

MINUTE ITEM

This Calendar Item No. 11
was approved as Minute Item
11 by the State Lands
Commission by a vote of 3
to 0 at its 5/24/84
meeting.

MINUTE ITEM

11.

5/24/84
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Faber

GEOPHYSICAL SURVEY PERMIT PROGRAM

During consideration of Calendar Item 11, attached, the following people appeared and presented testimony relative to the staff recommendations on this item:

Susan LeFever, Greenpeace
Eric Hanscom, Whale Center
Greg Kirkpatrick, Fishers Protection
Institute and the Environmental Defense
Center

The following people appeared and testified in support of the staff recommendations on this item:

B. J. Kirwan, Western Oil and Gas Association
Craig Fusaro, Liaison Office, Santa Barbara
Larry Bowles, Geophysical Service, Inc.
David Bennyhoff, Arco Exploration
Carroll Hoyt, Nekton
Dr. Dilworth Chamberlain, Western Oil and
Gas Association
Doug Barman, Texaco
Mark Savit, Western Geophysical

The following people appeared but did not speak:

Leslie Bratos, Western Geophysical Co.
of America
William F. Gusey, Shell Oil Company
Harold M. Meadow, McClelland Engineers, Inc.
Donald J. Patterson, Western Oil and Gas
Association
John A. Zar, General Fishermen's Serv., Inc.
Robert Isenhower, Digicon Geophysical Corp.
Charles F. Darden, American Association of
Geophysical Contractors
Randy Ashley, Pelagos Corporation
Frank Kingery, WESTEC Services, Inc.
D. W. Richardson, Mobil Oil Corp.
Richard Purtell, ARCO Exploration Company
Carroll Hill, Richill Marine

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Acting Chairman Leo McCarthy read an amendment into the record to be included as part of Resolution No. 5 to Calendar Item 11.

Upon conclusion of testimony, a motion was made by Commission-Alternate Nancy Ordway and seconded by Commission-Alternate John Jervis, to approve Calendar Item 11, amended as follows, and approved by a vote of 3-0:

THE COMMISSION:

1. CERTIFIED THAT A NEGATIVE DECLARATION, 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 AND THE COMMENTS IN THE COMMISSION'S FILES WHICH WERE RECEIVED IN RESPONSE THEREOF AND
2. DETERMINED THAT THERE IS NO SUBSTANTIAL EVIDENCE THAT THE PROJECT, AS REVISED AND APPROVED, WILL HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT; AND
3. FOUND THAT THE ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATIONS FOR THE LANDS PURSUANT TO P.R.C. 63570; AND
4. DETERMINED IT IS IN THE BEST INTEREST OF THE STATE TO OBTAIN INFORMATION ON OUR POTENTIAL HYDROCARBON RESERVOIRS THROUGH MEASURES THAT PROVIDE REASONABLE ENVIRONMENTAL PROTECTIONS; AND
5. APPROVED THE FORM OF GENERAL PERMIT TO CONDUCT GEOPHYSICAL SURVEYS AS CONTAINED IN EXHIBIT 1 AND AMENDED IN SECTION 14 TO ADD "AMONG THE PROPER GROUNDS FOR MODIFICATION OR REVOCATION IS A FINDING BY THE COMMISSION FOLLOWING A NOTICED PUBLIC HEARING THAT THE PERMITTEES OR THEIR REPRESENTATIVES ARE NOT COOPERATING ADEQUATELY TO ENSURE THE TIMELY PLANNING AND COMPLETION OF THE SCIENTIFIC AND TECHNICAL EVALUATIONS"; AND
6. AUTHORIZED ISSUANCE OF NON-EXCLUSIVE GENERAL PERMITS TO CONDUCT GEOPHYSICAL SURVEYS TO THOSE APPLICANTS LISTED ON EXHIBIT 2 ATTACHED AND BY REFERENCE MADE A PART HEREOF.

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GEOPHYSICAL SURVEY PERMIT PROGRAM

APPLICANT

Attached as Exhibit 2 and incorporated by reference is the list of applicants for General Geophysical Survey permits.

INTRODUCTION

Scientists use geophysical data to understand geologic structures below the earth's surface. Once a shallow and vague picture of the subsurface, the information geophysicists now produce is far more comprehensive. It is invaluable in protecting the environment, improving industrial safety, and allowing State and Federal administrators to manage and protect our natural resources.

Today, geophysical research is used to identify and locate potential earthquake faults. This information facilitates the safe relocation of platforms and pipelines as well as the construction of exploration and development facilities which are safer for employees and reduce the potential of oil spills. The information discloses avoidable, high risk underground sites which could otherwise cause well blowouts. Geophysical technology is entering an era where data can be collected which will reduce the number of wells that must be drilled to produce our oil reserves. Fewer wells could lessen the time during which exploratory activities are taking place and thus reduce both space conflicts and the amount of drilling muds introduced into the environment. Geophysical data also indicates which parcels are most appropriate for leasing based on resource potential. Lastly, the information improves competition, meaning higher bids and, therefore, value for resource development.

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HISTORY

1941-1982:

Marine geophysical exploration began off the coast of California in the 1940's. In 1941, Section 602.6 was added to the Public Resources Code to allow the State Lands Commission to adopt regulations and grant permits for geophysical activity. The Commission implemented regulations for geophysical work in offshore areas and began issuing permits in 1945. The permits were modified in the late 1940's and in 1955.

In the mid-1960's, the geophysical industry rejected explosives for compressed air as an energy generating source. While geophysical research continued through the 1960's and 70's, the adverse impacts, which had occurred prior to the change apparently ended with the shift to the new energy sources.

1982-1984:

With the advent of improved geophysical technology and new public interest, the Commission adopted regulations in 1982 to govern non-explosive geophysical surveys. A new form of General Permits for Geological and Geophysical Surveys was issued, covering September 1, 1982, through February 29, 1984.

During the term of the initial permit program, staff worked closely with the public, government agencies, and the geophysical and fishing industries, to refine and develop appropriate permit conditions and to suggest or modify on-going studies.

Concerns were raised about potential physical damages to mature fish, Grey Whales, and Southern Sea Otters. After closure of some state waters to geophysical operations to allow further investigation no evidence of such damage was found. Subsequently, a Federal study on non-physical effects of various sounds on Sea Otters and Grey Whales was modified at the request of the Commission to evaluate the potential effects of geophysical testing. The initial results revealed no apparent effects on Sea Otters. The National Marine Fisheries Service (NMFS, the agency responsible for the protection of the Grey Whale) evaluated the same studies and found that whale populations were not jeopardized by geophysical exploration off the California coast. NMFS suggested permit modifications which have been included in the proposed program.

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At the February, 1984 meeting the Commission split the existing Geological/Geophysical permit into three general permits: Geological, Geophysical Turning, and Geophysical Survey. The Geological and Turning Permits, were issued and the existing Geophysical Permits were extended with modifications until May 31, 1984.

March 1984 - May 1984:

Since the February meeting the staff has circulated a Negative Declaration (discussed later) and met with various parties to obtain information requested by the Commissioners

Fish Dispersal Steering Committee

The fishing and oil industries hosted a scientific workshop in Santa Barbara on March 6-8, 1984. At issue was whether geophysical activity creates a negative impact on fish harvesting. Members from State and Federal Agencies, as well as the fishing and geophysical industries are represented on the Fish Dispersal Steering Committee which organized the workshop. As a member of that Committee, Commission staff participated in the workshop and follow-up activities. The panel of scientists at the workshop concluded that while it was premature to draw conclusions, several steps should be taken to verify the reported experiences of fish dispersal. They recommended a brief field study be undertaken to determine first, if previously gathered information was accurate, and second, whether further study was scientifically feasible.

Geophysical Operations

The level of geophysical activity that has occurred recently off the California coast, particularly in Region II, was higher than is expected in the future. Several factors created this phenomenon including: 1) the number and close proximity of recent Federal lease sales. An added factor was the proposed State lease program; 2) the unusually complex geology in the Santa Barbara Channel area; 3) the timing, litigation, and administrative uncertainties associated with Federal and State lease programs; and most importantly, 4) the inherent change in geophysical survey intensity based on the pre-lease versus post-lease activity.

The number of surveys over a given parcel before a sale reflect the need of multiple companies to each acquire the data to promote and protect a competitive bid position. Post sale surveys are limited almost entirely to a single company's need for information to explore and develop a specific lease. This difference will result in a substantial decline in the intensity of surveys.

It is unlikely that similar events would be focused in State waters to produce the same intensity. Industry has also requested better planning by Federal and State government to lessen or eliminate such occurrences.

Fish and Game

Staff requested specific data from Fish and Game on the time, duration, and location of major fishing activities. This information will be provided to permittees, allowing them to consider fish harvesting seasons as they plan surveys. The department is in the process of developing such information, but it is not expected to be in a usable form for another six to twelve months due to staff limitations and funding shortages. Commission staff also sought data on commercial fish harvesting to determine if a correlation exists between geophysical activity and actual catch.

The department indicated that data on catch locations is not considered extremely accurate. First, the fish blocks involved include both State and Federal Waters. Second, the catch location is often recorded by the purchaser, not the fishermen. Third, some fishermen do not accurately report catch locations or quantities. Additionally, a number of variables have an impact on fish harvest totals including: weather (El Nino, etc.), market conditions, upstream watershed conditions, creation of habitat, an increase in the number of commercial fishermen, and resource depletion caused by over-fishing of species.

Although the Department of Fish and Game was unaware of any biological data which indicated that geophysical research created significant adverse impacts on marine life or fish harvesting, they endorsed additional research.

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Fishing Industry

In mid April, staff met with representatives of the Santa Barbara commercial fishermen to discuss the proposed program. They expressed support for issuance of the proposed permit at the Commission's May meeting and endorsed the Liaison Office in Santa Barbara. They also offered ideas for improving the notification process and encouraged the Commission to seek funding for additional research and the completion of Fish and Game statistics.

Public Interest Groups

To those groups who participated in the February hearing, but did not thereafter provide input, staff mailed two requests for comments and information. Staff subsequently scheduled meetings with concerned parties who had not responded. A meeting was set with representatives from the Oceanic Society, Greenpeace and the Whale Center. Also invited, but unable to attend were Friends of the Sea Otter, Sierra Club, Friends of the Earth, and the Pacific Coast Federation of Fishermens Association (PCFFA). These representatives expressed concern over the lack of conclusive information on the effects of geophysical activities to the Grey Whale and other resources, the ability of the Commission to enforce permit provisions and the perceived increasing intensity of geophysical activity in California.

In reviewing the total program, staff provided the following perspective. The environmental review process did not produce any new information on the effects of geophysical research in the marine environment. Enforcement provisions in the permit provide for immediate action upon verification of a violation by the appropriate Commission staff. All violations must be reported immediately. Although the intensity in State waters is not expected to occur again all parties are urged to discuss the matter with representatives from the Federal Government, particularly with regard to lease sale planning.

Staff also offered to arrange a series of meetings between the public interest groups and representatives of the geophysical and oil industries. Such meetings would be designed to clarify questions raised by both groups, prioritize scientific investigation on the effects of geophysical research, and lead to the funding of future research projects.

CALENDAR ITEM NO. 11 (CONT'D)

PROPOSED PROGRAM

Listed below are the major components or changes in the proposed Geophysical Program as compared with the permits issued in August, 1982.

Permit Area: To eliminate duplicate paperwork, the previous permits, one for each of four regions, have been combined into one permit. The regions remain in the permit description, to clarify notification procedures.

Term of Permit The permit term is now 3 years, versus the 18-month period of the prior program.

Scope of Activities: The current permit is limited to geophysical activity. A separate permit is now required for geological data collection.

Operations: Operating Conditions in the new permit require:

1. No start-up of geophysical equipment when Whales are observed within two kilometers of the boat;
2. Additional use of boats to scout the projected survey area prior to start of operations; and
3. Geophysical field personnel will attend a fisheries and environmental training program.

Notification: New procedures are in place for additional notification by the permittees to other ocean users (fishermen with equipment in the water, etc.). The changes conform to the suggestions outlined by the fishing and geophysical industries. They include the additional use of boats to scout a survey area if a shortened notice is requested and an increase in the basic written notification period from five to fifteen days.

Additional notification is also required through the Coast Guard to notify all other offshore users that wish to have the information, but do not have potential equipment conflicts.

Third Party Damage Claims: The settlement period for potential damage claims has been changed from thirty days to sixty days before review or intervention by the Commission.

Suspension, Modification, and Revocation: The Commission has reserved the right to suspend, modify or revoke the permit. Suspension can take place immediately by the Executive Officer while the permit modification or revocation can be considered by the Commission at a public hearing upon 30-days notice to the permittee(s).

ENVIRONMENTAL DOCUMENTATION

Process:

The Initial Study (SCH No. 84020113) was prepared in January, 1984. During the first week of February copies were sent to State and Federal agencies, the coastal counties, the existing geophysical permittees, and public interest groups. The comments received were reviewed for the February 23, 1984, Commission meeting and were used in the preparation of a proposed Negative Declaration. The staff received comments from nine respondents, none of which contained information not already available to staff in preparation of the Initial Study.

On March 23, 1984, the Proposed Negative Declaration (SCH No. 84020113) was sent to appropriate State and Federal agencies through the State Clearinghouse. It was also sent to public interest groups (who had testified during the February 23, 1984 meeting, or had expressed an interest in the program), representatives of the oil and fishing industries, and the coastal counties.

Major Issues:

Three major issues have developed from the circulation of and public comment received during the review period on the proposed Geophysical Survey Permit Program Negative Declaration. Based on the data, information, and comments publicly available in the Commissions files the major issues were: 1) preparation of a Negative Declaration vs. preparation of an EIR; 2) potential adverse effects on Grey Whales and Sea Otters from geophysical exploration; and 3) potential adverse effects on commercial fish harvesting activities from geophysical exploration.

Preparation of a Negative Declaration

The Commission initiated the CEQA process for the proposed program with the preparation of an Initial Study. The Initial Study utilized information and sources referenced in Appendix 6 of that document. It also referenced the ongoing efforts by the Fish Dispersal Steering Committee to determine the effect, if any, of geophysical operations on fish harvesting. That activity should provide additional information within one to two years. On the basis of the substantial material available to the Commission, the staff indicated that while geophysical research did not, according to known and accessible information, appear to have a significant adverse impact on the environment, several changes to the proposed program should reduce anticipated concerns about impacts to a point where clearly no significant effects would occur.

At its February 23, 1984 meeting the Commission heard testimony from the geophysical operators, commercial fishermen and environmental interest groups. Witnesses did not present evidence on the potential environmental impacts of geophysical research beyond that already provided to the Commission by staff.

Subsequent to its review of the record and the changes proposed to the program, the staff of the Commission determined that there was no substantial evidence that the project may have a significant effect on the environment and subsequently prepared the proposed Negative Declaration.

The proposed Negative Declaration discusses a number of mitigation measures designed to address potential impacts identified in the Initial Study. These measures have been incorporated into the program. On the basis of comments to the proposed Negative Declaration, staff has recommended additional program changes that should increase the effectiveness of the proposed mitigations. The comments received during the public review period did not, however, provide any new information to the Commission on potential impacts from geophysical research.

Grey Whales and Sea Otters

The staff of the Commission has utilized the information specified in the Initial Study and its Appendix 6 and relied heavily on the expertise and experience of the public agencies charged with the protection of these species, i.e. the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife

Service (USF&WS) respectively. The Proposed Permit Form incorporates the recommendations of NMFS relative to geophysical operations and potential effects on the Grey Whale. The USF&WS participated in an evaluation of the effects of geophysical surveys on the Southern Sea Otters. It has not requested changes in the proposed program.

Commercial Fisheries

The proposed Negative Declaration addresses the primary issues affecting commercial fishermen, specifically: 1) conflicts with gear; 2) intensity of geophysical activities in certain areas versus access to those areas for fish harvesting; 3) alleged dispersal of fish from established fish harvesting areas by geophysical activities; and 4) questions of the effects of geophysical operations on the larval stages of fish. Some of these issues can be resolved within the context of permit modifications. Others are beyond the scope of this program, and scientific knowledge.

The gear problems have been addressed in the proposed permit form by incorporating changes to the notification system which reflect an agreement between fishermen and the operators.

The intensity issue prompted revisions in the Permit Form and additional responsibilities to the Liaison Office in Santa Barbara County. In addition, as discussed in this item, and the proposed Negative Declaration, the experienced levels of intensity during the last 21 months are unlikely to occur again.

Questions of fish dispersal are being reviewed by the Fish Dispersal Steering Committee (operators, fishermen, U.S. Minerals Management Service, Fish and Game, SLC and NMFS). A recent scientific panel organized by the Committee has indicated that it is premature to draw conclusions about the significance of fish dispersal reports. A brief field study has been proposed by those scientists to validate prior reports and determine the feasibility of further scientific study.

Additional original research concerning the effects of geophysical surveys on the larval stages of fish may be needed. A first step would be to determine feasibility and the type of research effort necessary to supply additional information on this matter. Although studies of this type are outside this program, staff of the Commission supports such investigations. Several other State agencies and public interest groups have committed their support to the Commission for obtaining legislative funding for such research.

OTHER PERTINENT INFORMATION

Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Adm. Code 15025), staff has prepared a Proposed Negative Declaration identified as ND 358, State Clearinghouse No. 84020113. Such Proposed Negative Declaration was prepared and circulated for public review pursuant to the provisions of the California Environmental Quality Act (CEQA). Based on the Initial Study, the Proposed Negative Declaration, and the comments received in response thereto, there is no substantial evidence that the project will have a significant effect on the environment (14 Cal. Adm. Code 15074(b)).

This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370 et seq. Based on the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as revised and proposed, is consistent with its use classification.

CONCLUSION

The staff of the Commission believes that the issuance of geophysical permits, as proposed, will not have significant adverse effect on the environment. In contrast, information has been developed in the last two years indicating that some concerns about environmental effects are not supported by the available evidence.

Geophysical research is known to produce valuable information for administering our natural resources and assist in the development of environmental protection and safety measures. In addition, the information is valuable in reducing foreign energy dependence by locating potential domestic reserves. State revenues from subsequent development are used to support State education, local government, and water projects.

EXHIBITS:

1. Geophysical Permit Form.
2. List of Applicants for Geophysical Survey Permits.

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT A NEGATIVE DECLARATION, ND 558, 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 AND THE COMMENTS IN THE COMMISSIONS FILES WHICH WERE RECEIVED IN RESPONSE THERETO;
2. DETERMINE THAT THERE IS NO SUBSTANTIAL EVIDENCE THAT THE PROJECT, AS REVISED AND APPROVED, WILL HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT;
3. FIND THAT THE ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATIONS FOR THE LANDS PURSUANT TO P.R.C. 6370;
4. DETERMINE IT IS IN THE BEST INTEREST OF THE STATE TO OBTAIN INFORMATION ON OUR POTENTIAL HYDROCARBON RESERVOIRS THROUGH MEASURES THAT PROVIDE REASONABLE ENVIRONMENTAL PROTECTIONS.
5. APPROVE THE FORM OF GENERAL PERMIT TO CONDUCT GEOPHYSICAL SURVEYS AS CONTAINED IN EXHIBIT 1; AND
6. AUTHORIZE ISSUANCE OF NON-EXCLUSIVE GENERAL PERMITS TO CONDUCT GEOPHYSICAL SURVEYS TO THOSE APPLICANTS LISTED ON EXHIBIT 2 ATTACHED AND BY REFERENCE MADE A PART HEREOF.

EXHIBIT 1

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.

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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 piezo-electric equipment, and non-explosive acoustic 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. Geophysical acoustic pulse-generating equipment shall not 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.

D. Effective August 1, 1984 the permittee shall have at least one person on board each vessel during survey operations that has attended a Fisheries and Environmental Training Program.

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.

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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) may be 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;

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- (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

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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 Section 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

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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

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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.

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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

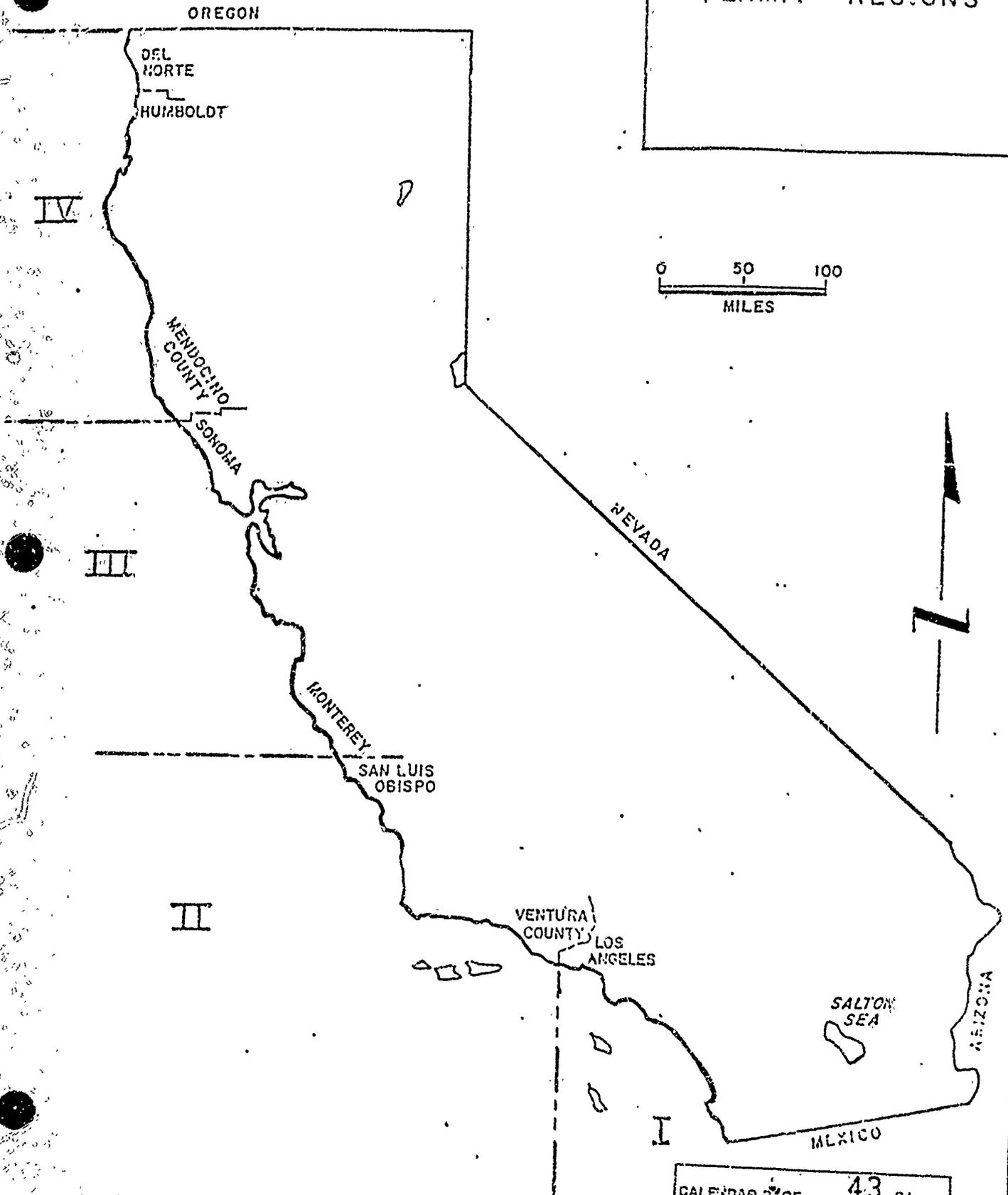
*In executing this document, the following is required:

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



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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 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 for the remainder of the above notification period unless 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

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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 requested 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 operation 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.

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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, Box 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, 12th Coast Guard District, Aids to Navigation, 400 Oceangate, Long Beach, CA 90822, Attention: Marine Safety Division.

In Regions II, III and IV send notices to: Commander, 12th Coast Guard District, Marine Safety

Division, Building 54, Government Island, Alameda, CA 94501.

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

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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

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

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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

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

Oxnard

1. International Seafood, 3920 W. Channel Islands Boulevard, Oxnard, CA 93030
2. Harbor Manager, 3900 Pelican Way, Oxnard, CA 93030

Ventura

1. Fisherman Quay Corp., 1449 Spinnaker Drive, Suite R, Ventura, CA 93001
2. Harbor Master's Office, 1603 Anchors Way Drive, Ventura, CA 93001
3. Wayman Fish Co., 1449 Spinnacker Drive, Ventura, CA 93003

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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. Marine Advisor, University of California, Santa Barbara, Goleta, CA 93106

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

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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

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Half Moon Bay

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

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, Highway 1, Bodega Bay
2. Lucas Wharf, 595 Highway 1, Bodega Bay
3. Meredith Fisheries Co., Bodega Bay
4. Harbor Dock, Bodega Bay
5. Masons Marina, Bay Flat Road, Bodega Bay

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, 780 N. Harbor Drive, Noyo Harbor
2. Meredith Fish Co., 32380 N. Harbor Drive, Noyo Harbor
3. Harbor Master's Office, 19101 S. Harbor Drive, Noyo Harbor
4. Fort Bragg Marine, N. Harbor Drive, Noyo Harbor

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

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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 Marine Supply Co., 201 Citizens Dock Road, Citizens Dock
2. Bayside Marina, 201 Citizens Dock Road, Crescent City
3. Otten Distributing and Marine Service, Front and D, Crescent City

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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

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Company Mail Address:

EXHIBIT D

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

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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)

EXHIBIT 2

ATTACHMENT

LIST OF GEOPHYSICAL PERMIT APPLICANTS

Aminoil USA
Arco Exploration Co.
Cities Service Oil & Gas Corporation
Conoco, Inc.
Dames & Moore
Aminoil USA (Huntington)
Arco Exploration (Denver)
CGG American Services, Inc. (Denver)
Chevron USA, Inc. (Concord)
Comap Geosurveys, Inc. (Houston)
Converse Consultants
Digicon Geophysical Corp. (Houston)
Marine Technical Services, Inc. (Stafford)
Meridian Ocean Systems
Mobil Oil Corp. (Denver)
Ogle Petroleum, Inc. (Santa Barbara)
Pelagos Corp. (San Diego)
Phillips Petroleum Company (Denver)
Seiscom Delta
Mesa², Inc. (La Crescenta)
McClelland Engineers, Inc. (Ventura)
Nekton, Inc. (San Diego)
Petty-Ray Geophysical, Inc.
Racal Decca Survey
Shell Oil Company (Houston)
Sohio Petroleum Co. (San Francisco)
Tetra Tech, Inc. (Pasadena)
Union Oil Company of California (Los Angeles)
Western Geophysical Company of America (Houston)
Woodward-Clyde Consultants (Santa Barbara)
Tennoco Oil Company (Bakersfield)
Texaco, Inc. (Los Angeles)
Western Geophysical (Houston)
U. S. Geological Survey,
Office of Marine Geology (Reston, VA)
Moss Landing Marine Lab.
IAGC (Denver)
Ecosystems Management (San Diego)
Ertec Western (Long Beach)
Fairfield Industries, Inc. (Houston)
Geophysical Service (Houston)
Norpac Exploration Services, Inc. (Inglewood, Col.)
Exxon Company, USA (Houston)
GECO Geophysical Co. of Norway (US, Inc., Houston)
GeoCubic, Inc. (Ventura)
Gulf Oil (Bakersfield)
Harding Lawson Associates (Novato)
Intersea Research Corp. (San Diego)

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