimize disturbance to trees, the edge of the drilling site is approximately 45 feet (14 meters) from the one live coastal oak tree on the parcel and three sycamore trees are at the edge of the drilling site. With proper care, there should be no conflict with development standards regarding native vegetation posed by onshore drilling activities.

Onshore project activities potentially affecting the creek and the Environmentally Sensitive Habitat (ESH) areas along the creek must apply with the development standards for stream habitats, including a minimum buffer strip of 100 feet (30 meters) on either side of the creek. The well head and well cellar both lie over 100 feet (30 meters) away from the creek bank, although the edge of the drilling site is only approximately 60 feet (18 meters) from the edge of the creek bank. Most grading and other project activities would take place 100 feet (30 meters) or more from the bank's edge.

The coastal land use impacts of the onshore drilling site at Refugio could be mitigated by complying with all of the above Coastal Zoning Ordinance provisions. Specific mitigation measures could include: berming to prevent spills; avoiding trees during grading and other activities; moving the drilling site about 40 feet (12 meters) further from the creek bank to provide a slightly larger buffer zone; and providing chemical toilets to minimize earth and groundwater pollution.

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9. Cultural (Archaeologic and Historic) Resources

Although a number of marine archaeologic sites have been noted in the general vicinity of the proposed Jade and Anita offshore drilling areas, review of project geophysical data indicated no cultural resources in the drilling areas that could be expected to be impacted by exploratory activities.

The proposed onshore drilling site at Refugio is within the northernmost periphery of an important archaeological site, CA-SBa-87. Test excavations conducted by the Project Archaeologist, Dr. E. Gary Stickel, in October and November 1981, however, found only two types of data, chert debitage (material chipped away and discarded when a tool, for example is fashioned from stone) and ocre (pigment). Also, only a small number of data items were recovered in this excavation. There also was no variability between the two test excavation units that contained these data. Hence, no significant impacts on cultural resources would be expected if the proposed Texaco project were implemented. In the opinion of the Project Archaeologist (and a Chumash Monitor for the Santa Barbara Indian Center), the peripheral portion of Site CA-SBa-87 explored for this EIR may be considered as mitigated (through the test excavation, and associated data recovery program) for the proposed project. No other mitigation is recommended other than if unexpected resources are encountered during project implementation, project activities should be halted until a qualified archaeologist and the appropriate Native American authorities investigate and recommend appropriate further actions.

10. Marine Traffic and Navigation

The potential for accidents involving the drilling vessels and commercial vessels is considered extremely low, primarily because the closest of the proposed exploratory well sites is roughly five miles (eight kilometers) north of the nearest (northbound) Vessel Traffic Separation Scheme (VTSS) lane. Risks to recreational and fishing also would be low: because petroleum activities/platforms are common in the Santa Barbara Channel, fishermen/recreational boaters are accustomed to their presence. Further, the proposed exploratory sites are well-removed (roughly 35 miles or 56 kilometers) from the recreation/fishing harbor at Santa Barbara. Support vessels (crew and supply boats) conceivably could pose some hazard to fishermen/recreational boaters. However, the presence of project vessels would not significantly alter the present mix of vessels presently utilizing the Santa Barbara Channel. Specific mitigation measures that could further reduce project risks are primarily in the form of advance notice and warnings to vessel operators.

11. Oil Spills Projections and Contingency Plans

The probability of a major oil spill as a result of the proposed exploratory activities appears to be extremely small. However, as the proposed exploration would add to the petroleum-related activities in the Santa Barbara Channel, the overall risk of oil spills in the Channel would be slightly increased. Considering oceanographic and meteorological factors, an offshore oil spill in the project area would likely make a landfall between Gaviota and Government Point. If westerly winds prevailed, a landfall on the Channel Islands would be unlikely. If the usual prevailing westerly winds were light or if easterly winds would prevail, the northwest shore of San Miguel Island might be impacted three to five days after a spill occurred.

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In addition to Federal (e.g., U.S. Coast Guard) and State oil spill response capabilities/contingency plans, Texaco has developed an oil spill contingency plan for the proposed exploratory activities. This plan establishes procedures for the early detection of an oil spill, procedures for notification upon discovering a spill, contains an inventory of spill cleanup resources available for commitment if a spill occurs and is generally consistent with applicable State Lands Commission regulations. It appears that in conjunction with governmental contingency plan resources, Texaco's oil spill plans would diminish the impacts of any project-related oil spills. Keeping the plan (e.g. procedures, names, telephone numbers) current; making sure that project personnel have been recently familiarized with applicable portions of the plan and strict adherence to applicable State regulations for exploratory drilling also are important elements in minimizing potential oil spill risks and impacts.

Texaco also has developed a plan for dealing with onshore spills at Refugio. Cleanup and notification procedures are included in the onshore plan. Grading the onshore site so that spilled oil would flow away from the Creek and/or berming the site would further minimize potential impacts.

D. ALTERNATIVES TO THE PROPOSED PROJECT

Alternatives to the exploratory activities as proposed include denial or abandonment of the proposed project ("No Project"), delay of the proposed activities, or modification of proposed drilling methods/locations.

A decision to abandon or deny the proposal would mean that none of the environmental impacts described in this document would occur. The area would continue to be affected by all ongoing natural processes and human activities. Also, the evaluation of the potential hydrocarbon resources of the project area would not occur. Deferring action on the proposed Texaco exploratory drilling program would merely delay, and not mitigate, all project impacts both positive and negative.

Selecting alternative drilling locations within the subject lease tracts 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 EIR have not revealed any significant impact that could be avoided merely by employing alternative sites.

With respect to accomplishing project objectives by drilling for adjoining lease tracts in State or Federal waters, Texaco does not have the rights to conduct drilling operations from adjacent federal or state tracts. Because of the horizontal distances from shore that would be involved, and because of the drilling angles that would be required, reaching the target offshore locations proposed for exploration by directional drilling from onshore does not appear to be feasible.

It is conceivable that the northernmost proposed Jade and Anita wells could be drilled from Texaco's existing Platforms Herman and Helen. However, these platforms are currently shut in and are not in operation. Considerable costs (as well as substantial air emissions from crew and supply boat traffic)

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would be involved in reestablishing operations on these two platforms. Further, the target locations of the proposed Jade South and Anita South wells could not be reached from Platforms Herman and Helen.

Several other drilling sites have been considered by Texaco within the roughly 10-acre (four-hectare) parcel leased at Refugio for exploratory drilling of a target location about 900 feet (275 meters) offshore. A potential alternative site in the southeastern portion of the parcel contains a subsurface gas pipeline and the risk of damage to this pipeline suggests that this site be avoided. A possible alternative in the western portion of the parcel would involve considerably more earthmoving, inccreased visual impact, and increased drainage/erosion impact potential. A third alternative, partly coincident with the preferred site in the northeastern portion of the parcel would require removal of several existing sycamore trees and also would threaten the parcel's only live coastal oak tree; there also would be hardly any buffer between this possible drilling site and Canada del Refugio Creek, which is defined as an Environmental Sensitive Habitat (ESH) District by the County's Local Coastal Plan.

As an alternative to any of the possible sites on the Refugio parcel, an offshore drilling vessel could be employed or an altogether different onshore location could be considered. Use of an offshore drilling vessel to drill roughly 900 feet (275 meters) offshore would pose increased visual impacts, additional air emissions from crew and supply boat traffic, and could create potential impacts on water quality and biota from the discharge of wastes (e.g. muds, cuttings) into the shallow waters of the intertidal zone.

Consideration of a new alternative onshore site would delay the project because of the need to locate, lease, assess environmental impacts, etc. of a new site. Presumably a new site would be in reasonable proximity to Refugio in order to explore the desired offshore target location. In the absence of a specific (or even approximate) alternative drilling location, however, it is impossible to establish whether potential impacts might be greater or lesser than those associated with the proposed Refugio site.

Onshore disposal of <u>all</u> 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 associated impacts on biota/water quality. However, onshore disposal of all muds and cuttings would pose potential impacts associated with related to additional ocean and onshore transport and handling, as well as contributing somewhat to existing onshore disposal site availability/capacity problems. Thus, selecting one of these two alternatives (onshore or offshore) would merely transfer potential impacts to a different location and a different medium (i.e., land or water), and not avoid impacts altogether.

E. CUMULATIVE, IRREVERSIBLE, SHORT-TERM VERSUS LONG-TERM AND GROWTH-INDUCING IMPACTS

The impacts of the relatively short-term Texaco exploratory project generally would be cumulative with the impacts of ongoing petroleum projects in

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the vicinity, as well as with the impacts of several other exploratory projects proposed but not yet implemented in State Tidelands between Goleta and Point Conception. These other State Tidelands projects include exploratory drilling by ARCO, Aminoil USA, Shell, Union, and Phillips Petroleum.

Texaco project impacts also would generally be cumulative with those of exploratory drilling in Federal waters of the Santa Barbara Channel. A substantial number of Federal tracts have been leased or will be offered for bid in upcoming Outer Continental Shelf (OCS) Lease Sale No. 68.

The proposed exploratory drilling activities would not irreversibly commit the area's hydrocarbon resources, although ultimate production (if exploration were successful) would do so. Project energy uses (i.e., fuel) and materials (e.g., cement, muds) would be irretrievably committed.

Exploratory drilling is a short-term use of the environment. Developing data regarding the presence of commercially recoverable hydrocarbons could be considered to affect the area's long-term productivity. Longer-term degradation could result from the introduction of oil and other substances (e.g. drilling muds, cuttings) into the environment. No definitive conclusions are yet possible regarding the effects on long-term environmental productivity of oil spills and/or muds and cuttings discharges.

Growth-inducing impacts of the proposed exploratory drilling activities would not be expected to be significant, because the project is short-term in nature and would involve very little, if any, population in-migration. Potential growth inducement (individually or cumulatively) from possible future proposals for petroleum production by Texaco (if the proposed exploration is successful), exploration/production proposals 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 these other proposed exploratory or production projects.

F. UNAVOIDABLE ADVERSE IMPACTS

1. Earthquake-related geologic processes conceivably could expose people and structures to geologic hazards, although the likelihood of this occurring during the relatively short project period is considered very low. Selection of appropriate drilling equipment and adherence to applicable regulations and standard industry practices should mitigate this potential impact.

2. Project offshore discharges of 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 all muds and cuttings would mitigate impacts in the vicinity of the onshore drilling sites, but would substitute impacts associated with marine and onshore transport, handling and disposal of these materials. Other mitigation measures would include adherence to NPDES requirements, discharging muds and cuttings continuously during drilling and lowering the discharge point to as near as possible to the sea floor.

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3. Proposed onshore drilling activities at Refugio potentially could adversely impact small portions of sensitive creek, riparian and other habitat areas. Canada del Refugio Creek is imost adjacent to the proposed drilling site and the areas on either side of the creek are defined by Santa Barbara County as an Environmentally Sensitive Habitat Overlay District. It should be noted that the area proposed for drilling is disturbed relative to its natural state. Construction activities could have a minor and temporary impact on stream bank erosion; an oil spill could adversely affect water quality and biotic resources; native grassland areas (although already extensively grazed) could be affected by project activities. Adherence to the development standards and other provisions of the County's 1981 Draft Coastal Zoning Ordinance could mitigate these potential impacts; specific terms and conditions for Texaco's proposed onshore program would be expected to be worked out with the County and other relevant agencies such as the Coastal Commission and the Department of Fish and Game in the context of required permit applications. Potential mitigation measures could include: minimizing grading, other earth moving and paving; berming and/or grading to protect against a possible oil spill; careful operational practices to avoid disturbance to several sycamores and the live coastal oak near the drilling site; moving and keeping as much of the activities as possible away from the creek, possibly even moving the drill site slightly further away from the creek bank to create a larger buffer zone.

4. A major oil spill, although very unlikely, would adversely affect water quality, marine biota, sensitive coastal wetlands, marine and coastal fishing and recreational activities, and the aesthetics of the coastal areas in the project vicinity. Careful adherence to applicable regulations, proper equipment design and operation, adequate personnel training, and effective implementation of spill containment and contingency procedures would both decrease the likelihood of a spill occurring and mitigate the effects of oil spills if they did occur. It should be noted, however, that complete protection of the marine environment from hydrocarbon contamination is not possible.

5. The offshore drilling activities would have a minor and temporary effect on the visual aesthetics of the project vicinity in onshore locations from which the drilling activities would be visible. The onshore drilling activities at Refugio also would have a temporary but minor adverse impact on the aesthetics of the vicinity. Some project equipment (e.g. the drillrig) would be visible from a short section of U.S. 101 and from Refugio Road for the roughly two-month onshore drilling period.

6. The proposed activities unavoidably will consume substantial amounts of fuel to power the drilling units, support vessels, etc. However, the potential for discovery of additional hydrocarbon resources can be considered to mitigate this impact.

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