

MINUTE ITEM

This Calendar Item No. 32
was approved as Minute Item
No. 32 by the State Lands
Commission by a vote of 3
to 0 at its 5/27/82
meeting.

CALENDAR ITEM

32

5/27/82
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PRC 2933

RESUMPTION OF OFFSHORE
EXPLORATORY DRILLING OPERATIONS
ON STATE OIL AND GAS LEASE PRC 2933.1,
SANTA BARBARA COUNTY

OPERATOR:

Phillips Petroleum Company
1306 Santa Barbara Street
Box 2099
Santa Barbara, California 93120

AREA, TYPE LAND AND LOCATION:

State Oil and Gas Lease PRC 2933.1 was issued to Phillips Petroleum (50 percent) and Pauley Petroleum (50 percent) on October 25, 1962 and contains approximately 4,250 acres of tide and submerged lands midway between Point Conception and Santa Barbara.

SUMMARY:

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

Phillips proposes to use a jack-up rig to drill four wells in PRC 2933.1. If exploratory tests indicate the presence of natural gas in commercial quantities, permanent subsea wellhead completion equipment and flowlines will be installed, connecting the wellheads to Phillips existing Tajiguas Gas Processing Plant. Although the wells will be tested for crude oil, production will be deferred until additional environmental analysis and regulatory approvals are obtained.

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

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wells would be approved pending a complete review of all offshore drilling regulations, techniques and procedures.

On July 31, 1959, 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 as 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: 10/14/82.

PERTINENT INFORMATION:

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

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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 Operator, and offer increased protection to third persons for any damages that may arise from operations conducted under the lease. The agreements provide:

1. Phillips Petroleum 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. Phillips Petroleum Company 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:

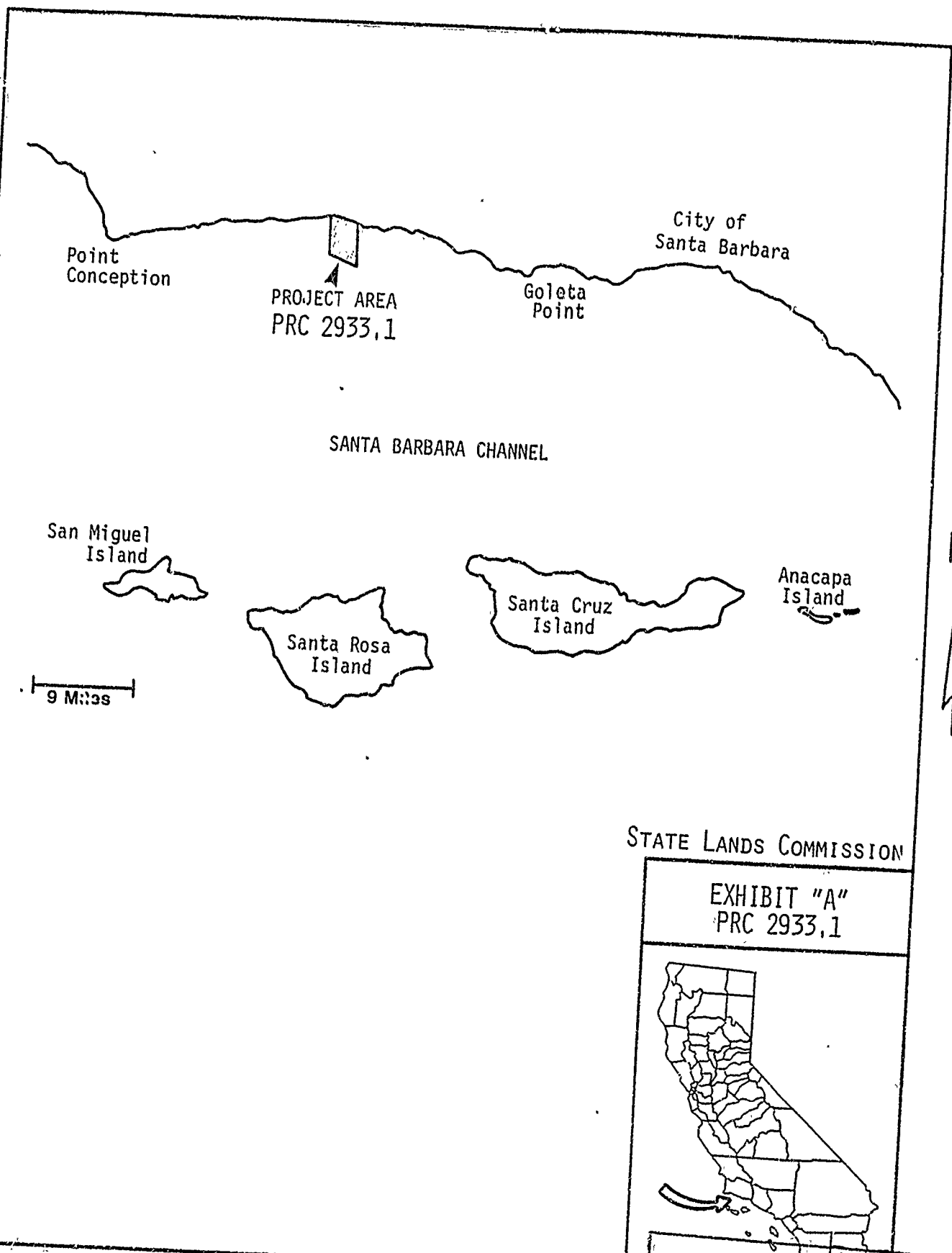
1. CERTIFY THAT AN EIR NO. 306 (SCH 8 052313) WAS PREPARED BY THE STATE LANDS COMMISSION PURSUANT TO THE PROVISIONS OF THE CEQA AND SUCH DOCUMENT WAS REVIEWED AND CONSIDERED.

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2. FIND THAT CHANGES OR ALTERATIONS HAVE BEEN REQUIRED IN OR INCORPORATED INTO THE PROJECT WHICH MITIGATE OR AVOID SIGNIFICANT ENVIRONMENTAL EFFECTS THEREOF AS IDENTIFIED IN THE COMPLETED EIR.
3. FIND THAT GRANTING OF THE APPROVAL OF THIS PROJECT WILL NOT HAVE NO SIGNIFICANT EFFECT UPON THE ENVIRONMENTAL CHARACTERISTICS IDENTIFIED PURSUANT TO SECTION 6370.1 OF THE P.R.C.
4. CONDITION APPROVAL OF PHILLIPS' APPLICATION ON ITS ACCEPTANCE OF AN AMENDMENT OF STATE OIL AND GAS LEASE PRC 2933.1 TO PROVIDE FOR COMPLIANCE WITH STATE LANDS COMMISSION REGULATIONS IN EFFECT ON MAY 27, 1982.
5. AUTHORIZE THE RESUMPTION OF EXPLORATORY DRILLING OPERATIONS ON STATE OIL AND GAS LEASE PRC 2399.1 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 PHILLIPS HAS AGREED TO THE FOLLOWING PROVISIONS:
 - A. PHILLIPS PETROLEUM 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 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 PHILLIPS 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 PHILLIPS PETROLEUM COMPANY, AS A RESULT OF OPERATIONS UNDER SAID LEASES. PHILLIPS 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.

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- C. TO FACILITATE THE SETTLEMENT OF CONTESTED CLAIMS BY THIRD PERSONS WITHOUT THE NECESSITY OF LITIGATION, PHILLIPS 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 EIR RELATING TO EXPLORATORY DRILLING OPERATIONS BY PHILLIPS STATE OIL AND GAS LEASE PRC 2399.1, ADOPTED BY THE STATE LANDS COMMISSION.
- E. PHILLIPS SHALL IMPLEMENT AND MAINTAIN PROPERLY AND EFFECIENTLY THE OIL SPILL CONTINGENCY PLAN ON FILE IN THE OFFICE OF THE COMMISSION.



STATE LANDS COMMISSION

EXHIBIT "A"
PRC 2933,1



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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 and production drilling operations proposed by Phillips Petroleum Company on State Oil and Gas Lease PRC 2933.1 in State Tidelands offshore Santa Barbara County.

B. PROJECT DESCRIPTION

Utilizing mobile drilling units (probably a jack-up rig, but if a jack-up rig is not available, then either a drillship or a sem'-submersible drilling unit) Phillips proposes to drill four exploratory wells within State Oil and Gas Lease PRC 2933.1. If short-term production testing reveals the presence of commercially recoverable volumes of natural gas, then permanent subsea wellhead completion equipment will be installed, as well as flowlines connecting the wellheads with Phillips' existing Tajiguas Gas Processing Plant, which lies roughly 160 feet (50 meters) inland slightly east of the eastern boundary of the lease tract. If exploration does not reveal commercially recoverable gas volumes, the wells will be plugged and abandoned in accordance with State Lands Commission regulations.

The primary objective of the Phillips exploratory programs is the determination of the existence of economically recoverable natural gas supplies from the geologic formations that underlie the project area. Well depths would range from 9,000 to 13,500 feet (2,740 to 4,115 meters). Drilling operations are expected to require 80 days per well; flowline installation, including approximately 200 feet (60 meters) of onshore flowline installation, would require about 47 days. Thus, total project duration would be approximately 367 days assuming that the four proposed wells are drilled consecutively. Although the wells will also be tested for crude oil, Phillips has no current plans to produce crude oil from Lease PRC 2933.1; Phillips' nearby onshore processing facility cannot process crude oil. Any possible future oil production from this lease will require additional environmental analysis and regulatory approval.

Phillips proposes to install, maintain and test blowout prevention (BOP) systems to assure well control throughout the project period. Oil contaminated drilling muds and cuttings 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.

Well testing will be performed in order to determine the flow and composition characteristics of the gas reservoir and to determine the feasibility of a subsea wellhead type of completion. A continuous 36-hour process of igniting and flaring the produced gas to the atmosphere may be required for each well, at a maximum hourly rate of 250,000 cubic feet (15,720 cubic meters). This flaring will be performed in accordance with procedures approved

by the Santa Barbara County Air Pollution Control District. In addition, it is estimated that 830 barrels per day of liquid (a mixture of water and oil in a ratio that cannot be determined at this time) will be produced for an estimated five days from each well while testing the Monterey Formation. Further, production of roughly 60 barrels per day of condensate (natural gas liquids) is expected for five days from each well while testing the Vaqueros and Matilija Formations.

Phillips has developed contingency plans to cope with possible oil spills, gas accidents, and other potential 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 activities 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 may adversely affect drilling operations, and thus indirectly possibly cause adverse environmental impacts are earthquake-related (seismic shaking, fault rupture, tsunamis, liquefaction and submarine landslides). None of the geologic features or processes in the area are likely to affect drilling operations, or cause adverse impacts during the planned exploration and production drilling program.

Significant seismic shaking (peak horizontal bedrock acceleration of about 0.47g) 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. None of the faults in the area show evidence of recent activity. Although the chances of fault movement occurring during drilling are remote, wells that cross faults could be damaged (probably collapsed or sheared casings). This type of fault damage has occurred elsewhere in California without causing serious leaks, however. Although the potential for liquefaction in the project area has not been fully evaluated, the likelihood of a strong seismic event triggering liquefaction in the vicinity during exploratory drilling is very small. A large tsunami (seismic sea wave) could adversely affect offshore drilling activities in shallow waters. However, a tsunami that would significantly affect exploration or production activities is unlikely. Drilling and production 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.

Three of the proposed drilling sites are in or near 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.

Deep gas zones may be present below the proposed drilling sites. These deep gas zones might be under abnormally high pressure and could be hazardous if encountered unexpectedly. However, any adverse impacts are unlikely if drilling is performed in accordance with standard industry practice and applicable state regulations, and with the knowledge that such gas zones may be encountered.

2. Air Quality

The proposed project would involve offshore exploratory gas and oil drilling and, if commercial quantities of gas are found, flowline installation (to connect the wellheads to the Phillips Tajiguas Gas Processing Plant) and processing of the produced gas. The major emission sources from the proposed exploratory activities would be the diesel reciprocating engines generating power for well drilling, tripping, testing, and other miscellaneous uses; and the internal combustion engines powering the support vessels (e.g. supply boats and tugboats). Emissions associated with exploratory drilling would also result from gas produced during well production testing, employee vehicle use, and helicopters used to transport personnel between Santa Barbara Airport and the drilling unit. Emissions from these sources however would be relatively minor. Flowline installation emissions would result from a variety of equipment such as welding machines used to assemble the flowline, backhoes used to prepare the onshore flowline assembly site, and vessels (e.g. survey boats, barges) used to pull the flowline into place. Flowline installation emissions would be considered minor. Gas processing emissions would primarily result from natural gas-fired compressor engines; methanol regenerators and condensate stabilizers would produce an insignificant amount of emissions. Gas would be processed at the Tajiguas Gas Processing Plant, located approximately three miles (4.8 kilometers) northeast of the offshore drilling sites.

Obviously, the amount of emissions associated with gas processing would depend on the levels of gas found (if any). It is not known if sufficient quantities of gas will be encountered to warrant production. However, when considering comparable time periods of activity (approximately a year), offshore exploratory drilling would result in greater emission levels of all pollutants than would gas processing activities.

For offshore exploratory activities, the type of pollutant emitted in the largest quantities, by far, would be nitrogen oxides (NO_x), with annual emission levels approximately four and one-half times greater than that of the second highest pollutant (carbon monoxide). The largest portion of nitrogen oxides would result from engines providing on-rig power; the supply boat would contribute the second highest level of emissions. A large portion of supply boat emissions would occur while the vessels are in transit between the offshore drill sites and Port Hueneme and thus would be emitted over an extended geographic area. Daily levels of nitrogen oxides may exceed 3,600 pounds (1,633 kilograms) during the move-on of the rig and 1,890 pounds (857 kilograms) per day during the actual drilling. On an annual basis, offshore

exploratory emissions would be (in decreasing order): nitrogen oxides (199.4 tons or 181.0 metric tons), carbon monoxide (42.6 tons or 38.7 metric tons), total hydrocarbons (13.3 tons or 12.1 metric tons), sulfur oxides (13.2 tons or 12.0 metric tons), and total suspended particulates (12.9 tons or 11.7 metric tons).

Flowline installation would require about 47 days and result in 1.7 tons (1.5 metric tons) of nitrogen oxide emissions, with only minor emissions of other pollutants. Pollutants would be emitted from both onshore and offshore locations during flowline installation.

Gas processing emissions would depend on the amount of gas found. However, based on a maximum level likely to be recovered [30 million cubic feet (849,600 cubic meters) per day], nitrogen oxide emissions would be 27.2 tons (24.7 metric tons) on an annual basis. Other gas processing emissions would include 6.9 tons (6.3 metric tons) of total hydrocarbons and 1.7 tons (1.5 metric tons) of carbon monoxide. Processing of the gas would not result in significant quantities of sulfur oxides or total suspended particulates. Emissions from gas processing at the 30 million cubic feet (849,600 cubic meters) per day level assumes the operation of two catalytic converters on compressor engines at the processing plant, which Phillips proposes as a mitigation measure. Catalytic converters would result in a 90 percent reduction in nitrogen oxide levels and an 80 percent decrease in carbon monoxide emissions from the compressors.

It is not expected that any adverse impacts on ambient air quality would result from either flowline installation or gas processing. In fact, there would be a decrease in existing nitrogen oxide and carbon monoxide levels from the Tajiguas Gas Processing Plant if the proposed catalytic converters are installed.

Computer simulation modeling has indicated that maximum offshore exploratory drilling project emissions would result in a maximum hourly increment in onshore ambient pollutant levels of 110 micrograms/cubic meter ($\mu\text{g}/\text{m}^3$) for nitrogen dioxide. Comparing the state hourly standard for nitrogen dioxide of $470 \mu\text{g}/\text{m}^3$ to the highest recorded onshore level ($300 \mu\text{g}/\text{m}^3$), and the estimated project increments ($110 \mu\text{g}/\text{m}^3$), does not indicate that a violation of the short-term standard would occur. Short-term project increments for total hydrocarbons and sulfur dioxide are not expected to result in violations of state or federal standards. While the increase in ambient hourly carbon monoxide levels would be relatively small ($23 \mu\text{g}/\text{m}^3$), southern Santa Barbara County is in nonattainment status with respect to the carbon monoxide standard. Thus, any additional increase in carbon monoxide levels could cause a slight deterioration in existing conditions. Similarly, portions of Santa Barbara County are not in attainment of the state total suspended particulate standard; thus, project increments would also slightly exacerbate this condition.

The largest long-term (annual) modeled pollutant increment was for nitrogen dioxide and corresponded to $2.1 \mu\text{g}/\text{m}^3$ at the nearest onshore area. Long-term project increments for total hydrocarbons, sulfur dioxide, carbon monoxide, and total suspended particulates are all expected to be much less

than one $\mu\text{g}/\text{m}^3$ per year. Thus, while there would be no violations of any standards for pollutants for which the area already is in an attainment of applicable standards, any increases in ambient levels of those pollutants already exceeding standards (ozone, carbon monoxide, total suspended particulates) would further exacerbate existing conditions.

Phillips proposes to mitigate project air quality impacts by installing catalytic converters on natural gas-fired compressor engines at the Tajiguas Gas Processing Plant. Project emissions from the exploratory project itself are such that under existing County APCD regulations, air pollution offsets for nitrogen oxides apparently would be required. Exploratory activities would emit an estimated 58.8 tons (53.4 metric tons) of nitrogen oxides per quarter which, based on the Santa Barbara Air Pollution Control district's 1.2:1.0 trade off ratio, would indicate that 70.6 tons (64.1 metric tons) of nitrogen oxides per quarter would have to be offset. Operation of catalytic converters on gas compressor engines would result in a 90 percent reduction in nitrogen oxide levels at the time of installation, which translates into 30.9 tons (28.1 metric tons) of offset "credits" per quarter. Such emission reductions would not be sufficient to completely offset the exploratory project emissions during the time of drilling; however, enough reductions could be obtained by continuing operation of the converters after exploration has ended. The total amount of project nitrogen oxide emissions to be offset cannot be determined since the quantities of gas that will be found cannot be determined at this time. Finally, Phillips proposes to continue operating the catalytic converters at a certain, as yet unknown, nitrogen oxide removal efficiency, in order to gain banked emission credits for possible future projects.

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 severe local storms could hamper drilling operations. The discharge of drilling muds, 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 in large part by adherence to NPDES limitations and prohibitions. 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

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 additional other significant costs and potential impacts (e.g. air emissions from trucks) involved in the transport and handling of the materials, and in their disposal at an approved onshore site.

The most serious potentially adverse impact on water quality would come in the unlikely 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 should mitigate 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.

5. Biology

Biological impacts from the proposed project 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. Kelp beds in the project vicinity may be temporarily impacted by the installation of the flowline bundle.

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, pinniped (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 and the Guadalupe fur seal.

Impacts to biota from drilling operation muds and cuttings discharges could be minimized by discharging these materials from a point as close as possible to the seafloor, thus reducing the discharge and settling area. Phillips will not use a chromium based drilling mud, thereby reducing any potential impacts from trace metals contained in drilling muds. In addition, toxicity data on the proposed drilling mud will be submitted per Regional Water Quality Control Board Requirements. Bioassay testing within the discharge plume may be required by the Board at a future date. Potential abandonment of migratory routes of the gray whale could be mitigated by limited drilling activities to months when whales are not migrating. Temporary impacts to the kelp bed would be minimized through pipeline surveillance and leveling of any mud mounds. The mitigation of impacts due to a 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. Socioeconomics

The proposed project would generate a maximum of roughly 125 jobs, assuming sequential drilling of all proposed wells and flowline installation by Phillips. No significant impacts on Santa Barbara County population or employment are anticipated: most drilling crew and subcontractor jobs will 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 project employment would be temporary - for the period of exploratory drilling and/or flowline installation 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. However, this also is expected to be insignificant.

Some temporary minor space use conflicts with commercial and sport-fishing activities would result from drilling activities; bottom trawl and purse seine fisherman would have to temporarily avoid the immediate area of the drilling units and permanently avoid the area around the subsea completions. A major oil spill, although considered unlikely, could preclude spill area fishing activities for a period of time. No significant impacts on recreational activities are anticipated from normal operations. An oil spill, however, could adversely affect local coastal and marine recreation for a period of time.

7. Land Use

Onshore activities are anticipated in the project area at Santa Barbara Airport (helicopter transport of personnel to the drilling unit) and at Phillips' Tajiguas Gas Processing Plant (flowline installation staging). These facilities can accommodate project needs without modification. Materials and equipment will be staged from Port Hueneme, which currently has the needed facilities in place.

The proposed drilling flowline installation and production 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 Zoning Ordinance. Staging areas to be utilized are permitted in MCD Districts (Coastal Dependent Industry). Normal operations are not expected to impact the Channel Islands National Monument; no impacts are expected on agricultural areas in the Gaviota coastal zone.

No significant aesthetic impacts would be expected from normal project operations. Project activities would be visible from beach areas and U.S. 101 between El Capitan State Beach and Gaviota State Beach. However, project visual impacts would be temporary; drilling activities and much of the flowline installation activities would be occurring in the distance when viewed from shore and would appear quite small in scale.

8. Cultural (Archaeologic and Historic) Resources

Although several marine archaeological sites and shipwrecks are reported in the general project vicinity, a review of project geophysical data indicated no cultural resources in the drilling areas that could be expected to be impacted by project implementation.

A portion of the onshore area where the proposed gas flowlines would come ashore and then enter Phillips' existing Tajiguas Gas Processing Plant contains a remnant of a Chumash Native American archaeological site. Test excavations conducted by the Project Archaeologist, Dr. E. Gary Stickel, in February 1982 found no major cultural features or burials. In terms of artifactual data, only a few utilized flakes, some debitage, some ochre and two possible mano fragments were found; the faunal samples of bone and shell also were quite meager. The cultural deposit was quite shallow and major intrusive elements (glass, metal, leather, modern faunal remains, etc.) were found. The entire deposit has been severely disturbed, most probably by modern construction activities associated with the gas processing plant and railroad line. The quantity and location of the data recovered, and the fact that most of the cultural data were within the top two levels of the test units suggest that the deposit investigated may be Native American data that was pushed off the main seabluff during modern construction and redeposited on the slope below.

Given the results of the test phase excavation (little data in terms of both quantity and variety, heavy site disturbance, lack of variability between the two test excavation units), further mitigation of the onshore site area is not warranted. However, actual flowline construction should be monitored by a qualified archaeologist and Native American monitor so that construction could be halted to permit evaluation of any cultural resources material that might be discovered unexpectedly.

9. 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 well sites (and pipelines) is roughly seven miles (11.3 kilometers)

north of the Santa Barbara Vessel Traffic Separation Scheme (VTSS). 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 26 miles or 41 kilometers) from the recreation/fishing harbor at Santa Barbara. Support vessels (tugboats 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.

10. Oil Spills Projections and Contingency Plans and Gas Accidents

The probability of a major oil spill as a result of the proposed activities appears to be extremely small. However, as the proposed project 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 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. During a protracted interval (e.g., three to five days) of easterly winds, an oil spill could reach the northwest shore of San Miguel Island.

In addition to federal (e.g., U.S. Coast Guard) and state oil spill response capabilities/contingency plans, Phillips has developed oil spill contingency plans for the proposed project. These plans are designed to provide company employees with procedures for responding to an oil spill (i.e., initial abatement of pollution; notification of government agencies that a spill has occurred and coordination with federal and state response teams; and spill containment and cleanup). Spill control equipment will be available on the drilling vessel. The spill response equipment and resources of contractors such as Clean Seas, also will be available.

Phillips also has developed contingency procedures in the event of an accidental release of gas. Gas releases (and response procedures) occurring during drilling operations and during production are addressed. During drilling the procedures involve shutting-in the well using state-of-the-art safety equipment as prescribed in State Lands Commission Drilling Regulations. Notification of stipulated emergency personnel follows a procedure similar to that for a large oil spill. Generally, a gas release would be ignited at the water surface. Well containment procedures would depend on the specific situation and could include allowing natural processes to crater and seal the well, capping the well with subsurface equipment or drilling a relief well and pumping mud into the reservoir zone.

During production, procedures for dealing with a production flowline leak or a leak within the Tajiguas Gas Processing Plant consist of inspection, notification, bleeding lines to the vapor recovery system and stack, and shutting in the plant.

D. ALTERNATIVES TO THE PROPOSED PROJECT

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

A decision to abandon or deny the proposal(s) 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 drilling program would merely delay, and not mitigate, all project impacts both positive and negative unless significant technological changes occurred in the interim.

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 by employing alternative sites.

Drilling from nearby federal or state lease tracts could not reach most of the particular locations targeted for exploration. Also, Phillips 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, directional drilling from onshore is not considered a feasible alternative.

Alternatives to flowline installation as proposed could include use of existing flowlines, use of consolidated flowlines for some or all of the proposed wells, or selecting alternative routes that avoid/minimize disruption to the seafloor environment/nearshore kelp beds.

Use of existing flowlines would be considered by Phillips if the well pressures from the proposed wells are not too high, if the condition of the existing flowlines are adequate to permit their use for the proposed wells, and if the state would grant an exemption to the requirement that new (rather than used) pipe be used for offshore wells. A significant drawback to use of consolidated flowlines is that different wells flow under different pressures, and controlling pressures in individual wells is best accomplished through individual flowlines. Use of alternative flowline routes (e.g. routing the flowline to avoid a particular sensitive location) would require use of a different installation approach than proposed. A "lay" barge, rather than a "pull" barge would be required. Use of a "lay" barge would involve use of a support boat to hold the barge in position (causing more air pollution); more kelp disturbance would be involved because the "lay" barge would have to enter the kelp zone, whereas the "pull" barge would not.

An alternative to the proposed onshore flowline installation staging area (an already disturbed, partially paved portion of the Tajiguas Gas Processing Plant), would be for Phillips to use the same staging area that Shell Oil would use for a similar (natural gas exploration/production) project in Lease PRC 2920.1, adjacent to the west of Lease PRC 2933.1. Shell's proposed staging area would be either at Arroyo Honda, nearly two miles (3.2 kilometers) west of the Tajiguas plant, or at Getty Oil's Gaviota facilities, which are about six miles (9.7 kilometers) west of Tajiguas. Use of either of these alternatives would involve floating the pipe sections down the coast to Tajiguas, pulling them to shore at the Tajiguas facility and then installing the lines in a similar manner to that proposed. A tugboat would be required to float the lines downcoast (which would involve additional air emissions); additional seip disturbance could be associated with pulling the sections ashore. It also should be noted that an arrangement would have to be worked out between Phillips and Shell in order for Phillips to use Shell's staging areas.

Onshore disposal of all muds and cuttings (as an alternative to ocean discharge of uncontaminated muds and cuttings and onshore disposal only of oil-contaminated materials) would avoid any potential associated impacts on biota/water quality. However, onshore disposal of all muds and cuttings would pose potential impacts related to additional waste material 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 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 proposed Phillips project generally would be cumulative with the impacts of ongoing petroleum projects in 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, Texaco, Union and Shell.

Phillips project impacts also generally would be cumulative with those of exploratory drilling projects 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 would involve very little, if any, population in-migration. Potential growth inducement (individually or cumulatively) from possible future proposals for petroleum exploration/production by Phillips, 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. Selection of appropriate drilling equipment, proper engineering design of production facilities, and adherence to applicable regulations and standard industry practices should mitigate this potential impact.
2. Project 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 muds and cuttings would mitigate impacts in the vicinity of the drilling sites, but would substitute impacts associated with additional transport and handling, and onshore disposal, of these materials. Other mitigation measures would include adherence to NPDES requirements, discharging muds and cuttings continuously during drilling and using a discharge point that is as near as possible to the sea floor.
3. A major oil spill, although very unlikely, would adversely affect water quality, marine biota, 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.
4. The offshore drilling and flowline installation activities would have a minor and temporary effect on the visual aesthetics of the project vicinity, in onshore locations from which the project activities would be visible.
5. 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.