

CALIFORNIA COASTAL COMMISSION

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REGULAR CALENDAR : STAFF RECOMMENDATION

Permit Number: E-95-10

Applicant: ARCO Oil and Gas Company

Agent: Simon Poulter, Fugro West, Inc.

Project Description: Abandon one subsea completion oil well (Well No. 1); and remove/abandon-in-place two flowlines (i.e., one flowline "bundle") in State waters, 8,300 feet offshore of Gaviota, Santa Barbara County (PRC 2793 and PRC 2199) (Exhibit 1).

Approvals Received: State Lands Commission certified EIR No. 663 (No. 94121042) and approved the Santa Barbara Channel Subsea Well Abandonment and Flowline Abandonment/Removal Program, October 17, 1995.

Substantive File Documents: See Appendix A.

SYNOPSIS

ARCO Oil and Gas Company ("ARCO") proposes to (1) abandon permanently one subsea completion oil well (including removal of the wellhead) (Well No. 1); and (2) remove/abandon-in-place two flowlines (one "bundle") in State waters (State oil and gas leases PRC 2793 and PRC 2199), 8,300 feet offshore of Gaviota in Santa Barbara County (Exhibit 1).

ARCO is one of six offshore oil and gas operators (Phillips Petroleum Company, ARCO Oil and Gas Company, CalResources LLC/Shell Western Exploration & Production Inc. (SWEPI), Union Oil Company of California (Unocal), Texaco Exploration and Production Inc. and Chevron USA) that are proposing a coordinated Santa Barbara Channel Subsea Well Abandonment and Flowline Abandonment/Removal Program (the "Subsea Well Abandonment Program"). The overall Subsea Well Abandonment Program encompasses two phases: (1) permanent abandonment of 23 subsea completion oil or gas wells on nine separate State leases between Point Conception and Summerland; and (2) abandonment-in-place/removal of 47 flowlines at three of the lease sites (Phillips, ARCO and CalResources/SWEPI).

The Subsea Well Abandonment Program is being undertaken to comply with the well operators' State Lands Commission ("SLC") oil and gas lease provisions. The lessees are, at the request of the State, to remove all "platforms, fixed or floating structures" and "restore the premises" upon the expiration or termination of the leases. To abandon the 23 wells, the well operators propose to bring a single, shared jack-up rig to the Santa Barbara Channel. The 23 wells will be abandoned sequentially over a 12 consecutive month period. The flowline abandonment/removal phase will occur during a separate 12 month period.

Although the six well operators are contracting jointly to use a single jack-up rig, the operators consider each company's well abandonment and flowline abandonment/removal activities to be separate projects. The well operators thus submitted to the Coastal Commission seven separate coastal development permit ("CDP") applications. This staff report evaluates ARCO's project only. The Coastal Commission approved Phillips' application E-95-9 to abandon five subsea completion gas wells and remove/abandon-in-place 27 flowlines at its March 1996 meeting.

ARCO's proposed operations include (1) positioning the jack-up rig at the well site (i.e., lowering the rig's legs and anchors); (2) permanently plugging the shut-in well with cement; (3) removing the wellhead structure for onshore disposal; (4) removing the nearshore segments of the flowlines that lie between shore and approximately 600 feet from shore; and (5) abandoning in place the offshore segments of the flowlines that extend from a point approximately 600 feet from shore to the wells. Flowline removal activities will require onshore excavation (about 70 cubic yards of sand) at the Gaviota Marine Terminal landfall. The well abandonment phase is expected to take 70 days (2.5 months) to complete and the flowline abandonment/removal phase is to be completed in 1.5 months.

Table 1 (pgs. 3 and 4) summarizes project-related significant issues, potential impacts and the mitigation measures and conditions that ARCO will implement to avoid, or reduce to insignificance, any impacts. The staff believes the project, as proposed and conditioned, is consistent with Coastal Act policies. The staff recommends approval of the project as conditioned.

Table 1. Issue Summary: Potential Impacts and Proposed Mitigation Measures/Conditions

Significant Issue Area	Proposed Mitigation Measures/Special Conditions/Other
<p>Oil and Gas Spills</p>	<p>Issue: An oil or gas release could occur from: (1) a well blowout; (2) rig-vessel collision; or (3) flowline rupture or leak.</p> <p>Mitigation Measures:</p> <ul style="list-style-type: none"> • ARCO will equip every well with a blowout prevention system prior to well abandonment activities. • ARCO will pig and purge with fresh water all flowlines. Special Condition 3 requires that the flowline contents be tested for oil and grease content. The flowlines are not to be cut until the oil and grease content is below 30 ppm. • After ARCO completes a pre-abandonment survey (Special Condition 5) of the work area, and before commencement of project activities, ARCO is to submit and implement a Final Anchoring Plan (Special Condition 6) that includes (1) anchoring procedures and locations, and (2) anchor preclusion zones (areas where oil and gas subsea infrastructure exists). • Special Condition 4 requires that prior to offshore flowline cutting activities at the wellheads, ARCO shall-deploy a seep tent. • ARCO will maintain a designated standby vessel at the project site at all times equipped with 2,000 feet of boom, an 18-foot boom boat, skimmer and absorbent pads. ARCO is also a member of the Clean Seas oil spill cooperative.
<p>Commercial /Recreational Fishing</p>	<p>Issue: The project could result in the following economic impacts to commercial fishermen and sportfishing groups: (1) jack-up rig placement will temporarily preclude fishing in the work area, and (2) removal of the wellhead will result in a reduction of artificial structures at which certain commercial and sportfishing occurs. The Central Coast Hook and Line Fishermen's Association, has requested that either (1) the wellheads structures be abandoned-in-place; or (2) the well operators build new deep water reefs to replace the wellheads.</p> <p>Mitigation Measures:</p> <ul style="list-style-type: none"> • ARCO will comply with all established vessel traffic corridors and oil service support corridors while in the Santa Barbara Channel. • Local fishermen will be notified of project activities via a Notice to Mariners and through Joint Oil/Fisheries Committee notification procedures. • ARCO and the other well operators have agreed to pay compensation to commercial hook and line fishermen for documented loss of catch associated with areal preclusion caused during rig operations at the well locations. <p>Other Issues:</p> <ul style="list-style-type: none"> • The Commission finds that abandoning the wellheads in place is not a "feasible" project alternative. <i>(See section 4.3.2 of these findings.)</i> • The Commission does not believe that the well operators should be required to provide mitigation for economic impacts to commercial/recreational fishermen due to the removal of wellheads placed on the seafloor for the sole purpose of oil and gas production, not fisheries enhancement. The fishermen and sportfishing groups that successfully fish at these wellhead sites have over the years derived an incidental economic benefit from the placement of these structures on the seafloor. SLC lease provisions are expressly clear that these wellheads and other oil and gas structures are to be removed upon termination or relinquishment of the leases. <i>(See section 4.5.3 of these findings.)</i>

Table 1. Issue Summary: Potential Impacts and Proposed Mitigation Measures/Conditions

Significant Issue Area	Proposed Mitigation Measures/Special Conditions/Other
Air Quality	<p>Issue: The overall Subsea Well Abandonment Program will result in a release of 90 tons NO_x emissions causing significant air quality impacts.</p> <p>Mitigation Measures:</p> <ul style="list-style-type: none"> • Although current Santa Barbara County APCD rules and regulations exempt the Subsea Well Abandonment Program from permitting requirements, ARCO and the other well operators have agreed to an "Emission Reduction Agreement" that includes payment of \$748,750 to the APCD that will be used to fund programs (such as retrofitting of trawling engines) to help mitigate the short-term air quality impacts caused by implementation of the Subsea Well Abandonment Program.
Marine Resources	<p>Issue: Positioning of the rig and deployment of anchors during project operations may result in impacts to hard bottom or kelp plants.</p> <p>Mitigation Measures:</p> <ul style="list-style-type: none"> • Special Condition 5 requires ARCO's consultant to conduct a pre-abandonment survey of the project area to identify the location and abundance of hard bottom and kelp. • Special Condition 6 requires ARCO to submit for executive director approval and implement a Final Anchoring Plan (based on the results of the pre-abandonment survey) that includes (1) anchoring procedures and locations, and (2) anchor preclusion zones (hard bottom and kelp areas). • Special Condition 7 requires that within 30 days of project completion, ARCO's consultant conduct a post-abandonment survey to identify the location and quantify the extent of any disturbance to hard bottom and kelp plants caused by project activities. Within 45 days of completing the post-abandonment survey, ARCO's consultant is to submit directly to the executive director the results of the post-abandonment survey and an analysis of the pre- and post-abandonment survey results. • If a comparison of the pre- and post-abandonment surveys shows that impacts to hard bottom have occurred, Special Condition 8 requires ARCO to compensate for all adverse impacts to hard bottom through payment of a compensatory hard bottom mitigation fee to the United Anglers of Southern California (UASC). The fee will be calculated by multiplying the total square footage of adversely affected hard bottom by a compensation rate of \$6.57. The fee is to be used by the UASC and the California Department of Fish and Game (CDFG), in combination with any hard bottom mitigation fees paid by the other well operators, to construct a new artificial reef or augment an existing reef within the Southern California Bight, pursuant to a Memorandum of Agreement by and between the Coastal Commission, the CDFG and the UASC (<i>See Exhibit 7</i>). • If the results of the pre- and post-abandonment surveys show that project activities caused statistically significant damage to kelp plants, Special Condition 9 requires ARCO to develop a Kelp Restoration Plan and submit it to the Commission in the form of an amendment to this permit.

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1.0 STAFF RECOMMENDATION

Approval With Conditions

The staff recommends that the Commission adopt the following resolution:

The Coastal Commission hereby **grants** permit E-95-10, subject to the conditions below, for the proposed development on the grounds that (1) as conditioned the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976 and (2) there are no feasible alternatives or feasible mitigation measures available, other than those specified in this permit, which would substantially lessen any significant adverse impact which the activity may have on the environment.

2.0 STANDARD CONDITIONS See Appendix B.

3.0 SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. Prior to commencement of project activities, ARCO shall notify the executive director of the Coastal Commission (hereinafter "executive director") of the drill rig ARCO shall use for well abandonment operations. If ARCO plans to use a drill rig other than the *Glomar Adriatic VIII*, it shall demonstrate to the satisfaction of the executive director that the operational characteristics and impacts of such other rig will be equivalent in all material respects to those of the *Glomar Adriatic VIII*. If in the opinion of the executive director (in consultation with the State Lands Commission and the Santa Barbara County Air Pollution Control District) the specifications of the rig are not materially equivalent to the *Glomar Adriatic VIII*, ARCO shall not employ such other drill rig on the project except in accordance with a Commission-approved amendment to this permit.
2. Prior to commencement of project activities, ARCO shall submit to the executive director copies of any permits or other approvals for the proposed project required by the Army Corps of Engineers and Santa Barbara County.
3. Prior to commencement of project activities, the contents of the flowlines shall be monitored and tested at the pipeline outlet for oil and grease content. The flowlines shall not be cut until the oil and grease content is below 30 ppm.
4. Prior to offshore flowline cutting activities at the wellheads, ARCO shall deploy a seep tent.

5. Prior to commencement of project activities, a pre-abandonment survey of the offshore and nearshore project area shall be completed by a consultant approved by the executive director. ARCO shall submit to the executive director for review and approval the work plan for the pre-abandonment survey prior to its implementation. The pre-abandonment survey shall include but not necessarily be limited to: (1) quantification of kelp plant abundance by species, age class (i.e., new recruit, juvenile or adult) and location (i.e., on or off the flowlines) in a corridor centered over the flowline bundles and a nearby control area of the same size; (2) quantification of the number of stipes of each giant kelp (*Macrocystis pyrifera*) plant encountered during the survey; (3) the location, areal extent and physical characterization (i.e., high or low relief, sand-covered, etc.) of hard bottom habitat within the project's impact zones; (4) estimates of diversity and abundance of (a) benthic species and (b) fish associated with hard bottom habitat in the project area; and (5) the burial status of the flowline segments that are proposed to be abandoned-in-place.

Within 45 days of completing the pre-abandonment survey, ARCO's consultant shall submit directly to the executive director a written report describing the results of the pre-abandonment survey. The executive director may for good cause grant an extension of this deadline provided that ARCO submits a written request for an extension that includes reasons for the extension and a revised timeline for submitting the pre-abandonment survey.

6. After the pre-abandonment survey is completed and prior to commencement of project activities, ARCO shall submit to the executive director for review and approval a Final Anchoring Plan that includes (1) anchoring procedures and locations; and (2) anchor preclusion zones (i.e., areas where the pre-abandonment survey identified the presence of hard bottom, kelp and subsea oil and gas infrastructure (e.g., flowlines)).
7. Within 30 days of project completion, ARCO's consultant (approved under Special Condition 5) shall complete a post-abandonment survey of the offshore project area. ARCO shall submit to the executive director for review and approval the work plan for the post-abandonment survey prior to its implementation. The post-abandonment survey shall: (1) identify the location and quantify the extent (i.e., number of square feet) of any disturbance to hard bottom areas caused by project operations; (2) identify the location and quantify the extent of any damage to kelp plants caused by project operations; and (3) verify that the project area is free of debris.

Within 45 days of completing the post-abandonment survey, ARCO's consultant shall submit directly to the executive director a written report describing the results of the post-abandonment survey and an analysis of pre- and post-abandonment survey results to derive net project impacts to hard bottom habitat and kelp resources. The executive director may for good cause grant an extension of this deadline, provided that ARCO submits for approval by the executive director a written request for an extension that includes reasons for the extension and a revised timeline for submitting the post-abandonment survey.

8. ARCO shall compensate for all project-related adverse impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement (MOA) by and between the California Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 7).

The amount of the compensatory hard bottom mitigation fee shall be calculated by multiplying the total square footage of adversely affected hard bottom (as determined by the pre- and post-abandonment surveys) by a compensation rate of \$6.57 per square foot. The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the executive director's review and written approval of the results of the pre- and post-abandonment surveys.

9. If the results of the pre- and post-abandonment surveys show that project activities caused statistically significant damage to kelp plants, ARCO shall within 60 days of completing the post-abandonment survey develop a Kelp Restoration Plan and submit it to the Commission in the form of an amendment to this permit. The executive director may for good cause grant an extension of this deadline provided that ARCO submits a written request for an extension that includes reasons for the extension and a revised timeline for submitting the amendment application.

4.0 FINDINGS AND DECLARATIONS

The Commission finds and declares as follows:

4.1 Project Background - "The Subsea Well Abandonment Program"

4.1.1 Shared Drill Rig

Six offshore oil and gas well operators, Phillips Petroleum Company, ARCO Oil and Gas Company, CalResources LLC/Shell Western Exploration & Production Inc. (SWEPI), Union Oil Company of California (Unocal), Texaco Exploration and Production Inc. and Chevron USA, are proposing a coordinated Santa Barbara Channel Subsea Well Abandonment and Flowline Abandonment/Removal Program (hereinafter referred to as the "Subsea Well Abandonment Program"). The Subsea Well Abandonment Program encompasses two phases: (1) permanent abandonment of 23 subsea completion oil or gas wells on nine separate State leases between Point Conception and Summerland (including wellhead assembly removal); and (2) abandonment-in-place/removal of 47 flowlines at three of the lease sites (Phillips, ARCO and CalResources/SWEPI) (See Exhibit 2 and 3).

The Subsea Well Abandonment Program is being undertaken to comply with the well operators' State Lands Commission oil and gas lease provisions. The lessees are, at the request of the State, to remove all "platforms, fixed or floating structures" and "restore the premises" upon termination or relinquishment of the leases. (See, for example, *SLC oil and gas lease PRC 2793.1, section 14, issued to ARCO and other lessees in October 1961.*)

To abandon each of the 23 subsea wells, the well operators propose to bring a single, shared jack-up rig¹ to the Santa Barbara Channel. Under this approach, only a single rig mobilization to the Santa Barbara Channel region will be required, thereby reducing environmental impacts and lowering the costs each individual operator would incur should independent rig mobilization be pursued. At present, there is no such rig located on the western coast of the United States. The operators have not yet contracted for a drilling rig². However, for purposes of environmental review, the well operators chose a representative jack-up rig, the *Glomar Adriatic VIII*, as the type of rig to be used for well abandonment.

The rig will most likely be "dry-towed" into the Santa Barbara Channel on board a long-distance, heavy-lift vessel. Upon reaching the Santa Barbara Channel, the jack-up rig is to be floated and towed by support vessels to its destination. The jack-up rig will be supported by two workboats, one standby vessel, one tug/anchor assist vessel and one crewboat. The operators plan to abandon the 23 wells in geographic sequence, if feasible, from west-to-east. The well abandonment phase of the overall project is estimated to take 12 months to complete.

Three of the operators, ARCO (PRC 2199), Phillips (PRC 2933) and CalResources/SWEPI (PRC 2920), propose also to remove/abandon-in-place 47 flowlines (or "pipelines") that extend from wellsites to onshore processing facilities. The flowline abandonment/removal phase involves (1) abandonment-in-place of flowlines in the subtidal zone; and (2) removal of flowline segments in the nearshore shallow intertidal zone (shoreward from the 15 foot water depth).

4.1.2 Submittal of Separate Coastal Development Permit Applications

Although the six offshore oil and gas well operators are contracting jointly to bring a single jack-up rig to the Santa Barbara Channel as a means to abandon the 23 subsea wells, the operators consider each company's well abandonment and flowline removal/abandonment activities to be separate projects. The six operators have submitted a total of seven individual coastal development permit ("CDP") applications for each company's respective well and flowline

¹ A jack-up rig is a mobile, floating well-drilling platform that is designed to operate in shallow water generally less than 360 feet deep. Jack-up rigs have a flat-bottomed hull that is supported by a number of lattice or tubular legs. When the rig is under tow to the drilling location the legs are raised. On arrival at the drill site, the legs are lowered by electric or hydraulic jacks until they rest on the seabed. The platform is then jacked up above the ocean surface about 15-20 meters to provide a stable working platform.

² The well operators plan to contract for a specific jack-up rig after all necessary discretionary permits for the Subsea Well Abandonment Program have been obtained.

abandonment/removal activities. This staff report evaluates ARCO's subsea well and flowline abandonment/removal project only.

4.2 Project Description

ARCO Oil and Gas Company ("ARCO") proposes to (1) permanently abandon one subsea completion oil well (Well No. 1 in PRC 2793) (including removal of the wellhead assemblies); and (2) abandon-in-place/remove two flowlines (one "bundle") (the flowlines cross PRC 2793, PRC 2894 and PRC 2199) in State waters offshore of Gaviota in the Santa Barbara Channel (Exhibits 1 and 2). The project consists of two phases: (1) well abandonment and (2) flowline abandonment/removal:

4.2.1 Phase I - Well Abandonment

Phase I of ARCO's project includes well abandonment and wellhead removal. Well No. 1 is located on California State lease PRC 2793 in the Alegria Offshore Field. The well originally produced oil between 1962 and 1965, after which the oil producing zones were shut-in.³ Gas production occurred between 1967 to 1991 before the gas well was shut-in.⁴ The well will be abandoned with the use of a jack-up rig. (See "Background" section for discussion of drilling rig selection.) The rig will be towed to the wellsite by tugs. Proper positioning of the drilling vessel will be accomplished using a Global Positioning System and a Loran-C receiver. Once at the well site, one rig leg will be lowered to the seafloor, followed by anchor placement. After the remaining legs are lowered to the seafloor, the anchors are retrieved and the rig is preloaded (with seawater) with the maximum anticipated weight of equipment and materials to ensure adequate bottom stability. The deck is then raised to approximately 20 meters above the ocean surface.

Once the rig has been properly positioned, divers will be deployed to survey the wellhead. A protective cap constructed over the wellhead will be removed and the Blow Out Prevention Equipment will be installed to the marine riser.

Each well requires well-specific abandonment procedures due to differences in downhole characteristics, well structures at the seafloor, water depth, and other factors. A typical well abandonment includes removal of temporary well plugs, removal of the production string, and circulation of the well with drilling mud. Once the well has been prepared, permanent cement plugs will be set at specified depths. Once the well has been properly plugged, the conductor will be cut at the mudline and the riser removed. The wellhead assembly will be disposed at an onshore disposal facility. Upon completion of the well abandonment, the jack-up rig will retract

³ Well No. 1 was completed into the Vaqueros and Alegria Zones in December 1962. ARCO terminated all Alegria Zone oil production in June 1965 due to increases in water production, and abandoned it in February 1967 through the setting of a cement retainer.

⁴ The Vaqueros Zone was returned to producing status in 1967 with the production of 2,000 million cubic feet of gas per day and associate condensate production of 10 barrels per day.

its legs and mobilize to the next well site. ARCO estimates the subsea well abandonment phase to take 13 days to complete.

4.2.2 Phase II - Flowline Abandonment/Removal

ARCO's two flowlines (one 3-1/2-inch oil production line and one 1-1/4-inch gas lift line) extend east-northeast for approximately 3.6 nautical miles from Well No. 1 on State lease PRC 2793, across PRC 2894 and PRC 2199, and reach landfall in the vicinity of Gaviota Marine Terminal on PRC 2199. Each flowline is approximately 23,000 feet in length.

During Phase II of the project, ARCO proposes to abandon-in-place segments of the two flowlines that extend from Well No. 1 across PRC's 2793, 2894, and 2199 to a point approximately 600 feet from shore on State lease PRC 2199 (Exhibit 1). To abandon-in-place the offshore sections of flowlines requires a workboat to be staged at the wellhead to cap the lines with blind flanges.

ARCO proposes also to remove the flowline segments (about 300-400 feet) that lie within the intertidal and shallow subtidal zones (shoreward from the approximately 15 foot water depth) near landfall at the Gaviota Marine Terminal (Exhibit 4). Once onshore, the flowlines are buried beneath the sandy beach between the ocean and the bluff.⁵

ARCO proposes to remove the onshore segment of the flowlines between the face of the bluff and the ocean. The flowlines will be cut and capped at the face of the bluff. All excavation associated with flowline removal will occur in the sandy intertidal area (seaward of the bluff) through use of a small backhoe. Approximately 70 linear feet of flowline by a 12-inch wide excavation area (estimated 70 cubic feet of sand) will be removed between the bluff and the mean lower low water mark. Due to beach scouring during months of heavy surf (typically November-March), the lines may be completely exposed or buried less than 1-2 feet. The maximum sand accumulation is about 3 feet, but in the winter there is no sand, just exposed cobbles. Excavation and backfilling activities will occur on the beach during periods of low tide. Upon removal of the flowlines, the sand will be backfilled and the area restored to a natural contour using hand tools and the backhoe.

Flowline removal activities in the nearshore and onshore areas will require the use of a work boat. A work boat will be positioned approximately 600 feet from shore in about 15 feet of water. The lines will be hydrojetted (as necessary), cut and capped in the shallow subtidal zone then pulled onto shore. Approximately 420 linear feet of flowline will be removed, with an excavation area 12-inches wide by 6-inch deep (estimated 210 cubic feet). Natural sedimentation will fill in the area excavated.

⁵ Removal of the flowline segments passing through the bluff and on to the Alegria Production Facility will be covered under a separate facility abandonment project.

The backhoe will enter and exit the work area via the existing Gaviota Marine Terminal access roads and be parked overnight in a staging area west of the Southern Pacific Railroad. No equipment will be staged on the beach between work shifts.

ARCO estimates that the flowline abandonment/removal activities will take one week to complete (an estimated 3 days per bundle and 1-2 days for flushing and capping the flowlines).

4.3 Project Alternatives

4.3.1 Project Alternatives Evaluated in the EIR

In evaluating the Subsea Well Abandonment Program, the Environmental Impact Report ("EIR") identified the following project alternatives: (1) abandon wells and abandon-in-place/remove flowlines almost exclusively via offshore operations (i.e., no onshore excavation activities); (2) abandon wells using a dynamically positioned drilling vessel, with flowline removal from shore; (3) abandon wells using a dynamically positioned drilling vessel, with flowline removal from offshore; (4) abandon wells using two jack-up rigs and concurrent operations; and (5) the No Project alternative.

Based on comparative impact analyses, the EIR determined that project alternatives 1-4, as described above, would result in environmental impacts greater than the proposed project (e.g., increased air emissions, seafloor impacts and/or visual impacts). The EIR found that in the short-term the environmentally superior alternative is the No Project alternative. However, notwithstanding the No Project alternative's short-term benefits, significant long-term safety and environmental concerns accompany the No Project alternative. It is possible and likely, given sufficient time, that chronic or catastrophic releases of crude oil or natural gas could occur from subsea wellheads and associated structures as equipment reaches and exceeds its design life. The EIR therefore concludes that proper subsea well abandonment and flowline abandonment/removal is necessary from a safety and environmental perspective. The EIR identifies the proposed project as the long-term environmentally superior alternative.

4.3.2 "Wellhead-to-Reef" Alternatives

The Commission has considered also the feasibility of converting the wellhead structures to artificial reefs once the wells are properly abandoned. The Central Coast Hook & Line Fishermen's Association ("the Association") has requested that the wellheads be abandoned in place. The Association prefers that the wells be plugged permanently via the use of slant drilling⁶ technology and the wellhead structures be left intact and untouched (personal communication with Phil Schenck, Central Coast Hook & Line Fishermen's Association,

⁶ Also referred to as "directional drilling," slant drilling allows an operator to deflect the drilling apparatus from its vertical path. To plug a well via the use of slant drilling means that a new wellbore would be drilled, allowing the wellhead structures to be left intact and untouched.

December 15, 1995). Another option is to abandon the wells as proposed by the well operators (which requires that the wellheads be dismantled and cut at the mudline) and place the wellheads on the seafloor next to the abandoned wellbore. The Association maintains that the economic livelihood of hook and line fishermen in the Santa Barbara Channel area is dependent in part on fishing at these wellhead sites. These potential "wellhead-to-reef" project alternatives are described and evaluated below.

4.3.2.1 Slant-Drilling/In-Place Abandonment of Wellheads

The Association proposes that the well operators permanently abandon their subsea wells via the use of slant drilling and leave the wellhead structures in place and undisturbed as a "fish sanctuary" for the benefit of commercial hook and line fishermen and sportfishing groups (personal communication with Phil Schenck, December 15, 1995 and letter (undated) from Phil Schenck to the Coastal Commission (received on February 20, 1996)) (Exhibit 5).

After investigating this project alternative, the Commission finds that it is not a "feasible" project alternative as defined in the Coastal Act (*PRC section 30000 et. seq.*). Coastal Act section 30108 defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

According to the California Department of Oil and Gas and Geothermal Resources ("DOGGR"), the agency responsible for regulating well abandonments, slant drilling is not a "feasible" technique to abandon properly a vertically-drilled well such as those proposed for abandonment in the Subsea Well Abandonment Program (personal communication with Bill Winkler, DOGGR, January 11, 1996). To properly and permanently seal a drill pipe in a conventional (vertical) well requires plugging directly through the wellbore, not slant drilled via a new wellbore. Also, while slant drilling has been used in the past to control a well blowout (such as the 1969 Platform A blowout), its use is technically difficult and extremely expensive (2-3 times more costly than conventional well abandonments).

Also, to obtain State Lands Commission ("SLC") approval for such a "wellhead-to-reef" project would require an agency like the California Department of Fish and Game ("CDFG") (which administers the California Artificial Reef Program) or a group like the Central Coast Hook & Line Fishermen's Association to take ownership of the wellhead structures and indemnify the well operators against all costs and liabilities connected with the wellheads (personal communication with Dwight Sanders, SLC, January 1996). The CDFG staff has informed the Commission staff, however, that it is not interested in assuming ownership of and liability for such a "wellhead-to-reef" project (personal communication with Dave Parker, CDFG, January 1996). The Central Coast Hook & Line Fishermen's Association have no financial resources available to it that would permit the group to assume the ownership of and liability for the abandoned wellhead structures (personal communication with Phil Schenck, Central Coast Hook & Line Fishermen's

Association, February 27, 1996). The Commission therefore finds that this "wellhead-to-reef" concept is not a "feasible" project alternative.

4.3.2 Vertical Drilling/In-Place Abandonment of Wellheads

Another potential "wellhead-to-reef" project alternative is (1) to abandon the wells as proposed by the well operators (which requires that the wellhead assembly be dismantled and cut at the mudline), and (2) place the wellhead structures on the seafloor next to the abandoned wellbore.

The SLC staff has indicated that the SLC might support such a "wellhead-to-reef" concept if an agency like the CDFG or a group such as the Central Coast Hook & Line Fishermen's Association take ownership of the wellhead structures and indemnify the well operators against all costs and liabilities connected with the wellhead structures (personal communication with Dwight Sanders, SLC, January 1996). At the present time, the State of California is not willing to accept ownership of and the liability associated with leaving abandoned wellhead structures on the seafloor (personal communication with Dave Parker, CDFG, January 1996). Also, the Central Coast Hook & Line Fishermen's Association have no financial resources available to it that would permit the group to assume the ownership of and liability for the wellhead structures. The Commission therefore finds that this "wellhead-to-reef" concept is not a "feasible" project alternative.

4.4 Other Agency Approvals

4.4.1 State Lands Commission

In 1987, Chevron submitted a proposal to the State Lands Commission ("SLC") to abandon eight subsea completion wells in the Santa Barbara Channel. As "lead agency" under the California Environmental Quality Act ("CEQA"), the SLC prepared a Negative Declaration for the eight wells. On November 7, 1991, the SLC certified Negative Declaration 563 (State Clearinghouse No. 91101001) and approved the abandonment of only five of the eight wells. The SLC required that an Environmental Impact Report ("EIR") be prepared for the remaining three wells located offshore of Summerland in Santa Barbara County.

The SLC subsequently received inquiries from Shell (now CalResources/SWEPI), Texaco, Phillips, Unocal and ARCO regarding permit requirements for abandoning wells on other state leases within the Santa Barbara Channel. The SLC expanded the scope of the EIR to include an analysis of additional wells (18 total), the abandonment/removal of flowlines extending from ARCO, CalResources/SWEPI and Phillips' wellheads to shore, and the deployment of a single jack-up rig to the Santa Barbara Channel to accomplish a coordinated subsea well abandonment program.

On October 17, 1995, the SLC certified EIR 663 (State Clearinghouse No. 94121042, June 1995) and approved the "Santa Barbara Channel Subsea Well Abandonment and Flowline Abandonment/Removal Program" for the remaining 18 subsea wells and associated flowlines.

4.4.2 Regional Water Quality Control Board - Central Coast Region

The Central Coast Regional Water Quality Control Board regulates marine water quality in the subsea well abandonment project area. The well operators, ARCO, Chevron, Phillips, CalResources/SWEPI, Texaco and Unocal each propose to discharge up to 225,000 gallons per day of treated sanitary wastes, kitchen and laundry graywaters, deck washdown water and desalination plant brine into the Pacific Ocean. Each applicant has chosen to individually report waste discharges to the Central Coast RWQCB and apply for an individual National Pollutant Discharge Elimination System ("NPDES") permit. The Central Coast RWQCB has issued Order No. 95-68 (NPDES Permit No. CAG283001) a general permit for ARCO's proposed discharges associated with its subsea well abandonment project. Order No. 95-68 is described in more detail in the "Water Quality Impacts" section of this report.

4.4.3 County of Santa Barbara Air Pollution Control District (APCD)

The County of Santa Barbara Air Pollution Control District ("APCD") is the local air district responsible for implementing federal and state air quality standards in the Subsea Well Abandonment Program area. APCD Rule 202.C.2.g exempts from permit requirements piston type internal combustion engines on work-over rigs when the engines are used for the repair, work-over, maintenance or abandonment of wells. The engines on the jack-up rig and support vessels qualify for this exemption. Consequently, on November 3, 1995, the APCD determined that ARCO's project is exempt from APCD permit requirements (Exhibit 9).

However, in a November 13, 1995 letter to the Coastal Commission staff, the APCD states that notwithstanding its exemption from current APCD rules and regulations, the Subsea Well Abandonment Program will generate significant Class I air impacts that, if not properly mitigated, will be inconsistent with the County of Santa Barbara's adopted 1994 Clean Air Plan (Exhibit 10).

In response to the concerns raised by the APCD, ARCO and the other well operators have agreed to an "Emission Reduction Agreement" that includes providing the APCD with \$748,750 (of this total, ARCO is to pay \$42,332) that will be used to fund programs (such as retrofitting trawling vessel engines) to help mitigate the short-term air quality impacts of the Subsea Well Abandonment Program (Exhibits 11 and 12). (*The "Emission Reduction Agreement" is described in more detail in section 4.5.4 of these findings.*)

4.4.4 U.S. Army Corps of Engineers

On April 25, 1995, the Los Angeles District of the U.S. Army Corps of Engineers ("ACOE") conditionally approved Provisional Permit 95-50402-MSJ for the proposed project pursuant to Section 10 of the River and Harbor Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act ("CWA") (33 U.S.C. 1344). Section 10 of the River and Harbor Act regulates the diking, filling and placement of structures in navigable waterways. Section 404 of the CWA regulates disposal of dredge and fill materials into waters of the United States, including all streams to their headwaters, lakes over 10 acres and contiguous wetlands. The permit becomes effective upon Coastal Commission approval of this project. **Special Condition 2** requires ARCO to submit to the Commission's executive director prior to construction a copy of the Final ACOE permit.

4.5 Coastal Act Issues

4.5.1 Oil and Gas Spills

Coastal Act section 30232 states:

Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.

4.5.1.1 Potential Project-Related Oil and Gas Spills

Well abandonment and flowline abandonment/removal activities could cause an accidental release of hydrocarbons (gas liquids or oil) into marine waters. The EIR examines a spectrum of potential accidents, called "design basis accidents (DBA)." The EIR identifies five DBA that could occur as a result of ARCO's overall project operations. The EIR concludes that DBA 01 (rig-vessel collision during towing; 1,000 bbls fuel oil), DBA 03 (gas well blowout; 2,000 MCF/day gas), DBA 05 (rig-vessel collision during well abandonment operations; 1,000 bbls fuel oil), DBA 06 (anchor-pipeline rupture; 2,000 bbls crude oil), and DBA 07 (improper flushing/purging of lines; 91 bbls of hydraulic fluid or 83 bbls of glycol) could occur at ARCO's project sites. The risk is low for a spill from an uncontrolled well blowout, however, because the well is not free flowing and required a gas lift for production before it was shut-in in 1965.

The EIR identifies ARCO's worst case spill scenario as 2,000 barrels of crude oil, resulting from the possible rupture of the 30" crude oil loading line at Gaviota Marine Terminal, during the flowline abandonment and removal portion of the project. Because the Gaviota Marine Terminal loading line is located within .25 miles of the flowline segments to be abandoned on PRC 2199, there is the potential that it could be ruptured during anchoring operations. The EIR has

identified that the risk of this spill event is "Rare" but that the consequences of a spill of this type is severe. A spill in the nearshore area would immediately impact the shoreline.

ARCO completed as part of their oil spill contingency plan (OSCP), a project-specific risk and hazard assessment which identified the following potential spill scenarios: (1) spill from two flowlines (3 barrels); (2) jack-up rig spill (maximum 2,000 barrel spill); (3) well blowout spill (no spill volume estimated). The worst case spill identified in the OSCP is the complete loss of diesel oil from the jack-up rig (a maximum of 2,000 bbls.).

ARCO's risk and hazard assessment determined that an offshore hydrocarbon spill in the project area has the potential to spread two nautical miles within 12 hours, thereby fouling the coast. In spring and summer, prevailing winds and currents would tend to drive the slick to the east, onto the beach. In the fall and winter a slick would tend to go west. Under conditions of moderate southerly winds, a spill from the jack-up rig would reach the beach within 3-4 hours. It is also possible that a spill could reach the Channel Islands, the nearest points of which are approximately 22 nautical miles from ARCO's wells.

4.5.1.2 Oil Spill Prevention

Section 30232 of the Coastal Act first requires the applicant to provide "protection against the spillage of crude oil, gas, petroleum products, or hazardous substances" As noted above, the proposed project could result in an accidental oil or gas release. ARCO proposes to implement certain measures to minimize the risk of a spill occurring.

ARCO's primary method of well control is its use of hydrostatic pressure (exerted by a column of drilling mud) to prevent an undesired flow of formation fluid into the well bore. ARCO is also required by the State Lands Commission to equip every drilling well with a blowout prevention system as a secondary control mechanism to prevent an uncontrolled flow of liquids to the surface. These two measures will minimize the potential for a well blowout.

An oil or gas release could also occur from a fractured or leaking flowline. Flushing and cleaning the lines prior to the construction period significantly reduces the risk of spill by eliminating hydrocarbons (gas condensate or oil) in the flowlines. ARCO has identified that it will purge the lines with seawater. The return water will be taken from the purged lines at the Alegria Production Facility. In addition, ARCO will test the content of the flowlines prior to cutting, capping, or initiating any subsea well abandonment project operations. The Commission is requiring in **Special Condition 3** that the contents of the flowlines be tested for oil and grease content at the flowline outlets. The flowlines are not to be cut until the oil and grease content is below 30 ppm. If necessary, ARCO may need to purge and clean the flowlines more than once until the oil and grease content is below 30 ppm.

The Commission is also requiring in **Special Condition 6** that after ARCO completes a pre-abandonment survey of the project area, and prior to the commencement of project activities, ARCO submit to the executive director for approval a Final Anchoring Plan to be implemented during project operations that includes (1) anchoring procedures and locations; and (2) anchor preclusion zones (including but not limited to the location of subsea oil and gas infrastructure (e.g., flowlines)).

The Commission therefore believes the project, as conditioned, is consistent with the first test of Coastal Act section 30232.

4.5.1.3 Oil Spill Response

The second test of section 30232 requires the applicant to provide effective containment and cleanup equipment and procedures for accidental spills that do occur. Despite the prevention measures proposed by ARCO, the possibility remains that an oil or gas release could occur during project activities. For example, when the Commission approved the removal of Platforms Helen and Herman (*CDP No. E-87-6, January 1988*), all indications led the Commission to conclude at the time that "the probability of a major oil spill is virtually impossible ..." (e.g., during platform decommissioning, the pipelines were pigged then flushed with seawater for several days). However, during pipeline removal, approximately 40 barrels (1680 gallons) of rust, iron sulfides and suspended tar/oil spilled from these pipelines. Therefore, despite the best prevention measures undertaken by the applicant, the possibility of an accidental hydrocarbon discharge during ARCO's abandonment activities still exists.

Depending on the source or location of a spill, the immediate response team may consist of the standby vessel crew, jack-up rig crew, ARCO's personnel onboard the rig, and/or the work boat crew. Containment and cleanup equipment maintained on ARCO's dedicated standby vessel includes 2,000 feet of boom, an 18 foot boom boat, a Walosep skimmer, absorbent pads and boom, and an oil separator container and transfer pump. Expected response time for the standby vessel to reach the rig is approximately ten minutes.

The Commission is also requiring in **Special Condition 4** that prior to offshore flowline cutting activities at the wellheads, ARCO shall deploy a seep tent. A seep tent is a dome-like structure that can be placed over a flowline opening to capture a small hydrocarbon release. The content of the seep tent is then pumped via a hose onto a holding tank on the support vessel.

ARCO is also a member of the Clean Seas oil spill cooperative located in Santa Barbara County. Clean Seas has in its inventory over 54,000 feet of boom including open ocean, offshore, nearshore and protective boom. Clean Seas has three oil spill response vessels (OSRV), *Mr. Clean I*, *Mr. Clean II*, and *Mr. Clean III*, which are usually moored at Port San Luis, Santa Barbara Harbor, and Platform Harvest. *Mr. Clean II* would be used to respond to nearshore and open-water spills. Major response equipment on-board *Mr. Clean II* includes 1,500 feet of open

ocean boom, 3,000 feet of medium duty boom and two advancing skimmers with 750 gallons per minute pump capacity per unit. If dispatched from Santa Barbara, *Mr. Clean II* can be onscene with 2 hours and 36 minutes. The Clean Seas OSRV *Mr. Clean III*, normally stationed at Platform Harvest, can be onscene in 1 hour and 51 minutes. Clean Seas also maintains two fast response support boats.

Notwithstanding the extensive oil spill containment and clean-up equipment and services provided by ARCO and Clean Seas, the Commission finds that the second requirement of Coastal Act section 30232, which requires "effective" containment and clean-up equipment for spills that do occur, cannot be met at this time. The Commission interprets the word "effective" to mean that spill containment and recovery equipment must have the ability to keep spilled oil off the coastline. Unfortunately, the state-of-the-art is such that no equipment currently available has the capability to recover all oil from large spills and often even small spills in the open ocean.

Testing results of equipment at government research facilities in the United States and Canada have demonstrated that oil recovery equipment operates with about 50% efficiency in relatively calm waters. These tests and actual experience in the field demonstrate that recovery efficiencies decrease as the dynamics of the sea (turbulence) increases. Clean-up capabilities in the open ocean will continue to deteriorate if sea dynamics increase. All booms and skimmers available for containment and recovery are limited in their effectiveness depending on wave height and wind speed. In wind wave conditions, the containment effectiveness of boom begins to lessen at a wave height of two feet. Under conditions of significant wave heights above six feet, booms and skimmers are largely ineffective (i.e., no measurable amounts of hydrocarbons are recovered). High winds can cause some types of boom to lay over, allowing oil to splash or flow over the boom.

In addition to sea dynamics, weather conditions, characteristics of spilled oil, response time, amount of oil spilled, the availability of equipment and trained personnel all influence the degree to which a response to a spill is successful. Data from the General Accounting Office indicates that although spill response technology has improved in recent years no more than 10-15% of the oil in most major spills is ever recovered. Shoreline contamination is probable with any major spill in the area. In a much smaller spill, such as the rupture of a pipeline at the El Segundo Marine Terminal in 1991, about 25% of the estimated 660 barrels of spilled oil were recovered in spite of a rapid and large spill response.

Therefore, notwithstanding the on-site spill response equipment provided by ARCO and Clean Seas, the ability to effectively contain and clean-up an oil spill does not exist at this time. The proposed project is thus inconsistent with the second requirement of Coastal Act section 30232.

4.5.2 Marine Resources

Coastal Act section 30230 states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Coastal Act section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Adverse impacts to marine water quality and marine resources in the project vicinity may result from ARCO's proposed project.

4.5.2.1 Water Quality Impacts

Routine jack-up rig operations have the potential to adversely impact marine water quality due to the release of contaminants from: (1) the overboard discharge or release of ballast/preload water; (2) platform deck drainage (i.e., trace metals, petroleum hydrocarbons, toxic substances and particulates); (3) water, sanitary and domestic wastes; (4) antifoulants from vessel hulls; (5) trace metals from sacrificial anodes; (6) desalination brine; and (7) fire control system water. The EIR concludes that although impacts to water quality from these sources are adverse, none of these potential sources of contamination result in persistent levels of pollution or are considered "significant" (i.e., exceed National Pollutant Discharge Elimination System ("NPDES") standards).

The Central Coastal RWQCB has issued General NPDES Permit CAG283001 (Order No. 95-68) for ARCO's project. ARCO proposes to discharge up to 225,000 gallons of treated sanitary wastes, kitchen and laundry graywaters, deck washdown water and desalination brine into the Pacific Ocean. The jack-up rig's treatment system consists of aeration and chlorination of sanitary wastes, and oil/water separation of deck drainage and washdown water. Kitchen, showers and laundry graywaters, brine from the seawater distillation unit, ballast waters and fire

control system water require no treatment before discharge. Jack-up rig personnel will conduct daily visual monitoring of deck discharge to ensure that there are no discharges of free oil and grease.

Treated wastewater, graywaters, washdown waters and ballast seawater will be released to the ocean through an 8" outfall pipe running from the deck to six feet below the bottom of the hull. Desalination wastewater brine will be released through a 6" outfall. The discharges from these two outfalls will fall approximately 30 feet to the ocean surface and be substantially diluted by ocean waters very soon after entering the sea. Ballast water discharges and sanitary and domestic wastewater discharges are primarily short-term impacts that are localized and non-persistent in concentration.

To protect the ocean's beneficial uses, the NPDES permit requires the applicant to comply with water quality objectives and discharge requirements specified in the California Ocean Plan. Additionally, the NPDES permit sets effluent limitations in accordance with the federal Clean Water Act. The Ocean Plan limits discharge concentrations for settleable solids, turbidity, pH and acute toxicity while the Clean Water Act limits the discharge of grease and oil, suspended solids and elevation of biochemical oxygen demand due to a discharge. In part, the RWQCB's monitoring program requires ARCO to monitor daily the water flow rate and monitor weekly total coliform organism count, turbidity, suspended and settleable solids, pH, and the concentration of grease and oil.

The State Lands Commission currently prohibits the discharge of drilling fluids, solids, muds, cuttings and untreated water into State waters. Therefore, all toxic wastes associated with subsea well abandonment, such as drilling muds and cuttings, excess mud containing cement, and oily waste associated from platform deck machinery will be transported to shore and disposed of at an approved onshore site.

Additional impacts to water quality could be caused by ARCO's flowline removal activities. Hydrojetting, cutting and capping of flowlines may disturb adjacent sediments resulting in a feeding ability of benthic organisms (i.e. filter feeders), and result in a reduction in available light for photosynthesis. The increased turbidity caused by sand displacement will be localized and temporary, however.

The Commission therefore finds the project consistent with Coastal Act section 30231 which requires that "[t]he biological productivity and quality of coastal waters... shall be maintained... [through] minimizing adverse effects of wastewater discharges."

4.5.2.2 Hard Substrate

Hard substrate (or "hard bottom") areas are stable rocky substrates that provide habitat for a diverse group of plants and animals to settle, attach and grow. The species composition of hard

bottom communities is largely dependent on substrate characteristics (e.g., size, texture and relief), degree of wave and current exposure, as well as light and nutrient availability. The hard bottom, rock substrate attracts a variety and abundance of fishes that far exceed the diversity and numbers of fishes occurring on soft bottom substrate. In nearshore waters, hard bottom also provides attachment substrate for various kelp species (e.g. *Macrocystis pyrifera*), typically from the edge of the surfzone to depths of 100 feet. The amount and duration of sediment cover is a major factor influencing the biological diversity of hard bottom habitats. Excessive sedimentation, which can smother benthic organisms, and prevent settlement can reduce species diversity and abundance.

A May 1994 ROV ("Remotely Operated Vehicle") survey of the project area found that the percentage and nature of exposed hard bottom was variable in this region (i.e., typically less than 30% and predominantly low-relief). The EIR characterizes the seafloor conditions at ARCO's project area as nearly flat and featureless, a soft sediment-covered shelf with scattered, irregular and seasonal low⁷-to medium-relief hard bottom outcrops (consolidated or semi-consolidated mudstone and siltstone). There is no hard bottom habitat underlying Well No. 1 which is located in an area of significant sediment overburden. Also, based on the most recent survey information, there is no hard bottom habitat located within the potential impact radius of the drill rig. (Exhibit 6)

The landfall area near the Gaviota Marine Terminal (i.e., Canada Alcatraz Beach) is a shallow sandy beach with scattered rocks. Offshore of Gaviota the area has high relief rock outcrops that extend into the surfzone, with isolated boulders and extensive cobble to a depth of 30 feet (EIR, p. 55). No hard bottom habitat has been identified in the areas where the flowline segments will be removed.

In the event that seafloor conditions have changed since the 1994 ROV survey, and to confirm that there are no hard bottom resources within the project work area, the Commission is requiring in **Special Condition 5** that prior to the start of the project ARCO contract with a qualified consultant to conduct a pre-abandonment survey within the project's impact zones to identify in part the location, areal extent and physical characterization (i.e., high- or low-relief, sand-covered, etc.) of hard bottom. In **Special Condition 6** the Commission is requiring ARCO to submit to the executive director for approval a Final Anchoring Plan to be implemented during all offshore project activities that includes (1) anchoring procedures and locations; and (2) anchor preclusion zones (i.e., areas where the pre-abandonment survey identifies the presence of hard bottom, kelp and subsea oil and gas infrastructure (e.g., flowlines)).

In **Special Condition 7** the Commission is requiring that within 30 days of project completion, ARCO's consultant conduct a post-abandonment survey of the offshore area to identify in conjunction with the results of the pre-abandonment survey the location and quantify the extent

⁷ Storm activities and currents are known to erode and accrete nearshore sediment deposits on a seasonal basis. Low relief hard bottom is seasonally exposed and buried by a thin sediment veneer.

(i.e., the number of square feet) of any disturbance to hard bottom areas that could not be avoided during project operations. Within 45 days of the completing the post-abandonment survey, ARCO's consultant is to submit directly to the executive director a written report describing the results of the post-abandonment survey along with an analysis of the pre-and post-abandonment survey results to derive net project impacts to hard bottom.

If a comparison of the pre- and post-abandonment surveys shows that impacts to hard bottom have occurred, the Commission is requiring in **Special Condition 8** that ARCO compensate for all project-related adverse impacts to hard bottom through payment of a compensatory hard bottom mitigation fee to the United Anglers of Southern California (UASC). The fee is to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight.

Special Condition 8 requires that the amount of the compensatory hard bottom mitigation fee be calculated by multiplying the total square footage of adversely affected hard bottom (as determined by comparing the pre- and post-abandonment surveys) by a compensation rate of \$6.57. The compensation rate is based on the overall cost to build a new artificial reef, or augment an existing artificial reef in State waters within the Southern California Bight. The overall cost is based on the following information:

Compensatory Hard Bottom Mitigation Fee

1	Construction of Hard bottom Habitat (1995 dollars) • Cost of Materials (i.e. quarry rock) • Transport • Deposition • Insurance	\$4.60	<u>Assumptions:</u> a) Estimate based on actual construction costs for artificial reefs in the Southern California Bight area. b) Cost = \$200,000/acre. (43,560 sf / 1 acre)
2	Project Administration for UASC	\$0.46	Overhead to UASC not to exceed 10% of total funds collected.
	SUBTOTAL	\$5.06	
3	Project Contingency	\$1.51	Contingency of 30% for unanticipated project-related changes in cost of design/planning/permitting, materials, labor, or transportation.
	TOTAL	\$6.57	

The fee is to be paid by the applicant to the UASC within 30 calendar days of the executive director's review and written determination of the results of the pre- and post-abandonment surveys.

The construction of a new artificial reef, or augmentation of an existing reef, is to be carried out pursuant to a Memorandum of Agreement (MOA) by and between the Coastal Commission, the California Department of Fish and Game (CDFG) and the United Anglers of Southern California (UASC) (Exhibit 7). If any impacts to hard bottom have occurred, the CDFG has agreed to prepare a plan to be approved by the Commission's executive director to spend the monies in the hard bottom mitigation fund on either the construction of a new artificial reef, or augmentation of an existing artificial reef in State waters within the Southern California Bight.

The CDFG administers the California Artificial Reef Program in part for the purposes of (1) placing artificial reefs in state waters and (2) determining the requirements for reef siting and placement. The CDFG has agreed to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef using any fees paid by ARCO (Exhibit 8). The UASC, a volunteer group of recreational anglers interested in preserving, protecting and enhancing marine resources and fishing opportunities, has agreed to receive any hard bottom mitigation fee paid by ARCO.

According to the terms of the MOA, the UASC is to deposit all funds in an interest-bearing account within 30 days of receipt of any fee. These funds including all earned interest shall be expended by the UASC solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees). The CDFG will absorb any costs associated with the planning, siting, design and permit requirements to construct a new artificial reef or augment an existing reef.

The MOA further requires:

- Within 180 days of the date on which all fees have been paid to the UASC the CDFG shall develop and submit for review and approval, by the Commission's executive director, a plan to spend the monies within the fund on either the construction of a new artificial reef or augmentation of existing artificial reef within the Southern California Bight;
- Within one year of the Commission's executive director approval of a plan to spend the compensatory hard bottom mitigation fund, the CDFG is to secure all necessary government approvals to construct a new artificial reef or augment an existing artificial reef;
- Within 90 days of either: (1) the granting of all necessary governmental approvals, or (2) approval by the Commission's executive director of a plan to spend the monies in the fund, whichever occurs later, the UASC is to secure and enter into a construction contract with a contractor to construct either a new artificial reef or augment an existing artificial reef; and

- Within two years of approval by the Commission's executive director of a plan to spend the monies in the fund, the UASC is to spend these monies to complete the construction of either a new artificial reef or augmentation of an existing artificial reef.

The Commission therefore finds that ARCO's efforts to avoid hard bottom in the project area, where feasible, in combination with payment of a compensatory hard bottom mitigation fee (for the purpose of creating a new artificial reef or augmenting of an existing artificial reef) if hard bottom is impacted during project operations (Special Condition 8), is consistent with Coastal Act section 30230 which requires that "[m]arine resources shall be maintained, enhanced, and where feasible, restored."

4.5.2.3 Kelp Resources

Offshore from the Gaviota Marine Terminal landfall, ARCO's flowlines traverse through an historical kelp bed area referred to as Kelp Bed No. 31. This kelp bed has historically exhibited a relatively limited canopy and kelp formation in the nearshore area is seasonal. The annual movement of sand onshore in the summer, and offshore in the winter, impacts the extent of kelp cover in this area. This is confirmed by a survey conducted by Dames and Moore (1982) that qualitatively determined that algal growth and macroinvertebrates diversity was minimal in the project area. A recent survey of the nearshore area (John Chance & Associates, 1992) at the Gaviota Marine Terminal notes scattered kelp growth in water depths of 30 to 55 feet. The EIR also identifies that the kelp bed occurs even nearer to shore between the 15 to 45 foot water depth. ARCO's Well No. 1 is located in a water depth of 110 feet, which is just beyond the normal depth ranges for kelp growth.

Work vessel traffic patterns and anchor placement or retrieval during flowline abandonment/removal operations in the nearshore area could impact kelp resources. The project requires two vessels to be used: one workboat positioned over flowlines and one tug assist vessel anchored nearby. The workboat will be positioned in approximately 15 feet of water, with a 4-point anchor pattern at a 6:1 ratio. A total of two flowlines (one bundle) will be removed through the intertidal and shallow subtidal zones. Lines will be hydrojetted, cut (at the low bluff face), capped, floated, and then pulled onto shore. ARCO anticipates removing 490 feet per pipeline.⁸

To assess the extent of any unavoidable impacts to kelp resources, the Commission is requiring in **Special Condition 5** that prior to the start of the project, ARCO contract with a qualified consultant to conduct a pre-abandonment survey within the project's impact zones to identify in part kelp plant abundance by species, age class (i.e., new recruit, juvenile or adult) and location (i.e., on or off the flowlines) in a corridor centered over the flowline bundles. The Commission is

⁸ The pipeline segments to be removed extend from the face of the low bluff to the MLLW 15 feet water depth. It is approximately 70 feet from the face of the low bluff to the MLLW, and approximately 420 feet from the MLLW to a 15 feet water depth.

also requiring in **Special Condition 6** that ARCO implement a Final Anchoring Plan during all offshore project operations that includes: (1) anchoring procedures and locations; and (2) anchor preclusion zones (i.e., areas where the pre-abandonment survey identifies the presence of hard bottom, kelp and subsea oil and gas infrastructure (i.e., flowlines). The Commission is also requiring in **Special Condition 7** that ARCO complete a post-abandonment survey of the project area that locates and quantifies any damage to kelp plants caused by project activities.

If the results of the pre- and post-abandonment surveys show that project activities caused statistically significant damage to kelp, the Commission is requiring in **Special Condition 9** that ARCO develop a Kelp Restoration Plan and submit it to the Commission in the form of an amendment to this permit.

The Commission therefore finds that the proposed project, in combination with Special Conditions 5, 6, 7 and 9, is consistent with Coastal Act section 30231 which requires that “[u]ses of the marine environment ... be carried out in a manner ... that will maintain healthy populations of all species of marine organisms.”

4.5.2.4 Fish

Wellhead removal will likely result in a localized loss of structure-associated fish and epifaunal invertebrates. When the wellheads are removed, the attached invertebrates will also be removed from the system and many of the adult and sub-adult fishes associated with these structures are expected to scatter to adjacent hard bottom. The EIR found that most of the wellheads slated for abandonment are located in areas of intermittent low- to medium-relief naturally-occurring hard bottom outcroppings. The extent of hard bottom in the immediate environs (i.e., within anchoring radius) based on ROV survey observations ranged from 5 to 80% (mean: 35.6%). The EIR found that while the fish will not be able to aggregate around the wellheads as they presently do, individuals will not necessarily be lost from the system. The EIR states that the naturally-occurring rock outcrops of varying relief in close proximity to the wellheads will provide alternative habitat for many of the displaced fishes.

In commenting on the Draft EIR, the Central Coast Hook & Line Fishermen’s Association stated that if the wellheads were to be removed, the fishery stock would be depleted. The Association maintains that the hard wellhead structures serve to produce fish biomass rather than simply act as aggregation sites for adults and sub-adults. The Association suggests that the presence of the wellhead structures results in increased productivity of the fish species aggregating on the structures, and that over time, this increased productivity results in more fish in the surrounding areas.

The ability of artificial structures to actually enhance fish productivity is not clear. In a comprehensive study comparing the fish assemblages on artificial and natural reefs along the Southern California coast, Ambrose and Swarbrick (1989) concluded:

[t]he ability of artificial reefs to attract fish, and hence increase fishing success, is well established, but the extent to which the reefs actually produce fish (i.e., cause an overall increase in fish biomass) is not clear.... It is generally acknowledged that the high density of fish on new artificial reefs is due primarily to aggregation; the implication is that older reefs, with more mature biota, have produced the high densities of fish.... However, high densities of fish on older reefs could also be due in large part to aggregation... Therefore, the presence of high densities of fish, even on reefs that have abundant resources, does not guarantee that the reef has increased the productivity, nor that all of the fish on the reef were produced on the reef.

Thus, while there is good evidence to show that large aggregations of fish do occur at the wellheads, the scientific evidence available at this time does not demonstrate that all artificial structures actually enhance fish productivity. (The attraction factor of artificial reefs could actually make adult fish more vulnerable to overfishing.) Thus, one of the most probable effects of removing the wellheads would be the loss of vertical structures that serve as aggregation sites for adult and sub-adult fish. In this respect, the EIR concludes that removal of the wellheads will have an adverse but insignificant effect (Class III).

The Commission therefore believes that removal of the wellhead structures will not cause significant long-term impacts to the biological productivity of the marine environment. The Commission finds the project consistent with Coastal Act section 30230 which requires that “[u]ses of the marine environment ... be carried out in a manner that will sustain the biological productivity of the coastal waters....”

4.5.2.5 Marine Mammals

Marine mammals in the project area that could be affected by the proposed project include cetaceans (California Gray Whale), pinnipeds (Harbor Seals and Sea Lions), and one fissiped species (Southern Sea Otter). Federally listed endangered marine mammals which are found in the project area (in decreasing order of abundance) include the Humpback Whale (*Megaptera novaeangliae*), Blue Whale (*Balaenoptera musculus*), Fin Whale (*B. musculus*), and Right Whale (*Balaena glacialis*). The Southern Sea Otter (*Enhydra lutris nereis*) is a threatened species and may be present in nearshore waters at the western end of the Santa Barbara Channel (e.g., Coho Bay anchorage), which is outside of the immediate project area. Sea otters are rare in this area and tend to stay close to shore, in and amongst the kelp.

The California Gray Whale (*Eschrichtium robustus*), which was recently delisted (June 1994) from the federal list of endangered species, is the most common whale in the Santa Barbara Channel area. The EIR estimates their population to be about 17,000 animals. Their annual migration pattern through the Santa Barbara Channel includes southbound migration from December through February (with a peak in January), and a northbound migration as adults and

sub-adults pass through the area in February and March, followed by mother and calf pairs in March and April.

Impacts to marine mammals due to wellhead abandonment and flowline abandonment/removal activities include: (1) noise from the drillrig or support vessels and helicopter traffic which could affect acoustic communication and/or echolocation signals; (2) increased risk of collision between a vessel and a marine mammal; and (3) increased water turbidity that could affect foraging behavior as a result of domestic discharges. Noise and water turbidity impacts, however, will be short-term and localized in nature, which may result in an initial change in a marine mammals' behavior, but which should result in no lasting impacts to animals. The EIR states that cetacean studies indicate that noises associated with oil and gas activities, at worst, result in a "startle" response.

The primary hazard facing marine mammals is injury or death from collision with vessels, the drill rig, lengths of floating pipeline, or anchor or work cables. Should a collision occur resulting in serious injury or death, it would be considered a significant impact due to the marine mammals protected status. According to National Marine Fisheries Service stranding and accident statistics, one to two collisions and as many as four incidents between vessels and resident marine mammals occurs every year in the Southern California Bight. The EIR identifies the California Gray Whale as swimming closer to shore than other cetaceans, and therefore, it may be at a slightly higher risk of collision from project activities. Overall, the increased risk of marine mammal collision with increased numbers of project-related vessels is considered "very low" (See also NMFS Biological Opinion, 1984, cited in CDP No. E-93-12). Also, the temporary nature of the work will reduce the potential for impact to marine mammals.

There are no identified Pacific Harbor Seal (*Phoca vitulina*) haul-out sites noted within the ARCO onshore project area. The closest haul-out sites are identified to the north at Pt. Conception and to the south at Burmah/Naples Beach Carpenteria.

ARCO has completed a Marine Mammal Wildlife Contingency Plan to be distributed prior to commencement of project operations to all vessel operators. The plan (1) identifies the marine mammals that may be observed in the project area, including species present and their migration and/or behavioral patterns; (2) advises vessel operators of marine mammal avoidance strategies; (3) establishes response procedures for a vessel operator to follow if the vessel collides with a marine mammal; and (4) includes the names and phone numbers of persons within the responsible government agencies and local marine mammal care and rehabilitation centers who should be contacted in the event that a vessel collides with a marine mammal.

The Commission therefore finds that the project will be carried out in a manner consistent with Coastal Act section 30231 which requires that "[u]ses of the marine environment ... be carried out in a manner ... that will maintain healthy populations of species of marine organisms."

4.5.2.6 Conclusion

ARCO has incorporated a number of mitigations into the proposed project, in combination with Special Conditions 5, 6, 7, 8 and 9 of this permit, that will reduce potential impacts to marine water quality and marine resources during project operations. The Commission therefore finds the project consistent with Coastal Act sections 30230 and 30231.

4.5.3 Commercial and Recreational Fishing

Coastal Act section 30234.5 states:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Commercial fishing opportunities in the Santa Barbara Channel include sea urchin, Pacific bonito, rock crab, Pacific mackerel, Pacific sardine, yellowfin tuna, skipjack tuna, and red rockfish. Principal fishing gear employed in the region include purse seine, trawl, trap, diving and hook and line. Santa Barbara Channel regional landings data reflect a multi-species fishery consisting of invertebrates and finfish with an average annual dockside or ex-vessel value exceeding 24 million dollars. The 23 well sites in the overall Subsea Well Abandonment Program are found within California Department of Fish and Game ("CDFG") Blocks 657, 656, 655, 654 and 652, encompassing the area from Point Conception to Ventura. These blocks consist of 10 minute latitude by 10 minute longitude cells used to track fish catches from California coastal and offshore waters. The primary species caught across all blocks from 1988 to 1992 were sea urchin, Pacific bonito, rock crab, Pacific mackerel, Pacific sardine, red rockfish, sea cucumber and California halibut.

An average of 1.1 million southern California residents participated in recreational fishing from 1987 to 1989, making 4.9 million marine recreational fishing trips during this period. Commercial passenger for hire fishing vessels (CPFVs or "party boats") represent a valuable component of the tourism industry of the Santa Barbara Channel communities. The CDFG collect data on "party boat" catches (i.e., numbers of fish) and effort (i.e., angler hours) from the fisheries blocks. These data show that rockfishes, kelp bass, Pacific mackarel, halfmoon and barred sand bass accounted for most of the sportfishing catch during 1988-1992. However, as a group, the rockfishes were more frequently caught by anglers.

The proposed project could result in the following economic impacts to commercial fishermen and sportfishing groups: (1) jack-up rig placement will temporarily preclude fishing in the immediate area surrounding the rig; (2) removal of the wellheads will result in a reduction of artificial structures at which certain commercial and recreational fishing occurs; and (3) exposed flowline segments that have been abandoned-in-place could interfere with future trawling activities.

4.5.3.2 Fishery Preclusion Areas

Fishing will be temporarily precluded in the project area during abandonment activities. To minimize any potential adverse impacts to fishing operations near the project sites, the SLC is requiring: (1) the drilling rig and support vessels to operate in compliance with all established vessel traffic corridors and oil service support corridors while present in the Santa Barbara Channel; (2) notification of local fishermen concerning the proposed activities via the Joint Oil/Fisheries Committee notification procedures; and (3) issuance of a Notice to Mariners at the commencement of the well abandonment program to advise commercial and sport fishermen and other commercial traffic about scheduled project activities. The notice will be posted at all embarkation points for fishery operations in the Santa Barbara Channel area.

ARCO and the other well operators have agreed also to pay compensation to hook and line fishermen for documented loss of catch associated with areal preclusion caused during rig operations at the well locations (personal communication with Ed Morton, Morton Associates, Inc., February 27, 1996). Such compensation will be negotiated in accordance with procedures contained in the Joint Oil Fisheries Liaison Office's *Guidelines Intended to Reduce Conflicts Between Geophysical Surveys and Fishing Operations* (personal communication with Craig Fusaro, Joint Oil Fisheries Liaison Officer, February 26, 1996 and Ed Morton, Morton Associates, Inc., February 27, 1996).

4.5.3.3 Wellhead Removal

The Commission also recognizes that removal of the wellheads will result in a reduction of artificial structures at which certain commercial and recreational fishing occurs. The Central Coast Hook & Line Fishermen's Association maintains that removal of the wellheads could result in a loss of 20% of hook and line fishermen's annual income (letter (undated) from Phil Schenck, Central Coast Hook & Line Fishermen's Association, to the Coastal Commission (received February 20, 1996))(Exhibit 5).

The Association has requested that the wellhead structures be left intact and abandoned-in-place after the well holes have been permanently sealed. The Commission has examined the alternative of leaving the wellhead structures in place but has found that this project alternative is not feasible. (See the discussion of "Project Alternatives" in section 4.3 of these findings.)

The Association further argues that if the wellhead structures cannot be left on the seafloor, the State and/or the well operators should build new deep water artificial reefs (> 100 foot depth) to replace the wellheads. According to the CDFG it would cost between \$100,000- \$200,000 to build 8-10 small deep water reefs with quarry rock (each about 1-1.5 meters high). There are currently no public funds available to design and build such deep water artificial reefs.

The Coastal Act does not require that ARCO and the other well operators should be required to provide mitigation for economic impacts to commercial and recreational fishermen due to the removal of wellheads placed on the seafloor for the sole and exclusive purpose of oil and gas production, not fisheries enhancement. The commercial fishermen and sportfishing groups that successfully fish at these wellhead sites have over the years derived an incidental economic benefit from the placement of these hard vertical structures on the seafloor. Furthermore, the well operators' SLC oil and gas lease provisions are expressly clear that these wellheads and other associated oil and gas structures are to be removed upon termination or relinquishment of the leases. The leases explicitly require the lessees, at the request of the State, to remove all "platforms, fixed or floating structures" and "restore the premises" upon the expiration or termination of the lease. (*See, for example, SLC Oil and Gas Lease PRC 2793.1, section 14, issued to ARCO and other lessees in October 1961.*) Thus, the fishermen could not reasonably expect that these wellhead structures would remain on the seafloor in perpetuity. The Commission therefore finds that requiring mitigation for economic impacts suffered by commercial hook and line fishermen and sportfishing groups is not warranted.

4.5.3.4 Trawling Impacts

ARCO's flowlines may be intermittently buried and exposed between the wellhead and the nearshore zone due to seasonal sediment movement in the area. Exposed pipelines on the seafloor could potentially create a hazard and interfere with commercial trawling activities in the future. The extent to which abandoned subsea flowlines may pose a hazard to commercial trawlers is dependent in part on (1) the location of the exposed flowline segments; (2) the relief of the exposed flowlines; and (3) other features in the area that may preclude trawling anyway, even if the pipeline are removed.

The burial status of the two flowlines associated with Well No. 1 will be verified during a pre-abandonment survey. The offshore segments of the pipelines to be abandoned-in-place may be partially exposed where they cross hard bottom or are elevated above the seafloor where they terminate at the wellheads.

Although halibut and sea cucumber trawling have been carried out for many years in the vicinity of the project area, the Joint Oil Fisheries Liaison Office has no records to date of complaints filed by commercial trawlers (personal communication with Craig Fusaro, May 17, 1995).⁹ Also, commercial trawlers are limited to a distance of no closer than one nautical mile from shore; this limitation reduces the amount of flowline proposed for abandonment that is within the current trawling zone.

⁹ Reported instances of trawl nets being snagged by seafloor pipelines along the northern shelf of the Santa Barbara Channel is rare. With the use of rock hopper gear, commercial trawlers routinely traverse naturally occurring rocky substrate and exposed pipelines without mishap.

The EIR concludes that in-place abandonment of ARCO's offshore flowline segments¹⁰ at PRC 2793, PRC 2894, and PRC 2199 present little or no risk to trawlers.

The Commission thus finds the project is consistent with Coastal Act section 30234.5 since the "economic" and "commercial" importance of fishing activities will be protected.

4.5.4 Air Quality

Coastal Act section 30253(3) states:

New development shall be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

ARCO's proposed project will result in air emission releases from the jack-up rig, work boat and tug assist vessel engines and onshore heavy equipment (including excavator, front end loader, small crane, flat bed trucks, pumps, etc.). Pollutant totals for ARCO's project are estimated to be 5.6 tons nitrogen oxides (NO_x), 1.9 tons carbon monoxide (CO), 0.5 tons reactive organic compounds (ROC), 0.1 ton sulfur dioxide (SO₂) and (5) 0.8 tons particulates (PM₁₀).¹¹

The Santa Barbara County Air Pollution Control District ("APCD") is the local air pollution control district responsible for implementing federal and state air quality standards in the project area. APCD Rule 202.C.2.g exempts from permit requirements piston type internal combustion engines on work-over rigs when the engines are used for the repair, work-over, maintenance or abandonment of wells. The engines on the jack-up rig and support vessels qualify for this exemption. Consequently, on November 3, 1995, the APCD determined that ARCO's proposed project is exempt from current APCD permit requirements (Exhibit 9).

However, in a November 13, 1995 letter to Coastal Commission staff, the APCD stated that notwithstanding its exemption from current APCD new source rules and regulations¹², the overall Subsea Well Abandonment Program will generate significant Class I air impacts that, if not properly mitigated, will be inconsistent with Santa Barbara County's adopted 1994 Clean Air

¹⁰ The EIR also found that excavating and removing all the offshore flowlines would cause significant adverse environmental impacts. The EIR states (page M-196):

If flowlines were to be removed along their entirety, buried lines would need to be hydrojetted, creating additional bottom disturbance and turbidity impacts, as well as requiring additional time onsite, resulting in increased air emissions and additional aesthetic impacts. Additional sets of work boat anchors would be required to remove each flowline in its entirety, creating additional impacts to natural hard-bottom and increasing the possibility of accident/upset. More anchoring would also increase the amount of area excluded to commercial fishermen.

¹¹ Emission totals for ARCO's project is based on emission totals (average power consumption rates) for the jack-up rig *Glomar Adriatic VIII* and specific support vessels. In the event a different drilling rig or support vessels are selected, emission inventories will be recalculated by the APCD.

¹² APCD Rule 202 is currently undergoing potentially significant revisions which may change the requirements and exemptions of Rule 202.C.

Plan (Exhibit 10). The APCD estimates that the Subsea Well Abandonment Program will emit a total of 90 tons of No_x , a precursor to ozone. Santa Barbara County is currently a designated non-attainment area for both the federal and state ozone standards. The APCD states that if the program were not exempt from APCD current rules and regulations, the emission totals would trigger APCD requirements for Best Available Control Technology, formal air quality impact analysis, and offsets.

In response to the concerns raised by the APCD, ARCO and the other well operators have agreed to an "Emission Reduction Agreement" that includes providing the APCD with \$748,750 (of this total, ARCO is to pay \$42,332) that, will be used to fund programs (such as the retrofitting of trawling vessel engines) to help mitigate the short-term air quality impacts of the Subsea Well Abandonment Program (Exhibit 11).

By letter of March 19, 1996, ARCO amended its project description to include the terms of the "Emission Reduction Agreement" as follows (Exhibit 12):

- ARCO shall pay \$42,332 to the APCD for programs to help mitigate ARCO's proportional share of the short-term air emissions associated with the Subsea Well Abandonment Program. A total payment of \$748,750 will satisfy the air quality mitigation obligation for the entire Subsea Well Abandonment Program and the resulting long-term emission reductions will belong to the APCD and will be used to provide a long-term clean air benefit;
- The pre-survey work and the subsea well abandonment portion of the program is anticipated to be completed within a 12 consecutive month period. Flowline abandonment/removal operations shall occur in a 12 consecutive month period separate from the subsea well abandonment portion of the program;
- The operators shall employ a single rig using Caterpillar 399 TA SCAC or other engines with equivalent or lower emissions than those described in the EIR. The operators shall comply with all project descriptions and assumptions used to prepare the air emissions estimates within the EIR and with the mitigation agreement;
- The operators will put forth a good faith effort to provide a workboat or crewboat to APCD for the purpose of demonstrating effectiveness of lean burn catalyst;
- A deposit of \$4,233.20 shall be paid to the APCD within 30 calendar days after all operators receive their coastal development permits. Final payment of \$38,098.80 to the APCD will be paid no later than 30 days after all operators execute a binding rig contract. Operators shall not mobilize the rig to the first wellsite until 120 days after the date of APCD's receipt of payment;

- The APCD shall return the deposit 30 days from the date that the operators surrender their coastal development permits if the program is not going to proceed; and
- ARCO shall request that all the above conditions be incorporated into the SLC Mitigation Monitoring Plan (for the Subsea Well Abandonment Program).

Since the proposed project is consistent with Santa Barbara County APCD rules and requirements, the Commission finds the project consistent with Coastal Act section 30253(3).

4.5.5 Public Access/Recreation

Coastal Act section 30211 states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Coastal Act section 30220 states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be provided for such uses.

Recreational resources along this stretch of coast from Gaviota to Point Conception include one park of statewide importance, Gaviota State Park. The nearest public access to the beach at ARCO's Gaviota Marine Terminal (Canada Alcatraz Beach) landfall area is from Gaviota State Park, approximately three miles east of the landfall. To the west of Gaviota the private ranches of Hollister and Bixby Cojo preclude any public access to the coast.

There is no public access through the Gaviota Marine Terminal to the beach because existing access from U.S. Highway 101 is maintained specifically for operations at the Gaviota Marine Terminal. The closest lateral access is along the beach from Gaviota State Park, but it is limited due to two rocky formations that block access (from both the east and west) to the beach in front of Gaviota Marine Terminal at high tide. Therefore, when project operations temporarily close off the sandy beach, there will be minimal or no impacts to beach users.

The Commission thus believes that recreational uses and public access at the project site will not be significantly impacted since construction activities will be temporary and short-term, and public access is not currently provided. The Commission therefore finds the proposed project consistent with Coastal Act section 30211 and 30220.

4.5.6 Cultural Resources

Coastal Act section 30244 states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Cultural resources consist of places or objects important to cultures, communities and individuals for scientific, historical and religious reasons. Cultural resources include archaeological sites and remains, shipwrecks, artifacts and places of importance that provide evidence of past human activities.

Prehistoric Archaeological Resources

There are three prehistoric archaeological sites located in the general area of the flowline landfall at the Gaviota Marine Terminal (CA-SBA-94, CA-SBA-95, and CA-SBA-1870). Sites CA-SBA-94 and CA-SBA-95 are located west of Canada Alcatraz Beach and were part of the ethnographic village site of "Legpew." CA-SBA-1870 is located on the bluff east of CA-SBA-94 and CA-SBA-95, and the EIR identified this site as a stone-tool manufacturing site for the two primary living sites. A quarry area for chert, located on the beach below the bluff from CA-SBA-1870, was the principal source of chert found on the site and used for tool manufacture at CA-SBA-94 and CA-SBA-95. Artifacts found on the bluff at CA-SBA-1870 include ground stone, metate and bowl fragments, projectile points, utilized flakes, drills, hammerstones, burnt rocks and cores.

ARCO has identified that it will use existing staging areas and access routes to transport the equipment (i.e., tracked excavator, front end loader, and flat bed trucks) required to remove flowline segments in the sandy intertidal area. None of the onshore flowline removal operations will affect CA-SBA-94 and CA-SBA-95 because they are located west of Canada Alcatraz, or CA-SBA-1870, which is located on the bluffs above the flowline landfall. Preclusion of any project-related activities on the bluffs above the Gaviota Marine Terminal landfall should mitigate any direct potential impacts to archaeological resources at CA-SBA-1870. No intact prehistoric archaeological resources are identified at the flowline landfall. Indirect impacts due to project traffic through the area may be minimized through use of existing access routes.

The State Lands Commission has required that ARCO hire a qualified archaeologist to monitor all terrestrial surface disturbances within archaeological sites and sensitive areas, consistent with relevant federal, State, and local guidelines in case archaeological remains are discovered. Should an emergency discovery of previously unrecorded cultural resources occur during the monitoring phase of work, the archaeologist is to stop operations to evaluate the resources. If the remains prove significant, data collection, excavations or other standard archaeological or historic

procedures shall be implemented to mitigate impacts. In addition, Native American monitoring will be conducted for all project-related activities in potentially sensitive areas that could potentially disturb the surface or subsurface of an archaeological site. An educational workshop shall also be conducted, coordinated by a qualified and approved archaeologist and including potential Native American Monitors, to inform construction workers of the prohibited activities (e.g., vehicle use in sensitive areas and unauthorized collecting of artifacts).

Historic Resources

Gaviota has had a rich history of use as a port by the Chumash Indians, the missionaries at Mission Santa Ines, trading vessels, and the oil industry. Gaviota served as the port for a major supply route serving the Santa Ynez Valley transporting passengers, cattle, and grain. In the early 1900's the Alcatraz wharf was constructed along with other petroleum support facilities (1901-1930) in the immediate vicinity of the flowline landfall.

The Alcatraz Wharf area was an important element in the history of petroleum development in Santa Barbara. The pier burned in 1930, and while there is no surface trace of the original pier, there may be buried remains in the shallow intertidal area of the flowline corridor near landfall. However, it is unknown if original pilings are present offshore, as Morton Associates, Inc. (1994) has indicated only the presence of "debris." To date there is no report of an underwater archaeological diver survey, and it is unknown if the site has been evaluated by a qualified marine archaeologist. There is the potential for direct or indirect impacts to occur to the remains of Alcatraz Wharf, if there are original structures buried within the flowline removal corridor or area of work. The State Lands Commission has required that ARCO hire a qualified archaeologist to conduct a limited investigation evaluating the Alcatraz Pier remains, its potential significance, and recommend appropriate mitigation measures.

Offshore

There are two shipwrecks documented within or near PRC 2793 (W.L.R. Emmet (BLM 374) and an unknown vessel (BLM (682)). Only BLM 682 has been evaluated as moderately significant. None of these documented cultural resources occur within the project impact area (i.e., well site disturbance radii), however. There are additional cultural resource sites identified on the lease parcels that the flowline corridor crosses, however, there will be no impacts to those resources because the flowlines will be abandoned-in-place. Therefore, no direct or indirect impacts to offshore cultural resources are anticipated to occur as a result of project activities.

Conclusion

The Commission thus finds that impacts to prehistoric and archaeological resources will be minimized or avoided during project activities. The project is therefore consistent with section 30244 of the Coastal Act.

4.5.7 Visual Resources

Coastal Act section 30251 states in part:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas

The affected viewshed for the abandonment and removal activities on PRC 2793, PRC 2894, and PRC 2199 extends from San Augustine to a point one mile east of Gaviota State Park. The onshore area is a primarily rural landscape with sweeping views of the Santa Barbara Channel toward the Santa Barbara Channel Islands. The views of the Santa Barbara Channel presently include a scattering of approximately 17 oil and gas platforms, with Platforms Harmony and Hondo immediately offshore in the area just beyond PRC 2933.

The offshore and nearshore project work area will be visible from the primary view corridor of the Southern Pacific Railroad, and from view areas at Hollister Ranch and Gaviota State Park. Private beach users at Hollister would be able to see the jack-up rig from 1.6 miles away, and recreational users at Gaviota State Park would be viewing the rig from 4 miles away. The viewing population could be less than 1,000 people daily, based on a daily average of 400 recreational park users and 150 daily train passengers on Southern Pacific Railroad. The onshore flowline removal work at the Gaviota Marine Terminal landfall is well screened and will not be visible to motorists on U.S. 101.

During all phases of the offshore well abandonment activities (including movement, anchoring and operations), nearshore abandonment and onshore flowline removal work activities the drill rig and support vessels will be working within 2 miles of shore. The size and structure of the drill rig and the movements of the support vessels will be highly visible to recreational users, travelers and residents within the visual impact area. Drill rig nighttime light impacts to residents in the vicinity will be mitigated, however, through use of light shields on the rig. However, since project activities are short-term (13 days for well abandonment and one week for the intertidal and onshore flowline abandonment/removal), any adverse visual impacts will be temporary.

The Commission therefore finds the proposed project consistent with Coastal Act section 30251 which requires that the "scenic and visual qualities of coastal areas ... be protected."

4.5.8 Section 30260 Coastal-Dependent Industrial “Override” Provision

Section 30101 of the Coastal Act defines a coastal-dependent development or use as that which “requires a site on or adjacent to the sea to be able to function at all.” Ports, commercial fishing facilities, offshore oil and gas developments (e.g. subsea wells and associated pipelines) are examples of development considered “coastal dependent” under section 30101.

In section 30260, the Coastal Act further provides for special approval consideration of coastal-dependent industrial facilities that are otherwise found inconsistent with the resource protection and use policies contained in Chapter 3 of the Coastal Act. Subsea oil and gas completion wells and their associated flowlines qualify as “coastal-dependent industrial facilities.” Coastal-dependent industrial facilities must first be tested under all applicable policies in Chapter 3. If the proposed project does not meet one or more of these policies, the development can then be analyzed under the three requirements of section 30260 of the Coastal Act which specifically states:

Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and section 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental affects are mitigated to the maximum extent feasible.

As described in section 4.5.1 of this report, ARCO’s proposed development project does not meet the standards of section 30232 due to the potential for, and significant impacts caused by a marine oil or gas spill. Since the project qualifies as a “coastal-dependent industrial facility” the Commission may nevertheless approve the project if the three requirements of section 30260 can be met.

4.5.8.1 Alternative Locations

The Coastal Commission may approve the proposed development if notwithstanding the project’s inconsistency with one or more policies of Chapter 3 it finds that alternative project locations are infeasible or more environmentally damaging. ARCO’s proposed project is to abandon one existing subsea well and abandon-in-place or remove two flowlines. Since this project involves abandonment and/or removal of existing facilities, the issue of whether the project is sited in the lease environmentally damaging location is not applicable. Therefore, the proposed project is consistent with the first test of section 30260.

4.5.8.2 Public Welfare

The second test of Coastal Act section 30260 states that non-conforming coastal-dependent industrial development may be permitted if “to do otherwise would adversely affect the public welfare.” The test requires more than a finding that, on balance, a project as proposed is in the interest of the public. It requires that the Coastal Commission find that there would be a detriment to the public welfare were the Coastal Commission to deny a permit for the project proposal.

The proposed project involves the proper abandonment of existing, shut-in subsea wells and abandonment-in-place/removal of associated flowlines as required by State Lands Commission lease provisions. Improperly abandoned wells and flowlines could potentially cause a hydrocarbon release into marine waters. Thus, denial of the project may be detrimental to the public’s welfare.

However, in addition to determining whether a refusal to allow the project to be carried out at all would adversely affect the public welfare (which the Commission has answered in the affirmative), the Commission must also determine whether a refusal to allow the project to be carried out precisely in the manner proposed by the applicant would adversely affect the public interest.

In previous sections of these findings, the Commission has identified and outlined the valuable public policy goals that will be furthered by imposing additional mitigation measures. The question thus becomes whether the conditions of this permit which impose additional mitigation upon the applicant will have an adverse effect on the public interest. The applicant has made no showing that such requirements are financially or otherwise infeasible. Therefore, the Commission finds that the proposed project, as conditioned by this permit, will not have an adverse effect on the public welfare. The proposed project is therefore consistent with the second test of section 30260.

4.5.8.3 Maximum Feasible Mitigation

The third test in section 30260 requires a finding that the adverse environmental impacts of a proposed project have been mitigated to the maximum extent feasible. As discussed in sections 4.4.1 of this report, the Commission has determined that the project is inconsistent with Coastal Act sections 30232 due to the potential for and resulting impacts of an oil spill. However, upon the applicant’s acceptance of this permit, as conditioned, the Commission can find that the environmental impacts generated by this project have been mitigated to the maximum extent feasible.

5.0 California Environmental Quality Act

As "lead agency" under the California Environmental Quality Act ("CEQA"), the State Lands Commission adopted an EIR (*EIR No. 663, October 17, 1995*) for the proposed project. The Commission's permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. Pursuant to section 21080.5(d)(2)(i) of the CEQA and section 15252(b)(1) of Title 14, California Code of Regulations (CCR), the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment."

Although the Commission believes that ARCO's project may generate adverse coastal zone impacts and pose a threat to the marine environment in the event of an oil or other hazardous liquid spill, the Commission finds that there are no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have on the environment, other than those identified herein. Therefore, the Commission finds that the project is consistent with the provisions of the CEQA.

Appendix A

Substantive File Documents

Documents

Coastal Development Permit Application E-95-10.

Final Environmental Impact Report (State Clearinghouse No. 94121042), Subsea Well Abandonment and Flowline Abandonment/Removal Program, Volumes I and II, certified by the State Lands Commission in November 1995.

State Lands Commission Oil and Gas Lease PRC 2793.1, issued to ARCO and other lessees in October 1961.

State Lands Commission. *Mitigation Monitoring Plan for Approve Program of Subsea Well Abandonments and Flowline Abandonments/Removals on Existing State Oil and Gas leases in the Santa Barbara Channel, Santa Barbara Co.*, October 17, 1995.

National Pollutant Discharge Elimination System (NPDES) Permit No. CAG283001, California Regional Water Quality Control Board - Central Coast Region, October 13, 1995.

ARCO Oil and Gas Co., *Proposed Execution Plan for Subsea Well and Associated Pipeline Abandonment*, prepared by ARCO Co., with technical assistance by Fugro West, Inc., August 1995.

ARCO Oil and Gas Co., *Marine Wildlife Contingency Plan - Vessel Operations and Marine Mammals*, prepared by ARCO Co., with technical assistance by Fugro West, Inc., August 1995.

ARCO Oil and Gas Co., *Facility Response Plan and Response Manual: Santa Barbara Channel*, prepared by ARCO Oil and Gas Co., with technical assistance by Goldberg Environmental Services, February 1995.

Subsea Well Abandonment Program for Multiple Operators in State Leases - PRC 2879, 2726, 2793, 2894, 2199, 2920, 2933, and 1824, submitted by ARCO Oil and Gas Co.; Chevron USA Production Co.; Phillips Petroleum Co.; Shell Western Exploration & Production, Inc.; Texaco Exploration and Production, Inc.; and Union Oil Co. of California (undated).

Joint Oil Fisheries Liaison Office Joint Committee. *Guidelines Intended to Reduce Conflicts Between Geophysical Surveys and Fishing Operations* (undated).

Correspondence

Letter from Simon Poulter, Fugro West, Inc. to Alison Dettmer, California Coastal Commission, October 18, 1995.

Letter from Simon Poulter, Fugro West, Inc. to Alison Dettmer, California Coastal Commission, November 14, 1995.

Letter from Ron Tan, Santa Barbara County Air Pollution Control District, to Susan Hansch, California Coastal Commission, November 13, 1995.

Letter from C.F. Raysbrook, California Department of Fish and Game, to Peter Douglas, California Coastal Commission, January 26, 1996.

Letter from Phil Schenck, Central Coast Hook & Line Fishermen's Association, to California Coastal Commission, (undated) received on February 20, 1996.

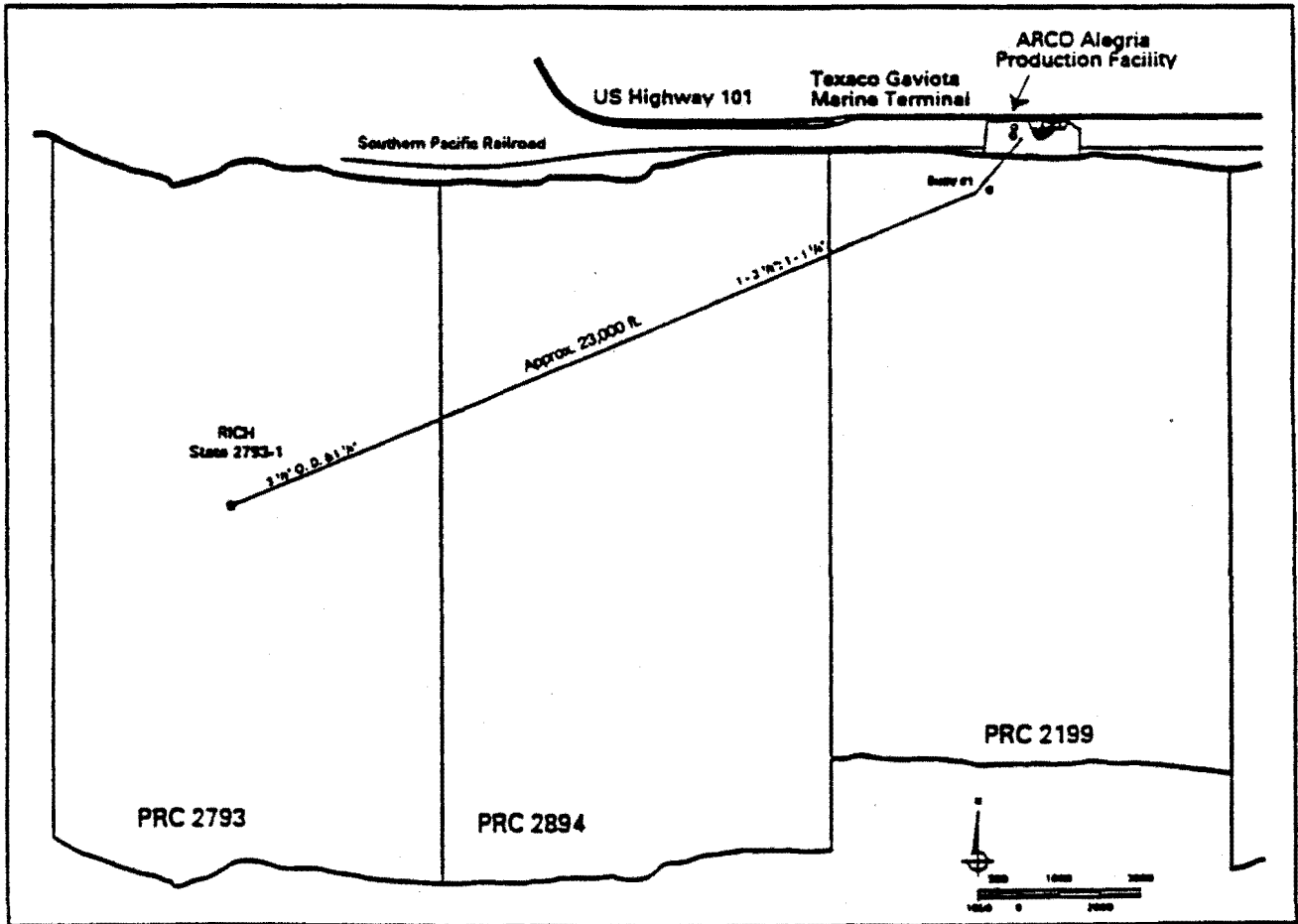
Letter from Douglas Allard, Santa Barbara County Air Pollution Control District, to Susan Hansch, California Coastal Commission, March 13, 1996.

Letter from R.W. Hollis, ARCO Oil and Gas Company, to Susan Hansch, California Coastal Commission, March 19, 1996.

Appendix B

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.
5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



LOCATION OF ARCO FLOWLINE BUNDLE

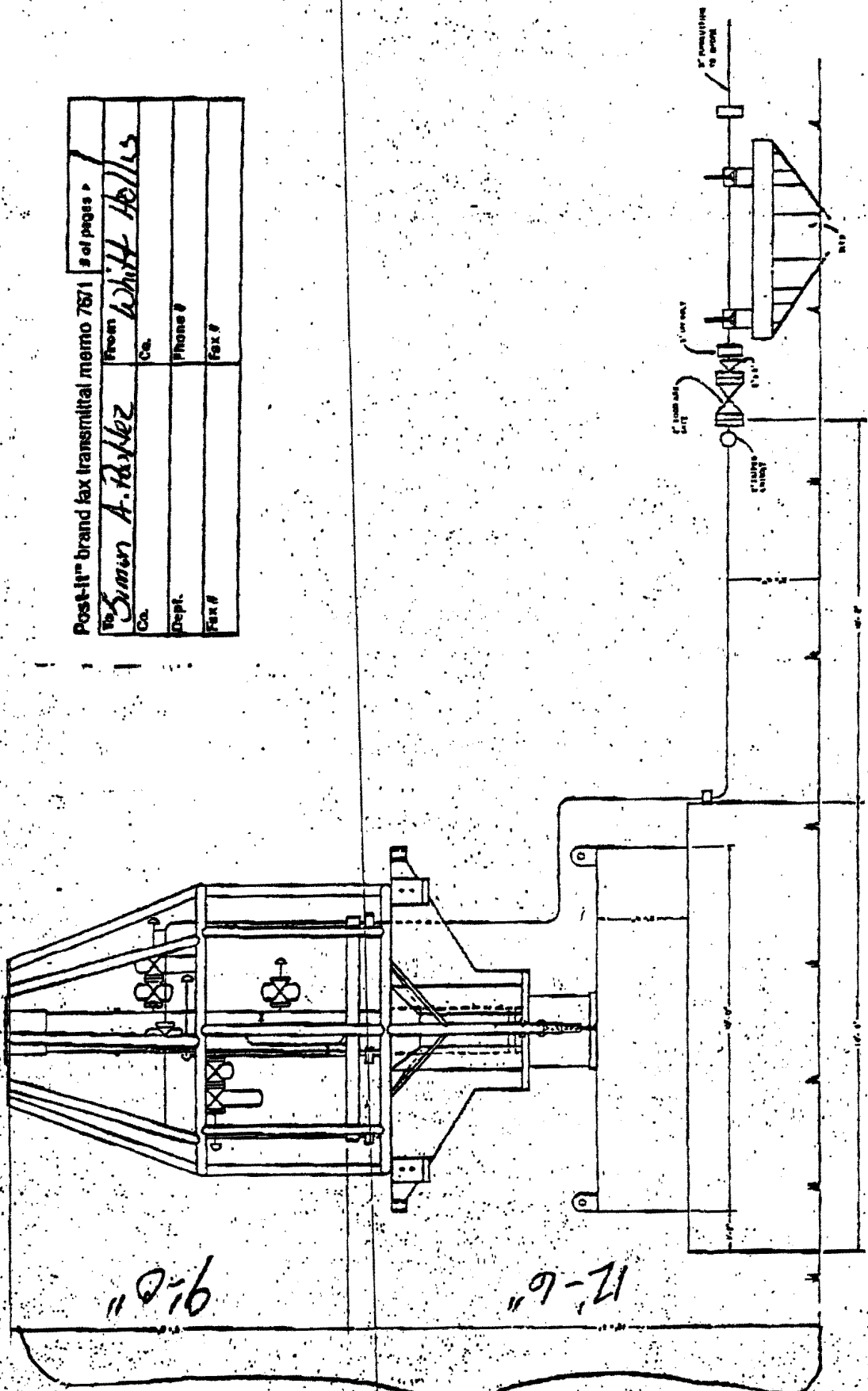
EXHIBIT NO. 1
APPLICATION NO. E-95-10
California Coastal Commission

EXHIBIT NO. 2
 APPLICATION NO.
 E-95-10

California Coastal Commission

Post-It™ brand fax transmittal memo 7871 3 of pages

To	Simon A. Parker
From	Whitt Hollis
Co.	
Dept.	
Phone #	
Fax #	



(A) ELEVATION
 Bearing: N 11° E

JAN 26 '95 12:30PM ARCO

P.1/1

STATE 2793 WELHEAD
 ELEVATION W/ PROTECTIVE DEVICE

ARCO Oil and Gas Company



SANTA BARBARA COUNTY

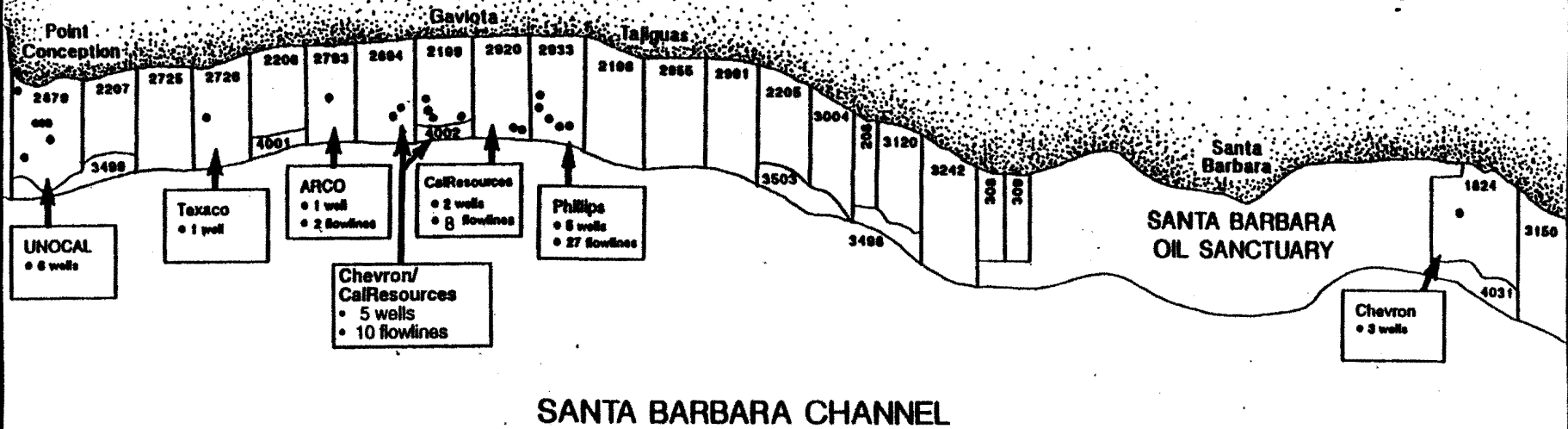

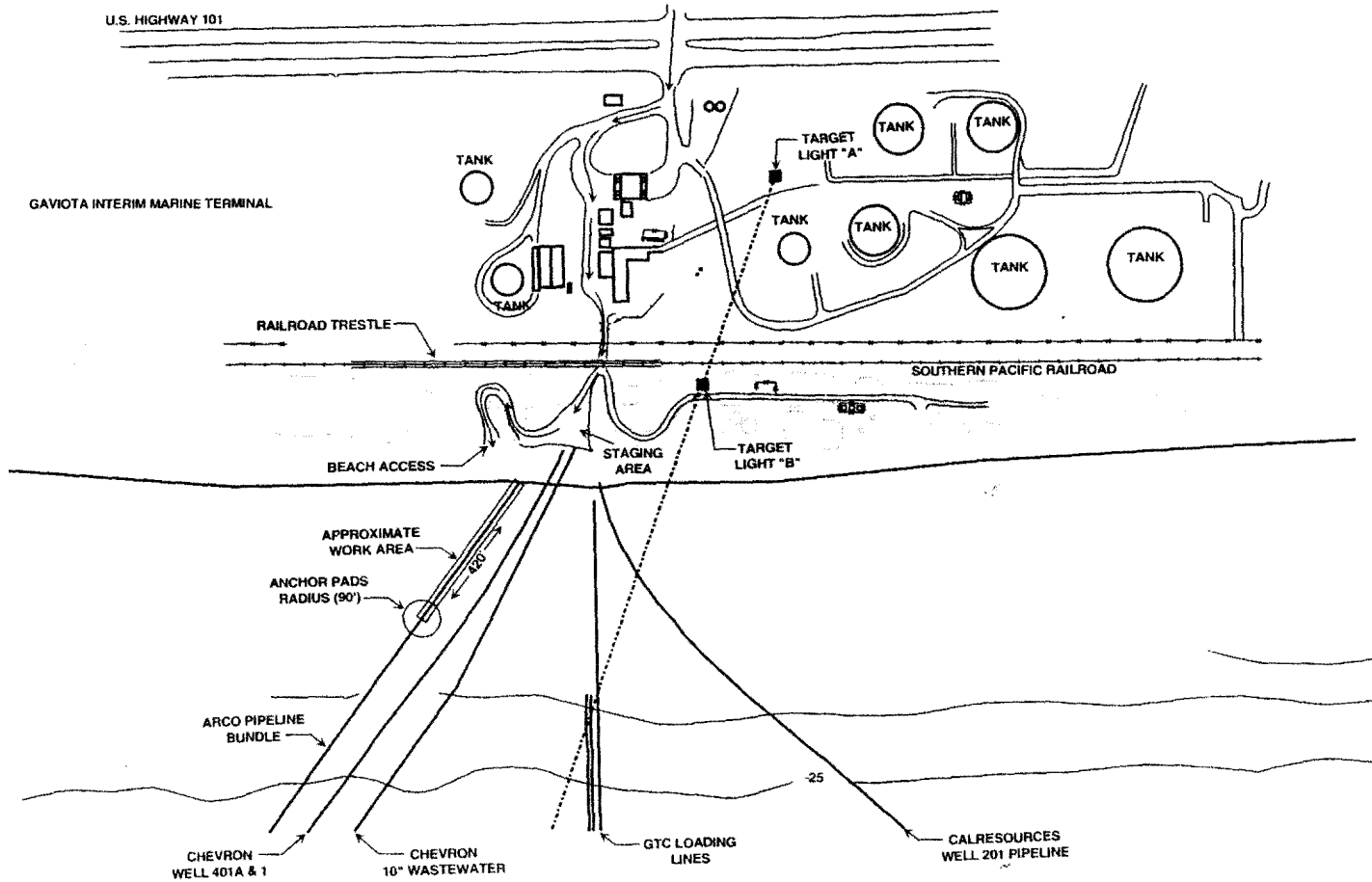


EXHIBIT NO. 3
APPLICATION NO.
E-95-10

Figure ES.1. Subsea well abandonment and flowline abandonment/removal planning area.

November 1995
Project No. 94-48-3360

EXHIBIT NO. 4
APPLICATION NO. E-95-10
 California Coastal Commission



NOTE: 90 foot anchor radius assumes 15 feet water depth and a 6:1 radius to depth.

**SITE PLAN FOR
GAVIOTA MARINE TERMINAL**

To: CALIFORNIA COASTAL COMMISSION

This letter is in response to the State Lands Commission well head removal program in the Gaviota area. WE WANT THESE REEFS PRESERVED.

I. ECOLOGICAL AND BIOLOGICAL VALUE

1. The marine life on and associated with these man-made reefs is so much more abundant than natural reefs and it is most difficult to believe without seeing. Look at these man made reefs as compared to the natural ones in the State Land's video and see how much more abundant they are.


2. In an era when our marine resources are by and large stretched to the limit, these reefs provide SANCTUARY for the fishes and other sea creatures. The fish are protected by these structures, out of reach of draggers, gill nets and for the most part, the hook and line fisherman also.

3. The fishes on these reefs are resupplying the surrounding areas depleted by the years of unrestrained SEISMIC surveys.

II. ECONOMIC VALUE

1. Several other fishermen and myself have discussed the contributions of these reefs to our incomes. After many discussions, we feel the minimum losses to be approximately 20%, which means that if these reefs are removed, there goes health insurance for our families, retirement funds, etc.

2. Some of these reefs are nearly 50 years old. I have been "using" them for 20 years, and to have these reefs

EXHIBIT NO.5
APPLICATION NO. E-95-10
 California Coastal Commission

wrenched from us at this time is just not right.

3. The "average" productive life of oil and gas wells are 20 years, at the time these wells ceased to be productive they should have been properly closed in and removed, but no, the state and oil companies sat on their butts for another 30 years and these wells became massive fish producing reefs of considerable long term value.

III. USER GROUPS

1. Probably the largest user group is the sport fishermen, launching their boats from Gaviota, Santa Barbara, and Santa Barbara sport fishing boats. These all generate significant income to area businesses and recreation of the finest kind.

2. Commercial fishermen also use the reef to produce high value rock fishes and lobsters, etc.

IV. DISPLACEMENT OF FISHERMEN

1. The removal of these reefs will create a large gap in our fishing resources. Principally in resupplying the surrounding areas, and of equal importance, access to these reef during the months of heavy wind when this is the ONLY area available to the fishermen to CONTINUE earning a living.

V. LIABILITY SOLUTIONS

1. Re-close in the wells, leaving the marine life on these reefs as undisturbed as possible.

2. Post a bond similar to the deal Exxon and MMS came to on abandoned deep well heads in their Santa Rosa tract.

VI. FISHERY SOLUTIONS

(preferred solution)

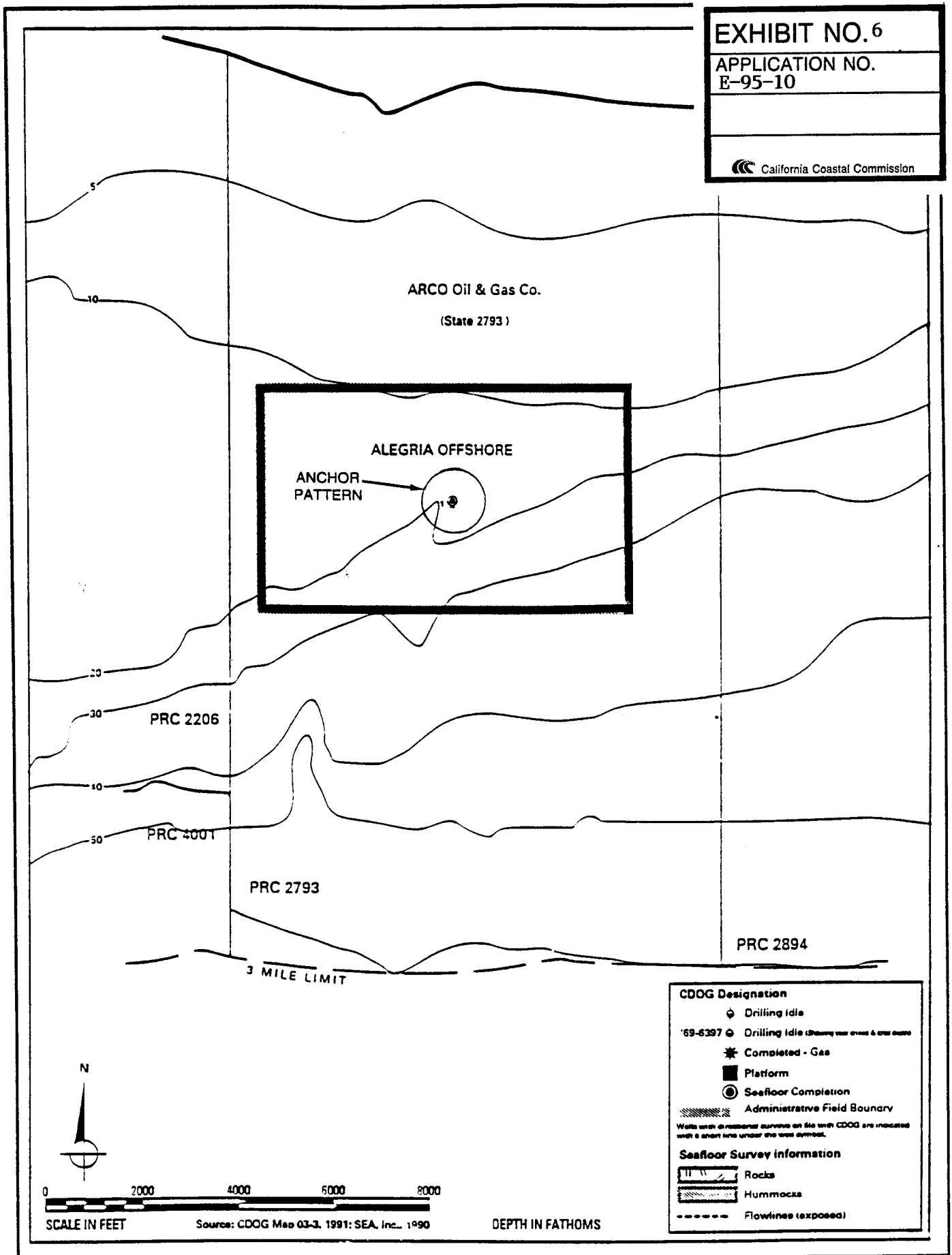
1. Leave everything as it is.
2. Re-close the well heads with as little disturbance as possible to the established marine life.
3. Replace the well heads with artificial reefs of modern design to promote fast marine growth and rapidly re-establish fish schools.
4. Some program to help the directly affected fishermen get through the re-establishment period.

Phil Schenck
F/V Terri's Gale
Central Coast Hook & Line Assoc
(714) 898-7825

EXHIBIT NO. 6

APPLICATION NO.
E-95-10

California Coastal Commission



ANCHOR PATTERN AT WELL SITE
(SHOWING SUBSTRATE FEATURES)

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
 SAN FRANCISCO, CA 94105-2219
 VOICE AND TDD (415) 904-5200



DRAFT
Memorandum of Agreement
Between the
California Coastal Commission,
California Department of Fish and Game
and
United Anglers of Southern California

EXHIBIT NO. 7
APPLICATION NO. E-95-10
California Coastal Commission

This Memorandum of Agreement (Agreement or MOA) is by and between the California Coastal Commission (the Commission), the California State Department of Fish and Game (DFG), and the United Anglers of Southern California (UASC), sometimes referred to as the Parties. The Parties agree as follows:

WHEREAS, Phillips Petroleum Company, Union Oil Company of California, ARCO Oil and Gas Company, CalResources, Chevron U.S.A. Production Company and Texaco Exploration and Production, Inc. (hereinafter referred to collectively as "the Applicants") have applied to the Commission to obtain individual coastal development permits to abandon permanently a combined total of 23 subsea oil and gas completion wells and abandon-in-place/remove associated flowlines in state waters in the Santa Barbara Channel offshore of Santa Barbara County ("the Santa Barbara Channel Subsea Well Abandonment Program").

WHEREAS, on _____, the Commission granted to each Applicant a coastal development permit (E-95-9, E-95-10, E-95-11, E-95-12, E-95-13, E-95-14 and E-95-17) to abandon permanently a combined total of 23 subsea oil and gas completion wells and abandon-in-place/remove associated flowlines in state waters in the Santa Barbara Channel offshore of Santa Barbara County.

WHEREAS, as a condition (Special Condition) of its approvals, the Commission has required each Applicant to compensate for all project-related adverse impacts to hard bottom habitat through payment of a compensatory mitigation fee (hereinafter "the fee") which will be used to fund the construction of a new artificial reef or augmentation of an existing artificial reef in state waters within the Southern California Bight. The condition provides that the amount of the fee shall be calculated by multiplying by a compensation rate of \$6.57 per square foot the total area of adversely affected or lost hard bottom as determined after comparing each individual project's independent pre- and post-abandonment surveys.

WHEREAS, the condition further requires that, should impacts occur, each Applicant shall pay its fee to the UASC within 30 calendar days of review and written determination by the Commission's executive director of the results of the independent pre-and post-abandonment surveys.

WHEREAS, the DFG is the principal State agency responsible for the establishment and control of fishery management programs. The DFG is the State trustee agency with jurisdiction over the conservation, protection and management of fish, and habitat necessary for biologically sustainable populations of fish species (Fish and Game Code, section 1802, 711.7).

WHEREAS, the DFG administers the California Artificial Reef Program for the purposes of (1) placing artificial reefs in state waters; (2) studying existing artificial reefs and all new reefs to determine the design criteria needed to construct artificial reefs capable of increasing fish and invertebrate production in waters of the state; and (3) determining the requirements for reef siting and placement (Fish and Game Code, sections 6420-6425).

WHEREAS, the DFG desires to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef in state waters using the fee(s) obtained from the Applicants.

WHEREAS, the UASC are a volunteer group of recreational anglers interested in preserving, protecting and enhancing marine resources and fishing opportunities.

WHEREAS, the UASC desires to secure and enter into a construction contract with a contractor to construct any new artificial reef or augment an existing artificial reef using the fee(s) obtained from the Applicants.

NOW, THEREFORE, in consideration of the benefits to marine resources of the State of California, the Commission, the DFG and the UASC agree as follows:

1. The UASC agree to receive any fees paid by the Applicants. Within 30 calendar days of receipt of any fee, the UASC shall deposit the funds in an interest-bearing account ("the compensatory hard bottom mitigation fund" or "fund"). These funds including all earned interest shall be expended by the UASC solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees).
2. Within 180 days of the date on which all fees have been paid to the UASC the DFG shall develop and submit for review and approval, by the Commission's executive director, a plan to spend the monies within the fund on either the construction of a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
3. Within one year of approval by the Commission's executive director of a plan to spend the compensatory hard bottom mitigation fund, the DFG shall secure all necessary governmental approvals, including a coastal development permit, to construct a new artificial reef or augment an existing artificial reef within the Southern California Bight.
4. Within 90 days of either: (1) the granting of all necessary governmental approvals to construct a new artificial reef or augment an existing reef, or (2) approval by the Commission's executive director of a plan to spend the monies in the fund, whichever occurs later, the UASC shall secure and enter into a construction contract (the "Contract")

with a contractor to construct either a new artificial reef or augment an existing artificial reef within the Southern California Bight. The Commission's executive director may for good cause grant an extension of the time deadline imposed by this section.

5. The Contract shall: (1) provide that the contractor will assume all liability for the reef material (e.g., quarry rock) until its placement in the designated location(s), and (2) specify that when the reef material touches the ocean floor at such location(s), the reef material shall become the property of the DFG.
6. Within two years of approval by the Commission's executive director of a plan to spend the monies in the fund, the UASC shall spend these monies to complete the construction of either a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
7. The UASC and the contractor(s) must maintain Generally-Accepted Accounting Principles (GAAP), financial management, and accounting system and procedures which provide for (1) accurate, current and complete disclosure of all financial activity for the reef project, (2) effective control over, and accountability for all funds, property and other assets, related to the project, (3) comparison of actual outlays with budgeted amounts, and (4) accounting records supported by source documentation. Annual financial reports showing current and cumulative financial activity must be provided to the Commission. All project records must be made available at any time for examination by the Commission.

The UASC shall retain all pertinent books, documents and papers, including financial transactions and supporting documents, and policies and procedures for the general accounting system, internal controls, and management practices for a period of three years following the date(s) of all final payment(s) under the Contract.

8. A failure on the part of any of the Parties to carry out the terms of this Agreement shall result in the following process. The party that believes another party is failing to carry out the terms of the Agreement shall bring the issue to the executive director of the Commission. If the executive director of the Commission cannot resolve the issue, the matter shall be referred to the Commission for resolution. The Commission may choose to seek (1) judicial enforcement of the terms of this MOA; (2) a full refund of any unexpended funds; or (3) other appropriate remedies.
9. This Agreement may be amended only in writing executed by all Parties.

IN WITNESS WHEREOF, the Parties have executed this MOA to this effect as of the date last signed below.

CALIFORNIA COASTAL COMMISSION

By: _____
PETER M. DOUGLAS
Executive Director

Date

CALIFORNIA DEPARTMENT OF FISH AND GAME

By: _____
JACQUELINE SCHAFER
Executive Director

Date

UNITED ANGLERS OF SOUTHERN CALIFORNIA

By: _____
JIM PAULK
President

Date

DEPARTMENT OF FISH AND GAME

1416 NINTH STREET
P.O. BOX 944209
SACRAMENTO, CA 94244-2090

(916) 653-7664



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CALIFORNIA
COASTAL COMMISSION

January 26, 1996

Mr. Peter Douglas
Executive Director
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, California 94105-5200

Dear Mr. Douglas:

The purpose of this letter is to communicate the Department of Fish and Game's (DFG) intent to work cooperatively with the California Coastal Commission (CCC) and United Anglers-Southern California (UA) toward establishing a framework and agreement for artificial reef-related use of certain mitigation funds from offshore gas well abandonment activities which may become available as a result of CCC action.

Current discussions among CCC, UA, and DFG staff have resulted in a conceptual framework which includes the following:

- Potential mitigation funds would be used to construct or augment artificial reefs in southern California in accordance with criteria established by the CCC and DFG.
- The DFG would undertake the planning and permitting process necessary to construct or augment the reefs.
- UA would hold and disburse mitigation funds for reef construction at the direction of the CCC and DFG.
- Additional funds/materials may be sought to supplement the mitigation funds.

EXHIBIT NO. 8
APPLICATION NO. E-95-10
California Coastal Commission

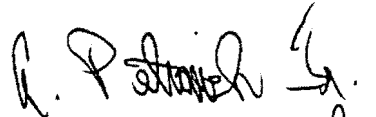

Mr. Peter Douglas

January 26, 1996

Page Two

We are now working with CCC staff to develop a draft Memorandum of Agreement which will specify each participant's roll and responsibility in the timely and effective use of these potential mitigation funds. If you should have any questions or need more information during this process, please contact Mr. David Parker of my staff at our Long Beach office, 330 Golden Shore, Suite 50, Long Beach, California 90802, telephone (310) 590-5129.

Sincerely,


C. F. Raysbrook
Interim Director 

cc: Ms. Alison Dettmer
California Coastal Commission

Mr. Jim Paulk
United Anglers-Southern California

Mr. David Parker
Marine Resources Division-Long Beach



Santa Barbara County
Air Pollution Control District

November 3, 1995

Fugro West, Inc.
5855 Olivas Park Drive
Ventura, California 93003-7672

Attn: Simon A. Poulter

EXHIBIT NO. 9
APPLICATION NO. E-95-10
California Coastal Commission

Subject: Abandonment of Subsea Oil Wells and Pipelines - PRC 2879, 2920, 2933, 2793

Dear Mr. Poulter:

The Santa Barbara County Air Pollution Control District (SBCAPCD) received your three permit exemption requests dated June 12, 13 and 29, 1995. These requests are for the abandonment of 4 subsea oil wells and associated pipelines on State Leases (PRC 2879, PRC 2920, PRC 2933 and PRC 2793). These well and pipeline abandonments, proposed by Unocal, CalResources and ARCO, are part of a coordinated well and pipeline "abandonment program" which will deploy a single jack-up rig in the Santa Barbara Channel. This jack-up rig will be towed to each well site until all wells in the abandonment sequence are completed. The estimated emissions for the subject subsea well and pipeline abandonment are as follows: 33 tpy NOx; 11.4 tpy CO; 3 tpy ROC; 0.8 tpy SOx; and 3.7 tpy PM10. The "abandonment program" is scheduled for calendar year 1996.

We have determined that the use of the engines on the jack-up rig and support vessels used for the abandonment of wells qualifies for the exemption specified in Rule 202 C.2.g.

Please be advised that the SBCAPCD permit regulations are currently being revised and that this specific exemption may be removed. If the "abandonment program" has not started, which means actual abandonment of the wells, at the first site and this exemption is removed by a rule change, the engines may no longer be exempt from permit. The rules in effect at the time of start-up would govern the permit requirements.

If you have any questions regarding this letter, please call me at (805) 961-8814 or Phil Sheehan at (805) 961-8876.

Sincerely,

Jerry Schiebe
Engineering Supervisor

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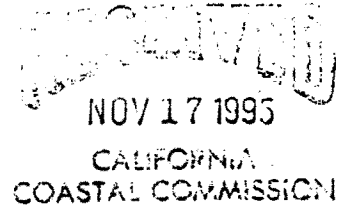
FUGRO - WEST, INC.

cc: Rick Owen, Unocal
David Oreolt, CalResources
Whit Hollis, ARCO
Phil Sheehan, SBCAPCD
APCD Exemption File
Engineering Chron File

Douglas W. Allard
26 Castilian Drive B-23, Goleta, CA 93117 Fax: 805-961-8801 Phone: 805-961-8800
Air Pollution Control Officer



Santa Barbara County
Air Pollution Control District



November 13, 1995

Ms. Susan Hansch
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RE: Subsea Well Abandonment and Flowline Removal Program on State Oil and Gas Leases in the Santa Barbara Channel (State Lands Commission EIR No. 663; State Clearinghouse No. 94121042).

Dear Ms. Hansch:

The Santa Barbara County Air Pollution Control District (APCD) would like to clarify for the Coastal Commission the air quality issues associated with the above referenced project. Specifically, the following major issues are discussed :

- ⇒ Project Background
- ⇒ Basis for APCD Permit Exemption
- ⇒ Project Emissions and Mitigation Measures
- ⇒ Consistency with the 1994 Clean Air Plan for Santa Barbara County
- ⇒ Deficiencies in the SLC Certified EIR

1. Project Background

The project involves the abandonment of old subsea oil and gas wells and the abandonment or removal of the flowlines associated with the wells. The wells and flowlines are located offshore Santa Barbara County in state waters on six leases. For the well abandonment phase, one jack-up rig and support vessels will move from site to site. Actual well abandonment activities will require approximately 10 months. Flowline abandonment and removal operations will require a work boat (or derrick barge) and may be completed before, concurrently with or after the abandonment of the subsea wells. This project phase is anticipated to require 9 1/2 months.

The project proponents are the following companies:

1. Phillips Petroleum Company
2. CalResources (formerly Shell Western Exploration and Production Inc.)
3. Union Oil Company of California
4. ARCO Oil and Gas Company

Douglas W. Allard
26 Castilian Drive B-23, Goleta, CA 93117 Fax: 805-961-8801 Phone: 805-961

Air Pollution Control District

EXHIBIT NO. 10
APPLICATION NO. E-95-10
California Coastal Commission

5. Chevron USA Production Company
6. Texaco Exploration and Production Inc.

The State Lands Commission, as the lead agency under CEQA, prepared and adopted EIR No. 663 on October 17, 1995. The EIR concludes that this project will result in significant adverse air quality impacts unless feasible mitigation measures are implemented.

APCD staff provided data on emissions and mitigation measures. During the preparation of the draft EIR, we found the resulting EIR to be adequate. However, during the SLC adoption hearing in October, the mitigation language in the draft EIR was substantially changed without any prior public notice. The Final EIR required implementation of air quality mitigation measures only to the extent required by APCD rules and regulations.

2. Basis for APCD Permit Exemption

APCD Rule 202 C. 2. g (see Attachment 1) exempts from permit requirements piston type internal combustion engines on work-over rigs when the engines are used for the repair, work-over, maintenance or abandonment of wells. The engines on the jack-up rig and support vessels qualify for this exemption. The APCD has granted this exemption to the five lessees who have applied for it. Only Texaco has not applied for this exemption.

3. Project Emissions and Recommended Mitigation Measures

SLC's EIR estimates that the project (abandonment work at all sites) will generate significant emissions as shown in the attached table (Attachment 2). If the project were not exempt from APCD new source review rules and regulations, these amounts would trigger APCD requirements for Best Available Control Technology, formal air quality impact analysis, and offsets. Feasible mitigation measures, including emission offsets, an innovative emission control program funded by mitigation fees and/or installing marine-vessel engine modifications were included in the EIR (Attachment 3). As mentioned above, the Final EIR required implementation of air quality mitigation measures only to the extent required by APCD rules and regulations.

4. Consistency with the 1994 Clean Air Plan for Santa Barbara County

CEQA Guidelines Section 15125 requires that a proposed project be consistent with adopted goals and plans. With respect to air quality, the applicable goals/plan is Santa Barbara County's adopted 1994 Clean Air Plan (CAP).

In order for a project to be consistent with the CAP, the project's emissions must either be included in the CAP's emission inventory or the project emissions mitigated to insignificance.

The emissions due to this project are not included in the CAP¹. Consequently this project could only be consistent with the CAP if the emissions are mitigated.

5. Deficiencies in the SLC Final EIR

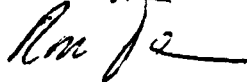
SLC's EIR concludes that the project will have significant adverse air quality impacts unless feasible mitigation measures are implemented. SLC applied the mitigation measures described in Attachment 3 and concluded that the significant adverse air quality impacts were reduced to a level of insignificance. Consequently, the EIR, when adopted by the State Lands Commission, classifies the air quality impacts as Class II.

As discussed under Project Background, the air quality mitigation measures would be implemented only to the extent required by APCD rules and regulations. Because this project is exempt from APCD permitting requirements, the mitigation measures would not be required by APCD rules and regulations. Consequently, the significant adverse air quality impacts would not be reduced to a level of insignificance and the classification of these impacts as Class II in the Final EIR is incorrect. The impacts should be classified as Class I, requiring the SLC to have made a Statement of Overriding Considerations when adopting the FEIR.

The second deficiency in the FEIR is the project's inconsistency with Santa Barbara County's 1994 Clean Air Plan, as discussed previously.

We hope this clarifies why the APCD continues to have reservations concerning this project proceeding without adequate mitigations. We are prepared to provide the project applicants assistance in obtaining the mitigations.

Sincerely,



Ron Tan, Air Quality Scientist
Technology and Environmental Review

Attachments (3)

cc: G.K. Walker, State Lands Commission
Pam Gross, Energy Div. , County P&D
Peter Cantle, APCD
TEA Project File (SLC: Subsea Well Abandonment)
TEA Chron File

¹ The project emissions are not included in the CAP's point source inventory. While it could be argued that the project emissions are part of the CAP's area source inventory, the area source includes only sources with substantially less emissions than are emitted by this project.

February 26, 1966

Mr. Keith Howell, Chevron
Mr. Tom Kennedy, Phillips
Mr. Roger Johnson, Texaco
Mr. Hugh Herndon, UNOCAL
Mr. Mark T. Drumm, ARCO
Mr. Jeff Milton, CalResources
Mr. Doug Allard, APCO, Santa Barbara County Air Pollution Control District

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FEB 28 1996
CALIFORNIA
COASTAL COMMISSION

Enclosed find two (2) copies of the Subsea Well Abandonment Program Emission Reduction Agreement. Please execute both copies, retain one for your files, and return one to me for assembly and subsequent distribution of the completely executed document to all parties.

Our objective is to have all signatures no later than March 6, 1996. If you cannot meet this schedule, please call and advise when your executed copy will be transmitted.


Thank you for your cooperation and assistance in this matter.

Yours Very Truly,



E. E. Morton

cc: w/copies
W. Dillon, S.B. County Counsel
S. Moore, SWARS Counsel
S. Hansch, California Coastal Commission
D. Sanders, California State Lands Commission
F. Holmes, WSPA

EXHIBIT NO. 11
APPLICATION NO. E-95-10
 California Coastal Commission

COPY

SUBSEA WELL ABANDONMENT PROGRAM EMISSION REDUCTION AGREEMENT

The Coastal Development Permit applicants for the Subsea Well Abandonment Rig Sharing (SWARS) program have reached agreement with the Santa Barbara County Air Pollution Control Officer (APCO) concerning mitigation of air emissions associated with the "Program". The program consists of all well abandonments reviewed in State Lands Commission (SLC) EIR No. 633 and Gaviota wells reviewed in State Lands Commission ND No. 563. The terms of the agreement are outlined below.

1. Each Subsea Well Abandonment Program operator shall send a letter to the California Coastal Commission (CCC) modifying their application to incorporate into their project description all requirements set forth in the attached draft Phillips' letter to the CCC (see Attachment A which is incorporated herein by this reference).
2. Subsea Well Abandonment Program operators shall provide \$748,750 to fund programs to help mitigate short term air quality impacts of the subsea well abandonment program which will result in overall improved air quality beyond the life of the project. This payment will satisfy the operators' air quality mitigation obligation for the entire program and the long term air emission reductions will belong to Santa Barbara County Air Pollution Control District (SBCAPCD) and will be used to provide a long term clean air benefit. Apportionment of the payment shall be determined by the operators. The operators shall notify the District of the apportionment when it has been made.
3. The pre-survey work and the subsea well abandonment portion of the program is anticipated to be completed within a 12 consecutive month period. Pipeline/flowline abandonment/ removal operations shall be deferred to a 12 consecutive month period separate from the subsea well abandonment portion of the program.
4. The subsea well operators' program shall not be delayed by the execution of any of the air quality mitigation measures.
5. Based on the subsea well operators' commitments, the APCO will sign a letter acknowledging the mitigation provided by the subsea well operators, stating that the mitigation satisfies his air quality concerns with the program. The APCO will state

his intent to strongly recommend and support the position that the current proposed Reg II and Reg VIII rule changes will not apply to this subsea well abandonment program.

6. Article 5 above is subject to a future favorable ruling of the APCD Board and subject to program completion by the end of 1998.
7. All emissions estimates are based on EIR and EIR-equivalent for Gaviota Mitigated Negative Declaration (ND) wells.
8. Operators shall employ a single rig utilizing Caterpillar D-399 TA SCAC or other engines with equivalent or lower emissions than those described in the certified EIR. All subsea well operators participating in the program shall comply with all project descriptions and assumptions used to prepare the air emission estimates within the certified EIR and with this mitigation agreement.
9. These mitigation measures are program specific and are not intended to represent future policies or future mitigation measures.
10. Subsea well abandonment program operators will put forth a good faith effort to provide a workboat or crewboat for the APCD to demonstrate effectiveness of lean burn catalyst.
11. A deposit of \$74,875 shall be paid to the SBCAPCD within 30 calendar days after all operators receive their Coastal Development Permits (CDP's). Final payment of \$673,875 to the SBCAPCD will be paid no later than 30 days after all operators execute a binding rig contract. Operators shall not mobilize the rig to the first wellsite until 120 days after the date of SBCAPCD's receipt of the entire payment of \$748,750.
12. SBCAPCD shall return the deposit 30 days from the date that the operators notify the District that the operators have surrendered their CDP's because the program is not going to proceed.
13. Operators shall keep SBCAPCD informed of rig procurement progress, contracting progress and timing of rig mobilization.
14. Operators shall request the SLC to include their CCC CDP commitments into the SLC Mitigation Monitoring Plan.

15. This Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument and as if all of the parties to the aggregate counterparts had signed the same instrument. The signature page may be attached to another counterpart of this Agreement identical in form hereto but having attached to it one or more additional signature pages.

ATLANTIC RICHFIELD COMPANY

By: _____
Title: _____
Date: _____

CALRESOURCES LLC

By: _____
Title: _____
Date: _____

CHEVRON U.S.A. PRODUCTION COMPANY

By: _____
Title: _____
Date: _____

PHILLIPS PETROLEUM COMPANY

By: _____
Title: _____
Date: _____

**TEXACO EXPLORATION AND
PRODUCTION, INC.**

By: _____
Title: _____
Date: _____

UNION OIL COMPANY OF CALIFORNIA

By: _____
Title: _____
Date: _____

**AIR POLLUTION CONTROL OFFICER
SANTA BARBARA COUNTY
AIR POLLUTION CONTROL DISTRICT**

By: _____
Date: _____

COPY

DRAFT ••• PHILLIPS LETTERHEAD ••• DRAFT

ATTACHMENT A

February _____, 1996

Ms. Susan Hansch
California Coastal Commission
Energy and Ocean Resources Unit
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RE: Proposed Amendments to Coastal Development Permit (CDP) Application No. _____ :
E-94-17: Phillips Petroleum Company's Subsea Well Abandonment Project

Dear Ms. Hansch:

The Coastal Development Permit applicants for the Subsea Well Abandonment Rig Sharing (SWARS) program have reached agreement with the Santa Barbara County Air Pollution Control District (SBCAPCD) concerning mitigation of air emissions associated with the "Program". The program consists of all well abandonments reviewed in State Lands Commission (SLC) EIR No. 663 and Gaviota well abandonments reviewed in State Lands Commission ND No. 563.

The terms of this agreement are outlined below, and are provided on behalf of Phillips. By this letter, Phillips incorporates into the project description for Phillips' CDP application the following:

1. Phillips shall pay its proportionate share of the applicants' payment to the Santa Barbara County Air Pollution Control District for programs to help mitigate Phillips' proportional share of the short term air emissions associated with the subsea well abandonment program. A total payment of \$748,750 will satisfy the air quality mitigation obligation for the entire SWARS program and the resulting long term emission reductions will belong to SBCAPCD and will be used to provide a long term clean air benefit.

COPY

2. The pre-survey work and the subsea well abandonment portion of the program is anticipated to be completed within a 12 consecutive month period. Pipeline/flowline abandonment/removal operations shall be deferred to a 12 consecutive month period separate from the subsea well abandonment portion of the program.
3. Applicants shall employ a single rig utilizing Caterpillar 399 TA SCAC or other engines with equivalent or lower emissions than those described in the certified EIR. Phillips shall comply with all project descriptions and assumptions used to prepare the air emissions estimates within the certified EIR and with the mitigation agreement.
4. Applicants will put forth a good faith effort to provide a workboat or crewboat to SBCAPCD for the purpose of demonstrating effectiveness of lean burn catalyst.
5. A deposit of 10% of Phillips' total shall be paid by Phillips to the SBCAPCD within 30 calendar days after all operators receive their CDP's. Final payment to the SBCAPCD will be paid by Phillips no later than 30 days after all operators execute a binding rig contract. Operators shall not mobilize the rig to the first wellsite until 120 days after the date of SBCAPCD's receipt of the entire payment of \$748,750 from the applicants.
6. SBCAPCD shall return deposit 30 days from the date that the applicants notify the District that the applicants have surrendered their CDP's because the program is not going to proceed.
7. Phillips shall request that all the above conditions be incorporated into the SLC Mitigation Monitoring Plan.

If you have questions or require additional information, please call Tim Murphy or me at (805) 966-3556.

Yours very truly,

E. E. Morton

cc: Mr. Dwight Sanders, CSLC
Mr. Doug Allard, SBCAPCD



ARCO Oil and Gas Company 
Western District
Post Office Box 147
Bakersfield, California 93302
Telephone 805 321 4000

EXHIBIT NO. 12
APPLICATION NO. E-95-10
 California Coastal Commission

March 19, 1996

Ms. Susan Hansch
California Coastal Commission
Energy and Ocean Resources Unit
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RE: Proposed Amendments to Coastal Development Permit Application No. E-94-17:
Atlantic Richfield Company's Subsea Well Abandonment Project

Dear Ms. Hansch:

The Coastal Development Permit ("CDP") applicants for the Subsea Well Abandonment Rig Sharing ("SWARS") program have reached agreement with the Santa Barbara County Air Pollution Control District ("SBCAPCD") concerning mitigation of air emissions associated with the "Program". The program consists of all well abandonments reviewed in SLC EIR No. 663 and Gaviota well abandonments reviewed in State Lands Commission ND No. 563.

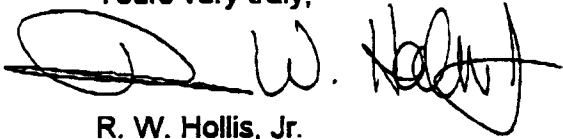
A copy of this agreement is attached. By this letter, Atlantic Richfield Company, a Delaware Corporation ("ARCO"), incorporates into the project description for ARCO's CDP application the following:

1. ARCO shall pay \$42,332 to the SBCAPCD for programs to help mitigate ARCO's proportional share of the short term air emissions associated with the subsea well abandonment program. A total payment of \$748,750 will satisfy the air quality mitigation obligation for the entire SWARS program and the resulting long term emission reductions will belong to SBCAPCD and will be used to provide a long term clean air benefit.
2. The pre-survey work and the subsea well abandonment portion of the program is anticipated to be completed within a 12 consecutive month period. Pipeline/flowline abandonment/removal operations shall occur in a 12 consecutive month period separate from the subsea well abandonment portion of the program.
3. Applicants shall employ a single rig utilizing Caterpillar 399 TA SCAC or other engines with equivalent or lower emissions than those described in the certified EIR. ARCO shall comply with all project descriptions and assumptions used to prepare the air emission estimates within the certified EIR and with the mitigation agreement.

4. Applicants will put forth a good faith effort to provide a workboat or crewboat to SBCAPCD for the purpose of demonstrating effectiveness of lean burn catalyst.
5. A deposit of \$4233.20 shall be paid by ARCO to the SBCAPCD within 30 calendar days after all operators receive their CDP's. Final payment of \$38,098.80 to the SBCAPCD will be paid by ARCO no later than 30 days after all operators execute a binding rig contract. Operators shall not mobilize the rig to the first wellsite until 120 days after the date of SBCAPCD's receipt of payment.
6. SBCAPCD shall return deposit 30 days from the date that the operators surrender their CDP because the program is not going to proceed.
7. ARCO shall request that all the above conditions be incorporated into the SLC Mitigation Monitoring Plan.

If you have questions or require additional information, please call the undersigned at 805-321-4093.

Yours very truly,



R. W. Hollis, Jr.

w/o attachments

cc: Mr. Dwight Sanders, CSLC
Mr. Doug Allard, SBCAPCD

SUBSEA WELL ABANDONMENT PROGRAM EMISSION REDUCTION AGREEMENT

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4. The subsea well operators' program shall not be delayed by the execution of any of the air quality mitigation measures.
5. Based on the subsea well operators' commitments, the APCO will sign a letter acknowledging the mitigation provided by the subsea well operators, stating that the mitigation satisfies his air quality concerns with the program. The APCO will state

his intent to strongly recommend and support the position that the current proposed Reg II and Reg VIII rule changes will not apply to this subsea well abandonment program.

6. Article 5 above is subject to a future favorable ruling of the APCD Board and subject to program completion by the end of 1998.
7. All emissions estimates are based on EIR and EIR-equivalent for Gaviota Mitigated Negative Declaration (ND) wells.
8. Operators shall employ a single rig utilizing Caterpillar D-399 TA SCAC or other engines with equivalent or lower emissions than those described in the certified EIR. All subsea well operators participating in the program shall comply with all project descriptions and assumptions used to prepare the air emission estimates within the certified EIR and with this mitigation agreement.
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ATLANTIC RICHFIELD COMPANY

CAL RESOURCES LLC

By: J. Mark Deen
Title: Environmental Compliance Manager
Date: 3/6/96

By: _____
Title: _____
Date: _____

CHEVRON U.S.A. PRODUCTION COMPANY

PHILLIPS PETROLEUM COMPANY

By: _____
Title: _____
Date: _____

By: _____
Title: _____
Date: _____

TEXACO EXPLORATION AND PRODUCTION, INC.

UNION OIL COMPANY OF CALIFORNIA

By: _____
Title: _____
Date: _____

By: _____
Title: _____
Date: _____

AIR POLLUTION CONTROL OFFICER
SANTA BARBARA COUNTY
AIR POLLUTION CONTROL DISTRICT

By: _____
Date: _____