STATE OF CALIFORNIA

STATE LANDS COMMISSION

KENNETH CORY, *Controller*
LEO T. McCARTHY, *Lieutenant Governor*
JESSE R. HUFF, *Director of Finance*

GEORGE DEUKMEJIAN, *Governor*

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, California 95814

CLAIRE T. DEDRICK
Executive Officer

March 23, 1984

TO ALL INTERESTED PARTIES

Attached please find the Proposed Negative Declaration for the State Lands Commission's Geophysical Survey Permit Program. The Proposed Negative Declaration was submitted to the State Clearinghouse on March 26, 1984 (SCH #84020113). The 30-day public review, begun by that submittal, will close on April 24, 1984. Comments on the Proposed Negative Declaration 358 should be submitted by April 24, 1984 to:

State Lands Commission
1807 13th Street
Sacramento, CA 95814
Attention: Dwight E. Sanders, Chief
Division of Research and Planning

The Proposed Negative Declaration, together with any comments received during the public review process, and the Geophysical Survey Permit Program are scheduled to be considered by the State Lands Commission at its meeting of May 24, 1984 at 10:00 a.m. in Room 444 of the State Capitol.

Sincerely,

CLAIRE T. DEDRICK
Executive Officer

PROPOSED NEGATIVE DECLARATION

ND 358
File Ref: W 6005
SCH #: 84020113

Project Title: Geophysical Survey Permit Program

Project Proponent: State Lands Commission and Geophysical Operators as indicated in Part III.

Project Location: Statewide - See Exhibit A (Permit Regions) of proposed permit form.

Project Description:

The project involves the consideration and administration of a permit program to authorize and regulate the conduct of geophysical surveys on State tide and submerged lands which extend from the mean high tide line to three nautical miles offshore and from Mexico to Oregon, exclusive of inland bays and waterways. This program would regulate activities whether solely conducted on State lands or in conjunction with like activities on Federal Outer Continental Shelf (OCS) lands. See attached proposed permit (Part I of attached material).

Contact Person: Dwight E. Sanders
Chief, Division of Research and Planning
Telephone: 916-322-7827

This document is prepared pursuant to the requirements of the California Environmental Quality Act (Section 21000 et seq., Public Resources Code), the State CEQA Guidelines (Section 15000 et seq., Title 14, California Administrative Code), and the State Lands Commission regulations (Section 2901 et seq., Title 2, California Administrative Code).

Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Adm. Code 15025), the staff has prepared a Proposed Negative Declaration identified as EIR ND 358, State Clearinghouse No. 84020113. Such Proposed Declaration was prepared and is circulated for public review pursuant to the provisions of the California Environmental Quality Act (CEQA).

Based on the attached Initial Study and the Proposed Negative Declaration, the staff of the Commission has developed the following proposed finding:

"It is recommended that the Commission:

1. Certify that a Negative Declaration, EIR ND 358, State Clearinghouse No. 84020113, was prepared for this project pursuant to the provisions of the California Environmental Quality Act (CEQA) and that the Commission has reviewed and considered the information contained therein.

2. Determine that the project, as revised and approved, will not have a significant effect on the environment.

Based on its review and circulation of the "Initial Study, Geological/Geophysical Surveys Permit Program, State Lands Commission," February 1984 and the staff's review of comments received thereto, the State Lands Commission, at its meeting of February 29, 1984, revised the above cited permit program. The Commission determined that geological and geophysical activities should be regulated under two separate permits. Accordingly, the Commission adopted the format of a geological permit and issued the permit as a categorical exempt project, Class 6, Information Collection pursuant to the provisions of the CEQA (14 Cal. Adm. Code 15306, 2 Cal. Adm. Code 2905).

This proposed negative declaration, therefore, references: 1) in terms of the Initial Study, only those potential environmental impacts which may occur as a result of or during the conduct of geophysical surveys authorized pursuant to the proposed permit program; and 2) mitigation measures incorporated into the proposed permit to avoid potentially significant effects.

Recipients of the proposed permit are required to accept and observe its terms and conditions subject to suspension or revocation as provided.

The Initial Study (see Part I) discussed several potential environmental impacts. These impact areas are listed below with their Page listings for reference from the Initial Study.

Kelp	24
Military Activities	25
Ship Traffic & Navigation	26
Cumulative Impacts	26-27

A number of mitigation measures designed to address the potential impacts listed in the Initial Study have been included in the proposed permit (see Part II, Exhibits A and B) as indicated and discussed below with the associated impact.

Impact Area

Marine Mammals/Endangered and Threatened Species
Grey Whale

Mitigation

The proposed permit expressly prohibits the start up of geophysical acoustic pulse-generating equipment in State waters when whales are observed within two (2) kilometers of a permittee's geophysical boat. (Page 3).

Discussion

Under federal law, the National Marine Fisheries Service (NMFS) is responsible for the protection and long-term preservation of the California grey whale. Information and analyses provided by recent research (Boldt, Beranek and Newman, et al., as cited in the Initial Study) indicates a number of reactions of whales to the operation of geophysical acoustic pulse-generating equipment. Following its review of this and other material by the NMFS, the agency concludes, in a letter to the Commission of January 24, 1984:

> "The most severe problem seems to be stress associated with the startle response that is elicited when geophysical surveys are initiated in close proximity to whales. To minimize this impact, we suggest that vessel operators be requested to visually survey the area around their vessel and initiate operations only when no whales are observed within 2 kilometers of the vessel. Whales that approach an operating geophysical vessel have apparently habituated to the noise; therefore we see no need to interrupt ongoing operations when whales are encountered."

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

Impact Area

Fisheries

Mitigation

The period of advance written notification to government agencies and commercial fishing interests has been increased from five (5) working days to fifteen (15) working days. The permit requires (Exhibit B) that specified parties receive such notice 15 days in advance of any operations pursuant to the permit. (Page 1)

Discussion

The required advance notification procedure is designed to lessen or eliminate physical damage to fishing gear, by allowing time for its removal or temporarily eliminating its placement in a proposed survey area, or to geophysical gear which results from conflicts between the two interests in ocean areas of interest to both of them. Damage to either types of gear results in adverse financial effects through repair or replacement costs and in time lost because of such repair or replacement.

Fishermen have previously indicated that due to the nature of their business, i.e., extended periods of time at sea, additional warning time was necessary: 1) to ensure full disclosure of permittee's activities to affected fishermen; and 2) to allow geophysical operators and fishermen more opportunity to work out potential conflicts. The notification period specified in the proposed permit is the result of discussions and agreement between permittees, fishermen, and Commission staff.

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

Mitigation

The Liaison Office of Santa Barbara has been added to the list of parties to receive notification pursuant to the requirements of Exhibit B of the proposed permit. (Page 10).

Discussion

This change is complementary to the notification procedure. The liaison committee is composed of ten members --five representing fishing interests and five representing the oil and gas and geophysical industries--who employ a full time director. The committee meets regularly to discuss and resolve potential conflicts and attempts to keep each constituency informed of the other's activities. The office is, therefore, another method of providing notice to commercial fishermen who may not encounter the notices in those locations listed in Exhibit B.

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

Mitigation

Permittees are required under the proposed permit to use a boat to scout the area to be surveyed on the first day of their noticed operations for the purpose of searching for potential conflicts with commercial fishing activities or equipment. (Page 4, Exhibit B) When an exception to the 15 day notice is allowed by the Executive Officer, see Page 1 of Exhibit B, the permittee must use a boat to scout in the approved survey area "until such time as the Executive Officer or designee is assured that all commercial fishermen have had adequate opportunity to work out conflicts with the permittee."

Discussion

The use of a boat to precede the survey vessel on its designated track lines will provide additional assurance that neither fishing equipment nor activities will be disrupted. This onsite inspection allows the Permittee to locate and either to avoid obstructions in the proposed route of the survey vessel and its over-board equipment or contact the owner for possible removal. The commercial fishing community may also benefit indirectly from the mitigation as fishing vessels are often retained by geophysical operators as scout boats.

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

Impact Area

Cumulative Impacts - Grey Whale, Sea Otter and Fisheries

Mitigation

The proposed permit may be modified or revoked by the State Lands Commission upon thirty (30) days notice. (Pages 10 and 11).

Discussion

Although there is presently no substantial evidence known, or presented to the staff of the Commission that significant, adverse environmental impacts would occur to: 1) the grey whale or sea otter populations; 2) larval or juvenile stages of marine life; and 3) known or traditional concentrations of fish, i.e., dispersal from geophysical operations, the staff is aware of concerns and allegations to these effects.

During the conduct of the present Geological/Geophysical Permit Program and during the consideration of the proposed Geophysical Permit Program, it has been suggested that additional scientific or technical studies would be conducted to address these matters. For example, the Institute for Mediation has formed a Seismic Steering Committee to consider and possibly design efforts to attempt to resolve issues of fish dispersal and egg and larval damage. The staff of the Commission has supported and participated in the efforts of the Institute in this regard as have commercial fishermen, other agencies (Fish and Game) and the oil and gas industry. The results of such studies, if they are feasible, may not be known for a period of 1-2 years from their inception.

The permit provision specified above will allow the Commission the flexibility to amend the permit, as necessary, based on scientific or technical evidence coming from these or other future study efforts.

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

Mitigation

Permittees will be provided with additional information from the Department of Fish and Game regarding fishing seasons and historical periods or times of peak landings of fish (lobster, crabs, etc.) for each of the regions delineated in the permit (Exhibit A). Permittees will be required to consider such information in scheduling their activities in State waters (Page 3).

Discussion

The staff of the Commission is aware of concerns, primarily from commercial fishermen, relative to the intensity of geophysical operations in State waters. Concerns have been expressed about the number of vessels in an area at one time and sequential surveys conducted by a number of different vessels in the same area. It has been maintained that the activities described inhibit access to fishing areas and disperse fish populations. See preceding discussion and mitigation for the latter impact.

It is believed by the staff of the Commission that the above specified mitigation in conjunction with the increased involvement of the Liaison Office (see previous Page 7 and 10, Exhibit B), and the conclusion of Federal lease sales will lessen or avoid the impact on access to fishing areas.

The information provided to Permittees, the increasing coordinating role of the Liaison Office and the role of the Commission's staff should create a process which would enable both user groups to better coordinate and integrate their respective activities to lessen or avoid potential impacts to either. Should difficulties result from this process, the Commission retains its ability to take formal action. (See mitigation and discussion on Pages 8 to 9).

Based on available information and program experience during the past eighteen (18) months, the staff of the Commission believes that two major circumstances contributed to "intensity" conflicts which occurred principally offshore northern Santa Barbara County during the referenced time period. These events were: 1) the proposed Federal Lease Sale 73 (Santa Maria Basin); and 2) the proposed State Lease Program - 40,000 acres located in State waters between Pt.

Conception and Pt. Arguello, a small sub-area of the greater Santa Maria Basin affected by Lease Sales 53 and 73.

In order to determine whether they will bid on tracts within a proposed sale and the amount of such bids, companies require resource information. The direct relationship between information and lease bids has been discussed extensively in a previous Commission report to the Legislature (Report to the Legislature on Proposed Oil and Gas Lease Sale Program, Pt. Conception-Pt. Arguello, Santa Barbara County). The proposed sales generated interest industry wide and numerous companies, either in concert or separately, contracted with private geophysical firms for resource surveys. In addition, geophysical companies conducted such surveys on their own in anticipation of the needs of the oil and gas industry.

As such, repetitive surveys resulted, primarily because companies need to protect their own competitive position in the anticipated bid process. To some extent, companies may have joined efforts to compose a joint bid and commissioned a survey to provide necessary data. One participating company may have preferred one method or equipment over another and thus commissioned another survey using such equipment in the same area, despite or because of its participation in the joint bid.

The staff of the Commission believes that a similar situation will not present itself because: 1) Lease Sale 73 has been concluded and no additional federal sales which affect this area are currently scheduled; and 2) the proposed State Lease Program has been postponed pending the conclusion of existing litigation. In the event the State sale proceeds, the required resource information has already been acquired by interested companies and should not need to be repeated.

The staff of the Commission adopts these recommendations, revises the proposed project accordingly, and finds that the project as revised avoids or mitigates the effects to a point where clearly no significant effects would occur.

PART I

INITIAL STUDY

INITIAL STUDY

GEOLOGICAL/GEOPHYSICAL SURVEYS

PERMIT PROGRAM

STATE LANDS COMMISSION

FEBRUARY, 1984

I. PROJECT DESCRIPTION

The project involves the consideration of a permit program to authorize the conduct of geological/geophysical surveys on State tide and submerged lands which extend from the Mean High Tide Line to 3 nautical miles offshore and from Mexico to Oregon. This program would regulate such activities whether conducted solely on State lands or in conjunction with like activities on Federal Outer Continental Shelf (OCS) lands.

Geophysical surveys authorized under the program are of two general types: 1) deep seismic; and 2) high resolution. The primary purpose of deep seismic surveys is to identify the structure and composition of potential petroleum bearing rocks. High resolution surveys are designed to identify geological and geotechnical conditions (hazards) that could impact the design, construction, placement and safe operation of drilling and production facilities, offshore terminals,

submarine pipelines and other petroleum and marine related offshore structures. Such surveys are also conducted to identify cultural and historical resources.

The geologic surveys authorized by the permit are used to obtain shallow physical samples of the geology of the specific locations being tested. The conduct of high resolution surveys and geologic surveys are required by other regulations of the State Lands Commission, specifically "Regulations for Oil and Gas Drilling and Production Operations on State Tide and Submerged Lands", and are used in the technical and environmental analyses of offshore oil and gas operations on State lands.

Geophysical surveys are conducted by survey vessels which range in size from 100 feet to 300 feet in length with most of the vessels being about 200 feet long. The following energy source methods are employed for geophysical surveys under the present permit program: 1) air guns; 2) sparker; 3)sniffer; 4) water guns; 5) mini-sleeve systems; 6) steam injection; 7) percussion sampling; and 8) electronic equipment.

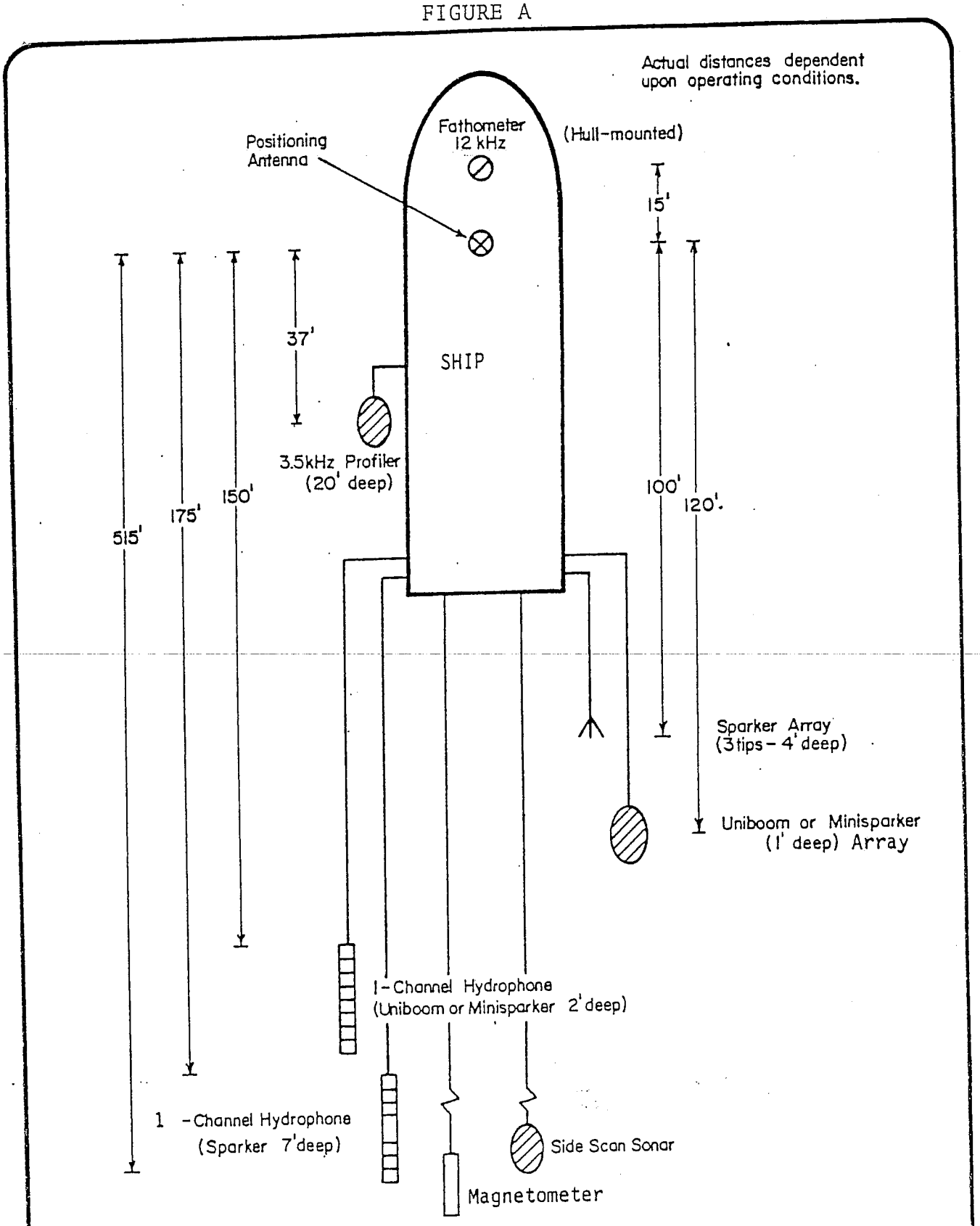
These power sources are used for specific types of surveys. For example, those used in both deep and high resolution surveys include: 1) sparker; and 2) water gun.

Those used solely for deep seismic surveys are: 1) air gun; and 2) steam gun. The sleeve exploder is used solely for high resolution work.

The basic components of both the deep seismic and shallow penetration high resolution marine seismic systems include: 1) an energy source to generate a seismic signal (acoustic pulse or wave); 2) hydrophones to receive the reflected signal; and 3) electronic instruments to amplify and record the received signal. Both the sound source and hydrophones along with other equipment such as magnetometer are towed behind the ship along a planned course (trackline). Figure A illustrates a typical seismic survey equipment layout.

Signals generated by the energy source travel through water column and are reflected back to the hydrophones again through the water column from the seabottom and subsea bottom reflecting surfaces. The hydrophones are towed behind the vessel on a marine cable up to 3,200 meters (10,499 feet) in length at a depth ranging from 15-40 feet below the surface. A tail bouy which usually has a tower up to 15 feet high contianing radar reflectors, flags and flashing strobe beacons, is attached to the end of the cable. Specific seismic systems used in geophysical surveys are described in some detail in Appendix 1. Methods of geological testing allowed are described in Appendix 2.

FIGURE A



CHAMBERS CONSULTANTS AND PLANNERS

Figure 3-6. TYPICAL SURVEY SYSTEMS ARRANGEMENT

SOURCE: Program EIR, leasing, exploration & development of oil & gas resources on State tide & submerged lands, Pt. Conception to Pt. Arguello, SB Co., 9/82

The timing and duration of seismic surveys in offshore California is variable. High resolution surveys are conducted on a year-round basis because they are predominately associated with proposed or ongoing offshore projects. Deep seismic surveys off the California coast are usually conducted between the months of September-October to April-May depending on the availability of survey vessels from Alaska operations wintering in California.

The duration of both deep seismic and shallow high resolution surveys will vary according to the number of line miles to be surveyed, trackline spacing, equipment used, and type of survey to be performed. Reconnaissance deep seismic surveys could last a few days to weeks, and detailed 3-dimensional, common depth point surveys could last several days to weeks. High resolution surveys may last a few days to a few weeks in a limited geographical area.

Although a maximum of 36 vessels have been involved in activities authorized over the last 18 months under the permit program, the maximum number of vessels operating offshore California in any one district at any one time has been 9 (Region 2). This region, as later described, extends from L.A./Ventura County to San Luis Obispo/Monterey County.

Since September 1, 1982, geological and geophysical surveys as described on page one of this project description

have been regulated by survey permits issued by the State Lands Commission under the provisions of California Public Resources Code Section 6826. Permits have been issued in each of four geographic regions: Region 1 - Mexican border to L.A./Ventura County; Region 2 - L.A./Ventura County to San Luis Obispo/Monterey County; Region 3 - San Luis Obispo/Monterey County to Sonoma/Mendocino County; and Region 4 - Sonoma/Mendocino County to the Oregon border. The major variance from one region to another is the listing of individuals and agencies which must be notified prior to initiation of such activities and also locations at which such notices must be posted. A copy of such a permit which has been used over the past 18 months, is contained in Appendix 3. Such permit is subject to revision during the consideration of this program.

II. ENVIRONMENTAL SETTING, POTENTIAL IMPACTS AND MITIGATION

The staff of the State Lands Commission believes that the surveys authorized under such a program could, without mitigation, potentially result in environmental impacts as specified with regard to: 1) benthic communities (geological

surveys); 2) water quality (all); 3) marine mammals/endangered and threatened species (deep seismic); 4) recreational use (all); 5) fisheries (deep seismic); 6) kelp (all); 7) military activities (all); 8) ship traffic and navigation (all); and 9) cumulative impacts (deep seismic, high resolution). These potential concerns are discussed in the following pages. All material cited in this analysis and in the references specified in Appendix 6 are incorporated herein by reference. The discussions of environmental setting are, unless otherwise specified, pertinent to the areas affected by the proposed program.

BENTHIC COMMUNITIES

Environmental Setting

The following generic description of the California coastal benthic communities is taken from "An Ecological Characterization of the Central and Northern California Coastal Region" Volume II, Part 1 Regional Characterization, Bureau of Land Management, Pacific Outer Continental Shelf Office and Fish and Wildlife Service, October 1981:

"The organisms and communities of subtidal benthic areas are distributed on the basis of depth, light intensity, nutrient availability, substratum type, and wave action. For example, algae and kelp are found on consolidated substrata (bedrock or boulders) where sufficient light is available, whereas eelgrass is found in shallow bay waters on unconsolidated (mud) substratum.

Shallow water benthic California communities associated with consolidated substrata are generally dominated by attached filter-feeding forms (e.g., mussels, rock scallops, tunicates, tube-building serpulid worms) which utilize the particulate contents of the water column as a food source; and by grazers (e.g., limpets, sea urchins, abalones) which feed on attached micro- and macro-algae. Important mobile predators are starfish and crabs. These communities generally are associated with fairly active water movement, which supplies them with the suspended particulate material upon which the filter feeders rely. Conversely, these organisms cannot tolerate water of high turbidity and suspended inorganic sediments.

Unconsolidated coarse substrata (e.g., gravel and sand) support mixed communities of attached and unattached filter feeders, selective detritus feeders (ingesting particulate organic matter on the sediment surface) and carnivore/scavengers. Althrough the species compositions of these communities are highly variable depending on factors such as substratum particle size, current strength, wave action, water depth and particulate content of the water column, forms typically

encountered are bivalve molluscs, gastropod molluscs, tunicates, sea stars and basket stars (ophiuroids), tubiculous amphipods, polychaete worms, sea cucumbers, sand dollars (echinoids) and crabs.

Finer unconsolidated substrata (silt to clay range) are also characterized by mixed faunal assemblages consisting of deposit feeders (ingesting the sediment directly for the organic matter it contains), selective detritus feeders, filter feeders, and carnivore/scavengers. The proportions of the different feeding types within these communities are variable depending on such factors as depth, substratum particle size, current velocity, particulate content of the water column, organic carbon content of the sediment, and salinity. In general, deposit feeders and selective detritus feeders tend to dominate within fine substrata communities.

Substratum types, particularly unconsolidated ones, and their associated floral and/or faunal assemblages are rarely distinct and clear-cut but tend to overlap and intergrade with one another, or to occur in locally patchy distributions. Although the benthic and pelagic communities have been discussed separately, they are intimately connected. The deep water benthic community is dependent upon the epipelagic community for its food supply. Food is supplied to the depths by a rain of particles (ranging from protozoans to whales in size and food content). Intermediary food links between the surface waters and depths are vertically migrating

organisms. Many benthic and deep seas organisms rely on the food-rich surface layers for the early survival of their larval forms. Shallow water benthic habitats are likewise intimately connected to the pelagic environment as a source of nutrients for algal growth, articulate food for filter feeders, etc. The early life stages of most shallow water benthic organisms, as with the deeper forms, are planktonic.

Further references which discuss the extent and diversification of benthic organisms in offshore California waters are:

Environmental Impact Statement (EIS) for OCS Lease Sale #80, U.S. Department of Interior;

EIS for OCS Lease Sale #73, U.S. Department of Interior; and

EIS for OCS Lease Sale #53 U.S. Department of Interior;

Program EIR: Leasing, Exploration and Development of Oil and Gas Resources on State Tide and Submerged Lands, Point Conception to Point Arguello, Santa Barbara County, California, September, 1982;

Characterization of the Marine Biota between Point Conception and Point Arguello, December, 1982.

Potential Impacts

The proposed geologic program may involve the sampling of bottom sediments through the use of dart cores and or jet sampling.

Minor, insignificant disturbances of this bottom will result from these activities. These localized impacts may include the removal of benthic organisms and/or minor burial of benthic organisms caused by the disturbance of the bottom sediments. Bottom area expected to be affected by each dart sample is approximately one square foot and by each jet sample is approximately 2-4 square feet.

Geophysical surveys will have no physical impact on the ocean bottom.

WATER QUALITY

Environmental Setting

The offshore waters of California are characterized as being generally of good quality and pristine. Ocean waters off the coast of California are generally oxygen saturated and nutrient ladden. The principal detectable contaminents are hydrocarbons and heavy metals. These are especially prevelant in coastal waters south of Point Conception and near heavy industrialized areas such as San Francisco Bay or sewage outfalls.

Near shore waters can be exceptionally turbid, especially in the coastal waters north of Point Conception.

Potential Impacts

The project is expected to have only negligible effects upon water quality. Incidental releases of bilge water and small quantities of oil would cause minor dregradation of the water quality in the immediate vicinity of the vessel. These releases would be diluted to ambient conditions almost immediately.

Potential Mitigation

The permit, see Appendix 3, requires compliance with all existing laws and regulations, including those which regulate any discharges from vessels (U.S. Coast Guard et al.).

MARINE MAMMALS/ENDANGERED AND THREATENED SPECIES

The sea offshore and the coast of California support varied populations of marine mammals. Information and discussions as to the numbers of species, populations, behavior and habitats of such mammals are contained, in part in: (1) Final Environmental Impact Statements for U.S. Department of the Interior OCS Lease Sale 35, 48, 53, 68, 73 and 80; and (2) Marine Mammal and Seabird Study - Central and

Northern California, U.C. Santa Cruz for Bureau of Land Management-O.C.S., June 1980 and April 1981 and Marine Mammal and Seabird Survey of Southern California Bight Area, U.C. Santa Cruz for the U.S. Department of Interior OCS, July and October 1978.

Specific concerns have been raised relative to the effect of geophysical activities in State waters on the Gray Whale and the Southern Sea Otter.

GRAY WHALE

Environmental Setting

Once estimated in 1874 to have a population of 30,000 individuals, the eastern Pacific Gray Whale population has recently been estimated to contain 15-17,000 Whales (Reilly, et al., 1980). Reilly has also estimated that the population has been increasing over the years 1968-81 at an average annual rate of 2.5 percent. The Gray Whale is protected under the provisions of the 1946 Convention for the Regulation of Whaling, the Endangered Species Act of 1973, and the Marine Protection Act. These measures are administered by the U.S. National Marine Fisheries Service.

The Gray Whale migrates through California coastal waters twice a year. The southward migration begins in November in Alaskan waters and ends in January at their calving grounds in Baja, California. The northward migration, which includes calves born that year begins in February in Baja and ends in Alaskan waters in May. While the preponderance of the population spends the summer in Alaska, small residence populations have been observed offshore Eureka and Crescent City. (see Marine Mammal and Seabird Study, supra).

The path of migration for the Gray Whale is different for southward and northward trips. In general, southbound animals parallel the coast at 1-2 nautical miles (nm) except at Bodega Head, Gulf of the Farallones, Monterey Bay and San Luis Obispo Bay where their route extends 20-30 nm offshore. The path from Pt. Arguello through the Southern California Bight does not extend into the Santa Barbara Channel or along the Newport-Oceanside coastline, but appears to extend outside the Channel Islands and further offshore through the southern California Bight.

The northward migration varies in that the animals, particularly mother/young pairs, pass through the Santa Barbara Channel. From Pt. Conception north, the animals tend to move inshore the farther north they proceed; e.g., animals

were found out to 1.5 nm in the south, 1 nm or less in the central portion of the State and 0.5 nm (surf zone) in the northern one third of the State. The major portions of the northbound population are observed in February while the highest sightings of mother/young animals occur in early May.

Potential Impacts

Certain individuals and public interest groups have expressed concern that if the sound generated by geophysical surveys using an air gun source is close enough and the intensity loud enough, possible physical impairment to hearing, disturbance and displacement of whales could occur, resulting in an impact on the species. Gales (1982) lists the following possible auditory effects from high level sounds: startle, flight (rapid escape), hearing loss, auditory discomfort, and masking of wanted sounds.

To date, similar concerns have not been identified relative to geophysical survey activities, both high resolution and deep seismic, using other forms of energy sources. Based on information examined during 1982 ("Task Force Report on Geophysical Operations", December 14, 1982 to the Executive Officer of the State Lands Commission), the U.S. National Marine Fisheries Service agreed that current levels of geophysical exploration off the California coast were compatible with the gray whale migration.

Furthermore, opinions given thus far by NMFS to the MMS under Section 7 of the Endangered Species Act of 1973 have concluded that ". . . noise generated by mineral exploration activities would not adversely affect any of the endangered whale populations that migrate along the California Coast". (See Appendix 4).

The most recent information relative to the reactions of Gray Whales to typical sound levels from the use of air guns in any array and as single sources is found in a study by C.I. Malme, et al., for the U.S. Department of the Interior, "Investigations of the Potential Effects of Underwater Noise from Petroleum Industry Activities on Migrating Whale Behavior", November 1983 which was submitted to the MMS.

The Study recorded "annoyance and startle" responses to some of the air gun experiments during the January southward migration. The more definative responses were recorded during the April/May phase of the northern migration. At sounds of greater the 160dB relative to 1 micro Pascal at 1 meter within 2 kilometers (km) of the animals, they were observed to: (1) slow down; (2) turn away from the source; and (3) increase their respiration rates. In some instances, groups: (1) swam into the surf zone; and (2) positioned themselves in the sound shadow of a rock, island or outcropping. The study found differences in milling and speed indices and blow rates,

independent of range or level of exposure, within groups before, during and after such exposure. The observed reactions were temporary and all whales resumed their northward migration when the sound source was 3.5 km away. (See above Malme, et al., 1983).

The National Marine Fisheries Service has reviewed the above material and has again concluded that endangered whale populations were not likely to be jeopardized by exploration, e.g. geophysical activities, off the California Coast. (letter of January 24, 1984 from NMFS to Claire T. Dedrick, Executive Officer of the State Lands Commission, see Appendix 5).

Potential Mitigation

While none of the impacts described is believed to be significant, several mitigation measures are under discussion. These include: (1) prohibiting start up of operations if whales are observed within 2 km of the vessel; and (2) studying the use of waterguns within State waters during migrational periods.

SOUTHERN SEA OTTER

Environmental Setting

The Southern Sea Otter was designated a threatened species by the U.S Fish and Wildlife Service in 1977 due to the risk of catastrophic impact to the population by an oil spill.

The generally accepted range of the Sea Otter extends from Soquel Point, Santa Cruz County in the north to Point Sal in the south and its population is estimated to be between 1100-1300 individuals, a figure relatively unchanged over the last 10-15 years. (see Marine Mammal and Seabird Study, supra and POCS Technical Paper No. 83-11, Summary of Available Population Information on California Sea Otters, August 1983). Within this range, variable due to mating behavior, etc., the Sea Otter remains in the nearshore open waters and in coastal kelp forests which in the central part of California can extend 1 nm offshore.

Potential Impacts

Impacts on the Southern Sea Otter by geophysical seismic surveys are considered to be negligible. Single air gun and air gun array experiments at various distances from shore during the April 23-25, 1983 MMS study indicated no apparent

effect. Riedman (MMS, Progress Report, 1983) concluded that the "behavior, density, and distribution of otters within the vicinity of sound projections did not appear to be affected by the multiple air gun array experiments, the single air gun experiments or the playback of industrial sounds. Furthermore, the foraging behavior, duration of dives underwater, successful attempts to obtain prey, activity patterns and mating behaviors were considered to be normal during all the air gun experiments." Riedman (1983) also reported that during the air gun experiments, no otters were seen foraging, swimming or rafting farther than 400 metres offshore.

RECREATIONAL USE

Environmental Setting

The principal recreational activities which occur in the California coastal offshore waters are boating, sailing and recreational fishing. These activities are especially prevalent in the Southern California waters south of Point Conception. Activities north of Point Conception to the Oregon Border are more often affected by poor visibility, sea and weather conditions.

Potential Impacts

The proposed project will have negligible impact upon recreational activities. Geophysical activity will increase boat traffic slightly. Also, the trailing streamer may result in same interference with the operation of some recreational fisherman (cutting or tangling lines) and other boating operations (right of way situations). The boating experience of some individuals may be reduced by these activities. No such occurrences have been reported during geophysical operations in State waters.

Potential Mitigation

The impacts described above are believed to be insignificant because they are transient and temporary should they occur at all. In addition, the existing permit requires notification of the U.S. Coast Guard plus posting of a specified notice in marine locations throughout the affected region of the State (harbor offices, etc.). Observance of such notices would enable recreational boaters, fishermen and seismic boat operators to conduct their activities in accordance with offshore international navigational rules of the road.

FISHERIES

Environmental Setting

California supports six major types of commericial fishing: (1) trawling; (2) trolling; (3) set and drift lines; (4) gillnetting; (5) purse seining; and (6) trapping and diving. (WOGA, 1982).

Commercial fisheries are an important industry in California. Statewide in 1982, over 695,423,000 pounds of fish and shellfish worth 241,188,000 dollars were landed (NOAA, National Marine Fisheries, 1983). Approximately 504,973,588 million pounds of the total State landings worth $163,173,564 dollars were contributed by the Santa Barbara, San Pedro and San Diego districts where most of recent geophysical seismic activity has taken place (See Figure B). Fish landings and historical levels of geophysical activity are shown in Figure C. These figures indicate that no substantial reductions in fish landings have occurred directly as a result of the conduct of geophysical operations.

Potential Impacts

The impact to commercial fishing from geophysical operation involves the loss of gear during deep seismic and possibly during high resolution surveys rather than during

COMBINED FISH AND SHELLFISH LANDINGS
ALL CHANNEL WATERS
SAN DIEGO, SAN PEDRO AND SANTA BARBARA DISTRICTS
1951 — 1982

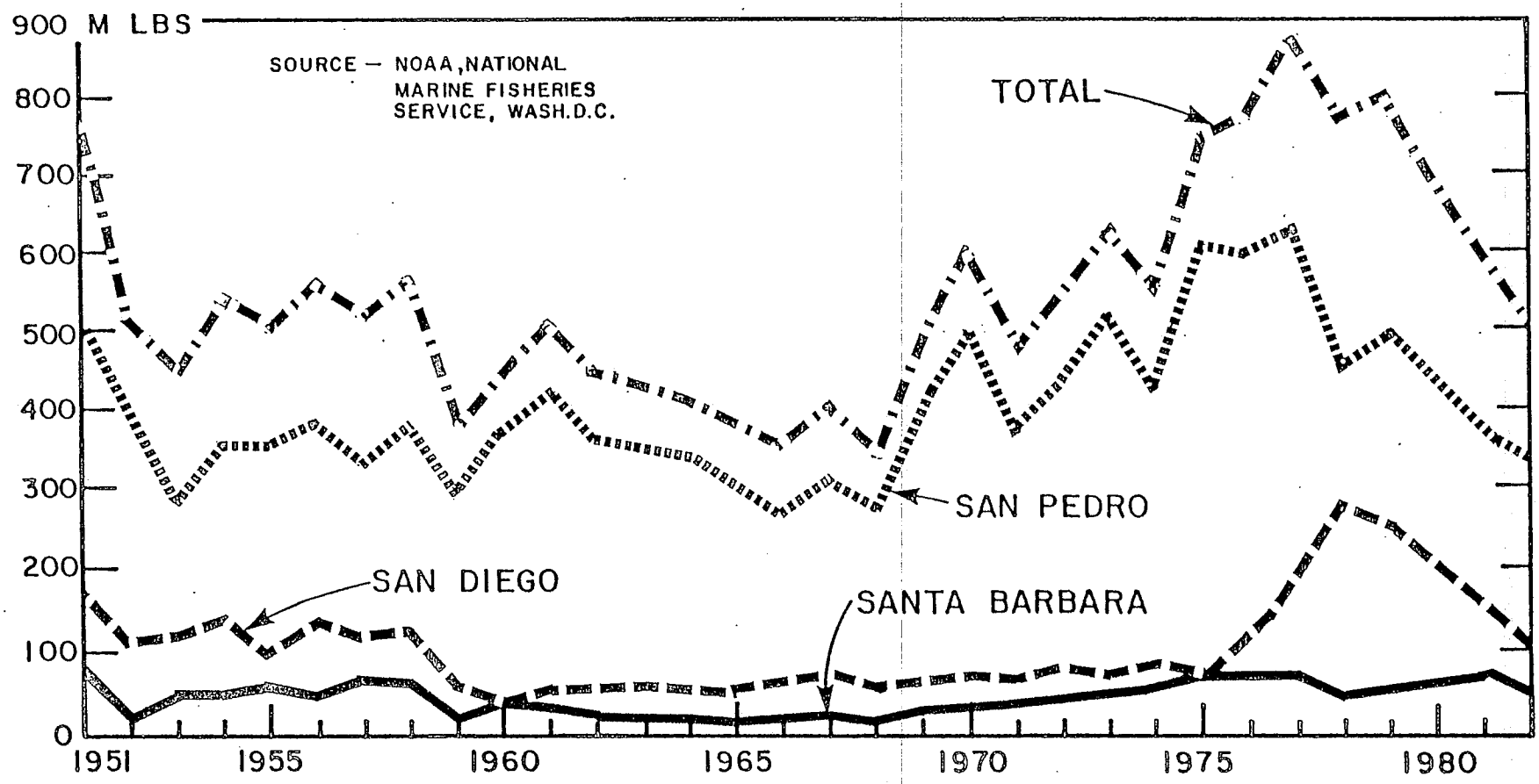
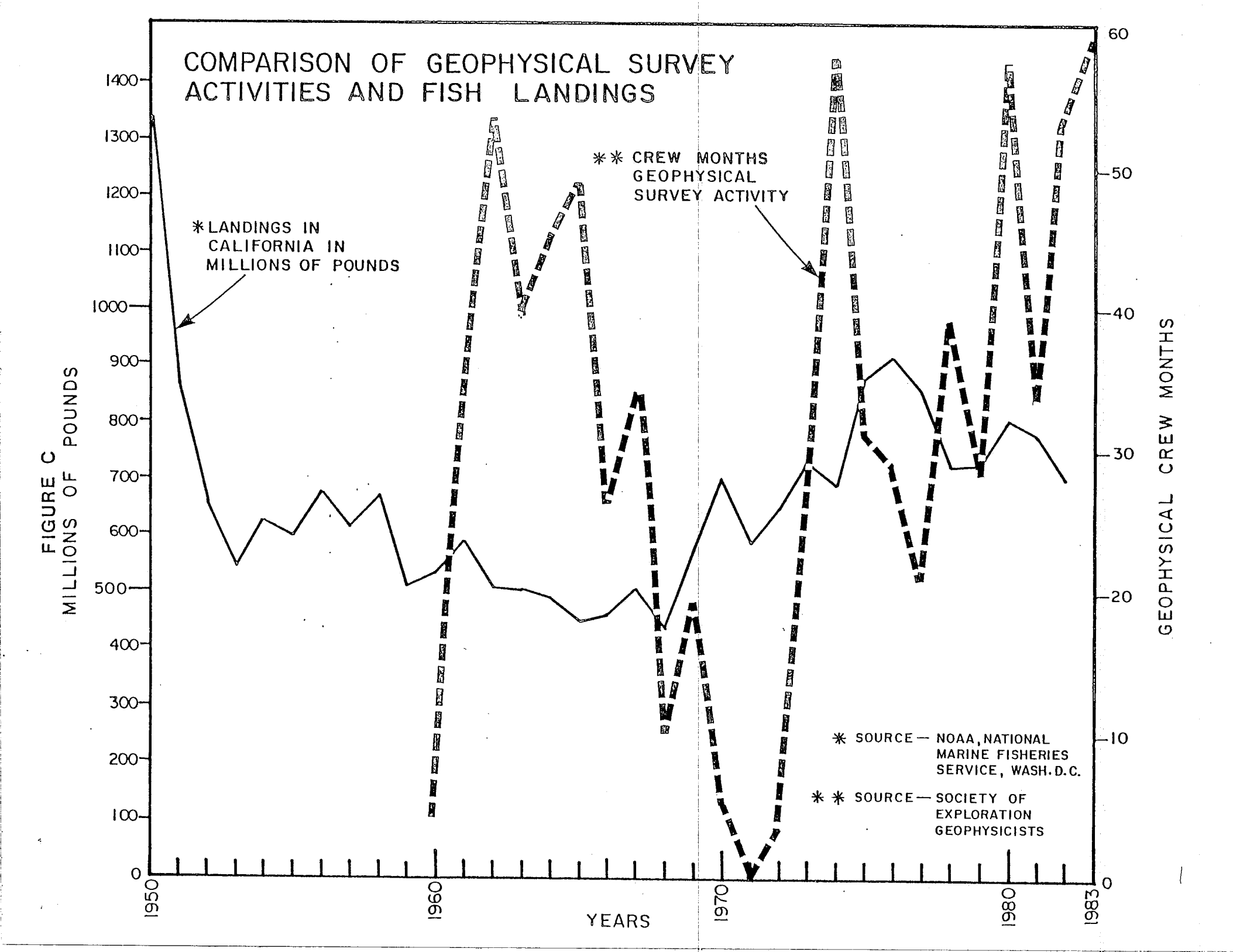


FIGURE B


COMPARISON OF GEOPHYSICAL SURVEY ACTIVITIES AND FISH LANDINGS
* LANDINGS IN CALIFORNIA IN MILLIONS OF POUNDS
** CREW MONTHS GEOPHYSICAL SURVEY ACTIVITY
FIGURE C
MILLIONS OF POUNDS
GEOPHYSICAL CREW MONTHS
YEARS
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
60
50
40
30
20
10
0
1950
1960
1970
1980
1983
* SOURCE — NOAA, NATIONAL MARINE FISHERIES SERVICE, WASH. D.C.
** SOURCE — SOCIETY OF EXPLORATION GEOPHYSICISTS

geologic surveys. This usually occurs when the streamers and tail buoy (deep seismic) cut the buoys and lines attached to crab and lobster traps. Damage to nets can also occur from collisions by the streamer and a tail buoy.

Fishermen are impacted by both the cost, lost or damaged gear and down time while gear is repaired or purchased.

Avoidance of conflicts does have its own impacts. It can result in fishermen leaving known fishing grounds for areas that may not be as productive.

The extent to which the populations of fish are threatened by seismic operations may in turn harm fishermen. As mentioned in the project description, a noise source is used for geophysical research. This noise might cause schools of fish to disperse, frustrating efforts by commercial fishermen. According to the State Department of Fish and Game in the State Lands Commission "Task Force Report on Geophysical Operations" (1982) previously cited, the dispersal is temporary (less than 24 hours).

This same study found no substantiation of concerns expressed by fishermen that the shock waves generated by seismic activities caused physical damage to fish (air bladders, etc.) or their young or eggs. Further, staff's review of material listed in Appendix 6 has not revealed any

instance where ultrasound frequencies, those greater than 20,000 H_2, used in a variety of offshore applications (depth finders, doppler sonar, side scan sonar, etc.), harmed the planktonic larval stages of crustaceans (lobster, crab, shrimp, and prawn) and fish stock. Further investigations are, however, ongoing as to this issue.

Potential Mitigation

The existing State Lands Commission General Permit to conduct Geological/Geophysical surveys contains several requirements designed to mitigate or avoid adverse impacts to fishermen as described above: (1) a notification process as described in Exhibit B, Appendix 3, of said permit and geared to the region concerned; (2) a claims process which provides for resolution by the Commission if claims are not resolved within 30 days; and (3) a bond in the amount of $25 thousand from which the Commission may pay such claims.

Other mitigation which may be considered includes: (1) increasing the number of days notice required prior to the start of operations in a designated area (notice presently 5 working days); (2) the timing of seismic activities to avoid peak fishing periods in high yield areas as indicated by

Department of Fish and Game records, and (3) Furtherance of additional scientific investigations on fish dispersal and effects on larval and young stages of marine life.

KELP

Environmental Setting

Kelp (seaweed) beds occur along portions of the coastline and locally support a commerical harvesting industry, especially in southern and central California coastal waters. Besides being commercially valuable, kelp forests serve as habitats for numerous invertebrates, vertebrates, and other algae furnishing protection and food. (See discussion of Southern Sea Otter) The two important kelp that form kelp forests in California are Macrocystis and Nereocystis. The giant kelp or Macrocystis, having many floats, extends along the Pacific Coast from Baja California to Alaska and lives from 1 to 6 years (North, 1971). The bull kelp or Nereocystis, having a single float, is distributed from Santa Barbara to Alaska and has a life span of about 2 years.

Potential Impacts

Geological and geophysical activities could accidentally impact kelp in that: (1) vessel propellers could cut some kelp loose below the water surface or; (2) the streamer tail could pass through a portion of kelp in a turn-around. These possible impacts are considered negligible, however, as the regeneration power of the plant, which often grows 1-2 feet per day, should quickly regrow any lost portions. Conversely, interaction with kelp also severely damages the streamer and its components. Thus, seismic operators endeavor to avoid such contacts.

Potential Mitigation

Information as to known locations of major kelp beds as indicated by the Department of Fish and Game could be supplied to permittees so that proposed tracklines could be adjusted to avoid intrusion into the kelp.

MILITARY ACTIVITIES

Environmental Setting

Offshore California waters are used rather extensively by Navy and Air Force for conducting military training, research,

and missile operations. Vandenberg A.F.B., located in Santa Barbara County, is the Air Force's West Coast missle test facility and, beginning in October 1985, the West Coast launch site for the Space Shuttle.

Potential Impacts

Seismic survey activity potential impacts are primarily underwater noise, electromagnetic interference, and space-use conflicts. The expected impacts from seismic survey activity are negligible under present military operation restrictions, especially in southern California waters.

Potential Mitigation

The existing State Lands Commission permit requires notification of all appropriate military authorities which may be impacted. During times of anti-submarine warfare operations, seismic vessels are directed to shut down activities due to potential noise or vessel traffic conflicts. Also during periods of missile and bomb testing, seismic vessels are to operate outside of designated areas. No impact is expected from space shuttle or MX launches from Vandenberg Air Force Base because of prelaunch clearance of the downrange area.

SHIP TRAFFIC AND NAVIGATION

Environmental Setting

Navigation corridors have been established for the safe passage of vessels enroute to, or from United States ports.

Potential Impacts

An unknown number of ships depart from these corridors and the possibility for collision with seismic survey vessels theoretically exists. In the nearshore area, collisions, vessel rerouting, or gear conflicts could occur between fishermen, military vessels, and recreational boaters. However, navigational right of way is determined by Coast Guard regulations and International Rules. Little impact to marine traffic is expected to occur. No additional port facilities are needed thereby precluding harbor impacts.

CUMULATIVE IMPACTS

Potential Impacts

It could be possible that a succession of geologic and geophysical vessels in an area also used by commercial fishermen may have a cumulative impact on commercal fishing,

by excluding fishing vessels from such an area for an extended period during the harvesting season. A recent discussion of the commercial fishing industry along the San Luis Obispo, Santa Barbara and Ventura County coastlines may be found in the Exxon-Santa Ynez Unit Draft EIS/R, Apendix 9, Section 9.9, pages 1-10 and at page 3-137 in the Final EIS for prposed Lease Sale 80 and within the Draft EIS prepared by the U.S. Department of the Interior on Lease Sale 53 as originally proposed from Pt. Conception to the California/Oregon border.

While it is possible that geologic and geophysical vessels could occupy the same geographic area in succession for such prolonged periods as to significantly disrupt commercial fishing, it is not probable. See Fisheries at pages 21 to 23.

Potential Mitigation

A possible way to avoid this problem from occurring is to enforce a "window" period for fishermen, if justified, in order to permit them reasonable access to particular species.

III. CONSISTENCY WITH EXISTING ZONING, PLANS, AND OTHER APPLICABLE LAND USE CONTROLS

Extensive marine geophysical exploration has been conducted off the coast of California for more than 35 years. Such work has been done by private industry government agencies, research institutes and universities. The first permit issued by the State Lands Commission was in 1945 in the Santa Barbaa Channel. From approximately 1945 to 1949, explosives were used to generate the shock waves necessary for subsurface penetration. Due to concerns of excessive fish kills, non explosive energy sources have since been developed and used. In 1982, the Commission amended its regulations to provide for the regulation of seismic activities not using explosive charges. The proposed program is, therefore, consistent with existing law and regulations and historical activities affecting State lands and existing law.

IV. PREPARATION OF THE INITIAL STUDY

Staff of the State Lands Commission participating in the study include: Dr. Robert Gaal, Don Everitts, Al Willard, Robert Faber, Ted Fukushima, Dan Cohen, Roger Dunstan, Randall Moory, Dan Gorfain and Dwight E. Sanders.

APPENDIX I

Bathymetric System:

Water depth records, also called "echo sounders" or "fathometers", are bathymetric devices using very high frequency sound for water depth measurements. The frequencies used are in the same range used for commercial fish finders. All geophysical survey vessels and commercial fishing boats are outfitted with a fathometer. These water-depth recorders generally use a single piezo-electric transducer that both transmits and receives a directed acoustic sound pulse to and from seabottom for water depth measurements. Water-depth data is usually recorded geophysically to produce a seafloor profile, but may also be recorded on magnetic tape for computer-aided bathymetric mapping. Fathometers are generally hull mounted systems.

High resolution surveying utilizes systems with dominant frequencies ranging from approximately 100 to several thousands of Hz (kHz); some systems operate down to 50 Hz which overlaps in the deep seismic or exploration profiling systems with penetration greater than 2 seconds (about 5000-6000 feet below the seafloor).

The frequency of fathometer pulses is relatively high ranging from 12 KHz to as much as 200 kHz with 20 kHz or 40kHz being typical frequencies used. Operating frequencies of transducers as high as 200 kHz may be used but are much less

common for shallow-hazards surveys. Because of the high frequencies used, little or no energy penetrates below the seafloor and these high frequencies allow the transmitted energy to be confined to a narrow beamed cone with a solid angle between 3 to 25 decrees. The power outputs of these systems is low, with typical power ratings for 2 kW at 23kHz, 500W at 40kHz, and 250 W at 200kHz, all of which is less than 220 dB.

SUBBOTTOM PROFILERS/TUNED TRANSDUCER: the subbottom profiler, sometimes called a "pinger" or "tuned transducer", has a tuned sound source which gives the highest resolution of all systems used in hazards surveys. Like fathometers, the utilize a transducer that is tuned to a certain frequency and emit a sound pulse that is focused toward the seabottom.

The tuned transducer units act as both transmitters, and receivers (called a "transceiver") of the acoustic source. The device used is a piezoelectric crystal that has the property to deform when subject to an electric field from a stored electric energy source producing the outgoing signal or seismic pulse, and in response to a stress i.e., a pressure increased from the reflected signal from the seabottom reverses the process and the acoustic signal is converted into an electrical signal which is amplified and recorded aboard ship on a seismic recorder.

Typical subbottom profilers have a discrete frequency band usually in the range of 1 to 12 kHz. The most common operating frequency is a 3.5 kHz, although 71 Hz and 12kHz systems are sometimes used. Energy output is about 2 joules (J); power is usually adjustable to a maximum of 10 KW which would be less than 1 bar metre.

Subbottom profilers can be hull mounted or deployed as towed transducers mounted in a towfish. Most 3.5 kHz subbottom profiler systems transmit short, high-powered pulses (pulse width of either 0.2-1.0-4.0 misec) with 1-2 cycles of signal frequency with a beam width solid angle of 27 to 45 degrees which is larger than the fathometer.

ELECTROMECHANICAL DEVICE/BOOMER: Electromechanical sound-producing devices use transducers, which produce a relatively short pulse with medium energy acoustical signals, are sometimes called "boomers" and are good high resolution sources for hazards surveys. Similar to sparker systems in that it also makes use of a sudden discharge of electricity stored in banks on board ship, it is dissimilar in that the current does not pass through the water as it does with the sparker; instead, it passes through a coil of wire embedded in a slab of epoxy. The transducer is energized by a high

voltage compacitive-discharge system. A metal plate (aluminum) is magnetically coupled to the slab containing the wire coil. The energy source is an electrical power supply that releases stored energy to the transducer via electrical cables. The discharge of a bank of capaciters sends a current through the coil which sets up eddy currents in the plate causing it to be rapidly repulsed from the coil against the water generating a sharp pressure pulse. A partial vacuum created by the flexed plate and a spring or rubber membrane returns the plate to its original position in contact with the slab. A rubber diaphragm damps the return motion reducing source reverberations.

Boomers produce a broader frequency spectrum and operate at higher energy levels than tuned transducers. The frequency spectrum is usually 400 Hz to 14kHz; input power up to 1K-Jper second, but energy levels are typically 100-500 J (sound pressure output would be less tha 1 bar metre); pulse length approximately 0.2 milliseconds and pulsing can be repeated every few seconds. A multiple transducer boomer-type system, called "Acoustipulse", achieves deeper penetration than conventional systems. It consists of up to 3 electro-mechanical transducers fired simultaneously to produce a minimum phase, broad band high-frequency waveform ranging from 200 Hz to 5kHz, with a center frequency of about 14000 kHz.

the sound created is directional and the energy is concentrated into a beam of sound that is focused toward the seafloor. Boomers are usually mounted on a catamaran or sled with the transducers(s) submerged in the water and towed about 100 feet behind the survey vessel or are mounted in a towfish.

SIDE-SCAN SONAR: Unlike the previously described vertical profile seismic systems, side-scan sonar systems (SSS) provide graphic records that show two-dimensional (map) views of seafloor topography and of objects on the seabottom to several hundred feet on both sides of the survey trackline. The records are analogous to low-oblique air photos. Side-scan sonar is similar to airborne side-looking radar (SLAR) since both transmit high frequency signals and record and display the reflected and back-scattered energy from the earth's surface (SLAR) and from the seafloor (SSS). A typical side-scan sonar system consists of a towfish, containing two arrays of transducers and a shipboard graphic and/or magnetic tape recorder for digital processing.

Transducers typically used emit 105 kHz pulses to form a narrow, fan-shaped beach on each side of the towfish, perpendicular to the ship trackline. Transducers are also available in 50 kHz, 200 kHz, and 500 kHz models.

Microprocessors allow production of side-corrected records for constructing mosaics.

MAGNETOMETER AND GRAVITYMETER: Since the early 1960's, it has become customary in geophysical reconnaissance surveys to obtain both magnetic and gravity data simultaneously with seismic reflection information. The magnetometer by itself is used in geologic hazards and cultural resource surveys. The marine magnetometer is a passive device towed behind the ship from 500 to 1000 feet behind the fantail to prevent magnetic interference from magnetic materials on board. The marine magnetometer system detects and records the total intensity of the earth's magnetic field with particular sensitivity to local variations in field intensity which makes it useful in detecting and locating magnetic abnormalities such as faults, ferrous-metallic objects on or just below the seafloor including pipelines, wrecks and wellheads.

The basic magnetometer system consists of a proton magnetometer sensor, installed in a weaterproof casing, attached to a smooth low-noise tow cable connected to a shipboard graphic/digital recorder. The cable is given enough positive bouyancy to maintain the sensor near the water surface at slow speeds which minimizes that the head of the device might be snapped by obstructions in the water column.

In deep seismic surveys, the magnetometer is usually lowered near the surface. However, in hazards surveys the sensor must be relatively close to an object to detect it and the sensor is toward about 50 to 80 feet above the seafloor.

Gravity measurements at sea are usually made with a shipborne gravity-measuring system mounted on a gyroscopically stablized platform in the instrument room. There are no towed sensors. This is a passive device that measures the natural gravity field force that is neither generated by the seismic survey ship nor influenced by anything that the vessel does. Where gravity abnormalies of small areal extent are detected and the highest precision is needed to map it, a bottom gravity meter is used and lowered from the stationed ship to the seafloor in a water proof housing, where it is leveled and the gravity field is read on board the ship.

APPENDIX 2

Geological survey techniques allowed by the permit are jet sampling and dart sampling. These methods are discussed below:

Dart Sampling

This method is the one most commonly used for obtaining geological information in offshore operations since it is fast and relatively inexpensive. A weighted tube attached to a wire line is dropped over the side, strikes the ocean floor and recovers from a few inches to a few feet of bottom samples depending on the tool design and bottom conditions. Some designs depend entirely on weight to penetrate the bottom while others utilize a hammer effect for additional penetration. The primary drawbacks to this type of sampling are failure to penetrate the over-burden in many areas and, in many cases, lack of significant sample recovery.

Jet Sampling

Jet sampling is a coring method in which sediment outside the core is washed away by a stream of high pressure water. Jetting technique uses standard pipe handling equipment to lower a pipe to the seafloor. Penetration of the sediment is caused by pumping water down the pipe under high pressure and washing away sediment from the end of the pipe. This method is limited to loose or soft sediment.

APPENDIX 3

W_____

PRC_____

STATE LANDS COMMISSION

STATE OF CALIFORNIA

SURVEY PERMIT P.R.C._____

GENERAL PERMIT TO CONDUCT GEOLOGICAL/GEOPHYSICAL SURVEYS

Pursuant to Division 6 of the California Public Resources Code and Title 2 of the California Administrative Code, the State of California, acting by and through the State Lands Commission (State) hereby issues to _____ _____ (Permittee) a non-exclusive geological/geophysical survey permit subject to the following terms and conditions:

TERMS AND CONDITONS

1. Permit Area: This permit covers offshore Region I, between the Mexican Border and the Los Angeles/Ventura County Line. This area is outlined on the attached map which is designated, Exhibit A.

2. Term of Permit: This permit shall commence on the first day of the month following the month in which it is authorized by the State Lands Commission, and shall continue for 18 months unless terminated sooner as provided in this permit.

3. Scope of Activities: Permittee shall comply with the terms of this permit whenever the equipment specified in Section 4 is deployed or geophysical/geological data are to be collected within the permit area.

4. Equipment/Survey Methods: Permittee shall have the right to collect geophysical and geological data utilizing air guns, sparker, sniffer, water guns, mini-sleeve systems, steam injection, percussion sampling, electronic equipment, jet, and dart methods. Any activity or method not expressly permitted above is prohibited.

5. Multiple Use: This permit is non-exclusive and is issued subject to all existing valid rights at the date of this permit and such rights shall not be affected by the issuance of this permit. The State shall have the right to issue additional non-exclusive survey permits and leases or other entitlements for use which are not inconsistent with this permit.

6. Operations: Permittee shall perform all work with due regard for the preservation of the property covered by this

permit, potential environmental impacts, and with due caution to minimize damage to third parties.

7. Observers: The State may require the Permittee to furnish food, quarters, and marine transportation, if necessary, for a State representative on any vessel conducting operations authorized by this permit. The State shall give four days notice prior to invoking this section. The State representative may observe or inspect all operations conducted pursuant to this permit.

If the State representative determines that adverse effects are being caused or are imminent, he may recommend and carry out suspension of the activities allowed under this permit pursuant to Section 14 .

8. Notification Procedure: The Permittee shall follow the notification procedure set forth in Exhibit B.

9. Data Submission and Examination

A. The Permittee shall submit a field operations report to the State as soon as possible, but not more than thirty days after the completion of any survey activities conducted under this permit. The report shall contain, but not be limited to, the following:

(1) A narrative description of the work performed, the data obtained, and the logs produced from the operations.

(2) Charts, maps, or plats indicating the areas in which any exploration was conducted, specifically identifying the lines of geophysical traverses and/or locations where geological exploration was conducted accompanied by a reference sufficient to identify the data produced from each activity;

(3) The dates and times during which the actual exploration was performed;

(4) The nature and location of any environmental hazards;

(5) A description of any accident, injury, damage to or loss of property which resulted from the reported activities; and

(6) Such other information relative to the permitted activities as may be requested.

B. Permittee shall make available, upon request, and the Commission shall have the right to inspect and/or copy factual and physical exploration results, logs, records,

field acquired data, processed records or any other data/information resulting from operations under this permit. These data and information shall include, but are not limited to, geophysical data from:

(1) Deep seismic reflection ("Common Depth Point") and refraction;

(2) High resolution systems including but not limited to bathymetry, side-scan sonar, sub-bottom profiler;

(3) Film negatives and/or blackline or blueline paper copies of final stacked sections and migrated sections. Paper copies and film negatives of sections chosen for State use shall be made at one-half scale, (2-1/2 inches per second).

(4) Post-plot maps at a reasonable and appropriate scale for the dimensions of the survey and whenever possible a scale of 1:48,000 (1 inch equals 4000 feet). A narrative summary of accuracy of shot points and ship tracks.

(5) Copies of navigation tapes and velocity tapes with narrative summary of accuracy of shot points and ship tracks.

(6) Gravity data reduced or compiled as Free-Air or Bouguer maps whenever possible or in profile form. Magnetometer data corrected for International Geomagnetic Reference Field in profiles or whenever possible in map form. Data to include how reductions and corrections were made.

(7) Any other systems/devices used to detect or imply the presence of mineral resources including oil or natural gas.

The State Lands Commission shall reimburse the Permittee for the reasonable costs of reproducing any data or information.

C. In the event that information or data obtained under this permit are transferred from the Permittee to a third party, or from a third party to another third party, the transferor shall notify the State and shall require the receiving third party, in writing, to expressly agree to abide by the obligations of the Permittee under Section 9 of this permit as a condition precedent to the transfer of the information or data.

D. The following definitions apply to words used in this section:

(1) Factual or physical exploration results include all data and information gathered as the result of any and all operations conducted under this permit by whatever means.

(2) Data mean all facts, statistics or samples.

(3) Processed Records mean data collected under a permit which have been processed. Processing involves changing the form of data so as to facilitate interpretation. Processing operations include, but are not limited to, applying corrections for known perturbing causes, rearranging or filtering data, and combining or transforming data elements.

E. The Commission reserves the right to disclose any data or information acquired from Permittee to an independent contractor or agent for the purpose of reproducing, processing, reprocessing, or interpreting such data or information for the use of the Commission. Such data and information as well as products derived therefrom shall be held confidential as required by Public Resources Code 6826(c).

10. Third Party Damage Claims: Permittee shall attempt to settle all third party damage claims within 30 days of a written

demand and proof of damage submitted by the injured party. All such claims which are not settled within 30 days may be brought to the State Lands Commission for resolution. The State Lands Commission may award damages to injured parties out of the bond provided by Permittee pursuant to Section 11 of this permit.

11. Bond: Permittee shall furnish, and maintain, until released by the State, a bond or letter of credit in the sum of twenty-five (25) thousand dollars and in favor of the State for its exclusive use and benefit, guaranteeing the faithful performance by Permittee of the terms and conditions of this permit and satisfaction of third party damage claims. The bond or letter of credit shall be delivered to the State at the address specified in Section 16 prior to the effective date of this permit. This requirement shall be separate from any other bonding provisions of the Public Resources Code and the regulations of the State.

12. Insurance: At the option of the State, Permittee shall submit a certificate of self insurance or procure and maintain liability, property damage, or other insurance for the benefit of the State in an amount satisfactory to the State.

13. Indemnity: Permittee agrees to indemnify, save harmless and, at the option of the State, defend the State of California, its officers, agents and employees against any and

all claims, demands, causes of action, or liability of any kind which may be asserted against or imposed upon the State of California or any of its officers, agents or employees by any third person or entity arising out of or connected with Permittee's operations hereunder.

14. Suspension: The activities provided for in this permit may be suspended, in whole or in part, upon a finding by the Executive Officer of the State Lands Commission, or other person designated by the Executive Officer, that suspension of the activity authorized by this permit would be in the public interest. Such suspension shall be effective upon receipt by Permittee of a written or oral (to be confirmed in writing) notice thereof which shall indicate (1) the extent of the suspension (2) the reasons for this action, and (3) any corrective or preventive measures to be taken by Permittee which are deemed necessary by the Executive Officer, or other person designated by the Executive Officer, to abate hazards to the general public interest. Permittee shall take immediate action to comply with the provisions of the issued notice. Permittee may request a hearing before the State Lands Commission in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked. This permit may be modified or revoked by the State Lands Commission upon thirty (30) days notice. Any suspension, modification, or revocation of this permit shall not be a basis for any claim for

damages against the State of California.

15. Permits: Permittee shall obtain all necessary and applicable permits and obey all laws and regulations applicable to the conduct of operations under this permit.

16. Notices: All written notices to the State or Permittee which are not part of the notification procedure identified in Section 8 shall be deemed to have been fully given when made in writing, and deposited in the United States mail, with first class postage prepaid, addressed as follows:

To the State: State Lands Commission
245 West Broadway, Suite 425
Long Beach, CA 90802
Attention: Geophysical Coordinator

To the Permittee: _____
_____
_____
Attention: _____

The address to which notices shall be mailed may be changed by written notice, as is provided in this paragraph.

17. Assignment: Permittee may not assign, sublease or transfer this permit or any interest therein. However, Permittee may subcontract part or all of the work to be

performed. Any such subcontractor shall be the agent of Permittee and Permittee shall remain responsible to the State under the terms of this permit.

18. Successors: If for any reason this permit is transferred by operation of law or otherwise, it shall apply to and bind the heirs, successors, executors, administrators and assigns of all of the parties to this permit. All parties to this permit shall be jointly and severally liable under the terms of this permit.

IN WITNESS WHEREOF, the parties hereto have executed this permit as of the date entered below.

STATE OF CALIFORNIA
STATE LANDS COMMISSION

_____
Date

_____
Chief, Extractive Development Program

PERMITTEE*

_____
DATE

By: _____

_____
Title

_____
Address

City and State

*In executing this document, the following is required:

Corporations: (1) Corporate Seal

(2) Certified copy of the resolution or other document authorizing the execution of this agreement on behalf of the corporation.

Individuals: (1) Acknowledgment of signature is required.

EXHIBIT "A"

PERMIT REGIONS

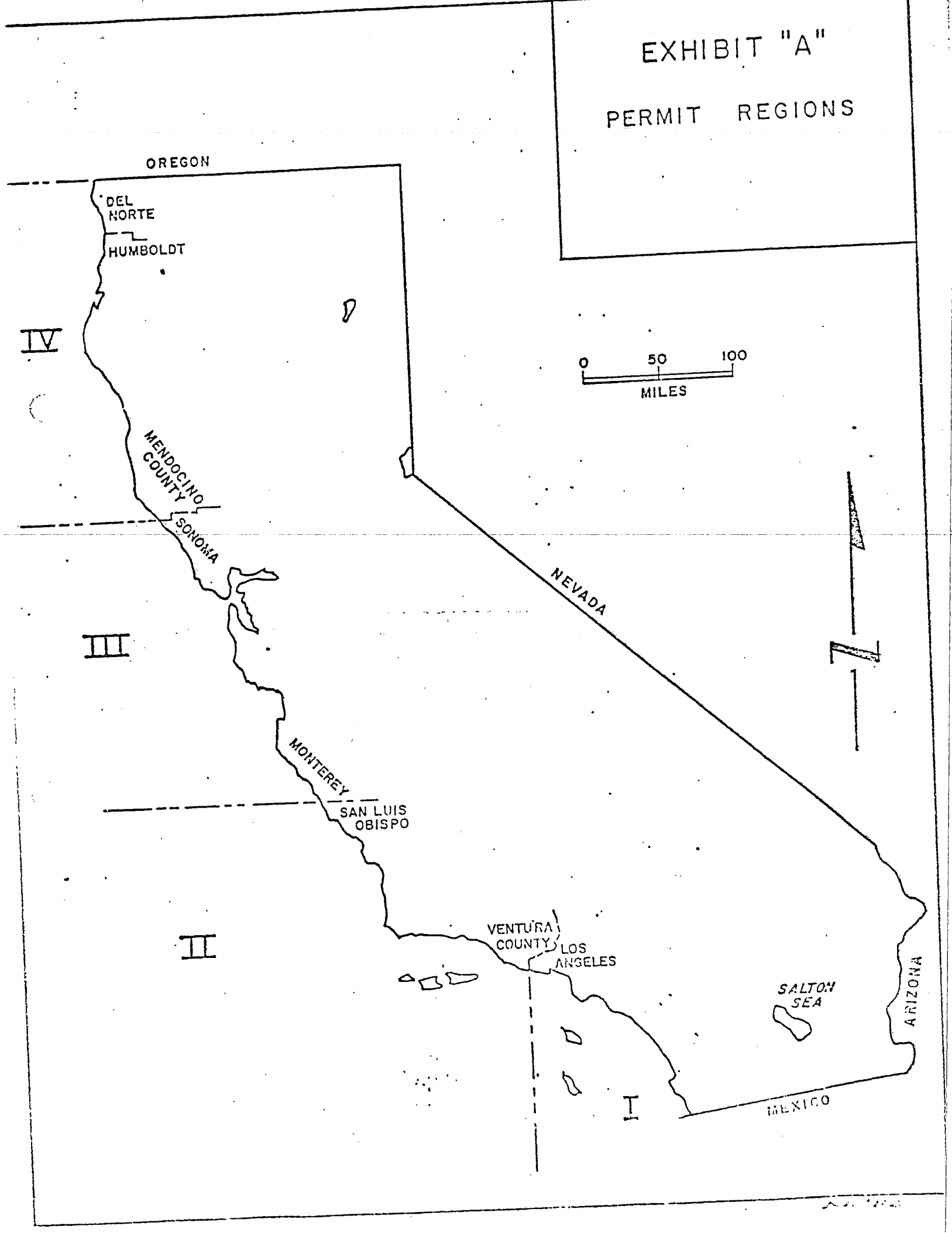


EXHIBIT B

NOTIFICATION PROCEDURES

The State may, upon 30 days notice to permittee, prescribe additional or different procedures to be followed by the permittee.

A. General Requirements: Whenever operations are to be commenced under this permit, Permittee shall give notice in the following manner:

1. At least 5 working days in advance of any actual operations written notice of the proposed operations must be received by the parties specified in paragraph C. These notices shall be sent by certified mail, return receipt requested.

2. One working day in advance of the actual operations, the Permittee shall inform the State's Geophysical Coordinator (213/590-5201), by telephone of the parties that the Permittee was able to confirm actually received the required notice of the proposed operations and what responses, if any the Permittee received.

3. Permittee shall use his best efforts to notify affected individuals of any substantial modification, deviations, delays, or cancellations, concerning the survey area or survey dates, which were not in the original notice. Permittee shall notify

the State Lands Commission of such modifications or delays prior to their occurrence.

B. Contents of Notice: The written notification specified in paragraph A.1, which goes to non-State Lands Commission individuals shall contain:

1. The name of the vessel, the name of the ship's captain/designee, the ship's call signs and the specific radio channel which will be monitored by the vessel at all times during operations authorized by this permit;

2. The exact dates through which the survey will be conducted within any given specific area of the general permit area, and the daily hours of operation during such period;

3. A navigation chart (with Loran C notation if available) showing the area to be affected by the survey, including turning areas;

4. A listing of equipment to be used in the survey and length(s) of the tow(s);

5. The name and telephone number of a representative of the permittee who can resolve multiple use conflicts; and

6. The name and telephone number of the State Lands Commission Geophysical Coordinator.

The copy of the notice to the State Lands Commission must contain the above information as well as the proposed tracklines to be run, the proprietary owner of the data/information collected, and the names, dates, and locations where Permittee has sent notices for the proposed survey.

C. Parties to Receive Notice: The following parties are to receive the notice specified in paragraph A.1.

1. State Lands Commission, 100 Oceangate, Suite 300, Long Beach, CA 90802, Attention: Geophysical Coordinator.

2. Marine Resources Region Department of Fish and Game, 350 Golden Shore, Long Beach, CA 90802, Attention: Regional Manager.

3. All Fish and Game unit offices located within the region affected by each proposed activity. In Region I send notices to 350 Golden Shore, Long Beach, CA 90802, Attention: Unit Manager and 1350 Front Street, Rm. 6042, San Diego, CA 92101, Attention: Unit Manager.

4. Pacific Coast Federation of Fishermen's Association, Inc., Post Office Box 1626, Sausalito, CA 95965

5. National Marine Fisheries Service: 300 South Ferry Street, Rm. 2016, Terminal Island, CA 90713, Attention: Chief, Environmental Assessment Branch.

6. U.S. Fish and Wildlife Service. In Region I send notices to: 24000 Avila Road, Laguna Niguel, CA 92677, Attention: Field Supervisor.

7. Naval Operations. In Region I send notices to Commander, Fleet Area Control and Surveillance Facility (FACSFAC), Naval Air Station, North Island, San Diego, CA 92135 Attention: COMTHIRDFLT Oil Liaison Officer.

8. U. S. Coast Guard. In Region I send notices to: Commander, 11th Coast Guard District, Aids to Navigation, 400 Oceangate, Long Beach, CA 90822, Attention: Marine Safety Division.

9. For Operations in The Point Mugu Region: Commander, Pacific Missile Test Center, Point Mugu, CA 93042, Attention: Code 3200-4

10. All designated harbor locations listed below, within 100 miles of the area in which activities authorized by this permit, are to occur. The envelopes containing the notices to these locations shall be prominently labeled, "SEISMIC SURVEY NOTICE - POST IMMEDIATELY."

Region I

Mexican Border to Los Angeles/Ventura County Line

San Diego

1. San Diego Fish Co, Inc., 585 Harbor Lane, San Diego, CA 92101
2. Chesapeake Fish Co, Inc., 535 Harbor Lane, San Diego, CA 92101
3. North Harbor Landing, 4904 North Harbor Drive, San Deige, CA 92106
4. Sportsmen Seafood, 1617 Quivira Road, San Diego, CA
5. Harbor Masters Office, City of San Diego, Sheltor Island, San Diego, CA

Oceanside

1. Harbor Fish Market, 282 S. Harbor Drive, Oceanside, CA
2. Oceanside Harbor Dist., Attention: Harbor Police, 1540 Harbor Drive, North Oceanside, CA

Dana Point

1. Marine Fuel Dock, 34661 Puerto Place, Dana Point, CA 92629
2. Orange County Harbor Dept., Dana Point Harbor, Dana Point, CA 92629

San Pedro

1. Fisherman Cooperative Asso. of San Pedro, Berth 73, San Pedro, CA 90731
2. Send 5 notices to University of Southern California, Marine Advisory Services, 820 S. Seaside Avenue, Terminal Island, CA 90731 (Notices will be posted at following locations)
    1. General Fishermen's Service, Inc., 1028 Seaside Avenue, Terminal Island, CA

2. State Fish Co., 2194 Signal Place, San Pedro, CA
3. Pioneer Fish Co., 2200 Signal Place, San Pedro, CA
4. Jankovich & Sons, Berth 74, San Pedro, CA
5. Hy-C-Tane Corp., 2186 Signal Place, San Pedro, CA

Redondo Beach

1. Harbor Master's Office, 280 Marine Way, Redondo Beach, CA 90277

Port Hueneme

1. Harbor Master's Office, Port Hueneme, CA

Ventura

1. Fisherman Quay Corp., 1449 Spinnaker Drive, Suite F, Ventura, CA 93001
2. Harbor Master's Office, 1603 Anchors Way Drive, Ventura, CA 93001

Oxnard

1. Shipwreck Willie's 3920 W. Channel Islands Boulevard, Oxnard, CA 93030
2. Harbor Manager, 3900 Pelican Way, Oxnard, CA 93030

Santa Barbara

1. Union Oil Fuel Dock, Breakwater, Santa Barbara, CA 93109
2. Commercial Fishermans Assoc. of Santa Barbara, Breakwater, Santa Barbara, CA 93109
3. Harbor Master's Office, Breakwater, Santa Barbara, CA 93109

APPENDIX 4

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington, D.C. 20235

F/M412:PAC

Mr. David C. Russell
Acting Director
Minerals Management Service
Department of the Interior
Washington, D.C. 20240

OCT 4 1983

Dear Mr. Russell:

Enclosed are the Biological Opinion and Statement Regarding Incidental Taking prepared by the National Marine Fisheries Service pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), concerning the impacts of Outer Continental Shelf (OCS) oil and gas leasing and exploration activities associated with proposed Lease Sale 80 on endangered whales and threatened and endangered sea turtles.

Based on our review of the information on the proposed activities in the Sale 80 area and information on the biology and ecology of whales and sea turtles in the project area, we have determined that the proposed activity is not likely to jeopardize the continued existence of any of the species or populations considered in the Biological Opinion. We remain concerned about the cumulative effects of offshore mineral exploration and development on endangered and threatened species and recommend that the Minerals Management Service continue to monitor sea turtle and whale populations to determine better the effects of OCS related activities on these species.

New information on the timing, location, and nature of activities associated with OCS oil and gas leasing and exploration, and exploration plans and permit applications should be reviewed by the Department of the Interior on a case-by-case basis to determine if additional consultation pursuant to Section 7 is required.

The enclosed Biological Opinion in no way permits the taking of endangered whales. Such taking, unless properly permitted, is prohibited under Section 9 of the ESA and under Section 102 of the Marine Mammal Protection Act (MMPA). Section 17 of the ESA states that unless otherwise provided, no provision of the ESA shall take precedence over any more restrictive provisions of the MMPA. Under Section 101(a)(3)(B) of the MMPA taking of depleted species of marine mammals can be permitted only for scientific purposes. Therefore no statement concerning incidental taking of endangered whales pursuant to Section 7(b)(4) of the ESA is appended to our opinion.

No sea turtle mortality has been reported incidental to OCS activities off California, and we do not anticipate any. Therefore, we have not provided an estimate, pursuant to Section 7(b)(4), of an acceptable level of mortality. Our statement concerning incidental taking contains the following conditions: any mortality of sea turtles associated with activities conducted under this lease sale be reported to the Southwest Regional Office as soon as practical, and that your Pacific OCS Office staff cooperate with the Southwest Region staff in reviewing the circumstances to determine if measures need to be developed to prevent or mitigate additional mortality.

I look forward to continued cooperation during future consultations.

Sincerely yours,

for William G. Gordon
Assistant Administrator
for Fisheries

Enclosures

Endangered Species Act OCT 4 1983

Section 7 Consultation - Biological Opinion

AGENCY: Minerals Management Service

ACTIVITY: Operations pertaining to leasing and exploration in the area proposed for the February 1984, Southern California lease offering.

BACKGROUND: On May 9, 1983, the Minerals Management Service (MMS) requested that the National Marine Fisheries Service (NMFS) reinitiate consultation for the southern California OCS planning area, considering all of the operations pertaining to Outer Continental Shelf oil and gas leasing and exploration as they specifically relate to proposed Lease Sale No. 80. The purpose for reinitiating consultation is to consider new information that has been developed for this proposed February 1984, southern California lease offering. The new information includes a delineation of the sale area, conditional mean resource estimates, anticipated exploration and development scenarios, and an oil spill trajectory analysis.

The sale area includes approximately 4.7 million hectares offshore from Point Conception, California south to the U.S./Mexico border. There are 119 existing leases (Figure 1) in the sale area that were leased in previous sales. One hundred are located in the Santa Barbara Channel; 11 are located on the Santa Rosa Ridge to the southeast of Santa Rosa Island; two in the Tanner-Cortez Bank area; and six are located in the San Pedro Bay. Exploration conducted pursuant to previous sales has resulted in the

identification of 11 oil fields in the Santa Barbara Channel and two oil fields in the San Pedro Bay. These fields are either under production or planned for production in the near future.

The effects of production on threatened and endangered species were discussed in Biological Opinions issued to the Bureau of Land Management and the Geological Survey for activities being conducted pursuant to OCS Lease Sale 48 and prior sales. Effects of production on tracts leased subsequent to OCS Lease Sale 48 will be addressed when production plans are filed for those areas.

This Biological Opinion addresses the effects of leasing and exploration anticipated from the 1984 southern California lease offering. The consultation on endangered whales and threatened and endangered sea turtles was conducted through review of published and unpublished information provided by the MMS, available in the literature, or obtained through discussions with experts within and outside the NMFS. The Biological Opinions issued pursuant to the southern California regional consultation May 8, 1981, and the OCS Lease Sale 73 consultation, August 9, 1983, remain valid and where appropriate discussions from those opinions are incorporated in this opinion by reference. Lease Sale 73 is scheduled for November 1983, in an area adjacent to the southern California planning area on the north. It is an area of relatively high concentrations of whales, largely because of the geography of Point Conception. We think that the Lease Sale 73 area is similar enough to the western Santa Barbara Channel to allow generalizing the conclusions of the Lease Sale 73 Biological Opinion to the Southern California Bight.

Proposed Activity: The MMS plans to offer for lease the unleased tracts in the southern California planning area (Figure 1). This sale is referred to as

Lease Sale No. 80 or the southern California lease offering (1984 sale). The conditional, mean resource estimates for the sale area are 1.130 billion barrels of oil and 2.010 trillion cubic feet of gas. Based on these resource estimates, the geology of the area, the history of exploration in the area, and finding rates; the MMS projects a "most likely resource estimate" of 0.270 billion barrels of oil and 0.510 trillion cubic feet of gas.

The expected exploration and development scenarios are presented in Table 1. The MMS makes a distinction between exploration and delineation wells in these tables. Since delineation wells are drilled under the same permit procedures and requirements as exploratory wells and are drilled by exploratory drilling vessels, we consider drilling delineation wells part of the exploration phase. The MMS estimated that the number of wells that will be drilled to discover and define oil and gas reserves in the 1984 sale area will be 24 to 90 in the Santa Barbara Channel, 52 to 150 in the inner basins area, and 13 to 100 in the outer banks and basins area. The drilling of exploratory wells is expected to commence in 1984 and end in 1990. The expected rate of exploration is comparable to historical rates in the Santa Barbara Channel. The low estimate is based on the most likely resource estimates and the high estimate is based on the conditional mean resource estimate.

Geophysical exploration of leased tracts will precede any exploratory drilling. Geophysical exploration is conducted on leased tracts to provide a better delineation of favorable geological features and to identify hazardous geological features that would preclude the location of exploratory wells or the placement of platforms and pipelines. Geohazard surveys are required by OCS Orders and Regulations. This type of exploration involves towing an acoustical device, which generates a shock wave, and an array of recorders.

The manner in which the shock wave is refracted or reflected to the recorders is indicative of bottom geology.

Status of Species Considered in this Opinion

Common Name	Scientific Name	Status
Gray Whale	(Eschrichtius robustus)	Endangered
Right Whale	(Eubalaena glacialis)	Endangered
Blue Whale	(Balaenoptera musculus)	Endangered
Fin Whale	(B. physalus)	Endangered
Sei Whale	(B. borealis)	Endangered
Humpback Whale	(Megaptera novaeangliae)	Endangered
Sperm Whale	(Physeter macrocephalus) [catodon]	Endangered
Green Sea Turtle	(Chelonia mydas)	Endangered
Leatherback Sea Turtle	(Dermochelys coriacea)	Endangered
Pacific Ridley Sea Turtle	(Lepidochelys olivacea)	Endangered
Loggerhead Sea Turtle	(Caretta caretta)	Threatened

Biological Information: All of the cetaceans listed exhibit similar north-south migratory patterns utilizing high latitude, cold water feeding grounds in summer and low latitude, warm water calving and breeding grounds in winter. Although the limits of the feeding grounds, breeding and calving grounds, and migratory paths vary from species to species, at least part of the north Pacific population of each species may be found in waters off

southern California at some point during their annual migratory cycle. Sea turtles rarely occur in the project area. They probably are represented by individuals that have migrated to the northern limits of their ranges.

The eastern north Pacific population of gray whales is estimated to be between 15,000 and 17,000 whales (Reilly et al., 1980). This population migrates through the project area twice annually. The southern migration to the calving lagoons in Baja California, Mexico, begins in November and peaks in January. Rice and Wolman (1971) describe the progression of the southern migration. Pregnant females lead the migration, parous females and mature males follow, and juvenile whales are last. Occasionally, juvenile whales do not complete the southern leg, but linger in kelp beds along the coast and around the Channel Islands (Wellington and Anderson, 1978) until the northward migration begins. The return migration to the feeding grounds in the Bering and Chukchi Seas begins in February and lasts through May. Newly pregnant females lead this leg of the migration followed by adult males and juveniles. Females with calves stay in the lagoons until their calves are strong enough to join the migration. Thus, they are the last group to migrate north. Rice and Wolman (1971), based on the analysis of stomach contents from 136 whales, concluded that gray whales do not feed during either leg of the migration. Wellington and Anderson (1978) suggest that juvenile whales that linger in the kelp beds may be feeding on mysids that inhabit the kelp canopies. This is probably a behavioral characteristic of juveniles not participating fully in the migration and does not constitute a contradiction to Rice and Wolman's conclusion. The gray whale is the species most likely to experience impacts from OCS activities because the entire population migrates through the project area. During the migratory season, gray whales are the most abundant large cetacean in the project area.

The most depleted stock considered in this consultation is the North Pacific population of the right whale. It is estimated to number between 100 and 200 individuals (Wada, 1976). The distribution of this species is poorly known. Its summer feeding grounds are located in the Gulf of Alaska, along the Aleutian Islands, and in the Bering Sea. Practically nothing is known about its winter distribution. Other populations of this species are known to utilize coastal bays as winter calving grounds. No calving grounds have been identified for the North Pacific population, despite the interest the Yankee whalers had in this species and the amount of whaling that has occurred along the North Pacific coast. Gilmore (pers. comm.) has reviewed whaling records and concluded that right whales probably were never abundant off the California coast. However, in recent years right whales have been sighted off Baja California, suggesting that this population, like most baleen whales, probably exhibits a seasonal shift to the south in the winter. On April 17, 1981, a right whale was sighted in the Santa Barbara Channel (Woodhouse and Strickley, 1982). This is the first reported sighting of a right whale off California since 1956 (Gilmore, 1956). Although no right whales were sighted during the BLM funded, three year marine mammal survey of the Southern California Bight (Dohl et al., 1978), this most recent sighting confirms that right whales occasionally enter the project area.

The North Pacific population of blue whales numbers approximately 1,700 (DOC, 1978). A few of these migrate through the project area from May through July on the way to their summer feeding grounds and again from September to February during their migration to wintering grounds in the warm waters off southern Baja California. Even when not migrating, the blue whale probably occurs offshore most of the time. Their distribution is known to be as close as 15 nm to the mainland coast in the Santa Barbara Channel, north of Santa

Rosa Island, and generally along the Santa Rosa-Cortez Ridge to Tanner and Cortez Banks (Dohl et al., 1978).

The North Pacific population of fin whales numbers about 17,000 and is widely distributed (DOC, 1978). The migratory pattern of this population is the least well defined of all the large whales. Fin whales may be found in the project area year round, with greatest abundance from June through September (Dohl et al., 1978).

Sei whales are estimated to number about 9,000 in the North Pacific (DOC, 1978). They have been sighted in the Southern California Bight. They appear to be a more oceanic species associated with the deep waters of the continental slope. The only sightings made during the three year BLM survey occurred in September 1975, when two groups totaling five whales were seen west of Tanner-Cortez Banks (Dohl et al., 1978). Apparently there is a southward and offshore shift in their distribution during winter.

The humpback whale is one of the most depleted of the whales. The North Pacific population probably does not exceed 1,200 (Rice and Wolman, 1982). A portion of this population migrates from its summer grounds in Alaska, south to its calving and breeding grounds off the west coast of Baja California, where it spends the winter months. Their summer and winter ranges appear to overlap in the Southern California Bight and humpbacks may be found in the project area during portions of all seasons. Their peak abundance occurs in summer and fall (Dohl et al., 1978). During a 1978 capture cruise for Seaworld, two humpback whales were observed feeding on anchovies over the Santa Rosa Ridge in the Southern California Bight (Lecky, pers. comm.). Dohl (pers. comm.) has observed humpback whales feeding on small schooling fish south of the Farallon Islands. These observations indicate that humpback

whales may feed opportunistically on small schooling fish whenever they are encountered. The importance of the California coast as a feeding area remains unknown.

The sperm whale is the most abundant large whale in the northern Pacific Ocean. Its population is about 300,000 and is widely distributed (DOC, 1978). This pelagic species is not usually associated with near shore waters. The migration path of the sperm whale generally passes seaward of the Southern California Bight and sightings of this species in the project area are rare (Dohl et al., 1978).

The four species of sea turtles included in this consultation generally are distributed to the south of the project area. Records of stranded green and leatherback sea turtles, as far north as British Columbia, Canada, and Pacific ridley sea turtles as far north as Humboldt County, California, (Stebbins, 1966) indicate that occasional transients may wander through the project area. Stebbins (1966) lists the northern limit of the range of loggerhead sea turtles as southern California.

Assessment of Impacts: Potential impacts to endangered whales and threatened and endangered sea turtles from OCS leasing and exploration were discussed in the Southern California Regional Biological Opinion and the Biological Opinion issued for OCS Lease Sale 73. Those discussions remain valid and are incorporated here by reference. New information on gray whale responses to geophysical noise and floating oil became available subsequent to those consultations. The new information is discussed below:

Impacts of Noise: The MMS funded a study of the effects of noise on migrating gray whales. In the spring of 1983, a geophysical vessel was made available

to study noise effects during the cow-calf phase of the northern migration. Observation stations were established at vantage points along the coast to monitor gray whale responses to the sounds generated by the air gun array. The array was tested at distances 50, 20, 8, 3, 1, and 0.5 miles from the whales. The preliminary results indicated no observable response when the sound source was at 8, 20, or 50 miles. At 3 miles some whales appeared to orient toward the sound. At 1 mile and 0.5 miles, milling behavior was observed and some whales swam into kelp beds, the surf zone, or behind rocks where the environment provides some shadowing from the noise. These behaviors were often followed by swimming at a speed more rapid than normal. Interpreting these results is difficult without a statistical analysis of the data. The analysis was in progress at the time of this consultation, but the results were not available. The analysis of behavioral data will quantify the close-range observations and determine the extent of behavioral changes at ranges of three miles or greater. The preliminary observations indicate that geophysical operations at close range elicit avoidance behaviors. This may be associated with a "startle" response. The ability of gray whales to habituate to these noises needs to be investigated. The milling behavior that occurred at close range was followed by rapid swimming. Although those observations indicate a stressful situation, the noise did not present a barrier to the migration. No short term adverse effects that would affect the population were obvious. These observations do raise our concern for cumulative effects. Specifically, are there threshold levels of geophysical activities beyond which the fitness of recovering whale populations will be reduced? Continued monitoring of whale populations and investigations of the effects of

air guns will provide more insight. In the interim, we offer recommendations that may reduce the potential for adverse impacts form geophysical noises on whales.

Impacts of Oil: Geraci and St. Aubin (1982) presented preliminary results of an investigation by Kent et al. of gray whale responses to oil slicks in the vicinity of naturally occurring oil seeps. Subsequent to the Lease Sale 73 consultation, Kent et al. published a final report. Over 90 percent of the whales observed in the study showed apparent indifference to the oil. They swam through slicks without changing course and exhibited normal behaviors such as breaching and courtship in both oiled and clean waters. A few whales changed course just prior to entering or just after entering a slick, thereby avoiding contact with most of the slick. Kent et al. were not able to conclude that the slick was the stimulus that elicited the change of course.

Analysis of the sighting data showed that while in oiled water whales took fewer breaths per surface interval, remained submerged for longer periods of time, and slowed their swimming speed. No obvious adverse effects from contact with the floating oil were reported. The changes in breathing and surfacing rates indicate whales are able to detect oil and some stress may be associated with swimming through oil. We think the amount of stress is likely to be minimal because the observations of courting behavior in oiled water seems inconsistent with high levels of stress. Extrapolating the information in Kent et al. to effects on the gray whale population is difficult. Kent et al. do not suggest any effects, when viewed at the population level, in their report.

The results of the Kent et al. study indicate that if there is a large spill, most of the whales in the area are likely to contact and swim through

Opinion and the Lease Sale 73 Biological Opinion. We continue to think that endangered whale and threatened and endangered sea turtle populations are not likely to be jeopardized by leasing and exploration in the Southern California Bight. The Biological Opinion for Lease Sale No. 73 concluded that OCS leasing and exploration activities would be unlikely to jeopardize the continued existence of listed sea turtles because they normally are distributed in warm tropical or subtropical waters and individual turtles encountered in California waters are likely to be expatriates at the extreme northern limit of their range. That opinion also concluded that the proposed activities would not be likely to jeopardize the continued existence of endangered whale species. With regard to the North Pacific right whales, the opinion concluded that since no historically important habitat exists off California for this severely depleted species and since right whale sightings are so infrequent in California waters the probability of a right whale being affected by noise or spilled oil resulting from leasing and exploration off California would be extremely low. The opinion further concluded that the gray whale population would be likely to experience impacts from noise and spilled oil during OCS related exploration. However, those potential impacts would not be likely to jeopardize the continued existence of the gray whale population as it migrates along the California coast. These conclusions concerning right and gray whales are not inconsistent with conclusions we have expressed in opinions on leasing and exploration in Alaska. Environmental conditions in Alaska are different. In Alaska waters, migrating whales often are found concentrated in high densities as a result of utilizing migratory corridors consisting of passes, inlets and islands. Whales also are generally in a different phase of their annual migration cycle and the history of exploration in Alaska is too short to judge impacts on whales in Alaska.

oil slicks. Geraci and St. Aubin (1982) concluded that whales exposed to spilled oil may suffer transient effects which are reversible and not likely to debilitate healthy animals. Only those whales trapped in confined areas with oil or those whales which are moribund, due to some other factor, are likely to succumb to spilled oil. (See Lease Sale 73 Biological Opinion for a discussion of Geraci and St. Aubin, 1982.) Migration routes off California are not restricted by narrow passages, so only transient effects to migrating whales would be expected. This scenario is supported by the fact that no marine mammal mortalities were associated with the 1969 Santa Barbara spill (Brownell, 1971) or the 1980 Bay of Campeche spill (Hooper, 1981).

Geraci and St. Aubin's conclusions are based on small samples, work with odontocetes, and in some cases unverified calculations. We think their results should be interpreted conservatively and encourage additional field work with gray whales in the vicinity of oil seeps in the Santa Barbara Channel.

Cumulative Effects: We remain concerned that cumulative effects may eventually exceed threshold levels and result in abandonment of important habitat or interfere with the recovery of populations of endangered and threatened species. Monitoring of whale and sea turtle populations should be continued in order to determine when offshore activities are affecting protected stocks adversely. The recovery of the gray whale population and its continued migration through the Santa Barbara Channel suggest that current levels of exploration are below thresholds that may exist.

Conclusion: The information discussed in this opinion is consistent with the conclusions we expressed in the Southern California Bight Regional Biological

Recommendations: We recommend that the MMS continue their OCS studies program and maintain close coordination with NMFS and the Marine Mammal Commission in the development of OCS oil and gas reserves on threatened and endangered species.

We recommend that the MMS continue to fund studies, which include monitoring of gray whale migrations and observing and documenting the behavior of gray whales in the vicinity of pre-exploration and exploration acitivities, to ensure that gray whales are not being excluded from preferred migration corridors by OCS activities.

We think that the California coast is an excellent natural laboratory in which studies of gray whale reactions to drilling vessels, acoustic devices, and other exploration related stimuli can be conducted. We recommend that the MMS take advantage of this situation by funding studies to observe gray whale migrations from various drilling platforms and geophysical exploration vessels and make an effort to correlate observed behavior to acoustic profiles presented by each platform. The results of such studies may have direct application to decisions regarding explorations in those areas critical to gray whales, such as the Bering Sea, and may provide information which could be used to help assess potential effects OCS activities may have on other species of large whales.

We recommend that the MMS compare a summary of geophysical effort data to historical accounts of the gray whale migration and prepare a report on the results. A summary of track miles shot per month by geographical area (e.g., Santa Barbara Channel, Santa Maria Basin, etc.) for the last ten years compared with historical accounts of gray whale migration could provide insight into cumulative effects of geophysical exploration.

We recommend that MMS instruct geophysical vessel operators, possibly through the Information to Lessees provided in the Proposed Notice of Sale, to initiate geophysical operations only when whales are not observed in the vicinity of the vessel. This precaution will reduce the potential for adverse effects associated with startle responses that could be elicited by the sudden introduction of sound from air guns at close range.

We recommend that MMS continue studies of gray whale responses to floating oil to expand the data base to include the northward migration. Information on the response of cow-calf pairs to oil is essential to evaluating the threats to the population from an oil spill.

Finally, we recommend that consultation be continued informally through the exploration phase, as development information becomes available, so that the involved agencies will be prepared to conduct consultations on the development and production phase of OCS oil and gas development.

Reinitiation of Consultation

Consultation should be reinitiated: (1) if new information reveals additional impacts of the identified activity or program not considered in this opinion that may affect listed species or their habitats; (2) if the proposed activities are modified; (3) or if a new species is listed that may be affected by the proposed activity or program. Consultation also should be reinitiated before development and production activities occur on the tracts included in this consultation.

Reinitiation of consultation pursuant to section 7 of the ESA may not be necessary for all additional exploration activities. Additional lease sale plans, modification of existing plans, or additional information should be sent to the Director, Southwest Region, NMFS, for review. NMFS suggests that

the agencies involved in this consultation continue to discuss the information concerning future OCS activities so that, if needed, consultation can be reinitiated in a timely manner. This in no way would preclude any involved agency from making an independent determination of the need for reinitiating consultation.

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STATEMENT REGARDING INCIDENTAL TAKING PURSUANT
TO SECTION 7(b)(4) OF THE
ENDANGERED SPECIES ACT OF 1973, AS AMENDED

Section 7(b)(4) of the ESA requires that when an agency action is found to be consistent with Section 7(a)(2) the NMFS will issue a statement specifying the impact of incidental taking of endangered species, providing reasonable and prudent measures that are necessary to minimize impacts, and setting forth the terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

The taking of sea turtles in the course of exploring for oil has not been reported. Therefore, we do not anticipate any sea turtles being taken incidental to the proposed acitivity. As a condition of this statement, if a sea turtle is killed as the result of an interaction with activities associated with exploration, the incident must be reported to the Director, Southwest Region, NMFS as soon after the taking as possible, and the Southwest Region will cooperate with the Pacific OCS Office, MMS in the review of the incident to determine the need for developing mitigation measures and assess the need for reinitiating consultation.

Any marine mammal population listed pursuant to the ESA is considered depleted under the Marine Mammal Protection Act of 1972 (MMPA). According to section 17 of the ESA no provision of the ESA is to take precedence over a more restrictive conflicting provision of the MMPA. The MMPA is more restrictive than the ESA because the MMPA prohibits taking from depleted stocks except for scientific research. Therefore, section 7(b)(4) of the ESA is not applicable to endangered whale populations and no statement is provided.

APPENDIX 5

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
300 South Ferry Street
Terminal Island, California 90731

January 24, 1984 F/SWR31:JHL

Claire T. Dedrick
Executive Officer
State Lands Commission
1807 - 13th Street
Sacramento, CA 95814

Dear Ms. Dedrick,

This letter is in response to our January 16, 1984 conversation regarding the National Marine Fisheries Service's determination on the potential impacts of noise associated with geophysical exploration to migrating gray whales. Our determination is based on the enclosed copy of the Biological Opinion which we issued pursuant to an Endangered Species Act consultation with the Minerals Management Service (MMS) on lease sale 80. During that consultation the MMS made available to us preliminary data from studies of the effects of noise on migrating whales. The studies support our conclusion that endangered whale populations were not likely to be jeopardized by exploration of the outer continental shelf off the California coast.

Subsequent to the consultation with MMS we received and reviewed final reports from Bolt, Beranek, and Neuman and LGL ecological research associates of the studies from which we had used preliminary data. We determined that the conclusions in the Biological Opinion remained valid.

The most severe problem seems to be stress associated with the startle response that is elicited when geophysical surveys are initiated in close proximity to whales. To minimize this impact, we suggest that vessel operators be requested to visually survey the area around their vessel and initiate operations only when no whales are observed within 2 kilometers of the vessel. Whales that approach an operating geophysical vessel have apparently habituated to the noise; therefore we see no need to interrupt ongoing operations when whales are encountered.

Your efforts to coordinate State permit conditions with Federal permit conditions involving marine mammals is most appreciated.

Sincerely,

J. Gary Smith
Acting Regional Director

RECEIVED
JAN 28 1984
STATE LANDS COMMISSION

Enclosure

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Date: [illegible]

APPENDIX 6

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PART II

PROPOSED PERMIT FORM

W_____

PRC_____

STATE LANDS COMMISSION

STATE OF CALIFORNIA

SURVEY PERMIT P.R.C._____

GENERAL PERMIT TO CONDUCT GEOPHYSICAL SURVEYS

Pursuant to Division 6 of the California Public Resources Code and Title 2 of the California Administrative Code, the State of California, acting by and through the State Lands Commission (State) hereby issues to _____ _____ (Permittee) a non-exclusive geophysical survey permit subject to the following terms and conditions:

TERMS AND CONDITONS

1. Permit Area: This permit covers offshore State waters known as Regions I, II, III and IV, as described below, and within State tide and submerged lands between the Mexican and Oregon borders out to three (3) nautical miles:

A. Region I - the area between the Mexican Border and the Los Angeles/Ventura County Line.

B. Region II - the area between the Los Angeles/Ventura County line and the San Luis Obispo/Monterey County line.

C. Region III - the area between the San Luis Obispo/Monterey County line and Sonoma/Mendocino County line.

D. Region IV - the area between the Sonoma/Mendocino County line and the Oregon Border.

The above Regions are outlined on the attached map, Exhibit A.

2. Term of Permit: This permit shall commence on the first day of the month following the month in which it is authorized by the State Lands Commission, and shall continue for three (3) years unless terminated sooner as provided in this permit.

3. Scope of Activities: Permittee shall comply with the terms of this permit whenever the equipment specified in Section 4 is deployed or geophysical data are to be collected within the permit area. Geophysical surveys shall include seismic, gravity, magnetic, electrical and geochemical methods of measuring and recording physical properties of subsurface geologic structures.

4. Equipment/Survey Methods: Permittee shall have the right to collect geophysical data utilizing sniffers, electro-mechanical and pizeo-electric equipment, and non-explosive accoustic pulse generating and receiving methods.

5. Multiple Use: This permit is non-exclusive and is issued subject to all existing valid rights at the date of this permit. Such rights shall not be affected by the issuance of this permit. The State shall have the right to issue additional, non-exclusive survey permits and leases or other entitlements for uses which are not inconsistent with this permit.

6. Operations:

A. Permittee shall conduct all activities with due regard for the preservation of the property covered by this permit, potential environmental impacts, peak fishing seasons, and with due caution to minimize damage to third parties.

B. No geophysical acoustic pulse-generating equipment shall be started in State waters when whales are

observed within two kilometers of Permittee's geophysical boat.

C. On the first day of each survey, the Permittee shall use a boat to scout the area to be covered within the first 24 hours of operations for the purpose of searching for potential conflicts with commercial fishing activities or equipment.

7. Observers: The State may require the Permittee to furnish food, quarters, and marine transportation, if necessary, for a State representative on any vessel conducting operations authorized by this permit. The State representative may observe and inspect all operations conducted pursuant to this permit.

If the State representative notes permit violations or determines adverse effects are being caused or are imminent, the representative may recommend suspension of activities to the Executive Officer. Upon approval of the Executive Officer, the representative may carry out suspension of the activities allowed under this permit pursuant to Section 14 .

8. Notification Procedure: The Permittee shall follow the complete notification procedure set forth in Exhibit B for all geophysical surveys where equipment is deployed "over-the-side" of the vessel. This notice shall include the information required under Exhibit B, Section B, Contents of Notice, and in the format displayed in Exhibit D.

For all other geophysical surveys covered by this permit, the Permittee shall notify the State a minimum of ten (10) days before commencing the survey.

9. Data Submission and Examination:

A. The Permittee shall submit a field operations report, in a form that is attached hereto as Exhibit C, to the State as soon as possible, but not more than thirty (30) days after the completion of any survey activities conducted under this permit. Information required includes:

(1) A narrative description of the work performed, the data obtained, and the logs produced from the operations.

(2) Charts, maps, or plats indicating the areas in which any exploration was conducted, specifically identifying the lines of geophysical traverses, (pre-plot map(s) maybe used provided it accurately

depicts the area and lines surveyed), accompanied by a reference sufficient to identify the data produced from each activity;

(3) The dates and times during which the actual exploration was performed;

(4) The nature and location of any environmental hazards;

(5) A description of any accident, injury, damage to or loss of property which resulted from the reported activities; and

(6) Such other information relative to the permitted activities as may be requested.

B. Permittee shall make available, upon request, and the Commission shall have the right to inspect and/or copy factual and physical exploration results, logs, records, field acquired data, processed records or any other data/information resulting from operations under this permit. These data and information shall include, but are not limited to, geophysical data from:

(1) Deep seismic reflection ("Common Depth Point") and refraction;

(2) High resolution systems including but not limited to bathymetry, side-scan sonar, sub-bottom profiler;

(3) Film negatives and/or blackline or blueline paper copies of final stacked sections and migrated sections. Paper copies and film negatives of sections chosen for State use shall be made at one-half scale, (2-1/2 inches per second).

(4) Post-plot maps at a reasonable and appropriate scale for the dimensions of the survey and whenever possible a scale of 1:48,000 (1 inch equals 4000 feet). A narrative summary of accuracy of shot points and ship tracks.

(5) Copies of navigation tapes and velocity tapes with narrative summary of accuracy of shot points and ship tracks.

(6) Gravity data reduced or compiled as Free-Air or Bouguer maps whenever possible or in profile form. Magnetometer data corrected for International Geomagnetic Reference Field in profiles or whenever possible in map form. Data to include how reductions and corrections were made.

(7) Any other systems/devices used to detect or imply the presence of mineral resources including oil or natural gas.

The State Lands Commission shall reimburse the Permittee for the reasonable costs of reproducing any data or information.

C. In the event that information or data obtained under this permit are transferred from the Permittee to a third party, or, subsequently, from a third party to another third party, the transferor shall notify the State and shall require the receiving third party, in writing, to expressly agree to abide by the obligations of the Permittee under Section 9 of this permit as a condition precedent to the transfer of the information or data.

D. The following definitions apply to words used in this section:

(1) Factual or physical exploration results include all data and information gathered as the result of any and all operations conducted under this permit by whatever means.

(2) Data means all facts, statistics or samples.

(3) Processed Records mean data collected under a permit which have been processed. Processing involves changing the form of data so as to facilitate interpretation. Processing operations include, but are not limited to, applying corrections for known perturbing causes, rearranging or filtering data, and combining or transforming data elements.

E. The Commission reserves the right to disclose any data or information acquired from Permittee to an independent contractor or agent for the purpose of reproducing, processing, reprocessing, or interpreting such data or information for the use of the Commission. Such data and information as well as products derived therefrom shall be held confidential as required by Public Resources Code 6826(c).

10. Third Party Damage Claims:

A. Permittee shall attempt to settle all third party damage claims within 60 days of a written demand and proof of damage submitted by the injured party.

B. All such claims which are not settled within 60 days may be brought to the State Lands Commission for resolution. The State Lands Commission may award damages to injured parties out of the bond provided by Permittee pursuant to Section 11 of this permit.

11. Bond: Permittee shall furnish, and maintain, until released by the State, a bond or letter of credit in the sum of twenty-five (25) thousand dollars, in favor of the State, for its exclusive use and benefit, to guarantee the faithful

performance by the Permittee of this Permit's terms and conditions and satisfaction of third party damage claims. The bond or letter of credit shall be delivered to the State at the address specified in Section 16, prior to the effective date of this permit.

12. Insurance: At the option of the State, Permittee shall submit a certificate of self insurance or procure and maintain liability, property damage, or other insurance for the benefit of the State in an amount satisfactory to the State.

13. Indemnity: Permittee agrees to indemnify, save harmless and, at the option of the State, defend the State of California, its officers, agents and employees against any and all claims, demands, causes of action, or liability of any kind which may be asserted against or imposed upon the State of California or any of its officers, agents or employees by any third person or entity arising out of or connected with Permittee's operations hereunder.

14. Modification, Revocation, or Suspension: The activities provided for in this permit may be suspended, in whole or in part, upon a finding by the Executive Officer of

the State Lands Commission, or another person designated by the Executive Officer, that suspension of the activity authorized by this permit would be in the public interest. Such suspension shall be effective upon receipt by Permittee of a written or oral (to be confirmed in writing) notice thereof which shall indicate (1) the extent of the suspension (2) the reasons for this action, and (3) any corrective or preventive measures to be taken by Permittee deemed necessary by the Executive Officer, or designee to meet the general public interest.

Permittee shall take immediate action to comply with the provisions of the suspension. Permittee may request a hearing before the State Lands Commission in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked.

This permit may be modified or revoked by the State Lands Commission upon thirty (30) days notice. Any suspension, modification, or revocation of this permit shall not be a basis for any claim for damages against the State of California.

15. Permits: Permittee shall obtain all necessary and applicable permits and obey all laws and regulations applicable to the conduct of operations under this permit.

16. Notices: All written notices to the State or Permittee which are not part of the notification procedure identified in Section 8 shall be deemed to have been fully given when made in writing, and deposited in the United States mail, with first class postage prepaid, addressed as follows:

To the State: State Lands Commission
245 West Broadway, Suite 425
Long Beach, CA 90802-4471
Attention: Geophysical Coordinator

To the Permittee: _____
_____
_____
Attention: _____

The address to which notices shall be mailed may be changed by written notice, as is provided in this paragraph.

17. Assignment: Permittee may not assign, sublease or transfer this permit or any interest therein. However, Permittee may subcontract part or all of the work to be performed. Any such subcontractor shall be the agent of Permittee and Permittee shall remain responsible to the State under the terms of this permit.

18. Successors: If for any reason this permit is transferred by operation of law or otherwise, it shall apply to and

bind the heirs, successors, executors, administrators and assigns of all of the parties to this permit. All parties to this permit shall be jointly and severally liable under the terms of this permit.

IN WITNESS WHEREOF, the parties hereto have executed this permit as of the date entered below.

STATE OF CALIFORNIA
STATE LANDS COMMISSION

_____ Date

_____
Chief, Extractive Development

PERMITTEE*

_____ Date

By: _____

_____
Title

_____
Address

_____
City and State

*In executing this document, the following is required:

Corporations: Certificate of Corporate Secretary providing that the Board of Directors authorized the execution of this permit specifically or authority to execute documents of this type generally. An example of the type of form required is attached as Exhibit E.

Individuals: Acknowledgment of signature is required.

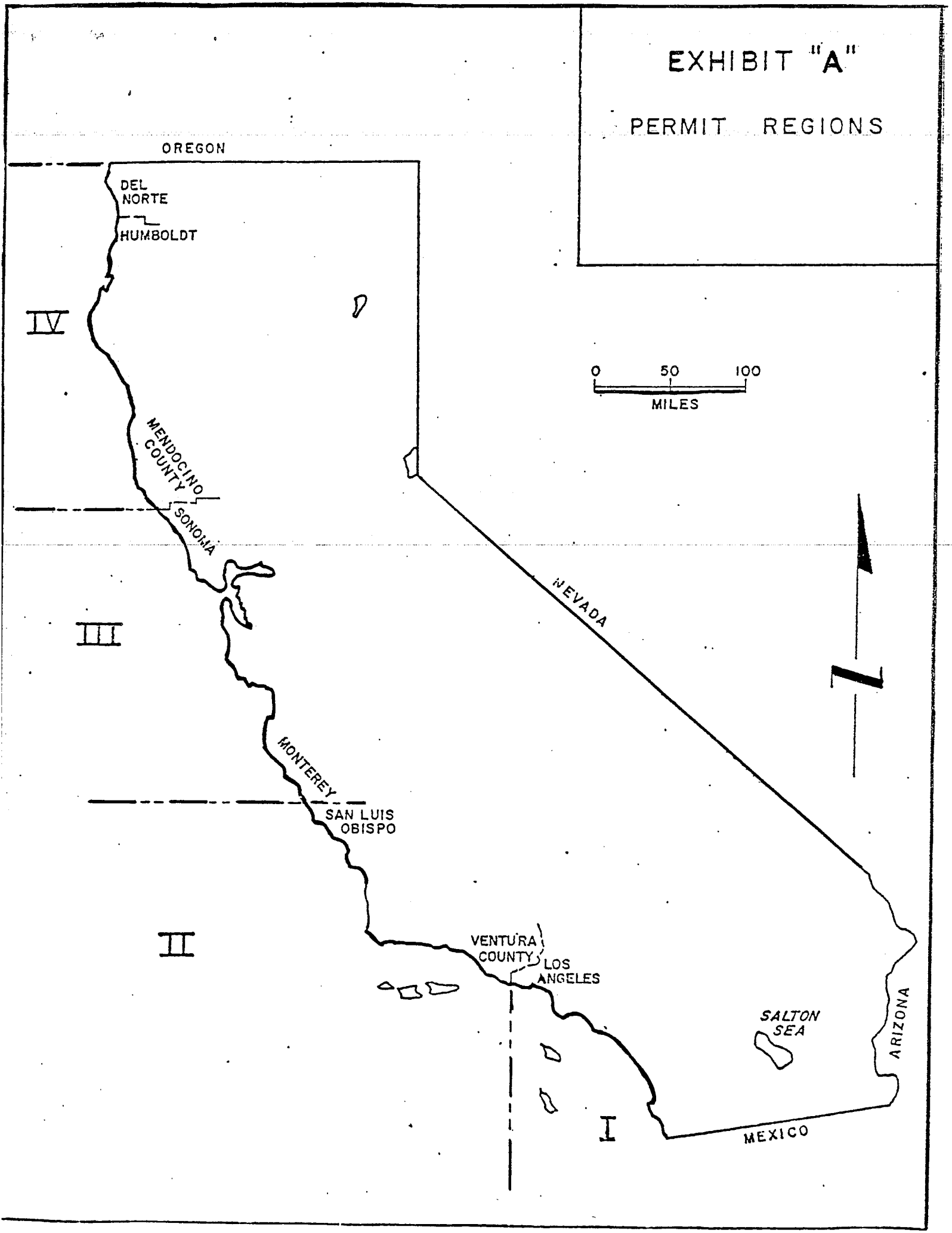
EXHIBIT "A"
PERMIT REGIONS
OREGON
DEL NORTE
HUMBOLDT
IV
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MILES
MENDOCINO COUNTY
SONOMA
NEVADA
III
MONTEREY
SAN LUIS OBISPO
II
VENTURA COUNTY
LOS ANGELES
SALTON SEA
ARIZONA
I
MEXICO

EXHIBIT B

NOTIFICATION PROCEDURES

The State may, upon 30 days notice to Permittee, prescribe additional or different procedures to be followed by the Permittee.

A. General Requirements: Whenever surveys are to be commenced under this permit, Permittee shall give notice in the following manner:

1. At least 15 working days in advance of any actual operations, written notice of the proposed operations must be received by the parties specified in Paragraph C. An exception may be made by the Executive Officer, or his/her designee, if the Permittee demonstrates the area to be surveyed is clear of commercial fishing activities and equipment. In this case, the Permittee shall use a boat to scout the area until such time as the Executive Officer or designee is assured that all commercial fishermen have had adequate opportunity to work out conflicts with the Permittee.
2. One working day in advance of the actual operations, the Permittee shall inform the State's Geophysical Coordinator (213/590-5201), by telephone, to confirm

the receipt of required notices by the parties listed in Paragraph C. The Permittee shall also advise what responses, if any, were received.

3. Permittee shall use his/her best efforts to notify the parties listed in Paragraph C and any other affected individuals of substantial addition, modification, deviation, delay, or cancellation, concerning the survey area or survey dates, in the original notice. Permittee shall notify the State Lands Commission of such modifications or delays prior to their occurrence.

B. Contents of Notice: The written notification required, shall include information in the format request in Exhibit D and outlined below:

1. The name of the vessel, the name of the ship's captain/designee, the ship's call signs and the specific radio channel which will be monitored by the vessel at all times during operations authorized by this permit;

2. The exact dates through which the survey will be conducted within any given specific area of the general permit area, and the daily hours of operations during such period;

3. A full-sized navigation chart (with Loran C notation if available) showing the area to be affected by the survey, including turning areas;
4. A listing of equipment to be used in the survey and length(s) of the tow(s);
5. The name and telephone number of a representative of the Permittee who can resolve multiple use conflicts; and
6. The name and telephone number of the State Lands Commission Geophysical Coordinator.

The copy of the notice to the State Lands Commission must contain the above information, as well as, the proposed tracklines to be run and the proprietary owner of the data/information collected.

C. Parties to Receive Notice: The following parties are to receive the notice specified in paragraph A.1.

1. State Lands Commission, 245 West Broadway, Suite 425, Long Beach, CA 90802, Attention: Geophysical Coordinator.
2. Marine Resources Region, Department of Fish and Game, 245 West Broadway, Long Beach, CA 90802, Attention: Regional Manager.

3. All Fish and Game unit offices located within the region affected by each proposed activity.

   In Region I send notices to: 245 West Broadway, Long Beach, CA 90802, Attention: Unit Manager; and to 1350 Front Street, Rm. 6042, San Diego, CA 92101, Attention: Unit Manager.

   In Region II send notices to: 245 West Broadway, Suite 350, Long Beach, CA 90802, Attention: Unit Manager; and to 213 Beach Street, Morro Bay, CA 93442, Attention: Unit Manager.

   In Region III send notices to: 2201 Garden Road, Monterey, CA 93950, Attention: Unit Manager; and to 411 Burgess Drive, Menlo Park, CA 94025, Attention: Unit Manager.

   In Region IV send notices to: Post Office Box 1309, Fort Bragg, CA 95437, Attention: Unit Manager; and to 619 Second Street, Eureka, CA 95501, Attention: Unit Manager.

4. Pacific Coast Federation of Fishermen's Association, Inc., Post Office Box 1626, Sausalito, CA 95965.

5. National Marine Fisheries Service: 300 South Ferry Street, Room 2016, Terminal Island, CA 90713, Attention: Chief, Environmental Assessment Branch.

6. U.S. Fish and Wildlife Service.

In Region I send notices to: 24000 Avila Road, Laguna Niguel, CA 92677, Attention: Field Supervisor.

In Region II send notices to: 24000 Avila Road, Laguna Niguel, CA 92677, Attention: Field Supervisor; and to Federal Building, 2800 Cottage Way, Room 2727, Sacramento, CA 95825, Attention: Field Supervisor.

In Region III and IV send notices to: Federal Building, 2800 Cottage Way, Room 2727, Sacramento, CA 95825, Attention: Field supervisor.

7. Naval Operations.

In Region I and II send notices to Commander, Fleet Area Control and Surveillance Facility (FACSFAC), Naval Air Station, North Island, San Diego, CA 92135, Attention: COMTHIRDFLT Oil Liaison Officer.

In Region III and IV send notices to: Commanding Officer, Patrol Wing Ten, Naval Air Station, Moffet Field, CA 94035, Attention: Warning Area Coordinator for Northern California.

8. U.S. Coast Guard.

In Region I and II send notices to: Commander, 11th Coast Guard District, Aids to Navigation, 400

Oceangate, Long Beach, CA 90822, Attention: Marine Safety Division.

In Region III and IV send notices to: Commander, 12th Coast Guard District, Marine Safety Division, 630 Sansome Street, San Francisco, CA 94126.

9. For Operations in the Point Mugu Region: Commander, Pacific Missile Test Center, Point Mugu, CA 93042, Attention: Code 3200-4.

10. In Region II send notices to: Western Space and Missile Center WSME/SE, Vandenberg Air Force Base, CA 93437, Attention: Offshore Manager.

11. All designated harbor locations listed below, within 100 miles of the area in which activities authorized by this permit, are to occur. The envelopes containing the notices to these locations shall be prominently labeled, "SEISMIC SURVEY NOTICE - POST IMMEDIATELY".

San Diego

1. San Diego Fish Co., Inc., 585 Harbor Lane, San Diego, CA 92101
2. Chesapeake Fish Co., Inc., 535 Harbor Land, San Diego, CA 92101
3. North Harbor Landing, 4904 North Harbor Drive, San Diego, CA 92106
4. Sportsmen Seafood, 1617 Quivira Road, San Diego, CA 92109
5. Harbor Masters Office, City of San Diego, Shelter Island, San Diego, CA 92054

Oceanside

1. Harbor Fish Market, 282 S. Harbor Drive, Oceanside, CA 92054
2. Oceanside Harbor Dist., Attention: Harbor Police, 1540 Harbor Drive, North Oceanside, CA 92054

Dana Point

1. Marine Fuel Dock, 34661 Puerto Place, Dana Point, CA 92629
2. Orange County Harbor Dept., Dana Point Harbor, Dana Point, CA 92629

Redondo Beach

1. Harbor Master's Office, 280 Marine Way, Redondo Beach, CA 90277

Port Hueneme

1. Harbor Master's Office, P. O. Box 608, Port Hueneme, CA 93041

Ventura

1. Fisherman Quarry Corp., 1449 Spinnaker Drive, Suite R, Ventura, CA 93001
2. Harbor Master's Office, 1603 Anchors Way Drive, Ventura, CA 93001

Oxnard

1. Shipwreck Willie's, 3920 W. Channel Islands Boulevard, Oxnard, CA 93030
2. Harbor Manager, 3900 Pelican Way, Oxnard, CA 93030

San Pedro

1. Fisherman Cooperative Asso. of San Pedro, Berth 73, San Pedro, CA 90831
2. California Gillnetters Association, 2200 Signal Place, Suite 201, San Pedro, CA 90731
3. Send 5 notices to University of Southern California, Marine Advisory Services, 820 S. Seaside Avenue, Terminal Island, CA 90731 (Notices will be posted at following locations):
    1. General Fishermen's Service, Inc., 1028 Seaside Avenue, Terminal Island, CA 90731
    2. State Fish Co., 2194 Signal Place, San Pedro, CA 90731
    3. Pioneer Fish Co., 2200 Signal Place, San Pedro, CA 90731
    4. Jankovich & Sons, Berth 74, San Pedro, CA 90731
    5. Hy-C-Tane Corp., 2186 Signal Place, San Pedro, CA 90731

Half Moon Bay

San Mateo County Harbor District, Pillar Point Harbor, #1 Johnson Pier, Half Moon Bay, CA 94019

Santa Barbara

1. Union Oil Fuel Dock, Breakwater, Santa Barbara, CA 93109
2. Commercial Fisherman's Assoc. of Santa Barbara, Breakwater, Santa Barbara, CA 93109
3. Harbor Master's Office, Breakwater, Santa Barbara, CA 93109
4. Liaison Officer, c/o Liaison Office, 418 Chapala Street, Santa Barbara, CA 93101
5. Darwin Sainz, C/COG, 418 Chapala Street, Santa Barbara, CA 93101

Avila (Port San Luis)

Send 3 notices to Harbor Master's Office, Post Office Box 249, Pier 3, Avila Beach, CA 93424. Notices will be posted at the following locations:

1. Old Port Fish Co., Pier 3, Avila, CA 93424
2. Rusty's, Pier 3, Avila, CA 93424

Morro Bay

Send 4 notices to California Department of Fish and Game, 213 Beach Street, Morro Bay, CA 93442. Notices will be posted at the following locations:

1. Harbor Master's Office, Morro Bay, CA 93442
2. Union Fuel Dock, 201 Main Street, Morro Bay, CA 93442
3. Marine Supply Store, 1116 Market Street, Morro Bay, CA 93442

Monterey

1. Monterey Fish Co., Post Office Box 1875, Municipal Fish Wharf #2, Monterey, CA 93940
2. Monterey Marine State, Wharf #2, Post Office Box 1230, Monterey, CA 93940
3. Harbor Office, City of Monterey, City Hall, Monterey, CA 93940
4. Captain Vincent Yellusich, Wharf #2, Post Office Box 2046, Monterey, CA 93940

Moss Landing

1. Moss Landing Fisheries, Inc., Post Office Box 306, Sandholdt Road, Moss Landing, CA 95039
2. Moss Landing Commerical Fishermans Assoc., Post Office Box 44, Moss Landing, CA 95039
3. Woodward Marine, Post Office Box 45A, Moss Landing, CA 95039
4. Harbor Master's Office, Moss Landing, CA 95039

Santa Cruz

1. Tom's Fisherman's Supply, Inc., 2210 East Cliff Drive, Santa Cruz, CA 95026
2. Santa Cruz Port District, 135 5th Avenue, Santa Cruz, CA 95062

Ventura

1. Fisherman Quay Corp., 1449 Spinnaker Drive, Suite F, Ventura, CA 93001
2. Harbor Master's Office, 1603 Anchors Way Drive, Ventura, CA 93001

Fort Bragg

Send 5 notices to Salmon Trollers Marketing Association, Post Office Box 137, Fort Bragg, CA 95438. Notices will be posted at the following locations:

1. Anchor Fish Co. and Fuel Dock, Noyo Harbor
2. Meridith Fish Co., Noyo Harbor
3. Harbor Master's Office, Noyo Harbor
4. Fort Bragg Marine, Noyo Harbor

San Francisco

1. Crab Boat Owners Association, 2905 Jones Street, San Francisco, CA 94133
2. Meatball Bait, Pier 45, Shed D, San Francisco, CA 94133

Oakland

1. Producers Seafood, 1995 Embarcadero, Oakland, CA 94606

Sausalito

1. Ocean Traders, Post Office Box 341, Sausalito, CA 94966

Bodega Bay

Send 6 Notices To: Bodega Bay Fisherman's Marketing Association, Post Office Box 321, Bodega Bay, CA 94923. Notices will be posted in the following locations:

1. The Tides, Bodega Bay
2. Lucas Wharf, Bodega Bay
3. Meridith Fish Co., Bodega Bay
4. Harbor Dock, Bodega Bay
5. Mason Marina, Bodega Bay

Eureka

Send 9 notices to Humboldt Fisherman's Marketing Association, Inc., 216 "H" Street, Eureka, CA 95501. Notices will be posted at the following locations:

1. Humboldt Fisheries, foot of "B" Street
2. Fisherman's Marketing Association, Eureka Marina
3. Eureka Fisheries, foot of "E" Street
4. Nor'Cal Fisheries, foot of "I" Street
5. Two Bulletin Boards at Woodley Island Marina
6. Two Bulletin Boards at small boat basin

Trinidad

1. Katy's Smoke House, Post Office Box 621, Trinidad, CA 95570
2. Eureka Fisheries, Post Office Box 217, Fields Landing, CA 95570

Crescent City

Send 4 copies of Notice to Del Norte Fisherman's Marketing Association, Post Office Box 937, Crescent City, CA 95531 Notices will be posted at the following locations:

1. England Marina, Citizens Dock
2. Bayside Marina, Crescent City
3. Otter Distributing and Marine Service, Crescent City

EXHIBIT C

DATE: _____

PRC NO.: _____

REGION: _____

Field Operation Report

COMPANY: _____

*SURVEY LOCATION: _____

SURVEY TYPE: _____

NUMBER OF LINE MILES SURVEYED (MM): _____

SURVEY DATE(S): _____

EQUIPMENT USED: _____

_____

TYPE(S) DATA AVAILABLE: _____

_____

DATA AVAILABILITY: _____

LOCATION: _____

PERSON TO CONTACT: _____

FOR DATA (Name, Address, Telephone): _____

_____

DESCRIPTION OF ACTIVITIES (Brief): _____

_____

_____

_____

_____

REMARKS (Use Additional Pages if Necessary): _____

_____

_____

_____

_____

_____

_____

* Post-Plot Maps(s) or Modified Pre-Plot Map Attached

EXHIBIT D

Company Mail Address:

_____

_____

_____

Date: _____

Permit No.: _____

Region No.: _____

Seismic Survey Notice

_____ (PERMITTEE), WILL CONDUCT A GEOLOGICAL/GEOPHYSICAL SURVEY OFFSHORE CALIFORNIA IN THE SURVEY AREA OUTLINED ON THE ACCOMPANYING FULL SCALE NAVIGATION CHART SEGMENT. IF YOU FORESEE POTENTIAL INTERFERENCE WITH COMMERCIAL FISHING OR OTHER ACTIVITIES PLEASE CONTACT PERMITTEE'S REPRESENTATIVES BELOW. COMMENTS ALSO MAY BE SUBMITTED TO MMS REPRESENTATIVES OUTSIDE 3 N MILES OR SLC REPRESENTATIVES INSIDE 3 N MILES (SEE BELOW). IF YOU ARE EFFECTED, PLEASE CONTACT PERMITTEE AS SOON AS POSSIBLE.

1. EXPECTED DATES OF OPERATIONS: START _____
   FINISH _____
2. DAILY HOURS OF OPERATION: _____
3. VESSEL NAME: _____
4. VESSEL OFFICIAL NUMBER: _____
5. VESSEL RADIO CALL SIGN: _____
6. VESSEL CAPTAIN'S NAME: _____
7. VESSEL WILL MONITOR RADIO CHANNEL(s) _____ DURING OPERATIONS
8. VESSEL LOCATOR SYSTEM: _____
9. SEISMIC EQUIPMENT TO BE USED: _____
10. LENGTH OF CABLE TOW (Approx.): _____
11. PERMITTEE'S LOCAL REPRESENTATIVE: _____
    TELEPHONE: _____
    ADDRESS: _____
12. MMS REPRESENTATIVE (FEDERAL OCS WATERS): _____
    TELEPHONE: (213) 688-4630 Regional Supervisor
    ADDRESS: 1340 West Sixth Street, Los Angeles, CA 90017
13. SLC REPRESENTATIVE (STATE WATERS): _____
    TELEPHONE: (213) 590-5233 Geophysical Coordinator
    ADDRESS: 245 West Broadway, Suite 423, Long Beach, CA 90802

EXHIBIT E

CERTIFICATE OF SECRETARY

I certify that:

I am the duly qualified and acting (Assistant) Secretary of _____,
(Name of Corporation)

a _____ corporation authorized to do
(Name of State)

business in California.

The attached is a true copy of a resolution duly adopted by the Board of Directors of the corporation at a regular (or special) meeting duly held on _____, 19__ and entered in the minutes of such meeting in the minute book of the corporation.

The resolution is in conformity with the articles of incorporation and bylaws of the corporation, has never been modified or repealed, and is now in full force and effect.

Dated: _____, 19__.

(Corporatate Seal)

_____
(Signature)

_____
Secretary
(Name) (or Asst. Secretary)

PART III

POTENTIAL PERMITTEES

MAILING LIST 03/26/84

ARCO Exploration Company
P.O. Box 2819
Dallas, TX 75221
ATTN: Michael Bell
(214) 422-3135

CGG American Services, Inc.
1475 Lawrence Street
Denver, CO 80202
ATTN: Serge Melikian

CGG Offshore
2500 Wilcrest, Suite 300
Houston, TX 77042
ATTN: Frank Dumanoir

Chevron USA, INC.
2120 Diamond Blvd.
P.O. Box 8000
Concord, CA 94524
ATTN: Claire Ghylin/
Tom Wright

Cities Service Oil & Gas
Corporation
1800 30th Street
P.O. Box 939
Bakersfield, CA 93302
ATTN: William D. Le Bay
(805) 395-8791

Comap Geosurveys, Inc.
11391 Meadow Glen Lane
Houston, TX 70082
ATTN: Andy Bagle
Operations Manager
(713) 780-0463

Conoco, Inc.
P.O. Box 218850
Houston, TX 77218
ATTN: H.W. Paevers
(713) 492-8151

Dames & Moore
445 South Figueroa Street, Suite 3500
Los Angeles, CA 90071
ATTN: Dr. Thomas B. Scanland
(213) 683-1560

Digicon Geophysical Corp.
3701 Kirby Dr., Suite 786
Houston, TX 77098
ATTN: A.C. McClenahan
(713) 526-5611

EG&G Environmental Consultants
300 Bear Hill Road
Waltham, MA 02254
ATTN: Richard A. Jablonski
(617) 890-3170

Exxon Company USA
P.O. Box 4279
Houston, TX 77001
ATTN: E.M. Baxter, Jr.
(713) 591-5141

Fairfield Industries, Inc.
10052 Harwin Drive
Houston, TX 77036
ATTN: Bob Smith
(713) 981-8181

GeoCubic Inc.
4987 Olivas Park Dr., Suite 200
Ventura, CA 93001
ATTN: James W. Vernon
(805) 658-0666

Geophysical Service, Inc.
P.O. Box 2803 MS-6612
Houston, TX 77001
ATTN: Donald D. Johnson/
Larry Bowles/
Ian Fitzgerald
(713) 494-9061

Gulf Oil Corporation
P.O. Box 1392
Bakersfield, CA 93302
ATTN: Tom Bartley/
H.F. Hazel
(805) 395-6311

Harding
1541 Parkway Loop, Suite F
Tustin, CA 92680
ATTN: Gerald M. Diaz

Harding Lawson Associates
P.O. Box 578
Novato, CA 94948
ATTN: Frank L. Rolo
(415) 892-0821

Intersea Research Corporation
11760 Sorrento Valley Road
San Diego, CA 92121
ATTN: Paul Horrer
(619) 453-5200

Marine Technical Services, Inc.
12725 Royal Drive
Stafford, TX 77477
ATTN: Peter Kane
(713) 491-3149

Mesa^2 Inc.
4250 Pennsylvania Avenue
La Cresenta, CA 91214
ATTN: C.F. Chamberlain
(213) 701-5198

McClelland Engineers, Inc.
2140 Eastman Ave.
Ventura, CA 93003
ATTN: Harold M. Meadows
(805) 644-5535

Mobil Oil Corporation
P.O. Box 5444
Denver, CO 80217
ATTN: D.W. Richardson
(303) 298-2289

Nekton, Inc.
11578 Sorrento Valley Road
San Diego, CA 92121
ATTN: Caroll C. Hoyt/
Gerald Shiller
(714) 452-9540

Ogle Petroleum Inc.
P.O. Box 5549
559 San Usidro Road
Santa Barbara, CA 93108
ATTN: William Wallis
(805) 969-3946

Pelagos Corp.
9173 Chesapeak Dr.
San Diego, CA 92123
ATTN: Randal J. Ashley
(714) 292-8922

Phillips Petroleum Company
8055 E. Tufts Ave. Pkwy.
Denver, CO 80237
ATTN: Malcom Roy/
D.J. Patterson
(303) 850-4222

Shell Oil Company
P.O. Box 527, - 77001
200 N. Dairy Ashford
Houston, TX 77079
ATTN: Dennis Longley/
E.W. Heckart
(713) 870-2360

Tenneco Oil Company
4700 Stockdale Highway
P.O. Box 9909
Bakersfield, CA 93389
ATTN: C.L. Howell
(805) 395-5200

Tetra Tech, Inc.
630 North Rosemead Blvd.
Pasadena, CA 91107
ATTN: Dr. Dale Brandon
(213) 449-6400

Texaco Inc.
3350 Wilshire Blvd., - 90010
P.O. Box 2756
Los Angeles, CA 90051
ATTN: D.J. Patterson/
Doug Barman
(213) 739-7100

Union Oil Company of California
Western Region
P.O. Box 7600
Los Angeles, CA 90051
ATTN: Ken Robertson
(213) 977-7048

University of So. California
Institute of Marine & Coastal
Studies
University Park
Los Angeles, CA 90007
ATTN: Brad Veek
(213) 743-2131

Western Geophysical Company
of America
P.O. Box 2469
Houston, TX 77252
ATTN: L.P. Bratos
(303) 770-8660

Woodward-Clyde Consultants
203 N. Golden Circle Dr.
Santa Ana, CA 92705
ATTN: Jan Rietman/Madeline Wood
(714) 835-6886

RESPONSES TO COMMENTS

City and County of San Francisco
Department of City Planning

450 McAllister Street
San Francisco, CA 94102

ADMINISTRATION
(415) 558 - 5111 / 558 - 4656
CITY PLANNING COMMISSION
(415) 558 - 4656
PLANS AND PROGRAMS
(415) 558 - 4541
IMPLEMENTATION / ZONING
(415) 558 - 3055

April 25, 1984

State Lands Commission
1807 - 13th Street
Sacramento, CA 95814

Re: PROPOSED NEGATIVE DECLARATION, GEOPHYSICAL SURVEY PERMIT PROGRAM, ND 358; FILE REFERENCE W6005

Dear Mr. Sanders:

Thank you for the opportunity to review your Proposed Negative Declaration for the State Lands Commission's proposed permit program. San Francisco is interested in the permit program, as is every coastal community, both because of the Golden Gate National Recreational Area and Ocean Beach at our western border and because of the sport and commercial fishing activities that operate out of the Port of San Francisco. Although the proposed distribution list for permits in Region III includes some fishing operations in San Francisco, no local agencies are listed, unlike proposed distribution for other coastal areas. It seems reasonable that San Francisco should be notified of permit activity in our region. Please add the Port of San Francisco, Ferry Building, San Francisco, CA 94111, Attention: Randy Rossi, to your distribution list. 1

It is our understanding that the mitigation measures described in the Proposed Negative Declaration would be imposed uniformly on all applicants. It was not clear that there was, and we would hope that there is no process for reducing mitigation requirements for certain applicants, as such an action would negate your determination of no significant effect. The initial study, attached to the materials, provided for a few measures that were not included in the proposed project as described in the Proposed Negative Declaration, e.g., use of waterguns in State waters during whale migration periods (measure 2, page 16 of the initial study). Will there be any explanation of why such mitigation measures were not included in the project at any time in the process? 2

Finally, it may be appropriate to include more specific mitigation measures in individual permits, tailored to the special situation, that would further mitigate special localized problems, since the State coastal waters provide a variety of diverse environments. Although the proposed permit 3

process provides for revocation of any permit upon 30 days notice, this mitigation still fails to account for situations unique to one particular locality. The Commission should consider including as an additional mitigation measure for the proposed permit process project the possibility of including mitigation measures specific to the area to be surveyed as part of consideration of and action on individual permits.

Again, thank you for the opportunity to comment on the Proposed Negative Declaration. If you have any questions about our comments, please feel free to call Barbara Sahm of my staff at 415-558-5261.

Sincerely,

MILTON EDELIN
Deputy Director of Planning

ME:BWS:eh

cc: Honorable Dianne Feinstein, Mayor
Mr. Charles Forester
Honorable Sala Burton, Member of the House Representatives
Honorable Barbara Boxer, Member of the House Representatives
Dr. Randy Rossi, Port Commission

RESPONSES TO CITY AND COUNTY OF SAN FRANCISCO

1. As indicated on page 6, Exhibit B, Part II, Proposed Permit Form, notices of proposed geophysical operations are required to be sent to the U.S. Coast Guard, 12th Coast Guard District (San Francisco). Once received by the Coast Guard, the information is published in that agency's "Notice to Mariners". The Port of San Francisco, if not already a recipient of this publication, may receive it on a continuing basis upon request to the Coast Guard.

2. The proposed permit contained in Part II of the Initial Study portion of the proposed Negative Declaration would, upon adoption by the Commission, apply in toto to all respective permittees. Under the State Guidelines, an Initial Study must include: "...a discussion of ways to mitigate the significant effects identified, if any". The document provides a forum for the discussion and examination of a number of means by which an impact could be lessened. Based on information received during the review of the Initial Study and discussions with responsible agencies, the staff of the Commission has proposed what it considers the most appropriate mitigation for inclusion within the permit's provisions. Should further changes to the permit be warranted based on furtner experience, the Commission can effectively make such changes (see Section 14 of the proposed permit).

3. As indicated above, the Commission may modify or revoke the proposed permit. Although the permit allows operations statewide, additional permit provisions could be tailored on a reqional basis should further experience and information necessitate such changes.

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, *Governor*

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
30 VAN NESS AVENUE
SAN FRANCISCO, CALIFORNIA 94102-6080
PHONE: (415) 557-3686

April 25, 1984

State Lands Commission
1807 - 13th Street
Sacramento, CA 95814

ATTENTION: Dwight E. Sanders, Chief
Division of Research and Planning

SUBJECT: Proposed Negative Declaration for the State Lands Commission's Geophysical Survey Permit Program, SCH #84020113
BCDC Inquiry File No. MC.MC. 7512.3

Dear Mr. Sanders:

Thank you for sending us a copy of the proposed negative declaration for the State Lands Commission's Geophysical Survey permit program. Our Commission has not had a chance to review the document so the following are BCDC staff comments only.

A portion of Region III of your permit program, including San Francisco Bay, San Pablo Bay, and Suisun Bay, falls within the permit jurisdiction of BCDC. Geophysical surveys are an activity which may require a BCDC permit, depending on the scope of the work. The Commission has processed at least one permit for such work, Permit No. M84-4, issued to the Intersea Research Corporation on March 9, 1984, for surveys in the Suisun Bay. We request that the State Lands Commission staff inform applicants who intend to perform surveys in San Francisco, San Pablo, or Suisun Bay, that a BCDC permit may be necessary and ask them to contact us for further information. 1

An impact of geophysical surveys indentified in the proposed negative declaration of special concern to BCDC is the potential harm to fish from shock waves generated during seismic exploration. The Bay Area is probably unique in that survey work performed in the Bay could affect the large numbers of striped bass, salmon, and sturgeon that annually migrate in great numbers through Bay waters on their way to freshwater spawning grounds. Many of these species have declined greatly in number in the Bay in recent years, probably because of a variety of environmental stresses. To avoid further potential environmental stress, the staff believes it would be prudent for the State Lands Commission to fully evaluate the potential harm to fish from seismic activity, and to evaluate methods to reduce any impacts identified. For example, the State Lands Commission could limit the period when the geophysical surveys can be performed in the Bay and other estuarine areas to prevent surveying during those months of the year that the anadromous fish are 2

migrating. At the very least, the State Lands Commission should adopt the mitigation measure included in the proposed negative declaration; that is to revoke or modify permits for geophysical surveys to reduce impacts on fish and marine mammals, if scientific study determines that these resources are being adversely affected.

Thank you for the opportunity to review the proposed negative declaration and for your consideration of our comments.

Sincerely,

Robert S. Merrill

ROBERT S. MERRILL
Permit Analyst

RSM: cg

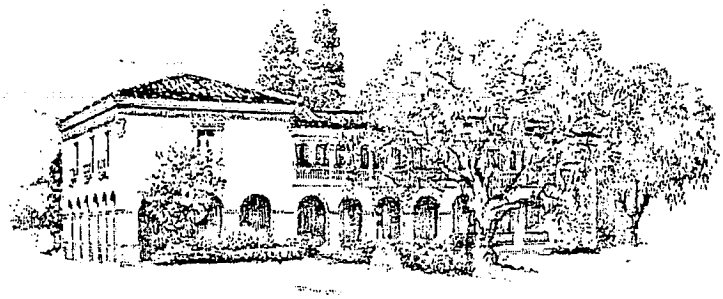
cc: The Resources Agency
State Clearinghouse,
Attn: Christien Goggin

RESPONSE TO B.C.D.C.

1. At present, the proposed program would not allow or provide for the issuance of SLC geophysical permits within inland bays and waterways. Should such areas be included at a future time, perspective permittees will be advised that an additional authorization from BCDC may be required. Section 15 of the proposed permit (page 11, Part II) requires the obtaining and observance of "all necessary and applicable permits".

2. As stated above, geophysical activities under the proposed permit would not occur in inland bays and waterways. However, the staff of the Commission has been consulting with the Department of Fish and Game, the scientific community and commercial fishing interests relative to the potential effects of geophysical activities on the offshore fisheries. A field study on the potential dispersal of fish by geophysical activities has been developed and its implementation under the auspices of a scientific panel is being pursued. The applicability of the results of this or other studies within San Francisco Bay would be determined by the Commission in conjunction with the above groups and applied to any permit under this program pursuant to Section 14 of the proposed permit (see page 10, Part II).

CITY OF SANTA BARBARA



COMMUNITY DEVELOPMENT DEPT.
Redevelopment • Environmental Review
Planning • Zoning • Building • Housing

1235 CHAPALA STREET
P.O. DRAWER P-P
SANTA BARBARA, CA 93102
(805) 963-1663

April 24, 1984

Dwight Sanders
State Lands Commission
1807 13th Street
Sacramento, California 95814

re: Proposed Negative Declaration for Geophysical Survey Permit Program

Thank you for so promptly sending me a copy of the subject Negative Declaration and Initial Study. Since I received it on April 23 my comments will be very brief.

My primary concern revolves around the statement that the program has been so revised as to avoid or mitigate all potential significant environmental effects and therefore a Negative Declaration is appropriate. I question the appropriateness of that conclusion for the following reasons:

1. Page 4 states that operators are not to test when grey whales are observed within 2 kilometers of the vessel. Since the hydrophones are up to 3.2 kilometers long this measure seems to lose its meaning. Perhaps a larger radius from the vessel or prohibitions along traditional migratory routes during peak migratory times would be more appropriate. 1

2. Mitigation to fishery impacts is identified as notification to several factories prior to testing and continued scientific research on fish dispersal and effects on larval and young stages of marine life. There should be a provision that should the further investigation show significant effect, then the Commission shall change the provisions of the permit accordingly or prepare an EIR. 2

3. Page 22 of the Initial Study states "Other mitigation which may be considered includes: ....(2) the timing of seismic activities to avoid peak fishing periods in high yield areas as indicated by Department of Fish and Game records,....." In that case a mitigation must be included as part of the project or an EIR is required, it cannot only be considered. If there is to be a prohibition in certain areas at certain times, it should be so identified. There is no indication as to how or if the information supplied by DFG will be incorporated into the project. The intent to mitigate does not mitigate. 3

4. In several cases, the mitigations identified are not embodied in the permit. The only one I could find was under 6.B relative to grey whales. The Commission should insure that all mitigations identified are indeed either part of or a condition of the permit. To do otherwise would run counter to CEQA requirements. 4

5. Page 14 indicates that the National Marine Fisheries Service agreed that "current levels of geophysical exploration off the California coast were compatible with grey whale migration" in a 1982 report. The Commission should review the geophysical permit program on an annual basis to look at the updated levels of operations, updated data or effects on larval and juvenile marine species, updated vessel traffic figures and other new pertinent data. The program could then be adjusted to correspond with current conditions. The Commission may want to place a cap on the number of permits issued. 5

Thank you for the opportunity to comment on this Negative Declaration. Please send me the results of the Commissions' action at their May 24, 1984 meeting.

Sincerely,

John W. Helmer
Coastal Energy Specialist

JWH/dp

RESPONSE TO CITY OF SANTA BARBARA

1. The discussion on page 4 of the proposed Negative Declaration indicates that geophysical operations cannot be initiated if whales are observed within 2 kilometers of the survey vessel. The reactions of whales to geophysical operations, as indicated by the Bolt, et al. and other studies consulted, have been attributed to the acoustic pulse generator's impulses rather than to the signal receptors, i.e. the hydrophones. Thus, it is the distance of whales to the relative position of the acoustic pulse generator that is the major concern of the National Marine Fisheries Service (NMFS); therefore, the 2 kilometer distance is appropriate.

2. As indicated on page 7 of the proposed Negative Declaration, "The permit provision specified above will allow the Commission the flexibility to amend the permit, as necessary, based on scientific or technical evidence coming from these or other future studies".

3. The proposed permit contained in Part II of the Initial Study portion of the proposed Negative Declaration would, if adopted by the Commission, apply in toto to all respective permittees. Under the State Guidelines, an Initial Study must include: "...a discussion of ways to mitigate the significant effects identified, if any". The document provides a forum for the discussion and examination of a number of means by which an impact could be lessened. Based on information received during the review of the Initial Study and discussions with responsible agencies, the staff of the Commission has proposed what it considers the most appropriate mitigation for inclusion within the permit's provisions. Should further changes to the permit be warranted based on further experience, the Commission can effectively make such changes (see Section 14 of the proposed permit).

4. The proposed Negative Declaration, specifically pages 4-9, indicates the inclusion of the mitigation measures within the proposed permit. These locations are noted in parenthesis at the end of each discussion under the heading Mitigation.

5. The Geophysical Survey Permit Program has been reviewed and evaluated on an ongoing basis during the past 21 months. The staff intends to continue this practice subsequent to the Commission's action on the proposed program. Under the provisions of the proposed permit, the staff of the Commission has the ability to recommend modifications to the program at any time based on operational experiences or scientific or technical information not presently available.

State of California, George Deukmejian, *Governor*

California Coastal Commission
631 Howard Street, 4th Floor
San Francisco, California 94105
(415) 543-8555

April 27, 1984

Dwight E. Sanders
Division of Research and Planning
State Lands Commission
1807 13th Street
Sacramento, California 95814

SUBJECT: Proposed Negative Declaration for the State Lands Commission Geophysical Survey Permit Program (SCH #84020113)

Dear Mr. Sanders:

I am writing to follow up on our phone conversations with you on the negative declaration and proposed revisions to the SLC Geophysical Survey System. We appreciate the short time extension for our written comments and offer the following suggestions to strengthen protection for marine mammals and fisheries, and to lessen the cumulative impacts of seismic exploration. The proposed permit provides more resource protection measures than the previous permit, but we believe a few additional revisions are feasible and are necessary to fully address the California Environmental Quality Act and Coastal Act policies on mitigation. We can support a negative declaration for the geophysical permit program only if the geophysical operations are mitigated to the "maximum extent feasible." 1

In addition to the provision allowing the State Lands Commission to review, modify, or rescind the permit if new information becomes available, we urge you to require a formal yearly review of the permit. This step will assure new research results and experience gained in managing the permit are incorporated expeditiously.

Marine Mammals

At the suggestion of NMFS the proposed permit "expressly prohibits the start-up of the geophysical acoustic pulse generating equipment in state waters when whales are observed within 2 km of a permittee's geophysical boat." (SLC staff report) In practice this will not work well if the vessel operator or crew is not trained to spot whales or if there is not adequate staff aboard to carefully search for whales.

We believe that the following revisions should be required:

* All geophysical vessel operators should be required to attend the Fisheries and Environmental Training Program 2

(prepared for WOGA and required by MMS). This training program includes important information on whales and fisheries and with this information geophysical operators in California waters would be more aware of marine resource issues and could hopefully avoid conflicts.

* Condition #7 (which allows on-board State observers) should be invoked on a regular basis especially during peak whale migrations. The observers should be Department of Fish and Game, or State Lands Commission biologists experienced in marine mammal observations. The observer must have the authority to stop or postpone the survey if the operations are a threat to whales. 3

* Although, the NMFS suggested a 2 km prohibition area in Condition 6B as the appropriate distance between whales and acoustical gear, we believe the prohibition area should be expanded to 3.5 km. The recent MMS study on the behavioral effects of seismic survey activities on whale (cited in the SLC Initial Study) shows that the whales with 2 km of the sound source are definitely affected. Whales were observed to resume their northward migration when sound was 3.5 km away. The maximum feasible protection should be afforded the endangered whales. Therefore, no seismic survey activities should occur within 3.5 km of whales. 4

Notices to Commercial Fishermen

We commend you for extending the notice period from 5 to 15 days. This will allow a more reasonable time for negotiations between the fishermen and the geophysical operators.

We suggest that you also require notices be sent to John Richards, with the UC Marine Advisory Program in Goleta. His office produces "Oil And Gas Project Newsletter for Fisherman And Offshore Operations," a monthly publication which provides notice of oil and gas project activities. Upcoming surveys could be noticed in the newsletter and a list of posting locations could be provided. 5

Scout Boats

We agree that Condition 6c. requiring the geophysical operator to send a scout boat ahead of the survey vessel should be required. However, this requirement should be strengthened to require an observer from a fisherman's association or the Department of Fish and Game. It is essential to have a responsible person on on board who is familiar with the variety of gear used in the area. 6

Fishery Resources

The Initial Study and Staff Report briefly discusses fish dispersal and damage to larval fish from seismic survey operations. Definitive information on these

issues is not yet available and a limited amount of research is underway. We believe the State Lands Commission should either fund, or have operators fund needed research as soon as possible. The initial study should describe opportunities for field research during permitted geophysical surveys. The Department of Fish and Game should have a lead role in any study design and all work should be reviewed by the Seismic Survey Committee. 7

Permit language requiring the permittee to "consider" information on fishing seasons and areas is not strong enough. Prime fishing areas should be declared off limits to survey vessels during fishing seasons. 8

Cumulative Impacts

Although the question of cumulative impacts is discussed in the Intitial Study, we believe additional analysis and mitigation measures are warranted. The report should be amended to fully explore a limited entry program, where the numbers of vessels operating at one time in specific areas would be limited or where vessels would be limited or prohibited in certain areas during fishing seasons and peak whale migration periods. 9

Although the report speculates that geophysical survey activity is likely to proceed at a slower pace than in the past. This pace is dependent on the federal lease sale schedule. We believe it is more effective and protective of resources to limit the number of vessels in specific areas at any one time.

Thank you for the opportunity to provide these comments. Please contact Susan Hansch if you have any questions.

Very truly yours,

L. THOMAS TOBIN
Manager, Energy and Coastal Resources

RESPONSE TO CCC

1. The Geophysical Survey Permit Program has been reviewed and evaluated on an ongoing basis during the past 21 months and the staff intends to continue this practice subsequent to the Commission's action on the proposed program. Under the provisions of the proposed permit, the staff of the Commission has the ability to recommend modifications to the program at any time based on operational experiences or scientific or technical information not presently available.

2. The staff of the Commission is recommending a change to the proposed permit to require that an individual involved in the geophysical field operations of each permittee has, by August 1, 1984, attended the Fisheries and Environmental Training Program.

3. The Commission has used its staff and that of the Department of Fish and Game as periodic observers during the past 21 months of permit operation and anticipates the continuance of the practice as provided in Section 7 of the proposed permit. The observer, with the concurrence of the Executive Officer, may suspend operations for permit violations or existing or imminent adverse effects. With the status of modern communications, the staff do not anticipate any difficulties in the proposed procedure.

4. The discussion on page 4 of the proposed Negative Declaration indicates that geophysical operations cannot be initiated if whales are observed within 2 kilometers of the survey vessel. The reactions of whales to geophysical operations, as indicated by the Bolt, el al. and other studies consulted, have been attributed to the acoustic pulse generator's impulses rather than to the signal receptors, i.e. the hydrophones. Thus, it is the distance of whales to the relative position of the acoustic pulse generator that is the major concern of the National Marine Fisheries Service (NMFS); therefore, the 2 kilometer distance is appropriate.

5. As a result of discussions with commercial fishermen affected by geophysical operations in Region II, permittees are required by Exhibit B, Notification Procedure of the proposed permit to send the required notices to the Liaison Officer, c/o Liaison Office, 419 Chapala Street, Santa Barbara, California. The Marine Advisor, UCSB, has also been added to the list for notification.

6. The proposed condition was developed in cooperation with concerned commercial fishermen and their organizations.

7. The staff of the Commission has been consulting with the Department of Fish and Game, the scientific community and commercial fishing interests relative to the potential effects of seismic activities on the offshore fisheries. A field study on the potential dispersal of fish by seismic activities has been developed and its implementation under the auspices of a scientific panel is being pursued. The applicability of the results of this or other studies would be determined by the Commission in conjunction with the above groups and applied to any permit under this program pursuant to Section 14 of the proposed permit (see page 10, Part II).

8/9. The staff of the Commission, based on discussions with the Department of Fish and Game, concerned commercial fishermen and their organizations, public interest groups and geophysical operators, do not believe a policy of exclusion or regulation is either necessary or warranted at this time. Continued evaluation of program experiences may result in additional program alterations which can be initiated by the Commission through Section 14 of the proposed permit.

STATE OF CALIFORNIA—OFFICE OF THE GOVERNOR GEORGE DEUKMEJIAN, *Governor*

OFFICE OF PLANNING AND RESEARCH
1400 TENTH STREET
SACRAMENTO, CA 95814

May 4, 1984 (916/445-0613)

Mr. Dwight E. Sanders, Chief
Division of Research and Planning
State Lands Commission
1807 13th Street
Sacramento, CA 95814

Subject: SCH# 84020113, Geophysical Survey Permit Program

Dear Mr. Sanders:

The enclosed comments on your draft environmental documents were received by the State Clearinghouse after the end of the state review period. We are forwarding these comments to you because they provide information or raise issues which may assist you in project review.

To ensure the adequacy of the final document you may wish to incorporate these additional comments into the preparation of your final environmental document.

Sincerely,

John Ohanian

John B. Ohanian
Chief Deputy Director

enclosure

cc: Resources Agency

State of California The Resources Agency

Memorandum

To : 1. Gordon Snow, Projects Coordinator
Resources Agency

2. State Lands Commission
Division of Research and Planning
1807 - 13th Street
Sacramento, CA 95814

Date : May 1, 1984

RECEIVED
MAY 04 1984
State Clearinghouse

From : Department of Fish and Game

Subject: Geophysical Survey Permit Program, Negative Declaration, SCH 84020113

The Department of Fish and Game has reviewed the Negative Declaration proposal of the State Lands Commmission (SLC) for a permit program to authorize geophysical surveys on State tide and submerged lands. The program extends from the mean high tide line to 3 nautical miles offshore and from Mexico to Oregon. This program would regulate such activities whether conducted solely on State lands or in conjuction with like activities on federal Outer Continental Shelf lands.

We concur with the finding in the Negative Declaration that there are no biological data available which clearly establish that seismic exploration utilizing acoustic pulse generating devises results in a significant adverse impact upon marine animals. However, as stated in the Negative Declaration, allegations have been made by the sport and commercial fishing industries that seismic exploration activities may cause the untimely dispersal of certain species of commercially valuable fish thus impairing their harvest. Also, several conservation groups have expressed concern that seismic operations may impact marine mammals. In response to these allegations and concerns we recommend that the Negative Declaration include a committment by the SLC to fund an ongoing monitoring program designed to gather information on the effects, if any, of seismic exploration upon fish dispersal, fish eggs and larvae, and marine mammals. The Negative Declaration should also commit the SLC to provide the funds necessary to expeditiously complete the programing of DFG's marine resources computer system needed to eliminate any identified significant time/space conflicts between seismic oil exploration and marine resources and fishing operations. Implementation of the measures describe above may best be accomplished through the execution of an appropriate agreement between the SLC and DFG.

1

2

3

In conclusion, therefore, we believe that the SLC is making a sincere effort to deal in good faith with both the commercial fishing industry and the geophysical industry. We would have no objection to the issuance of a Negative Declaration for the proposed geophysical permit program provided that the Commission commits to the monitoring program and inter-agency

agreement described above, and ensures that any adverse effects on marine resources, and sport and commercial fishing operations which may be identified by the monitoring program are adequately mitigated. 4

The Department wishes to cooperate fully with the Commission in developing an optimum permit program and, to this end, is available to discuss these comments in greater detail. To arrange this discussion, please contact Rolf Mall, Environmental Services Supervisor of Marine Resources Region, 245 West Broadway, Suite 350, Long Beach, California 90802; telephone (213) 590-5155.

Jack C. Parnell
Director

RESPONSE TO FISH AND GAME

1. Comment noted, no response required.

2. The staff of the Commission has been consulting with the Department of Fish and Game, the scientific community and commercial fishing interests relative to the potential effects of seismic activities on the offshore fisheries. A field study on the potential dispersal of fish by seismic activities has been developed and its implementation under the auspices of a scientific panel is being pursued. The applicability of the results of this or other studies would be determined by the Commission in conjunction with the above groups and applied to any permit under this program pursuant to Section 14 of the proposed permit (see page 10, Part II). In addition, staff has recommended that the Commission, with the support of the department and commercial fishermen, seek funding from the Legislature to research the effects, if any, of geophysical exploration on fish eggs, and larvae and marine mammals.

3. The staff of the Commission believes that any such funding agreements between the State Lands Commission and the Department of Fish and Game can best be addressed in the budget process and/or by an interagency agreement.

4. As indicated on page 7 of the proposed Negative Declaration, "The permit provision specified above will allow the Commission the flexibility to amend the permit, as necessary, based on scientific or technical evidence coming from these or other future studies".

Santa Barbara County
RESOURCE MANAGEMENT DEPARTMENT
Energy Division

Director
Dianne Guzman, AICP
Deputy Director
Kirvil Skinnarland, AICP

April 25, 1984

Mr. Dwight Sanders, Chief
Division of Research and Planning
State Lands Commission
Sacramento, California 95814

Dear Dwight:

We have reviewed your proposed negative declaration regarding geophysical survey permits issued by the State Lands Commission. The proposed mitigation measures appear sufficient with one exception. Documental effects upon California grey whales within two kilometers of acoustic pulse-generating equipment include "annoyance and startle" responses. The proposed rules would prohibit the "starting of geophysical acoustic pulse generating equipment within two kilometers of a permittees geophysical boat". Whales which approach an operating vessel are assumed to "have apparently habituated to the noise" thus no curtailment of operations is required once equipment is operating. We would suggest that two important additional points should be considered.

1. More powerful pulses (or alternative frequency spectra) may increase the 2 kilometer radius of adverse whale responses.

2. Whales may not be able to avoid vessels on intersecting courses whether they are "apparently habituated" or not.

Therefore we believe two additional conditions are appropriate:

1. A limit to both the power and frequency spectra of acoustic pulse generators to commonly used ranges until tests of units outside these specifications indicate the radius and nature of whale response, and 1

2. right of approach guidelines to control approach to whales by vessels operating geophysical acoustic pulse-generating equipment. 2

We thank you for the opportunity to comment on this matter. If you have further questions, please contact Robert Almy (Phone 805-963-3434) of my staff.

Sincerely,

Dianne Guzman
Director

1168E

1226 Anacapa Street, Suite 4, Santa Barbara, CA 93101 (805) 963-3434

RESPONSE TO COUNTY OF SANTA BARBARA

1. The tests performed in the Bolt, et al. Study employed a "standard" accoustic pulse generator system which is in use today. In addition, the design of the study required specific attempts to encourage direct interaction with Grey Whales rather than conducting normal geophysical operations and observing whale behavior under more "normal" conditions. The staff of the Commission is aware of industry equipment capabilities and is not aware of proposals to deviate from the present "standard" systems upon which whale reactions are based.

2. There is no evidence within the sources of information pertaining to whale reactions to geophysical operations available to the staff of the Commission that whales are not able to easily, and without adverse harm, avoid vessel interactions.

   Further, by letter of January 24, 1984, from the National Marine Fisheries Service to Claire T. Dedrick, Executive Officer of the State Lands Commission, it was stated that endangered whale populations were not likely to be jeopardized by exploration, e.g. geophysical activities off the California Coast. NMFS suggested the 2 kilometer limitation which became part of the permit. In addition, the service said that, based on apparent habitation to the sound by the whales, there was no need to interrupt ongoing operations when whales are encountered.

FRIENDS OF THE SEA OTTER

P.O. BOX 221220, CARMEL, CALIFORNIA 93922

April 24, 1984

Dwight E. Sanders
Chief, Division of Research and Planning
State Lands Commission
1807 13th Street
Sacramento, California
95814

Dear Dwight,

Thank you for the opportunity to review the Proposed Negative Declaration for the State Lands Commission's Geophysical Survey Permit Program.

Although the Commission staff has determined this project to be benign with regard to its effect on the environment, we continue to be gravely concerned about the potential hazards of noise associated with seismic surveys to the Threatened California sea otter (See previous letter addressed to the State Lands Commission, February 21, 1984). 1

Because it still has yet to be conclusively documented that no adverse effects exist, we request that the State Lands Commission immediately initiate such studies as are necessary to thoroughly investigate the effect of seismic activities on sea otters as well as conduct a scientifically rigorous environmental impact report (EIR) on the program. 2

We thank you for your attention.

Sincerely,

Rachel T. Saunders

Rachel T. Saunders
Staff Biologist
(408-375-4509)

RESPONSE TO FRIENDS OF SEA OTTER

1. The staff of the Commission proposed the following finding: "Determine that the project, as revised and approved, will not have a significant effect on the environment".

2. The Commission was instrumental in the expansion of the Bolt, et al. Study to include situations under which Sea Otters would be exposed to the geophysical testing process and observed as to their reactions to direct interaction with that process. To add to the existing knowledge and gather additional information under actual field conditions, the staff of the Commission could facilitate the onboard placement of observers from the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service on seismic vessels operating within the known range of the Sea Otter.

   The Commission has utilized the CEQA process to examine the project's potential for causing significant adverse environmental impacts. Following the completion and circulation of an Initial Study, its further examination of researched material (see Appendix 6 of Initial Study) and of comments received from interested parties and local, State and Federal agencies (particularly those with program responsibilities for the Sea Otter), the staff of the Commission determined that revisions had been made to the project so that the project, as revised, avoids or mitigates the effects to a point where clearly no significant effects would occur. Under such circumstances, the proposed Negative Declaration is appropriate.

SAN FRANCISCO BAY CHAPTER
OCEANIC SOCIETY
BLDG. 315, FORT MASON · SAN FRANCISCO, CA 94123 · PHONE (415) 441-5970

13 April, 1984

Dwight E. Sanders
Chief, Division of Research and Planning
California State Lands Commision
1807 13th St.
Sacramento, Ca. 95814

Dear Dwight;

Thank you for the Proposed Negative Declaration for SLC Geophysical Survey Permits and your letter of April 9.

We appreciate the steps the SLC has taken to date, to mitigate the effects of geophysical operations on whales, and the fact that you may change permit conditions with the recipt of new information.

However, we do not believe that the Proposed Negative Declaration is appropriate. A full exploration of the effects and mitigation measures of these operations on all aspects of our marine ecosystems is necessary, and this is best done through the procedures of the Environmental Impact Report. Mitigation measures must be more broadly studied and established, especially considering cumulative effects of offshore industrial operations on marine organisms. 1

We are looking forward to your decision to proceed with a complete review under the CEQA regulations.

Thank you for your attention.

Sincerely,

Ruth Corwin

Dr. Ruthann Corwin
Acting Executive Director

RC:er

RESPONSE TO OCEANIC SOCIETY

1. The Commission was instrumental in the expansion of the Bolt, et al. Study such that it also included situations in which Sea Otters would be exposed to the geophysical testing process and observed as to their reactions to direct interaction with that process. To add to the existing knowledge and gather additional information under actual field conditions, the staff of the Commission could facilitate the onboard placement of observers from the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service on seismic vessels operating within the known range of the Sea Otter.

   In addition, the Initial Study for the proposed Geophysical Survey Permit Program discussed several potential environmental impacts of that program. No issues or impacts beyond those identified and discussed in that document have been brought to the attention of the staff of the Commission from any source. The proposed Negative Declaration lists and discusses the effectiveness of a number of mitigation measures designated to address the previously identified potential impacts. On the basis of comments received to the proposed Negative Declaration, the staff of the Commission is recommending a change to the proposed permit to specify that an individual involved in the geophysical field operations of each permittee has, by August 1, 1984, attended a Fisheries and Environmental Training Program.

U.S. Department of Transportation
United States Coast Guard

Commander (mepps)
12th Coast Guard Dist.

Government Island
Alameda, CA 94501
PH: (415)437-3465

16475
30 Mar 1984

State Lands Commission
1807 13th Street
Sacramento, CA 95814

Attn: Dwight E. Sanders
Chief, Division of Research and Planning

Dear Mr. Sanders:

We have reviewed the "Proposed Negative Declaration for the State Lands Commission Geophysical Survey Permit Program" and submit the following comments:

Part II, Exhibit B, regarding Notification Procedures. Item #8 on page 6 should indicate "In Region II, III and IV send notices to Commander, 12th Coast Guard..." as the 11th and 12th Coast Guard Districts each have a portion of permit region II in their areas of responsibility. (The dividing line between the two districts is the Santa Maria River.) The address for Commander, 12th Coast Guard District, Marine Safety Division should be changed to Building 54, Government Island, Alameda, CA 94501. 1

Thank you for the opportunity to comment on subject program.

Sincerely,

W. F. WALKER
Lieutenant Commander, U. S. Coast Guard
Chief, Marine Environmental Protection & Port Safety Branch
12th Coast Guard District
By direction of the District Commander

RESPONSE TO U.S. COAST GUARD

1. Comment noted, no response required.

STATE OF CALIFORNIA GEORGE DEUKMEJIAN, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
NORTH COAST REGION

1000 CODDINGTOWN CENTER
SANTA ROSA, CALIFORNIA 95401
Phone: 707-576-2220

April 6, 1984

State Lands Commission
1807 Thirteenth Street
Sacramento, CA 95814

Attention: Dwight E. Sanders, Chief
Division of Planning and Research

Gentlemen:

On March 29, 1984, the Regional Board received the Commission's Proposed Negative Declaration for the Geophysical Survey Permit Program of March 23, 1984 (ND 358, File Ref:W6005, SCH#84020113) for review and comment.

This office concurs with the findings and recommendations which are contained in the Proposed Negative Declaration. 1

If you have questions, please contact this office. Telephone ATSS 590-2220.

Sincerely,

Theresa V. Wistrom
Environmental Specialist

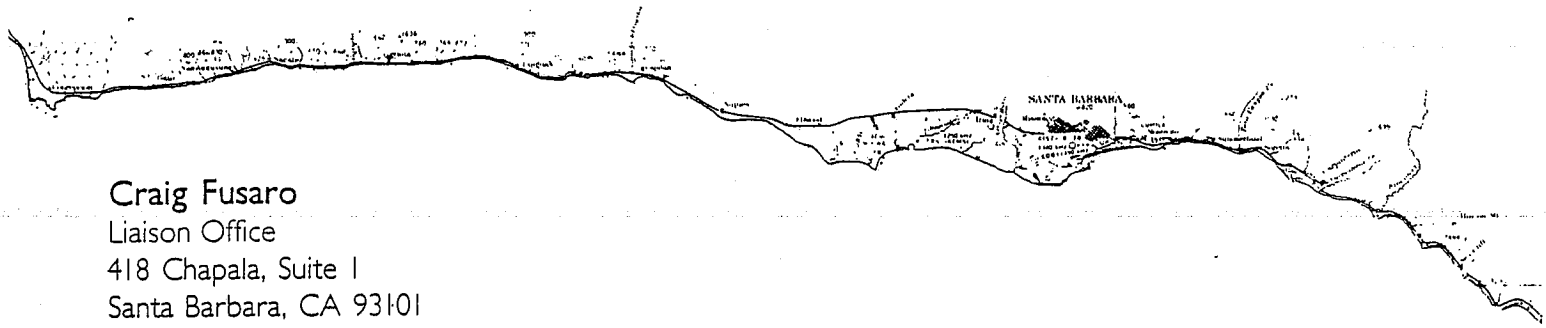
TVW:cw

cc: Norma Wood
State Clearinghouse

Mr. John Huddleson
Division of Technical Services

RESPONSE TO CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD-NORTH COAST REGION

1. Comment noted, no response required.



Craig Fusaro
Liaison Office
418 Chapala, Suite I
Santa Barbara, CA 93101
(805) 963-8819

April 17, 1984

Mr. Dwight Sanders
Chief, Division of Research and Planning
STATE LANDS COMMISSION
1807 13th Street
Sacramento, CA 95814

Dear Dwight;

Thank you for your letter of April 9, 1984 inviting comment from the Liaison Office on the Proposed Negative Declaration for the State Lands Commission Geophysical Survey Permit Program. I appreciate being given the opportunity to review the document.

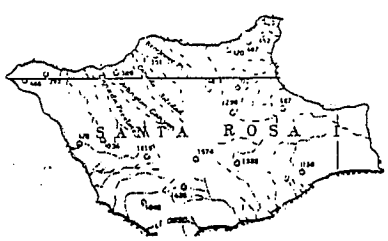
As I mentioned to you on the phone last week, I am not in a position, as a neutral entity in this process (Liaison Office), to be able to offer commentary on the document. I serve at the behest of the Fisheries/Oil Industry Joint Liaison Committee, and as such must defer any comments I might have to the Joint Committee's review. Unfortunately, this committee will not meet again before your comments deadline of April 24, 1984. The next scheduled meeting of the Joint Committee is on May 15, 1984, after your comments deadline but before the Commission meets to hear the question again in late May. I will attempt to ensure that this Negative Declaration document is on the agenda for the next Joint Committee meeting. 1

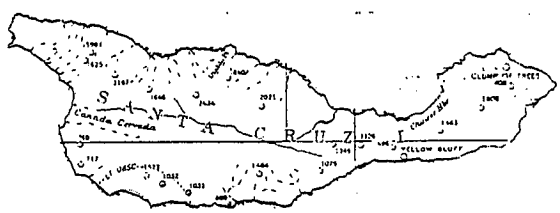
The process which resulted in the creation of a neutral Liaison Office has a successful track record, and I think that I should follow the guidelines set down for me by the Joint Committee. If there is any other way in which the Liaison Office can help you or any other division of the State Lands Commission, please let me know. I will be happy to do all I can to help.

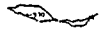
Regards,

Craig Fusaro

CRAIG FUSARO







RESPONSE TO LIAISON OFFICE

1. Comment noted, no response required.

LAW OFFICES

COTTEN, DAY & DOYLE

TWELFTH FLOOR

1899 L STREET, NORTHWEST

WASHINGTON, D. C. 20036

(202) 659-9505

JAMES M. DAY
BEN COTTEN
GERARD F. DOYLE
MARK N. SAVIT
WILLIAM F. TUERK
GAIL LINDSAY SIMMONS
STEVEN W. DeGEORGE

J. LITTLETON GLOVER, JR.
JOHN M. STUCKEY
OF COUNSEL

April 24, 1984

State Lands Commission
1807 13th Street
Sacramento, California 95814

Attention: Dwight E. Sanders, Chief
Division of Research and Planning

Dear Mr. Sanders:

Please find enclosed Comments of Western Geophysical Company submitted in response to the Proposed Negative Declaration 358.

If you have any questions, please do not hesitate to contact me.

Sincerely yours,

Mark N. Savit
Counsel for Western Geophysical Company

Enclosure

COMMENTS OF WESTERN GEOPHYSICAL

These comments are submitted by Western Geophysical Co. ("Western") in response to the Proposed Negative Declaration, Initial Study and Proposed Geophysical Survey Permit ("the proposed permit") circulated to interested parties on March 26, 1984.

Western strongly supports the issuance of the geophysical survey permit as proposed. Although as discussed below, Western believes that certain provisions of the permit should be changed in order to facilitate more efficient collection of geophysical data, Western nevertheless believes the issuance of the proposed permit is essential to the rational development of California's offshore oil and gas resources.

1. The Issuance of the Permit is not a Project under CEQA 1

The negative declaration to which these comments respond, was issued pursuant to a three month extension of the prior permit effective March 1, 1984. That extension was issued for the sole purpose of allowing geophysical survey operations to continue pending the preparation of various environmental documents. In fact, it was expressly stated at that time that no new information would be forthcoming during the three month extension period.

As Western explained in detail at the February 23, 1984 hearing, this entire procedure is unnecessary. Geophysical exploration has been ongoing in California coastal waters for

over 35 years with no significant detrimental environmental effects. The California Courts as well as CEQA itself recognize that where, as here, an activity has been ongoing since well before the advent of CEQA, the issuance of a permit or other action necessary to continue that activity is not a "project" within the meaning of CEQA and therefore no environmental documentation is required.

In spite of that clear law, the proposed negative declaration recites that it has been prepared pursuant to appropriate CEQA requirements and repeatedly refers to the proposed geophysical survey as a "project." This language is neither meaningful nor necessary.

While Western has always supported responsible scientific inquiry into the environmental effects of geophysical exploration, there appears to be no purpose to the formalistic preparation of documents such as this.

In view of the fact that the negative declaration will apparently serve as the basis for the issuance of the proposed permit, Western offers the following additional comments without waiving its objection to the requirement of a negative declaration or other environmental documentation in this instance.

2. Notice and Scout Boat Requirements.

The proposed permit requires 15 working days notice prior to startup of operations except that such notice may be shortened if the permittee employs a scout boat until the

Commission is assured that the parties have had adequate opportunity to work out conflicts. A scout boat is required on the first day of operations in any event.

Initially, Western believes the requirement of 15 working days is in error. The requirement should read "15 days." Also, Western recommends that in the case of notice of less than 15 days, the scout boat requirement should terminate no later than 15 days following actual notice. The permittee should not be penalized with scout boat requirements beyond those already required as a "price" for requesting shorter notice. 2 3

Further, the mandatory use of scout boats on the first day of operations is unnecessarily rigid. There are concentrations of fixed gear only in a few areas and scout boats should not be required where space use conflicts are unlikely to arise. 4

3. Modification of the Permit.

The proposed permit states that it may be modified or revoked by the Commission on 30 days notice. While Western understands that the Commission may from time to time need to take emergency action regarding the permit, there appears to be no reason why the permittee should not have an opportunity for a hearing before the Commission prior to modification or revocation. This is especially true when the permit itself guarantees that revocation or modification will not take place until after the expiration of a 30 day notice period. The notice 5

period would provide time for a hearing to occur and could potentially eliminate very costly action by the Commission.

4. Environmental Effects of Geophysical Exploration.

As the negative declaration points out, no substantial evidence exists to indicate that geophysical seismic exploration causes any significant harm to marine life. In fact, as shown at the February 23 hearing, substantial evidence demonstrates that geophysical seismic exploration does not harm marine life.

Using current technology, geophysical exploration has been conducted for approximately 20 years without a single significant incident. Recent allegations that geophysical exploration cause fish to disperse are being investigated pursuant to joint fishing industry - seismic industry - oil industry efforts. The results of the investigation should shed some light on this subject and may eliminate the need for any further mitigating measures. 6

5. Survey Intensity.

Several pages of the negative declaration are devoted to a discussion of the causes and alleged effects of concentrations of survey activity in certain locations and the serial surveying of certain areas over time. 7

Western commends the Commission for its inquiry into and understanding of this issue. In an effort to achieve better understanding of this matter Western is participating in a study undertaken by the Western Oil and Gas Association, the results of

which will be available for presentation to the Commission before its May 24 hearing on the proposed permit.

As the negative declaration points out, survey concentrations have, in the past, resulted from a confluence of lease sale offerings of congruent or overlapping areas which were scheduled to take place over a relatively short period of time. This phenomenon is not expected to recur. In any case, problems of concentration of survey activity are both cyclical, occurring generally just prior to lease sales, and transient since they involve relatively short periods of time and no permanent facilities.

Although it is common that several different companies may explore the same tract, those surveys are not repetitive. Each company employs different techniques which commonly yield significantly different interpretations. It is not uncommon for one oil company to utilize data from several different seismic surveys in its decision making process for a single tract. In short, such surveys are necessary to provide the oil industry and the Commission with the information necessary to make reasoned development choices. Any limitation on the number or conduct of such surveys could thus lead to a reduced capability to plan coastal development in a rational way.

In conclusion, Western would commend the Commission and its staff for its thorough and professional approach to the permit renewal process. Western looks forward to its continued operations under the proposed permit.

RESPONSE TO WESTERN GEOPHYSICAL

1. The State Lands Commission regulated, via permit, the use of explosives in geophysical activities within State waters until the development and use of the present acoustic pulse generator technology. For over a decade, the State did not exercise its prerogative to issue permits for geophysical exploration activities. The California Environmental Quality Act became law in this intervening period. The Commission, in August of 1982, again issued a permit to regulate geophysical activities in State waters.

   Due to: 1) the nature of the proposed project, i.e. permit program; 2) the hiatus of permit issuance prior to the effective date of CEQA; and 3) the Commission's decision to again issue permits under the provisions of Public Resources Code Section 6826 subsequent to the effective date of CEQA, it is the staff's opinion that the Proposed Geophysical Survey Permit Program is a project as defined by CEQA and one which is not subject to Section 21169 of the Public Resources Code or Section 15261 of the State Guidelines.

2. The proposed permit has been amended to delete "working" as appropriate.

3. Comment noted. The staff of the Commission has recommended additions to the language in Section A.1. of Exhibit "B" of the proposed permit.

4. A major reason for use of a scout boat on the first day of operation is to enable both the geophysical operator and commercial fishing interests to avoid the unexpected.

5. Section 14 of the proposed permit provides opportunities for hearing before the Commission prior to modification or revocation on any permit. Following a suspension of a permit, the permitee "may request a hearing before the State Lands Commission in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked". If staff of the Commission recommends to the Commission that the permit should be modified or revoked, formal notice of that action occurs and affected parties have the opportunity to provide information relevant to that decision at the noticed, public meeting of the Commission at which the decision would be made.

6. Comment noted, no response required.

7. Comment noted. The staff of the Commission will continue monitoring the activities under the proposed program and working with all user groups and interests to avoid adverse use conflicts.

GEOPHYSICAL SERVICE INC.
POST OFFICE BOX 225621 • DALLAS, TEXAS 75265
214•995-6770 • CABLE: GEESYE

April 25, 1984 .

State Lands Commission
1807 13th Street
Sacramento, California 95814

Attention: Dwight E. Sanders, Chief
Division of Research and Planning

Dear Sir:

Please consider the following comments on the Proposed Negative Declaration, file reference W6005, SCH#: 84020113, dated March 23, 1984.

The assignment of the geophysical survey permit program as a "project" under the California Environmental Quality Act (CEQA) is inappropriate. Geophysical surveys are a long-standing activity offshore California (ref. part III of the initial study report attached to the subject report). It is an activity that results in no permanent structure nor administrative rule or regulatory system and is not an action likely to have significant detrimental impact on the quality of the environment (ref. the findings described in the initial study). Therefore, a categorical exclusion is a more appropriate declaration under CEQA. 1

Marine Mammals

Though geophysical operations are not likely to affect migrating whales, the proposed measure about start up of acoustic pulse-generating equipment when within two kilometers of whales is acceptable as a gesture of acknowledgement of the concerns of environmental protectionists. The measure is superfluous in practice because of the Federal laws protecting marine mammals and because geophysical vessel operators avoid whales in the normal practice of conducting survey operations. 2

The referenced report released by the Minerals Management Service (Bolt Beranek and Newman) requires fuller treatment (see below).

Fisheries

The proposed measure of extending the notification process to 15 days from five days is a concession to commercial fishermen. Before I expand this discussion, I hasten to point out that the operable term is "15 days" not "15 working days". I represent the International Association of Geophysical 3

Contractors on a unique negotiating committee composed of commercial fishermen representing the commercial fishing industry and representatives of oil companies with operations along the California coast. Among the many important issues addressed by this committee was that of notice about geophysical surveys that allows sufficient opportunity for private parties of the two industries to resolve potential space use conflicts in advance. We negotiated a compromise position and issued a joint communique which described that position, which was communicated to the State Lands Commission early this year. That joint communique recommended the 15 day notification procedure, and the use of a boat to scout areas just prior to a geophysical survey. I am pleased to see both measures (though the term "working days" needs correction) incorporated in the subject document and recommendations.

Also, the joint fishing/oil/geophysical industry committee founded an entity called the liaison office, whose director works to facilitate planning and communications among the industries represented toward the objectives of keeping conflicts to minor exceptions and assuring all users fair and equal access to the coastal waters. The process is working and I applaud the addition of the liaison office to the list of parties to be notified by geophysical permittees as an additional measure enhancing that office's effectiveness. 4

Cumulative Impacts on Gray Whales and California Sea Otters 5

Some correction and clarification information needs communicated to the State Lands Commission staff.

The steering committee to negotiate concerns about effects of geophysical survey operations on commercial fisheries resulted from negotiations directly between commercial fishermen and representatives of the IAGC. Commercial fishermen asked that the Institute for Environmental Mediation (now Institute for Mediation) be involved as a third party mediator and to perform necessary administrative functions. The IAGC agreed. The IAGC asked that the committee include representatives of state and federal agencies who affect or effect policy affecting both industries and the commercial fishermen agreed to that. Therefore, the principal parties of the geophysical survey effects steering committee are the IAGC representative (who at this time is me), and commercial fishermen (presently represented by Doug Knapp of Santa Barbara). Consultative members of the steering committee include representatives of the California Fish and Game Department, the State Lands Commission, National Marine Fisheries Service, U.S. Minerals Management Service, California Sea Grant area marine coordinator and the joint committee liaison officer (described above).

The steering committee organized a panel of expert scientists and a forum for that panel to hear presentations from members of both industries (commercial fishing and geophysical exploration) about their views on effects of geophysical survey operations on commercial fisheries. The panel's findings and recommendations, along with the steering committee's response and recommendation to their respective constituents or agencies, will be shared with the State Lands Commission through their representative on the steering committee and through testimony to be given at the May 24th meeting of the State Lands Commissioners.

However, quantitative and scientifically valid measurements of effects, if any, of geophysical surveys on commercial fisheries will result only after several months to years of investigation. Existing evidence shows no significant adverse effects irrefutably attributable to geophysical surveys and therefore justifies the issuance of geophysical permits. My company, and indeed, the geophysical exploration community, supports the continued efforts of the steering committee toward development of data and information resolving the concerns of all parties (as evidenced by the sharing of the costs of the forum held last March in Santa Barbara). Because we know it is a sensitive issue, and as a gesture of comity with commercial fishermen, we accept the revocation provision, though we sincerely hope it would only be used when the weight of evidence prevails for such action, not just in response to the "weight of public pressure."

Discussion on Space Use of Commercial Fishermen 6

The concerns expressed by commercial fishermen about inhibited access to commercial fishing areas and affects on commercial fisheries have not "maintained" (author's choice of word) but have been only assertions. In fact, when subjected to direct discussion by the joint committee both industries realize that the facts are illusive and a specific investigation is necessary to place the pertinent facts before the committee so as to allow substantive negotiations on the subjects of access and dispersal.

The fishermen's concerns are spawned by the recent two years of experience when two federal lease offerings, one State lease offering, and several significant petroleum discoveries converged in time and space and resulted in an extraordinary level of interest in exploring the south central coastal waters of California. Judicial scheduling of lease offerings are a more appropriate measure to avoid or minimize possibility of space use conflicts between commercial fishermen and geophysical exploration vessel operators, along with encouragement to continue the communication and negotiation process instituted through the activities of the joint committee.

Comments on the Initial Study

I take exception to the term "project." 7

The list of geophysical survey energy sources should read: 1) compressed air, gas or water chambers; 2) sparker..;and 3) percussion sampling. The sniffer is a geochemical sampling device and the term "electronic equipment" is meaningless in this context. 8

High resolution surveys may involve the use of compressed air chambers as an acoustic energy source.

Figure A, and the reference to it, is misleading. The cartoon in Figure A is probably a reasonable facsimile of the arrangement for a site clearance/hi resolution geophysical survey used to survey for cultural resources, hazards to platform placement and stability of substrata for drilling. 9

Survey vessels used for collecting geophysical data from deep beneath the surface of the ocean bottom would have a much simpler set of gear over the side, consisting of an array (or arrays) of acoustic energy source chambers, and a pair of cables containing hydrophones and expensive electronic devices, and attendant depth and direction control buoys and apparatus.

The so-called deep seismic surveys may be conducted year-round offshore of the milder climate areas of California, though peak activity occurs in association with seasonal demands for geophysical exploration offshore Alaska, and demand for vessels in the Gulf of Mexico and in international waters. This statement corrects the misrepresentation on page four that there are seasonal "windows" for geophysical exploration. 10

Another misrepresentation on page four is that the maximum of 9 vessels conducting geophysical surveys offshore in Region 2 is the rule. Quite the contrary, that number was a manifestation of the extraordinary circumstances of lease offerings and petroleum discoveries described above. The rule is probably 3-4 vessels operating in a region during any one time, with the range varying from zero to nine at some time in a given region (most probably Region 2 would experience the larger number, but for short periods). 11

The discussion about gray whales beginning on page 12 requires some clarification. The National Marine Fisheries Service, National Oceanic and Atmospheric Administration of the Department of Commerce is the administrating agency responsible for implementing provisions of the referenced statutes for whales (and certain other marine mammals). The U.S. Fish and Wildlife Service has the responsibility under those statutes to administer the management of polar bears, manatee, dugong, walrus, and sea otters. 12

I encourage the author, and everyone involved in communication about the effects of man's activities on our environment, to be precise in the use of terms. On page 14, second paragraph, a reference is made to Gales (1982) about possible auditory effects from "high level" sounds. The term high level is misleading. Is that high frequency, high energy, quality of signal, purity of signal, what? If frequency, then the low frequency sound effected by compressed air chambers used for deep seismic exploration should be of no concern. We know such is not the case. My admonition is to communicate clearly when dealing with concerns so controversial and of such broad vested party interest as acoustical pulses and marine mammals. 13

About the Bolt Beranek and Newman study of gray whales reported to the MMS by report number 5366, November, 1983.

A geophysical exploration vessel was used as an experimental vessel, at the owner's expense, and was directed in a manner to encourage direct interaction with gray whale cow/calf pairs (rather than observing whales in the vicinity of an on-going geophysical exploration survey. The results were significant in that they showed that when operating in a usual fashion the geophysical vessel would probably not have affected the whale's

behavior, and when behavorial changes occur, cow/calf pairs remained together, thereby assuring us that masking of intra-whale group vocalization was not affected. Also, the startle effect was the most significant affect and the habituation to the compressed air chamber acoustic signal occurred quickly. That contrasted dramatically with the obvious fright/flight response to recorded killer whale signals used during the same studies.

The call for a study of compressed water guns on page 15 is without context and deserves explanation or omission from the initial study report. 15

The sea otters do not seem to care whether geophysical survey operations occur even within 1/2-1/4 km of them, as is rightly presented in the initial study pages 17-18. However, some clarification is justified. The sea otter observations were done in conjunction with the gray whale study sponsored by the MMS and performed by BBN. However, the sea otter observations were made by scientists on behalf of the U.S. Fish and Wildlife Service (the administering agency for that species) with the participation as observors of representatives of the California environmental group "Friends of the Sea Otter." There is considerably greater significance, then, of that study because of the involvement of those latter two groups. 16

On page 19, paragraph one, starting with the last sentence and continuing through the first sentence of paragraph two should read:

> "Since the above scenario prevails, and even if conflicts in space use should occur with recreational boaters it would be a transient, and temporary event, mitigation is not required beyond the requirement already in place that geophysical permittees notify the appropriate U.S. Coast Guard district, plus posting of specified notices at locations throughout the area of operations (see notification procedures appended to permit forms (Appendix 3 to this report))." 17

Beginning with paragraph two of page 21, some clarification is required. Space use conflicts between commercial fishermen and geophysical survey vessel operators can result (and have resulted) in costs to commercial fishermen and geophysical vessel operators. The sentence beginning with "The extent to which the populations..." is inappropriate. It conveys a message that it is a given that "fish are threatened by seismic operations." Such is not the case. It also contains an imprecision of terms - the activity is "geophysical exploration." And, even if fish do respond to the acoustic energy used for geophysical exploration they could not only disperse but might group, swim toward commercial fishing nets or vessels, or in other ways act to enhance the opportunity for commercial fishermen to catch them. Also, the act of response does not in itself equate to a significant adverse affect on the commercial fishery. 18

On page 22, a mitigation measure proposed is to restrict "seismic activities" to avoid peak fishing periods. Such action could actually intensify geophysical exploration temporally and spatially, to the opposite affect obviously intended. Restriction of access is totally unacceptable and is uncalled for when so many alternatives are viable, or are just beginning to work (e.g. the liaison office and extended notification period). 19

On page 27, there is an inconsistency. Since the cumulative effects of multiple geophysical exploration surveys on commercial fishing is improbable, then why a proposed mitigation measure. The "window" concept is unacceptable and not needed (see above). 20

Part III of the initial study confirms my assertion about the use of the term "project" for permitting geophysical exploration, since there is acknowleged a long history of such activities offshore California.

There is a significant omission in that part. Compressed air chambers began to be used extensively offshore California in 1966. Shortly thereafter, the California Fish and Game Department saw no need to continue the practice of sending biologists out on geophysical exploration survey vessels as observors. Then, for more than fifteen years, no permits were required if nonexplosive devices were used. In 1982, the imperative of the State Lands Commission to share in the bounty of geophysical data being collected in State waters resulted in institution of permits for operations involving nonexplosive acoustic energy sources (witness the considerable proportion of words devoted to data submission in the stipulations for permits). The State has benefited considerably by obtaining that data at a minute fraction of the cost to private industry and has the opportunity to manage much more wisely State resources than if without such data. 21

Private industry has managed its practices in a professional, environmentally conscientous manner (evidenced by the development of compressed air chambers, the liaison office, steering committee investigations of concerns about commercial fisheries, and gray whale and sea otter studies). And, numerous environmental impact assessments and agency reviews have consistently shown that geophysical exploration is environmentally safe.

Proposed Permit Form

3. Geophysical survey methods exclude geochemical which is a tool used by geological survey operators. 22

4. Omit sniffers (a geochemical sampling device).

Exhibit B. Part A. Change "15 working days" to "15 days." 23

Very truly yours,

Larry G. Bowles

Larry G. Bowles

RESPONSE TO GEOPHYSICAL SERVICE INC.

1. The State Lands Commission regulated, via permit, the use of explosives in geophysical activities within State waters until the development and use of the present acoustic pulse generator technology. For over a decade, the State did not exercise its prerogative to issue permits for geophysical exploration activities. The California Environmental Quality Act became law in this intervening period. The Commission, in August of 1982, again issued a permit to regulate geophysical activities in State waters.

   Due to: 1) the nature of the proposed project, i.e. permit program; 2) the hiatus of permit issuance prior to the effective date of CEQA; and 3) the Commission's decision to again issue permits under the provisions of Public Resources Code Section 6826 subsequent to the effective date of CEQA, it is the staff's opinion that the Proposed Geophysical Survey Permit Program is a project as defined by CEQA and one which is not subject to Section 21169 of the Public Resources Code or Section 15261 of the State Guidelines.

2. The discussion on page 4 of the proposed Negative Declaration indicates that geophysical operations cannot be initiated if whales are observed within 2 kilometers of the survey vessel. The reactions of whales to geophysical operations, as indicated by the Bolt, el al. and other studies consulted, have been attributed to the acoustic pulse generator's impulses. The distance of whales to the relative position of the air gun is the major concern of the National Marine Fisheries Service (NMFS); therefore, the 2 kilometer distance is appropriate.

3. The commentor is correct. The proposed permit has been amended to delete "working" as appropriate.

4. Comment noted, no response required.

5. Comments noted, no response required.

6. Comments noted, no response required.

7. See response #1 herein.

8. Comment noted. The proposed permit in its current format and its equipment specifications is contained in Part II of the Proposed Negative Declaration.

9. Comment noted, no response required.

10. The paragraph referenced is specific that "The timing and duration of seismic surveys in offshore California is variable".

11. The paragraph referenced does not state that a maximum of 9 vessels in Region 2 is the rule. The statement was meant to give perspective in that the maximum number of vessels operating in any region at one point in time was 9 in Region 2.

12. Comment noted, no response required.

13. The reference to Gales (1982) is made with regard to high pressure sound levels.

14. Comment and clarification noted, no response required.

15. The proposed permit contained in Part II of the Initial Study portion of the proposed Negative Declaration would, if adopted by the Commission, apply in toto to all respective permittees. Under the State Guidelines, an Initial Study must include: "...a discussion of ways to mitigate the significant effects identified, if any". The document provides a forum for the discussion and examination of a number of means by which an impact could be lessened. Based on information received during the review of the Initial Study and discussions with responsible agencies, the staff of the Commission has proposed what it considers the most appropriate mitigation for inclusion within the permit's provisions. Should further changes to the permit be warranted based on further experience, the Commission can effectively make such changes (see Section 14 of the proposed permit).

16. Comment and clarification noted, no response required.

17. Comment noted, no revision in text required.

18. Comment noted, no response required.

19. Comment noted, no response required.

20. Comment noted, no response required.

21. See response #1 herein.

22. See response #8 herein.

23. The proposed permit has been amended to delete "working" as appropriate.

RECEIVED OUTSIDE OF

PUBLIC REVIEW PERIOD

ENDING APRIL 25, 1984

Environmental Defense Center
• Public Interest Environmental Law and Education •
1005 Santa Barbara St. • Santa Barbara, Ca 93101 • (805) 963-1622

May 15, 1984

State Lands Commission
1807 13th Street
Sacramento, CA 95814
Attn: Dwight E. Sanders
Division of Research and Planning

RE: Seismic Survey Negative Declaration #338

Dear Mr. Sanders,

Our staff has reviewed the Proposed Negative Declaration #338 (SCH #84020113) for the State Lands Commission's Geophysical Permit Program and would like to make the following comments. Our conclusion is that a full EIR should be prepared for the project.

Impact on Fisheries

According to the initial study, no substantial reductions in fish landings have directly occurred as a result of geophysical operations (Figure C, at page 20). That data, however, is too non-specific for statistical conclusions to be drawn and is, therefore, no help at all. Total crew months of geophysical activity compared to statewide fish landings on a year to year basis cannot reflect reductions in catch due to locally heavy seismic testing. Clearly then, no credible scientific data about the effect of seismic testing on fish-schooling has been formulated. Observational data from local fishermen, however, indicates that impacts on commercial fishing does occur because seismic testing does disperse fish that fishermen try to catch.

The initial study recommends that seismic testing activity be coordinated with peak fishing periods to provide fishermen with a "window" period to work in. Conditions requiring seismic operators to consider peak fishing periods when scheduling operations are not strong enough to prevent conflicts between seismic operators and commercial fishermen. The Liason Office of Santa Barbara should determine scheduling to insure successful mitigation of this conflict. Such a provision would create a schedule for seismic activity that would guarantee viable "windows" for commercial fishing.

The ND also does not adequately discuss impacts of seismic testing on planktonic larval stages of crustaceans (i.e. crabs and lobsters). Since so little information is available about such effects, an EIR is necessary to explore such effects on this vital part of the marine ecosystem. Dr. James Case, chairman of the Fish Dispersal Steering Committee, believes that the impact of seismic testing on larval crustaceans could be serious and that further investigation is needed. He said that the only scientific literature in this matter comes from the Soviet Block and believes that these studies were not very sound.

The negative declaration states that scientific studies are underway to understand the impacts of seismic blasting but no time table for completion is given, nor is there any indication as to how the research will effect the terms of the permit. Periodic review of such studies by a scientific panel is needed to certify that seismic testing can proceed without harming the commercial fishing industry or marine life.

In addition to the direct effects of seismic testing on fisheries, cumulative impacts will result from intense surveying activity. No provision limiting the number or frequency of seismic boats operating in one area is included.

Whales

We are also skeptical about plans to mitigate the cumulative impacts of seismic testing on the California grey whale population. The presence of many different survey boats operating along the greys' migratory route has the potential to impede the northerly migration of these whales. Conditions limiting the number of vessels operating at any one time should be formulated to address this problem.

Whales may also be impacted by seismic activities. The ND states that impacts from seismic testing like those experienced in 1982 and 1983 will not occur again because there are no more federal lease sales scheduled for the area. Seismic testing, however, continues well into the leasing period as new technology develops in the industry. Cumulative impacts are still going to result from the intense leasing programs of the past.

Summary

- Differences in scientific opinion over fish dispersal and damage to larval stages of marine life warrants a more careful analysis of such impacts through an environmental

impact report. Scientists have called for further studies on fish dispersal and impacts of seismic testing on planktonic larvae. Under CEQA, in cases where little substantial evidence of an impact's significance is available, the agency shall consider the impact significant if there is conflicting opinion among experts (Guidelines Sections 15064(h)(1) and (2)).

The National Environmental Policy Act (NEPA) calls for a worst case analysis of an impact if insufficient scientific data is available (Section 1502.22). The State Lands Commission also needs to consider the worst case scenario under CEQA. Since the proposed negative declaration does not consider the worst case scenario, an EIR should be prepared.

Thank you for considering our comments.

Sincerely,

Gregory S. Kirkpatrick

Gregory S. Kirkpatrick
Fisheries Protection Institute
Sierra Club