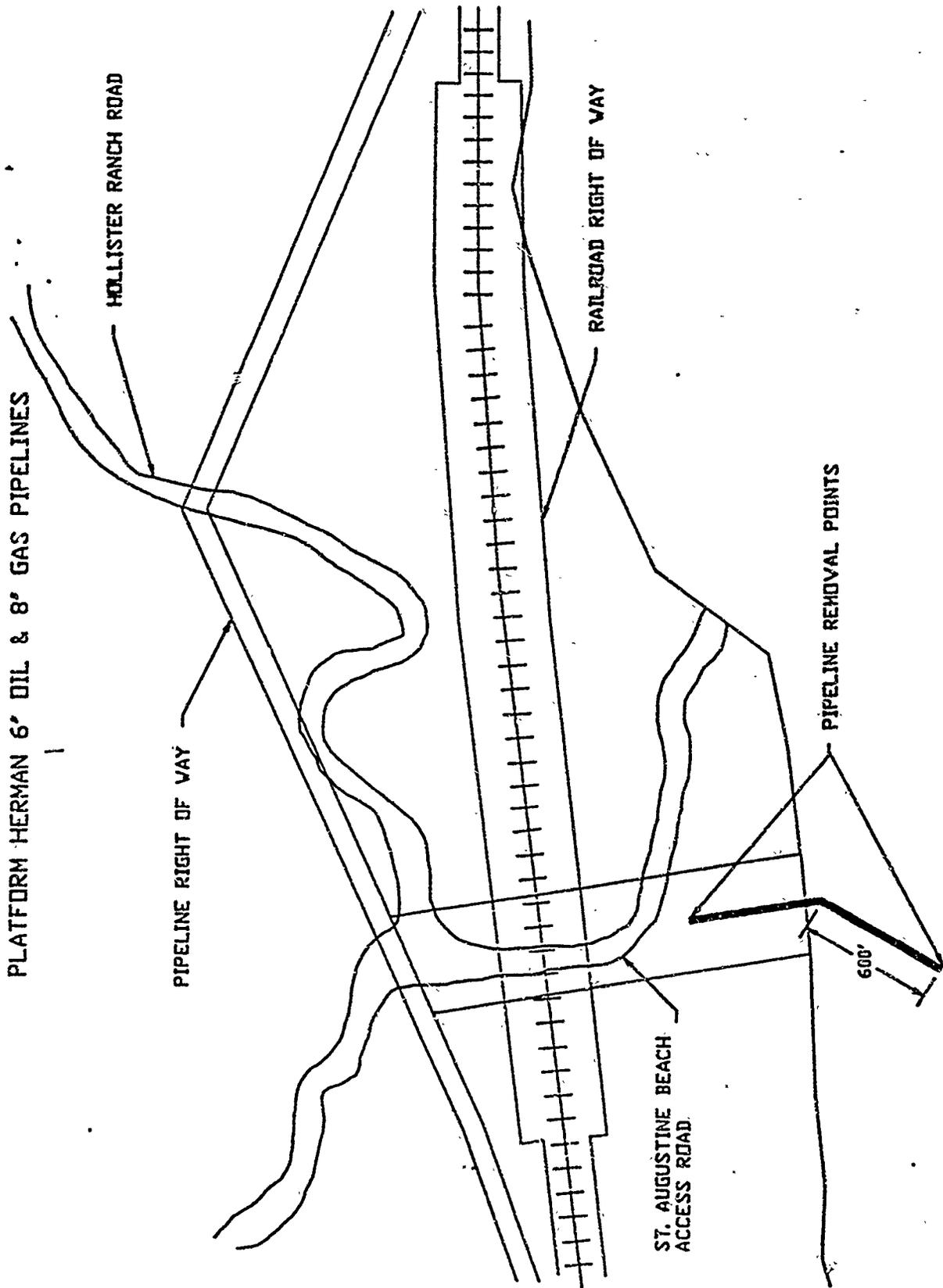
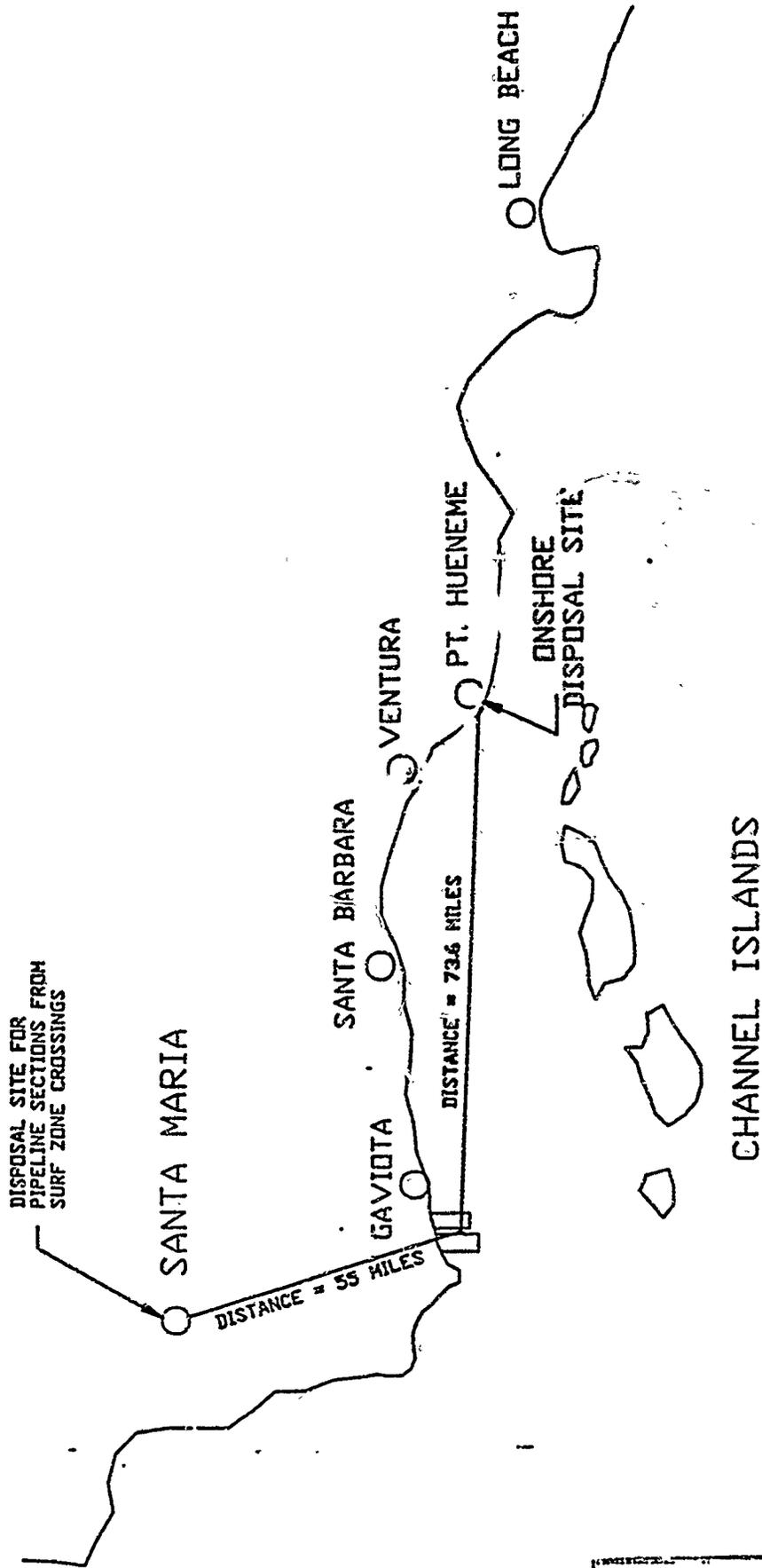


SHORECROSSING REMOVAL SITE AT ST. AUGUSTINE BEACH
PLATFORM HERMAN 6" OIL & 8" GAS PIPELINES



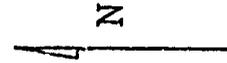
ABANDONMENT OF TEXACO PLATFORMS (DISPOSAL SITES)



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SANTA MONICA BAY: ARTIFICIAL REEF SITE
Orientation of Platform Sections around Liberty Vessel Palawan

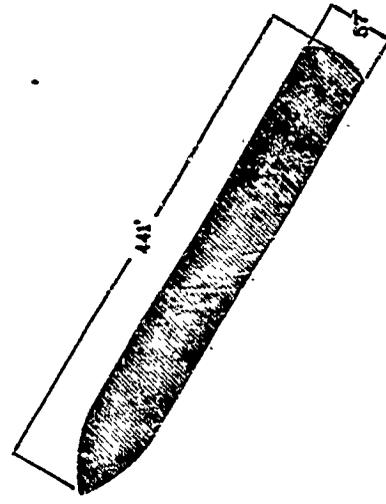
figure 1



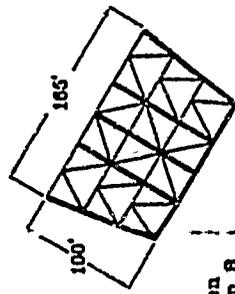
1"=100'

Liberty Vessel Palawan
 Placed in 1979
 Water Depth: 120'
 33deg 50' 15" N
 118deg 24' 50" W
 Heading: N 60deg W

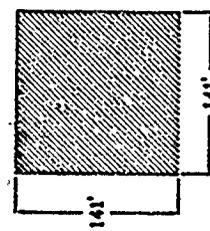
Platform Herman Topalides (figure 4)
 Clearance: 86'
 Distance to ship: 270'



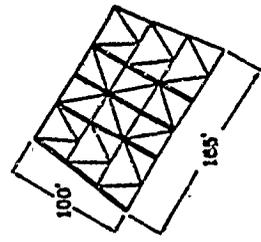
Platform Helen Jacket Section B (figure 5)
 Clearance: 67'
 Distance to ship: 300'



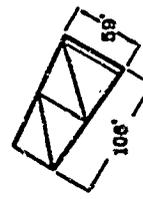
Platform Helen Topalides (figure 2)
 Clearance: 75'
 Distance from ship: 300'



Platform Helen Jacket Section A (figure 3)
 Clearance: 57'
 Distance to ship: 250'

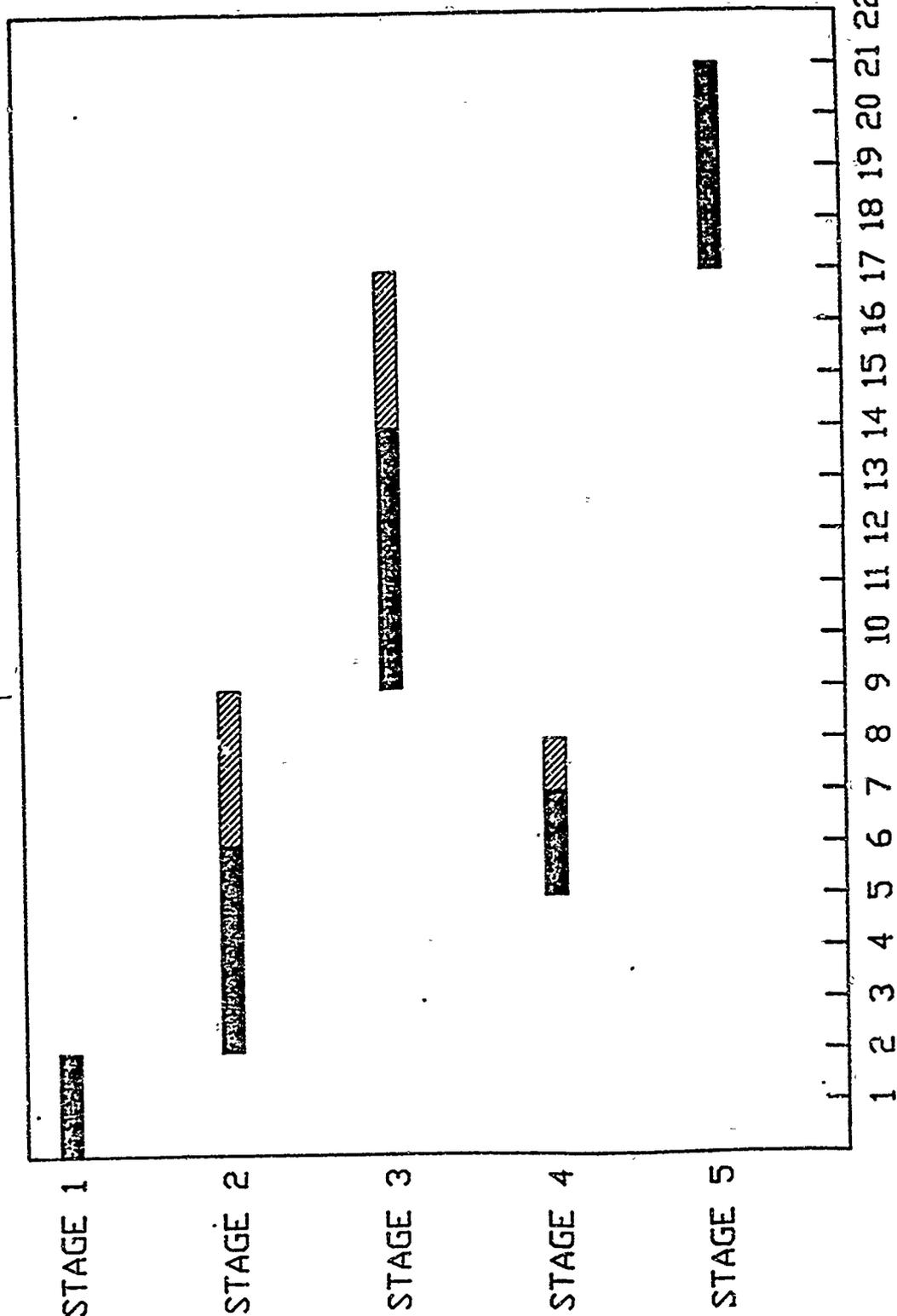


Platform Herman Jacket Section (figure 6)
 Clearance: 61'
 Distance to ship: 260'



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PROJECT TIMETABLE
EMISSION GENERATING EQUIPMENT - TIME ON STATION



DAYS ON SITE PER PLATFORM

ESTIMATED DAYS PER STAGE CONTINGENCY DAYS

II. ENVIRONMENTAL SETTING - REMOVAL SITES

A. MARINE GEOLOGY¹

Regional Overview

The two subject tracts lie along the northern perimeter of the Santa Barbara Channel (SBC). The entire region has a complex geologic history, as reflected by the structure of the channel.

The SBC is the submerged western extension of the Ventura Basin, and lies within the Transverse Range Geomorphic Province. It is bounded on the north by the Santa Ynez Mountains and on the south by the Channel Islands. A characteristic east-west structural trend is prominent within the province. This trend is reflected in the channel by east-west trending folds with high angle reverse frontal faults and cross cutting rotational faults caused by north-south compression.

The dominant structural feature of the province is the Santa Ynez Fault, extending from near Point Conception east toward the San Gabriel Fault. The Santa Ynez Fault is a major, active, left-lateral oblique slip fault dipping steeply to the south.

Seaward (south) of the Santa Ynez Fault, a sequence of sedimentary rocks, ranging in age from Cretaceous to Pleistocene, dip steeply to the south. These late Cenozoic strata are transected by several faults that parallel the regional east-west structural trend. Farther south, the Santa Barbara Basin forms the central portion of the channel and contains more than 4,000 ft. (1,200 m) of Quaternary sediment overlying 50,000 ft. (15,000 m) of highly folded and faulted Cretaceous and Tertiary strata. The Channel Islands form the southern margin of the SBC and Basin. They represent anticlinal uplift and are considered to be the seaward extension of the Santa Monica Mountains, with faults and fault-bounded folds continuing the dominant western structural trend.

Local Conditions

Lease PRC 2725 (Herman) is entirely on the Mainland Shelf which extends from the shoreline to water depths of about 245 ft. (75 m). The seafloor slopes gently southward in most of the lease area, with a gradient typically between one and three percent.

Lease FRC 2206 (Helen) lies mostly on the Mainland Shelf, but the extreme southern part extends onto the upper North Channel Slope to water depths of about 360 ft. (110 m). The head of a prominent submarine gully is in the southwest corner of the lease. In the northern three-quarters of the lease, the seafloor slopes gently toward the southwest with a gradient that is typically less than one percent. The seafloor gradient increases abruptly at the crest of the North Channel Slope in the southern quarter of the lease. The seafloor in this area slopes toward the south-southeast, with a slope gradient ranging from about five to ten percent.

Both parcels are underlain by a thick sequence of folded and faulted tertiary sedimentary strata. These strata were eroded during late Pleistocene and Holocene time to form the relatively flat Mainland Shelf. Throughout much of the lease areas, the Tertiary rocks are covered by a thin mantle of younger unconsolidated sediment.

According to earthquake records and historical accounts, the project areas are located in an active seismic region. Since 1800 at least four earthquakes of magnitude 6.0 or greater have occurred in the SBC vicinity. Many low-magnitude and some moderate-sized earthquakes have also been recorded in the channel region.

Identification of most faults capable of producing earthquakes, but which have not been associated with historic earthquake activity, is based on field observations. A fault is classified as active if it shows evidence of displacement during the Holocene epoch (within the past 11,000 years), or if there is a conjectural correlation between recorded earthquake epicenters and the fault.

Faults are classified as potentially active if they show evidence of displacement during late Pleistocene time (between 11,000 and about 500,000 years ago). A fault is inactive if it displaces only strata of early Pleistocene age or older.

Much geologic field work has been done onshore in the SBC Region; the onshore faults are fairly well known. Much less is known about the faults located offshore. Although many faults have been mapped offshore, their possible relationships to onshore faults and ages of most recent fault movement are largely speculative.

B. AIR QUALITY²

Applicable Rules, Regulations, Standards

Any proposed activity on the subject parcels must conform to federal, State and county air quality rules, regulations, and standards. These laws define: (1) the maximum allowable incremental and cumulative ambient air quality impacts of a project; (2) the minimum acceptable emissions control technology requirements for various project sources and, hence, maximum allowable project emissions; and (3) the requirements for offsetting emission increases resulting from the proposed development.

The Clean Air Act of 1970 and its Amendments of 1977 delegated to the Environmental Protection Agency (EPA) the responsibility of establishing national ambient air quality standards, and policies to attain and maintain these standards.

In addition, the California Air Resources Board (ARB) has also set standards which are stated in terms of concentrations that may never be exceeded.

In March 1984, the Santa Barbara County Air Pollution Control District (SBCAPCD) revised its New Source Review Rule (NSR) to make it consistent with EPA requirements under the Clean Air Act. On August 21, 1985, the EPA gave the SBCAPCD full Prevention of Significant Deterioration (PSD) permitting authority. Consequently, a separate federal PSD permit is not required.

Under Rule 205.C, any new or modified source subject to NSR procedures must meet the following requirements:

1. Best Available Control Technology (BACT) is required for net emissions increases greater than or equal to 2.5 lbs/hr for any nonattainment pollutant except carbon monoxide (CO). Carbon monoxide levels of 20 lb/hr or 150 lbs/day trigger BACT review.
2. Emission levels above defined thresholds require an air quality impact analysis (AQIA) to demonstrate that emissions will not cause an exceedance of the CAAQS or NAAQS, interfere with the attainment or maintenance of any standard, or prevent reasonable progress toward achievement of attainment. Triggering levels are net emissions increases of

5 lbs/hr (but less than 10 lbs/hr), 240 lbs/day or 25 tons/yr of any nonattainment pollutant except CO, for which the level is 100 tons/yr.

3. Any proposed source with net emissions increases less than 10 lbs/hr, 240 lbs/day or 25 tons/yr of a nonattainment pollutant (except CO), which has been shown by the AQIA to cause a violation of (or interference with) the attainment of any NAAQS, must mitigate the emissions increases by reducing emissions from existing sources. Sources emitting nonattainment pollutants at levels above those limits must also provide emissions trade-offs, even if the AQIA does not indicate any violation or interference. Offsets for CO emissions of 100 tons/day or more are required unless the AQIA demonstrates no violations of standards will occur and that such emissions will be consistent with reasonable further progress toward attainment goals.

C. MARINE BIOLOGY³

The Santa Barbara Channel includes a diverse collection of marine biological resources and habitats including subtidal mud, sand, and rocky bottoms, sandy and rocky beaches, coastal estuaries and marshes, extensive kelp beds, and the Channel Islands. It is also located along important migration routes of birds and marine mammals.

The subject parcels lie within the Southern California Bight, of which Point Conception is the northern boundary. Point Conception has long been regarded as a distributional barrier between northern cold temperature and southern warm temperature biota. These parcels are four to 21 miles (six to 34 km) east of Point Conception, and the resident biota are represented by both northern and southern species, as well as species unique to the area.

D. TERRESTRIAL BIOLOGY⁴

The region from Point Conception to Mugu Lagoon supports a wide variety of natural and man-made vegetation types. Grassland, shrub, and woodland communities occur as distinct lands along the coast. This zonation of vegetation is associated with the various geologic formations and soil types occurring along the coast.

Additional variations in natural vegetation patterns have also been attributed to differences in elevation, exposure, and slope which result in localized differences in temperature, precipitation, and soil moisture.

The vegetation in the project area can be classified into eight native and two man-made plant communities, each characterized by its own physical features, composition and distribution of plant species. The native vegetation communities include coastal strand, coastal bluff, coastal sage scrub, grassland, chaparral, oak savanna, oak woodland, and riparian woodland. The two man-made types are ruderal (weedy and waste places) and agricultural/cultivated areas.^{3. 4}

A wide variety of amphibians, reptiles, birds, and mammals occur in the project area. Extensive species lists are available in previously prepared EIR's for the area (Arthur D. Little, Inc. 1984 and Science Applications Inc. 1984).

E. OCEANOGRAPHY

The oceanographic characteristics of the southern California coastal region have been described in a variety of major baseline studies (MMS 1982, 1983; Allan Hancock Foundation (AHF) 1965; SCCWRP 1973; SAI 1983); much of the following information is drawn from these documents.

The tracts are located in the SBC, a portion of the Southern California Bight generally considered to be in an area of complex coastal currents which are the result of the action and interaction of a number of small to oceanic-scale forces along the rough fluid boundary formed by the Pacific Coast east of Point Conception. The overall pattern of circulation within the SBC is primarily a result of the interaction of the California Current system with locally-generated wind-drift currents and tidal currents.

Currents in the Santa Barbara basin are generally of low velocity (5 to 10 cm/sec) and are highly dependent upon flow between basins to the north and south (Emery 1960). Flow direction is dependent upon the driving current. Flow is toward the northwest during the Davidson Current period (winter) and southeast during the Southern California Countercurrent period (majority of the year). Flow velocities and directions are affected only slightly by tides.

Episodic currents occasionally affect the waters of the Southern California Bight, e.g., "El Nino," an episodic event of relatively long-term scale that results in abnormally warm water. These events last approximately one year, but occasionally terminate shortly after initiation. El Nino events have occurred most recently in 1957, 1965, 1972, 1976, and 1982-1983. Observations and measurements of the 1982-1983 El Nino event are discussed by Halpern et al. (1983).

Wind Driven Currents

Movement of the surface layer of the ocean is controlled by wind drag upon the sea surface and often differs from the underlying movement pattern established by regional currents. Wind generates waves and modifies their surface orbits into a cycloidal elongation resulting in a net transport or drift downwind. Upon cessation of the wind, surface water continues to move because of its inertia.

Wind-generated waves contribute to upwelling. Observations of upwelling in the Santa Barbara Channel indicate that it is episodic in space and time, and, because it is dependent upon the prevailing wind field, can occur locally at virtually any time of the year, usually being most intense in the spring when northern to northwest winds persist. Upwelling is usually detected by the sudden appearance of cold, clear water at the surface nearshore (Pirie et al. 1974).

Littoral Currents

Movement of littoral materials is in response to wave direction and the configuration of the coast. Waves approach the SBC predominantly from the west-to-northwest, producing a southerly transport of littoral sands. Less frequent waves from the southeast cause occasional reversals in the direction of littoral transport. Sources of littoral materials include the streams entering the channel basin, eroded coastal rocks and sediment, and sands from coastal dunes (Bowen and Inman 1966).

In southern California, wind waves are predominantly from the northwest (prevailing wind) but swells may occur from any seaward direction. Nearly all of the southern California coast is protected, to some degree, from swells generated outside the coastal area by the offshore islands. Certain portions of the coast are exposed to essentially unlimited fetches from the west and south, but

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no location is exposed to swell from all possible seaward directions. Along the coast from Santa Barbara to Point Dume, most significant swells arrive from 260° and from 160° to 190° True North.

The protection offered by the Channel Islands is generally so complete that insignificant waves over the shelf are formed mainly in the local area. The restricted fetches allow only the development of low waves with short wave lengths and periods. Larger waves (to 6 or 8 feet [1.8 to 2.4m]) are formed during frontal crossings but have short wave lengths and periods due to the limited fetch. It is only when gale winds of greater than 35 knots (64.8 km/hr) blow from the west that high waves are formed in the local region and travel over the shelf.

During the 1983 winter storms, the primary direction of wave flow was from the south and southeast. Waves in excess of 12 to 15 feet (4 to 5 m) were observed (Scripps Institute of Oceanography, NORPAC Data Center). South-facing coastlines experienced shorebreak in the range of 15 to 20 feet (4.5 to 6 m) and were damaged extensively.

Temperature

Temperature of the sea water in the SBC is controlled by the advective processes that move water into the area and by solar warming and evaporative processes. During the summer months (July, August, and September), inshore waters are generally warm, and a well-defined thermocline exists. In late summer, colder northern water carried by the California Current is moved inshore via the Southern California Countercurrent. Part of the current flows north toward Point Conception and the remainder reverses direction and moves southward along the coast. The surface waters become cooler due to wind-induced mixing the colder deeper waters, and the thermocline gradually disappears. During the winter, storms maintain this mixing. In the spring, an upwelling of colder subsurface waters occurs; summer heat gradually warming the inshore waters completes the cycle.

Stratification of water along the southern California mainland shelf is principally the result of temperature differences with depth. In summer the temperature differential from surface to 200 feet (60 m) may be 15° to 20°F (8° to 11°C). Summer thermoclines are generally observed between 30 and 50 feet (9 to 15 m) and

may show a temperature decrease of as much as 5° to 80°F (3° to 4°C). In winter the temperature difference from surface to 200 feet (60 m) may be as small as 1 to 2°F (0.6 to 1.2°C). Upwelling tends to decrease the depth of the thermocline or to eliminate it altogether.

F. WATER QUALITY

The SBC waters feature mean surface temperatures from 57°F (14°C) near Point Conception to 59°F (15°C) at the eastern end. Temperatures ranged from 47°F to 70°F (8°C to 21°C) on a yearly cycle at Little Cojo Bay five miles (nine km) west of the project site. Salinity averages about 33.5 parts per thousand with very low variability. Dissolved oxygen generally ranges from six to seven milligrams per liter at the surface, and is about 2 milligrams per liter at a depth of 825 feet (250 m). The sea water features low transparency within one mile (1.6 km) of the shoreline.

Natural oil, gas, and tar seeps significantly contribute to the levels of oil substances and sediments. More than 2,000 oil, gas, and tar seepage zones have been located in the California offshore area (SLC, 1977). The most widespread seepage occurs along the northernmost part of the SBC, with a concentration in three areas: Coal Oil Point, Point Conception, and the Santa Barbara to Rincon area. The total volume of oil, gas, and tar released in the SBC has been estimated at up to 100 barrels per day (SLC, 1977).

The oil released from natural seeps off Coal Oil Point typically contaminate up to one square mile of surface water in the SBC. Currents and winds usually cause these slicks to drift in a westerly direction, and can often be observed extending 15 to 20 miles (24 to 32 km).

The main water quality problem in the SBC is caused by municipal and industrial discharges. Most disposal outfalls are located close to shore, and thus only minimal dilution and dispersion is achieved. The communities of Goleta, Santa Barbara, Mendocito, Summerland, and Carpinteria all discharge secondary-treated sewage to the SBC. The total volume discharges is approximately 20 million gallons (76 million liters) per day. These effluents contain about 30 milligrams per liter suspended solids and 60 milligrams per liter of chemical oxygen

demand (COD), as well as some nitrogen compounds, phosphates, and trace metals (SLC, 1980). All these municipal outfalls are in the central to eastern portion of the channel at a considerable distance from the project area.

Offshore oil production sites in the SBC between Point Conception and Carpinteria account for most of the offshore industrial discharges. These discharges consist mainly of oil field brine and tanker ballast water. Total discharge of these liquids is estimated at two million gallons (7.6 million liters) per day. The effluents contain approximately 50 milligrams per liter suspended solids, up to 15 milligrams per liter of oil, and about 2,000 milligrams per liter of COD (SLC, 1980).

G. CULTURAL RESOURCES

Platform Herman Project Area

At least 15 prehistoric sites are known to exist in the over seven-mile (11.5 km) portion of the coast covered by the Sacate Quadrangle (USGS 7.5 Minute Map Series). This high density of onshore coastal sites attests to the potential for nearby prehistoric underwater sites as well. A cultural resources evaluation of this area performed for Texaco by Scientific Resources Surveys (SRS, 1981) listed four sites as being relevant to the Platform Herman area, although the sites are located well away from the platform. Two other sites are located about one mile (1.6 km) offshore to the west of the project area, and were inventoried for the Bureau of Land Management (Stickel et al., 1978; Hudson, 1978); each consisted of a stone mortar artifact found by sport divers. SRS also mentioned that some "12 ethnographic sites are located on the coastline between Point Conception and El Capitan", with the Chumash village of "Tahmaw" indicated as immediately relevant to this area (SRS, 1981).

In terms of offshore cultural resources from the historic period (i.e. shipwrecks), SRS (1981) listed some 14 relevant shipwrecks.

Platform Helen Project Area

SRS (1981) reported that the 12 ethnographic sites between Point Conception and El Capitan (see above) were of relevance to activities in this area. The report listed

two shipwrecks as possibly relevant to this area, based mainly on data compiled for BLM (Stickel, et al., 1978). However, Dr. Stickel's (project archaeologist for the 1982 SLC EIR entitled Resumption of Exploratory Drilling Operations by Texaco, Inc., SCH #81011316) inspection of project geophysical data revealed no shipwrecks or other historic data of significance to this area.

H. LAND USE⁵

Generally, land use density and diversity increases from west to east along the SBC coastline. The westerly portion is devoted to primarily agricultural/ranching and low-density residential uses. The central portion supports a mix of recreational and residential uses; the cities of Santa Barbara and Carpinteria and adjacent unincorporated towns (Goleta, Montecito and Summerland) are located along this stretch of coastline. The southeasterly portion of the coastline includes the cities of Oxnard and Port Hueneme and associated military, harbor, and industrial uses.

Existing onshore oil and gas processing facilities along the Santa Barbara/Ventura County coastline in the vicinity of the lease areas include (from west to east): Gaviota Interim Marine Terminal operated by Gaviota Terminal Company; Shell of California's Molino gas plant at Canada de la Huerta; Phillip's Tajiguas gas plant at Tajiguas; POPCO's gas plant and Exxon's proposed processing facility at Las Flores Canyon; ARCO's and Phillips' Ellwood facilities at Tecolote Canyon; Chevron's processing facility at Carpinteria; Mobil's Rincon processing facility; and Union's Mandalay processing facility. Additionally, a processing facility has been approved at Gaviota.

The platforms are situated in waters between Point Conception and Gaviota. The nearshore areas are characterized as generally rural, with some area beaches. This is a low-density land use area, supporting a few private residences (single family dwellings). Any activities in the area must conform to the policies of the Santa Barbara County Local Coastal Plan (LCP), the Coastal Act and LCP Land Use Plan zoning.

I. SOCIOECONOMICS⁶

Between 1970 and 1980 Santa Barbara County population grew at an annual compound rate of growth of 1.2 percent, and in 1985 the County's population was approximately 322,700. Population growth is significantly constrained by limited water availability, restrictions on land development, and restrictions on construction of new housing.

The number of vacant available housing units in Santa Barbara County has been declining for several years. In 1980, only 59 percent of the 5,405 vacant units in the County were available for purchase or rent. In 1985, an estimated 1,543 units were vacant and available from Goleta to Carpinteria. Because of construction constraints, vacancy rates are expected to decline throughout this decade.

There are two distinct economic centers in the County. In the North County (i.e. Lompoc, Santa Maria, Santa Ynez, Guadalupe, and Cuyama planning area), agricultural and government employment associated with Vandenberg Air Force Base programs provide the principal employment. In the South Coast Region (i.e. Goleta Valley, Santa Barbara, Montecito, and Carpinteria planning areas), major employment is provided by tourism, an increasing light manufacturing sector, the University of California, and County governmental offices.

J. RECREATION

Regional Overview

A wide range of active and passive ocean-oriented recreational activities are available in Southern Santa Barbara County and Northern Ventura County. Popular beach and ocean activities include swimming, sunbathing, fishing, camping, biking, passive ocean viewing, surfing, diving and boating.

Principal parks and beaches along the coastline from west to east include Gaviota State Park, Refugio State Beach, El Capitan State Beach, Isla Vista Beach, Goleta Beach County Park, Hobson County Park, Faria County Park, Emma Wood State Beach, San Buenaventura State Beach, McGrath State Beach, and Mandalay Beach Park.

The only extensive area of coastline in which public coastal access is restricted is located adjacent to Bixby and Hollister Ranches.

Present use levels at Santa Barbara County beach areas reflect weekend and holiday use at virtually 100 percent of capacity during the months of April through October (Berwick and Thompson, 1984); usage of relatively isolated County coastal recreation areas, however, does not approach crowded conditions found closer to the major metropolitan areas.

The primary policy document which addresses recreational resources along the Santa Barbara County coastline is the Santa Barbara Local Coastal Program (SB-LCP, 1982). The Coastal Access and Recreation Element of the SB-LCP was prepared according to Sections 30210 through 30223 of the California Coastal Act (1976), which address the public's right of access to beach areas below the ordinary high water mark. Access is to be provided consistent with public safety needs, the need to protect public rights, and rights of private property owners and natural areas from overuse.

Recreational and coastal access planning issues in Santa Barbara County are related to capacity use of existing facilities; provision of a wide variety of recreational opportunities for residents and visitors (from undeveloped/natural areas to highly developed areas which provide the full range of visitor services); protection of environmentally sensitive habitat areas; restoration and enhancement of coastal recreational areas; resolution of conflicts between incompatible recreational uses; and provisions of adequate auto and non-auto-dependent access to coastal areas.

Local Conditions

Leases PRC 2206 and 2725 are located adjacent to the Hollister Ranch coastline in the Northern SBC. This portion of coastline is restricted from onshore access to private property owners in the vicinity. Offshore access for surfing, swimming, diving and sportfishing is available, however, in the vicinity of the leases, and partyboat fishing is available from Goleta (one boat) and Santa Barbara Harbor (three boats). Although most of the partyboats from Santa Barbara fish the areas south and east of Santa Barbara Harbor, whitefish and halibut are fished near Cojo Bay (Berwick and Thompson, 1984).

K. COMMERCIAL FISHING

The commercial harvest of marine resources in the Santa Barbara region is well established and of recognized economic importance. While recent advances in fishing technology have been applied to commercial fisheries in other regions of the state, the industry in Santa Barbara is characterized by a combination of small vessels designed for nearshore fishing.

Santa Barbara represents the principal port of the SBC with 200 commercial slips in the harbor, all of which are presently taken. In addition, about 180 commercial vessels visited the harbor for at least one night during the first six months of 1983 (Thompson, 1984). Of the 200 local boats, approximately 30 fish for abalone and about 50 are engaged in the sea urchin harvest. Although technologically and socially apart from traditional commercial fishing, diving for sea urchins has become the leading fishery in the SBC in terms of landed value. Thirteen trawlers currently drag for bottomfish, shrimp, and sea cucumbers. An estimated 30 vessels operate set gill nets. About 20 to 30 fish drift gear for shark and swordfish; many of the drift net fishermen also engage in the harpoon fishery.

Approximately 6 salmon/albacore boats make Santa Barbara their home, seasonally fishing the entire west coast. Finally, there are currently about 12 crabbers and 6 hook and line boats within the Santa Barbara fleet. The remainder of the fleet is composed of nonfishing commercial vessels such as tugs, transport boats, and research vessels. Fishermen out of Santa Barbara, as well as from Ventura and Oxnard/Port of Hueneme, primarily use local waters within the SBC and around the Channel Islands. Some fishing also is done north of Point Conception and south of the islands.

Most of the vessels in the fleet at Santa Barbara are owned by the fishermen operating them. Some fishermen employ one or two crewmen.

The average financial performance of various commercial fishing vessels was projected in a recently conducted economics analysis (ERG Pacific 1985). The California Department of Fish and Game reported that for 1985, landings in Santa Barbara region (which includes Ventura, Oxnard and Port Hueneme) were 49,832,482 pounds valued at \$20,541,046.

Preliminary data, through June of 1986 shows the catch to be 23,215,530 pounds. During the same time period - January through June 1985 the catch was 17,832,491. The base fishing is between 1.8 and 2.5 million pounds per month, but the highly significant seasonal fisheries raises the average monthly landings. These seasonal fisheries include mackeral, halibut, lobsters, crabs, and sea urchins and provide a significant amount of the total fishing value.

A number of regulations and policies relating to offshore oil and gas development affect commercial fishermen. The Coast Guard has established safety zones around Platforms Hondo A and Grace (CFR Title 33, Section 147.05-11.02 through 11.08) and has indicated its intent to establish similar zones around all proposed platforms. The boundaries of these zones are 500 m (1,620 feet) from the outer projections of the platforms. All vessels are excluded from these zones except: (1) vessels less than 100 feet (30 m) in length; (2) vessels attending the platforms; and (3) vessels authorized by the Coast Guard. Since vessels in the regional fishing fleet are less than 100 feet (30 m) in length, they would not be excluded from the areas.

The MMS issues Pacific OCS orders, stipulations and regulations on OCS leases which are designed to mitigate impacts to fishing from OCS oil and gas activities. Specifically, Lease Sale 53 stipulations 7a and b entitled "Wells and Pipelines" require that pipelines, unless buried, have smooth-surface design or be protected such that trawl gear can pass over the line without snagging, which would damage the structure or the fishing gear. The Fisheries Training Program stipulation (Lease Sale 53, No. 8) requires that personnel involved in offshore oil and gas operations be trained in the value of fishing and methods used in the commercial fish industry, and potential conflicts which may arise between the two industries. Pacific OCS Order No. 1 also requires marking of equipment (of such size and nature that it could be expected to interfere with fishing gear if dropped overboard) so that proper ownership can be determined.

Federal laws which can be invoked to mitigate impacts to fishermen include the Fishermen's Contingency Fund, the Oil Pollution Compensation Fund, and the Fishing Vessel and Gear Damage Compensation Fund. The Fishermen's Contingency Fund was established by the OCS Lands Act to compensate fishermen for damages caused by oil and gas OCS

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activities when no responsible party can be found. The NMFS administers these funds. Fishermen have indicated that the available mechanisms are not fully responsive to all the types of situations they encounter.

The California Coastal Commission, through its consistency review for offshore and marine facilities and permitting process for those facilities within state waters, may impose conditions designed to minimize impacts to the commercial fishing industry. California Coastal Act Section 30231 protects marine organisms used for commercial purposes and Section 30234 protects commercial fishery facilities from competing intrusions.

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III. ENVIRONMENTAL SETTING - PROPOSED REEF SITE
(ALTERNATIVE #1)
(See page 23)

The preferred alternative entails transporting the platform materials by barge to Santa Monica Bay, and placing the materials around an existing artificial reef (the Liberty vessel "Palawan").

The reef site is located approximately 1 1/2 miles offshore at Redondo Beach at 33 degrees, 50 minutes, 15 seconds north, and 118 degrees, 24 minutes, 50 seconds west, in approximately 120 feet of water.

The "Palawan" operated in World War II. It is 441 feet long, 57 feet wide and approximately 30 feet high at its highest point. It was placed in this location as an artificial reef in 1976, and lies on a sandy ocean bottom.

The DFG regulations have designated this area as closed to commercial fishing. There is a small, commercial recreational concession operating in the waters above the existing reef which services recreational fishermen.

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IV. IMPACTS/MITIGATION - REMOVAL SITES

A. MARINE GEOLOGY

Impacts

Platform and pipeline removal operations are expected to have no significant direct effect on the geologic environment. None of the geologic features or processes in the area is considered likely to affect abandonment procedures or cause adverse impacts during the proposed operation.

Mitigation

None required.

B. AIR QUALITY

Impacts⁷

It is anticipated that abandonment of the two platforms and pipelines will require a five-stage process (see Project Description) involving approximately 44 days. The major pollutant type would be nitrogen oxides from support vessel activities (see Equipment List in Project Description). Other pollutants include carbon monoxide, sulfur oxide and particulate emissions. Projected emissions could reach significant levels but are expected to be relatively low and of short duration.

Mitigation

Minimize usage of vessels and equipment, avoiding unnecessary engine running times; ensure that appropriate emission control equipment is utilized; vehicles and equipment will be inspected to ensure that emission control systems are operating properly.

C. MARINE BIOLOGY

Impacts

Potential impacts on resident marine biota would likely result from cutting and dismantling the platform structures, pipeline removal and transportation of personnel and materials.

The intertidal communities would be disrupted by the removal of the pipelines at Alegria and St. Augustine beaches. Trenching, removal, backfill, and the use of heavy construction equipment on the beach will cause organisms inhabiting the impacted areas to be crushed or displaced. These activities are expected to result in low, short-term, localized impacts on sandy beach and intertidal communities.

Benthic communities would also be disrupted by support vessel anchorage and other removal activities. Organisms inhabiting the areas in which the activities will occur will be crushed or displaced. In addition, mechanical impacts will temporarily increase turbidity in a localized area, potentially generating adverse impacts on benthic organisms (e.g. clogged gills). These activities are expected to result in low, short-term, localized impacts on shallow sedimentary bottoms. Impacts on hardbottom could be more serious, but the temporary localized nature of the turbidity minimizes these impacts.

Planktonic communities would be effected by the generation of turbidity, which could reduce photosynthesis and zooplankton feeding in localized areas.

Removal operation noise may cause fish to avoid the area. Benthic species destroyed as a result of construction could also reduce the availability of prey organisms to fish. Any fish displacement is likely to be localized and temporary, with fish returning when operations are completed.

Marine birds may be minimally impacted by project-associated noise which could disrupt nesting, breeding, migration or feeding activities. Turbidity can affect feeding activities of diving birds such as the California Brown Pelican. However, piscivorous birds tend to feed over a large area, and localized short-term turbidity should not cause a significant impact.

Noise and turbidity may also affect marine mammals. Noise could interfere with acoustic signals of cetaceans and could disturb pinniped populations. Turbidity could have limited effects on foraging activity of some sight-aided predators but is likely to be low impact, localized and short-term.

The platforms have become artificial sub-tidal reefs which have attracted fish to forage on associated resident organisms. Removal of the platforms would create a highly localized and unmitigable impact.

Mitigation

Utilize removal methods which minimize turbidity and bottom disturbance; avoid disturbing bird breeding and nesting areas during breeding seasons; avoid disturbing pinniped haulout areas and rookeries, and; restore habitats damaged by project activities.

D. TERRESTRIAL BIOLOGY

Impacts

Although the Gaviota coastline supports a diversity of vegetation types, the immediate area from which the pipelines will be removed consists of sandy beach and clay with sparse weeds and grasses at Alegria Beach (Platform Helen); St. Augustine Beach (Platform Herman) is clay-shale with a bluff supporting coastal sage scrub.

Pipeline removal will have only minor impacts on beach and coastal sage scrub habitats due to the relative abundance of similar habitats in the project area and the relatively rapid recovery of these habitats following pipeline removal. Any wildlife present would be affected by disturbance of habitat, and the noise and human activity associated with the project.

Mitigation

Each site will be restored as nearly as reasonably possible to pre-project conditions, including revegetation if necessary; removal methods will minimize habitat disturbance; erosion-control methods will be employed for pipeline removal at the St Augustine Beach bluff.

E. OCEANOGRAPHY

Impacts

The impact of the removal operation on currents and tides in the project area would be limited to a negligible increase in local turbulence; no significant impact on project operations is expected from currents and tides.

The removal operation would not impact wave activity in the area, however, high waves and winds associated with severe local storms could hamper operations. Such conditions could cause boat transport and platform and pipeline removal to be curtailed.

The temperature, salinity and density of ambient sea water is not expected to be significantly impacted by removal.

Mitigation

The effects of waves on project activities during storms will be mitigated by removal during the summer season, and by monitoring the marine weather during the project. The work schedule will be adjusted to accommodate intervals of inclement weather.

F. WATER QUALITY

Impacts

Impacts to water quality may result from the physical removal and disposal of the platforms and pipelines, minor accidental spillages, and minor releases from vessels involved in the removal operation. If cutting and removal of platform pilings occurs below the mudline, some disturbance and resuspension of bottom sediments would result. These impacts are expected to be minor, temporary and localized.

Any debris and bilge pollution caused by work and support vessels is also expected to be minor, temporary and localized.

Mitigation

Any accidental impacts can best be mitigated by strong preventive measures, including properly maintained equipment, crew training and conscientious vigilance.

Any oil, grease, residue, etc., cleaned or drained from removed materials, and any water, solvents or other cleaning agents, will be disposed in accordance with existing regulations.

G. CULTURAL RESOURCES

As indicated in the Environmental Setting Section, the nearest known prehistoric or ethnohistoric sites to the existing platforms are located well away from the project areas. There are no shipwrecks or other known historic articles in the project area that would be affected by removal operations (SRS, 1981). However, in order to avoid any loss of potentially significant archaeological resources, all activities should avoid any unidentified anomalies.

H. LAND USE

Impacts

Onshore vehicles will include a diesel powered backhoe, diesel tractor, two 60-foot flatbed trucks, three to four pickup trucks and a diesel cementing unit. Access at Allegria Beach is via Hollister Ranch Road and the Allegria Beach access road; access to St. Augustine Beach is gained via Hollister Ranch Road and the St. Augustine Beach access road.

Offshore vessels will include a 30-foot diving support boat, an underwater inspection vehicle, a 180-foot work boat, a 250/300-foot derreck barge, a cargo barge, a 115-foot barge tug, and a 100-foot survey boat.

Offshore activities will not significantly affect land use patterns in the project vicinity. Onshore pipeline removal activities should take a total of five days. Impacts associated with pipeline removal would not be significant due to the temporary nature of the disruption and the largely undeveloped nature of surrounding lands.

The proposed activities are generally consistent with the policies of the Santa Barbara County Local Coastal Plan (LCP) and the Coastal Act, as well as LCP Land Use Plan zoning, in that these activities involve no new onshore structures, easements, rights-of-way, production, marine terminals, processing plants, or pipelines.

Mitigation

Normal removal operations would not create any significant conflicts or impacts on existing coastal land uses, nor on future land use designations, Local Coastal Plan or Coastal Act policies. Consequently, no mitigation measures are necessary.

Although recreational beach use during the removal process will be temporarily disrupted and area boaters must exercise increased caution to avoid collision with crew and supply boat activities, such impacts will be temporary and localized. When the proposed activity is completed, potential navigational and recreational boating impediments (the platforms themselves) will have been removed.

I. SOCIOECONOMICS

The short-term, localized nature of the proposed project will preclude significant impacts in the areas of public services and utilities, growth inducement, and fiscal issues (property values and tourism revenues). Since production from these platforms ceased years ago, removal of the platforms will affect any activities related to socioeconomic impacts.

J. RECREATION

Impacts

Removal operations are not expected to significantly impact recreational activities in the project vicinity. Beach developments and other recreational areas should remain largely undisturbed. The proposed activity may also result in a beneficial aesthetic impact since an unobstructed view of the ocean horizon from onshore will remain after the present structures are removed. Removal activities will also eliminate possible impediments and hazards to recreational boaters and windsurfers.

Movement and/or anchorage of work and support vessels offshore would temporarily preclude use of a localized area for boating and diving. Crew and supply boat activities would be expected to cause boating enthusiasts to exercise greater caution in navigation, to avoid collision.

Mitigation

None required.

K. COMMERCIAL FISHING

Impacts

Fisheries potentially affected are set gillnet, trap, and diving. Removal operations may impact fisheries due to a preclusion zone created by support vessels, barges and ancillary vessels. All of the affected fisheries are small boat operations; impacts will be localized and short-termed. The use of fixed gillnets will be restricted due to the increased level of boat traffic and the high risk of net loss.

Any unrecovered petroleum-related equipment or materials on the ocean bottom may cause potential damage to nets and trawls.

Although fish are attracted to the platforms (as artificial reefs), platform removal is not expected to have a noticeable or long-term effect on commercial fishing operations.

Mitigation

Local fishermen will be alerted to potential hazards posed by removal operations; the use of barges at anchor will be minimized to reduce anchor scar impacts, and anchors will be set and retrieved vertically; any mooring buoys will be promptly removed upon project completion; all equipment, materials and debris which may present a hazard to fishing gear will be cleared (a post-removal survey will assure retrieval of objects).

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V. IMPACTS/MITIGATION - PROPOSED REEF SITE
(ALTERNATIVE #1)

- o - Transporting platform materials from Gaviota to Redondo Beach increases waterborne traffic and risk of accident. This increase and risk, however, are negligible. All applicable safety and navigational precautions will be utilized in preparing for - and during - transport.
- o An air quality impact may arise as emissions from barge and/or workboat activity will occur. Such impacts will be short-term and minimal. All appropriate emission control equipment will be utilized; vehicles and equipment will be inspected to ensure that such systems are operating efficiently. Unnecessary engine running times will be avoided.
- o Resident marine biota may be disturbed. Such disturbance, however, will be very localized, short-term, and held to a reasonable minimum.
- o Any water quality impacts caused by the physical placement of the platform materials on the ocean bottom will also be localized and short-term. Minor releases and/or accidental spillages from vessels involved in the operation may occur. Conscientious preventive measures will be applied to prevent such occurrences.
- o There will be no impact on commercial fishing as this area is closed by DFG regulations to all commercial fishing.
- o During reef placement there will be a localized impact on recreational boating and fishing. The commercial concession operating in the area would also be temporarily effected. All efforts will be made to expedite the placement process and to alert all boat traffic in the area to avoid the location of the project. Once placement is accomplished, however, there is expected to be further fish aggregation in this area, resulting in a beneficial effect on recreational fishing activity.

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FOOTNOTE REFERENCE

The material incorporated in this document as cited below is taken from a Draft Environmental Impact Report entitled, Resumption of Exploratory Drilling Operations by Texaco, Inc., (1982, State Lands Commission, EIR 301, State Clearinghouse No. 81011316).

1. Pp. 3-32 to 3-37
2. Pp. 3-43 to 3-58 for a detailed discussion of air quality standards.
3. Pp. 3-78 to 3-93 for a site-specific description of the various marine biological communities and habitats, unique marine environments, and rare and endangered species.
4. Pp. 3-94 to 3-97
5. Pp. 3-119 to 3-127 for a discussion of zoning ordinances, recreation and aesthetics
6. Pp. 3-97 to 3-108 for further information on population, housing, employment, and commercial and sport fishing in the project area.
7. P. 4-5 (Table 4-1) for emission factors for equipment associated with the project.

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