

United States Department of the Interior
Office of the Secretary
Minerals Management Service
1340 West Sixth Street
Los Angeles, California 90017

OCS ENVIRONMENTAL ASSESSMENT

October 8, 1982

Operator	<u>Chevron U.S.A. Inc.</u>	Plan Type	<u>Right of Way</u>
Lease	OCS-P 0455	Block	<u>34 N., 37 W.</u>
Pipeline--Platform	Edith	Date Submitted	April 22, 1982

Prepared by the Office of the Supervisor,
Environmental Division,
Pacific OCS Region

Related Environmental Documents

U.S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Environmental Impact Report - Environmental Assessment,
Shell OCS Beta Unit Development (prepared jointly with agencies
of the State of California, 1978) 3 Volumes
Environmental Assessment, Development/Production for Lease OCS-P 0296

BUREAU OF LAND MANAGEMENT

Proposed 1975 OCS Oil and Gas General Lease Sale
Offshore Southern California (OCS Sale No. 35), 5 Volumes
Proposed 1979 OCS Oil and Gas Lease Sale
Offshore Southern California (OCS Sale No. 48), 5 Volumes
Proposed 1982 OCS Oil and Gas General Lease Sale
Offshore Southern California (OCS Sale No. 68), 2 Volumes

ENVIRONMENTAL ASSESSMENT

**CHEVRON U.S.A. INC.
OPERATOR**

**PLAN OF DEVELOPMENT/PRODUCTION,
PROPOSED PIPELINEPLATFORM EDITH, LEASE OCS P0296, BETA AREA,
SAN PEDRO BAY, OFFSHORE SOUTHERN CALIFORNIA**

Table of Contents

I. DESCRIPTION OF THE PROPOSED ACTION	1
II. DESCRIPTION OF AFFECTED ENVIRONMENT	3
III. ENVIRONMENTAL CONSEQUENCES	7
IV. ALTERNATIVES TO THE PROPOSED ACTION	13
V. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS	15
VI. CONTROVERSIAL ISSUES	16
VII. PARTICIPATING STAFF	17
VIII. REFERENCES	18
IX. APPENDICES	20

I. DESCRIPTION OF THE PROPOSED ACTION

Chevron U.S.A. Inc. has proposed to install a 34,000 ft. subsea gas pipeline from Chevron's proposed Platform Edith to Union's Platform Eva. The proposed route will follow a southwest course from Platform Eva to Platform Edith along the proposed power cable-water line from Platform Edith. Proposed Platform Edith will be located on OCS Lease P-0296 at the intersection of California Lambert Coordinates $x = 1,424,260$ and $y = 525,220$ in System Zone 6.

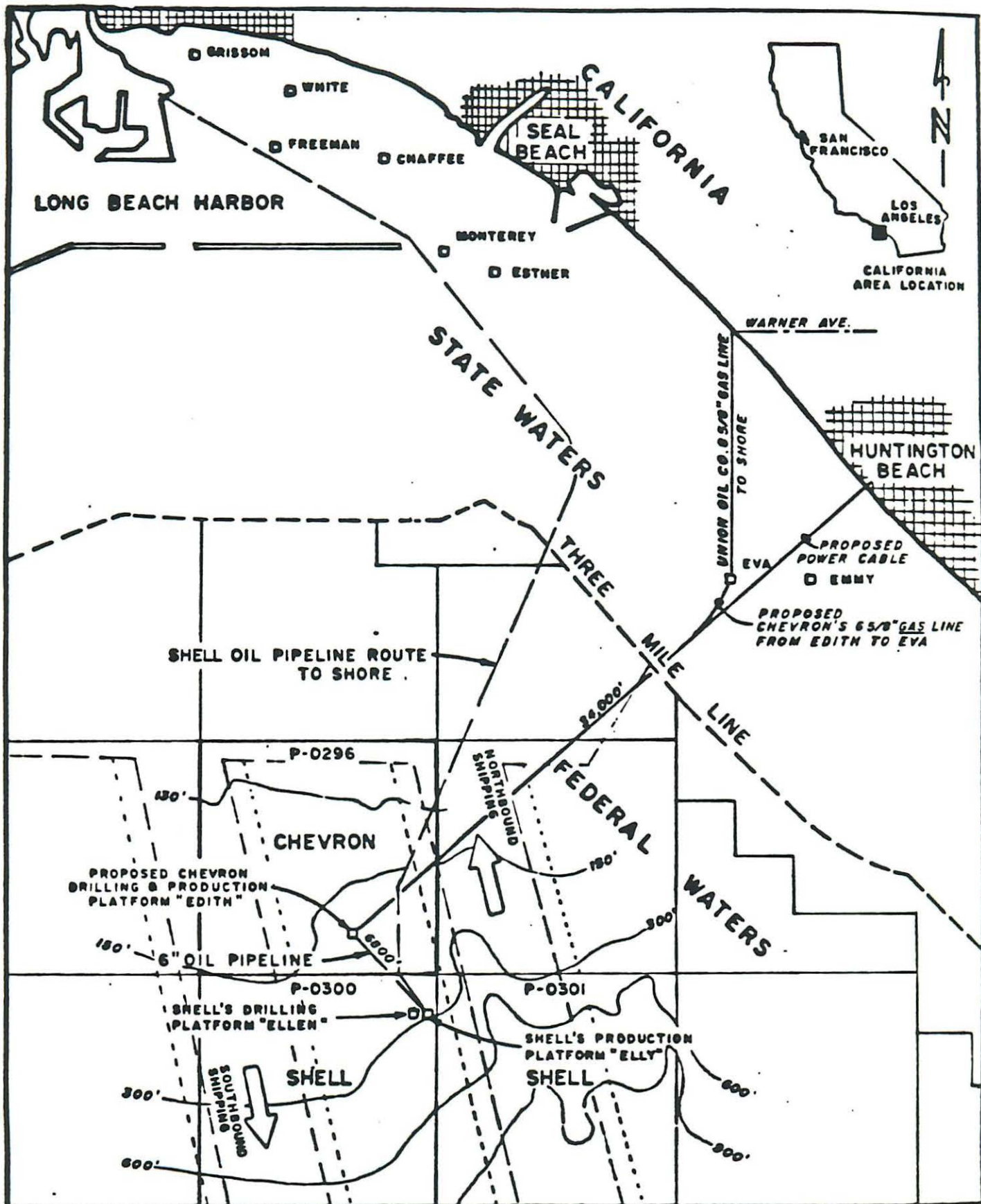
OCS Lease P-0296, as well as Leases P-0330, P-0301, and P-0306 have been designated for development by Shell Oil Company in Shell OCS Beta Unit Development EIR/EA (USGS, et al., 1978). The Beta Unit is located in Federal waters approximately 14.4 km (9 miles) west of Huntington Beach (see USGS, et al., 1978). The exact location of the proposed route of the pipeline, the proposed Platform Edith, and existing Platforms Ellen, Eva, and Elly are shown on Figure 1 of this EA.

The natural gas produced from the reservoir underlying OCS P-0296 will be used as fuel in the process heater onboard Platform Edith. The excess gas produced was to be reinjected into the producing formation. Subsequent analysis by Chevron indicated that the installation of the pipeline would allow the excess gas to be utilized by their Huntington Beach facilities.

The following method for transporting gas from Edith to the Huntington Beach facilities has been proposed (Chevron, 1982):

1. Chevron will lay a natural gas pipeline by a bottom-pull method along a route between Platforms Edith and Eva (see Figure 1). The pipeline will be approximately 34,200 feet in length and has a 6-5/8 inch outside diameter.
2. The gas will be commingled with the gas produced on Platform Eva and will be transported to shore via Union's existing 8-5/8 inch outside diameter subsea pipeline.
3. Onshore, the gas will enter Aminoil's existing 12-3/4 inch outside diameter gas gathering line near the intersection of Warner Avenue and Algonquien Street for ultimate delivery to Chevron's Huntington Beach facilities.

This method of disposal would be more favorable from an economical and environmental standpoint. It would allow for the consolidation of existing facilities in the area, and would minimize the resultant environmental impacts from transporting the gas to shore. The proposal is also in compliance with the California Coastal Commission's Policy 30261 (b) which states that consolidation with existing facilities is highly encouraged and desirable in the coastal zone.



CHEVRON PLATFORM "EDITH" LOCATION
 X=1,424,260 Y=525,220
 CALIFORNIA (LAMBERT) COORDINATE
 SYSTEM ZONE 6



Chevron U.S.A. Inc

CHEVRON'S PLATFORM "EDITH"
 SAN PEDRO BAY DEVELOPMENT

DATE 3-22-82

FIGURE 1

The proposed activities which are described in detail in the supplement to the Environmental Report were found by Chevron to be consistent with the policies of the California Coastal Management Program. The Minerals Management Service has reviewed the supplement to the Environmental Report and the Development and Production Plan (Platform Edith) and have approved the Plan of Exploration and Environmental Report (see MMS, 1982). It was found that these documents provide an adequate description of the potential impacts posed by this project. The State Lands Commission is in the process of preparing an Environmental Impact Report on the proposed Platform Edith and the proposed gas pipeline.

Shell's implementation of their Beta Unit presently consists of a production Platform Ellen. The development plan also includes a second drilling Platform Eureka to develop the southern portion of the reservoir. If conditions warrant its construction the tentative date for development is the mid-1980's (USGS, et al., 1978).

Directly related to the development of the pipeline is the construction and installation of Platform Edith on OCS P-0296. Edith will either precede or will be ongoing during the installation of the proposed pipeline (for a detailed discussion of Platform Edith see Chevron, 1980a, b, and MMS, 1982).

The monitoring systems to be placed on Platform Edith are described in Section 2.11 in the Environmental Report and Development and Production Plan (Platform Edith). The air quality monitoring device is discussed in Section 2.22 of the Environmental Assessment (Chevron, 1980a, b).

The overall schedule for Chevron's Beta Development is shown on Figure 2-5 (see Chevron, 1982). The preliminary estimate for the construction of the gas pipeline was October 1982; presently early 1983 appears more realistic.

A description of the vessels and equipment to be used in the construction of the pipeline, personnel requirements, onshore support systems are discussed in Section 2 of the supplement of the Environmental Report and Development and Production Plan (Platform Edith) (Chevron, 1982).

The natural gas pipeline will be designed in compliance with Minerals Management Service OCS Order No. 9 dated June 1, 1975, 49 CRF 192, applicable Minerals Management Service policies, State Lands regulations for Oil and Gas Production, Section 2132.

The design of the pipeline will include approved leak detection devices, high-low pressure monitoring and shut-in equipment in accordance with the provisions of OCS Order No. 9. When a predetermined high output pressure is exceeded, the pipeline will be shut in at Platform Edith. In the event of a large peak, pipeline rupture, or abnormally low pressure is detected at either platform, all gas shipping pumps will be automatically stopped and the pipeline will be shut in (Chevron, 1982).

II. DESCRIPTION OF THE AFFECTED ENVIRONMENT

This section describes in summary form those components of the environment which are likely to be impacted by the proposed action. A more detailed description of the San Pedro Shelf is contained in the Final Environmental Impact Statement (FEIS) for OCS Lease Sales 35, 48, and 68; Shell OCS Beta Unit Development EIR/EA; and Chevron's Environmental Report and Development and Production Plan (Platform Edith).

A. Geology

An additional discussion of the offshore geology of the proposed pipeline route can be found in the Supplement to the Environmental Report and Development and Production Plan (Platform Edith) (Chevron, 1982, pages 45 to 59); the Environmental Assessment for Platform Edith (MMS, 1982, pages 12 to 15 and Appendix 6); and the Geologic Evaluation prepared by Woodward-Clyde Consultants for the pipeline (Woodward-Clyde Consultants, 1982, pages 3-1 to 3-6).

The proposed pipeline route is located within the San Pedro Basin. The major structural features of the basin are the northwest trending Palos Verde and the Newport-Inglewood fault zones which are separated by the Wilmington Graben. The sequence of sediments within the graben consists of consolidated rocks of Pliocene to Pleistocene Age overlain by unconsolidated horizontally-bedded sands and silts (Woodward-Clyde Consultants, 1982). This relatively thick sequence of sediments were deposited upon a schist basement. Studies evaluating the soil properties and liquefaction potential indicate that the subsurface sediments can safely support the proposed pipeline (see Woodward-Clyde Consultants, 1982).

The depth of the proposed route ranges from 161 feet at Platform Edith to 85 feet at the 3-mile limit. The water depth at Platform Eva is 55 feet. The average slope of the seafloor along the route is approximately 0.25 degrees to the southwest and gradually decreases to zero at Platform Edith. There seems to be no significant irregularities along the entire route. Near the platform site and immediately southwest of the pipeline route, the seabed gradient increases to the southeast at the head of a small channel. Due to the gentle slope of the route, the possibility of slumping is unlikely.

Subsidence within the area of the platform could occur due to fluid withdrawal. The subsidence would be negligible due to a pressure maintenance program using water injection at Platform Edith. No other area of possible subsidence is located along the pipeline route.

No evidence of shallow gas within the near-surface sediments was noted on the geophysical records. One possible indication of a gas seep was noted near the offshore end of the proposed pipeline route (Woodward-Clyde, 1982).

The route of the pipeline crosses several faults, and a shallow anticlinal feature in State waters. None of the faults appear to disrupt the seafloor. The line also crosses a buried channel northeast of Platform Edith. The sediments in the channel range from a gray fine sand to silty fine sand and were determined to be Holocene in age (see Woodward-Clyde Consultants, 1982).

B. Meteorology

1. Climate

A description of the southern coastal and offshore meteorological conditions within the area of the proposed pipeline route can be found in Section 3.2 of the Environmental Report for Platform Edith (Chevron, 1980b, pages 98 to 106); and in the Environmental Assessment for Platform Edith (MMS, 1982, pages 15 to 20).

2. Air Quality

The South Coast Air Basin has air quality ranging from good to poor which generally improves as one approaches the coast. A detailed discussion of the air quality in the South Coast Air Basin can be found in Appendix 5 of the Environmental Report for Platform Edith (Chevron, 1980b).

The area of the proposed action would be comparable to the coastal region. The only representative monitoring station for the coast is Costa Mesa. Costa Mesa air is generally good. For a comparison, the number of days in which the ozone standard was exceeded was 28 in 1981. The range of days exceeded for various stations in Los Angeles County was 22 to 175 and in Orange County 28 to 92. The station at Costa Mesa also monitors the air contaminants listed in Table 1.

TABLE 1

NUMBER OF DAYS COSTA MESA AIR QUALITY EXCEEDED
STATE AIR QUALITY STANDARD IN 1981

<u>Air Contaminant</u>	<u>State Air Quality Standard</u>	<u>Number of Days Exceeding Standard</u>
Carbon Monoxide, ppm	10.0	1
Ozone, ppm	0.10	28
Sulfur Dioxide, ppm	0.05	0
Nitrogen Dioxide, ppm	0.25	2

C. Oceanography

Oceanographic characteristics of the project site are discussed in Section 3.4 of the Environmental Report for Platform Edith (Chevron, 1980b, pages 114 to 120) and the Environmental Assessment for Platform Edith (MMS, 1982, pages 21 to 23).

D. Other Uses

Various trawl surveys have been conducted throughout the San Pedro Bay (see Chevron, 1982). The results of the surveys indicate the following species to be relatively common: speckled sand dab, California tounge-fish, hornyhead turbot, Dover sole, white surf perch, white croaker, and English sole.

The proposed pipeline route lies primarily in fish block 739. The five most abundant taxa for this block are Anchovy, Jack mackerel, rock crab, Pacific bonita, Pacific mackerel (Chevron, 1982, Table 3-3). The sport fish for the same block includes rockfish, rock bass, Pacific bonita, California barracuda, and sandbass.

The proposed pipeline route passes through the northbound shipping lane (Maritime Traffic Separation Scheme). Upon the approval of the proposed route the U.S. Coast Guard will issue a "Notice to Mariners" regarding the construction of the pipeline and the temporary disruption of ship traffic.

The area of the pipeline route is not utilized by the military.

Recreation is an integral part of the Southern California economy and environment. Numerous public beaches and coastal parks are located along 68 km (42 miles) of shoreline extending south from Long Beach to the Orange/San Diego County line. For a comprehensive list of facilities see Table 3-12 (Chevron, 1980b, pages 123b to 123d).

Recreational boating is also very popular within the area. Table 13-3 (Chevron, 1980b, page 123e) lists the number of berthings in the marinas under Governmental jurisdiction.

Giant kelp (Marcrocystis pyrifera) appears along the coast between Dana Point and Point Fermin approximately 25.8 km (16 miles) from the proposed activity. The technology for cultivating kelp at the water depths of the proposed pipeline route has not as yet been developed.

Side scan sonar, magnetometer and high-resolution subbottom profile data was analyzed by Woodward-Clyde Consultants and Environmental Research Archaeologist. From the analysis of the geophysical data and the diving survey it was determined that no cultural resources would be affected by the proposed pipeline route (Woodward-Clyde, 1982).

Although there are no known biological areas of special significance along the pipeline route there are numerous reserves and refuges within the San Pedro Bay vicinity. A list of these areas can be found in Table 3-14 of Chevron, 1980b, pages 130a to 130b.

The proposed pipeline will cross over Shell's existing 16-inch oil pipeline in approximately 155 ft. of water.

There are no known mineral resources in the vicinity of the pipeline route.

E. Flora and Fauna

The biological oceanography (pelagic and benthic environment) of the Southern California Bight and the San Pedro Channel has been described in detail. (See: Chevron, 1980b, pages 131 to 140; USGS, et al., 1978, pages 179 to 224; Chevron, 1982, pages 75 to 79; BLM, 1979, pages 124 to 222; and the "Benthic Environment of the Subsea Cable Route" in Chevron, 1980b, Appendix 6; and MMS, 1982.)

A list of the Marine Mammals of the Southern California Bight is located in Table 3-6 (Chevron, 1982, page 80) and a list of the number of breeding seabirds in the Long Beach area is located on Table 3-7 (Chevron, 1982, page 87). The marine mammals and seabirds have also been discussed in detail. (See: Chevron, 1980b, pages 141 to 149; USGS, et al., 1978, pages 261 to 268; the "Biological Opinions of the National Marine Fisheries Service and Fish and Wildlife Service" in MMS, 1982; BLM, 1979, pages 254 to 271; and BLM, 1981, pages 64 to 72.)

There are no known endangered species of flora and fauna residing in the proposed project area. In the San Pedro Channel area, the California gray whale, an endangered species, commonly is observed. Five species of rare or endangered birds occur within the San Pedro Channel area: California brown pelican, California least tern, lightfooted clapper rail, Belding's savannah sparrow, and the Southern Bald eagle.

F. Socio-Economics

The proposed pipeline construction and pipeline operation activities will utilize the already existing labor force in the Orange/Los Angeles County area. The proposed activities will help maintain offshore related employment but will not affect the local population to any great extent (Chevron, 1982).

The United Brotherhood of Carpenters and Joiners of America, Pile Drivers Local 2375, AFL-CIO, had submitted comments on the construction of the proposed Platform Edith due to the use of foreign labor in its construction (MMS, 1982). Adverse comments on the construction of the pipeline are not expected since local labor will be used.

III. ENVIRONMENTAL CONSEQUENCES

A. Impacts of the Proposed Action and Alternatives

The supplement to the Environmental Report and Development and Production Plan describes the impacts which could result from the implementation of the proposed action. Probable and potential impacts from the proposed pipeline are further discussed in the EISs which have been prepared on the Southern California Bight for OCS Lease Sales 35, 48, and 68 (BLM, 1975, 1979, and 1981, respectively).

The following environmental consequences which describe the direct and indirect and cumulative effects on onshore and offshore environments are summarized from the above documents. Also see Appendix 1 for agency comments on the supplement to the Environmental Report.

1. Geologic Hazards

"Certain geologic conditions and processes must be recognized and considered in project design, construction, and operation in order to minimize any possibility of damage to the facility" (Chevron, 1982, page 92).

A series of high-resolution geophysical investigations (see Woodward-Clyde Consultants, 1982) were performed. The geologic features (buried channel, anticlines, and faults) which were identified along the proposed route are not expected to adversely affect the proposed action.

The proposed installation of the gas pipeline is not anticipated to modify the rates of erosion or sedimentation along the pipeline route.

A disturbance of the seafloor sediments will occur during the construction of the pipeline along its route due to the anchoring system employed by the pull barge. Six anchors will be reset every 5,000 ft. (1,524 m) approximately seven times along the route. (See Appendix 4 "Other Uses" for additional impacts from anchor scars.)

The pipeline crosses a buried channel which contains over 90 feet of sedimentary fill near the southwest end of the proposed route. The pipeline will not be impacted by its installation across the buried channel.

Several shallow structural features have been identified along the pipeline route. These features are east-west trending anticlines in the vicinity of Platforms Edith and Eva. There are several faults which trend parallel to the axis of the structure associated with Platform Edith. Ocean floor rupturing due to the presence of the faults is not expected to occur. Neither the anticlinal structures of the associated faults disrupt the seafloor. There is also a uniform horizontally bedded sequence of sediments along the pipeline route. Therefore, differential movement along the route is not expected.

Impacts from ground shaking due to the presence of active faults (Palos Verdes and Newport-Inglewood Faults) in the area could occur. The sequence of sediments in the area show that past earthquake activity has not had any effect on the sediments. Due to the earthquake potential within the area, there are concerns about liquefaction. If liquefaction did occur, it would not have an effect on the pipeline's integrity due to the line's strength. (See Chevron, 1982.)

Subsidence due to fluid withdrawal could occur within the area. To prevent such a problem, a program of water injection to maintain reservoir pore pressures will begin soon after the start of production and continue throughout the life of the field. Therefore, subsidence is not expected to occur (see Chevron, 1980b, page 65).

B. Meteorology

1. Climate

The moderate climate of the Southern California Bight will have no impact on the proposed activity other than a short-term limitation or suspension of operations during high winds and heavy fog.

2. Air Quality

Air quality in the area will be impacted by activities during installation of the pipeline. The DOI has established air quality regulations for oil and gas operations in the OCS (30 CFR 250.57). Exemption formulas and limits have been established which can be used to determine the annual levels of emissions an OCS facility can emit and not significantly affect onshore air quality. Calculations indicate the proposed activities throughout the life of the project remain below levels permitted by MMS (Chevron, 1982, pages 97 to 98).

The South Coast Air Quality Management District (SC AQMD) adopted New Source Review Rule (Regulation 13) on October 5, 1979 (amended March 7, 1980). The rule is applicable to new stationary sources which result in net emission increases (from the source of any non-attainment air contaminant) greater than 150 pounds (68 kg) per day except for CO, for which an increase up to 750 pounds (340 kg) per day. This project will not exceed the allowable 150 pounds/day limits set by SC AQMD.

3. Physical Oceanography

Local oceanographic conditions will have no impact on the proposed activity except that sea conditions might intermittently limit activity.

There will be a temporary impact on water quality due to sediments being disturbed during the installation of the pipeline.

4. Other Uses

The proposed pipeline route passes through the northbound shipping lane (Maritime Traffic Separation Scheme). Traffic within this lane will be disrupted during the installation activities.

The installation of the pipeline will produce anchor scars as stated previously. These scars will have a temporary impact on the commercial fishing in Block 739. Approximately seven sets of scars will be produced. Anchors used during the construction of pipelines in the Santa Barbara Channel have caused fisherman's nets to hang up on the mounds and trenches which were created.

A lay-barge method was used to install the pipeline in the Santa Barbara Channel. The method of installation for the proposed pipeline will be a pull-barge. The anchoring system for a pull-barge is smaller than the lay-barge and therefore the impacts will be less (BLM, 1981, page 488).

The sediments in which the Santa Barbara pipeline was layed were composed of a heavy clay while the sediments along the proposed pipeline route are a silty sand to a sandy silt. The different characteristics of these sediments may have a bearing on the length of time it takes for the mounds and the trenches to disappear.

Recreational activities (i.e., boating and fishing) will be temporarily impacted during the construction of the pipeline for approximately two weeks.

It was determined by Woodward-Clyde Consultants (1982) that no prehistoric cultural resources will be impacted during the construction of the pipeline. A number of unidentifiable magnetometer and side scan sonar anomalies were recorded. A diving survey of those located in shallow water (i.e., less than 60 ft.) found nothing. The remaining anomalies near the pipeline route in the deeper waters could be impacted during the construction of the pipeline. ← not acceptable

The route of Chevron's gas pipeline will cause it to cross over Shell's oil pipeline in approximately 155 ft. of water. Chevron proposes to cross over this line maintaining about 12 inches (30.5 cm) vertical separation between the lines.

There will be no impact to other known mineral resources.

There are no known mariculture activities in this area.

5. Flora and Fauna

Impacts to the marine organisms from the proposed action will be almost entirely on the bottom communities. Chambers, et al., prepared a

Biological Report on the impacts of the installation of the submarine power cables from Chevron's Huntington Beach facility to proposed Platform Edith (Chevron, 1982, Appendix 6).

Filter-feeding organisms can be negatively impacted by the mechanical or abrasive action of silts disturbed during the pipeline's installation. Suspended sediments can also cause a negative impact by burying sedentary organisms. "The marine environment along the pipeline route is naturally characterized by frequent turbidity and sand movement. Since most of the benthic organisms in this area are already adapted to dirty water and sediment scour and burial, turbidity increases would probably have a less serious effect on benthic communities at this site than they might in some other area." (Chevron, 1982, Appendix 6.)

The presence of the pipeline on the bottom will cause an impact to the present habitat. Along most of the route, it will introduce a narrow area of hard substrate. The pipeline may be settled by some organisms typical of hard bottoms.

As stated previously, the pipeline will cross over Shell's oil pipeline in approximately 155 ft. of water. The sand bags which will be placed where the pipeline crosses Shell's oil pipeline will represent a more dramatic habitat alteration. Sand bags around a pipeline in Santa Monica Bay attracted both lobsters and fishes.

6. Threatened or Endangered Species

There are no known threatened or endangered species of flora and fauna within the OCS Lease P-0296. The California gray whale is a frequent visitor (bi-annually) to the Southern California Bight. Also, two species of marine birds (California brown pelican and California least tern) inhabit the San Pedro Channel area. These species are not expected to be impacted by the proposed activity.

Due to the distance of the pipeline to shore, the utilization of Aminoil's existing pipeline to shore and the utilization of onshore facilities, no impact is anticipated on the lightfooted capper rail, Belding's Savannah sparrow, and the Southern bald eagle.

7. Onshore Impacts

The proposed activities will serve to maintain existing levels of offshore employment and services; but will have no other impacts on local employment, population, and industry, community services, public opinion, transportation systems or facilities, or scarce coastal resources.

The addition of crew and workboats during the pipeline installation will have an impact on the existing public transportation services in Los Angeles/Orange Counties.

The proposed activities on OCS Lease P-0296 do not require additional coastal resources or supplies.

8. Accidents

The only possible accident that might result is a pipeline rupture. The gas will be piped at a low pressure (150 psi) and if an accident were to occur, hydrocarbons would seep to the surface. If a rupture did occur the high-low pressure pipeline leak detection system would automatically shut in the pipeline on Platform Edith/Platform Eva.

C. Mitigating Measures

This section develops the measures that mitigate the adverse environmental impacts discussed in the previous section.

Outer Continental Shelf Orders are issued by MMS for each OCS area. These orders govern oil and gas operations and specify the procedures and practices that must be followed during exploration and development and production activities. Twelve OCS Orders have been issued or are under development for leases in the Pacific Region.

The pipeline design, inspection, and operation will comply with OCS Order No. 9, applicable MMS policies and State Lands Regulation for Oil and Gas Production, Section 2132.

In addition, the following measures have been proposed by Chevron to mitigate the adverse environmental impacts of the proposed action.

The pipeline will be designed to withstand, during an earthquake, the same magnitude of ground shaking as Platform Edith.

A critical operation and curtailment plan has been filed with MSS in Los Angeles. It states that critical operations (defined per OCS Order No. 2) will not be conducted when significant wave height is greater than 20 feet, when winds exceed 40 knots, or when fog is so dense that visibility is limited.

The U.S. Coast Guard will be notified 120 days prior to the beginning of construction. The proposed activities will be monitored by the Coast Guard.

All necessary precautions will be taken in setting and releasing anchors so that there is a minimum disturbance on the seafloor.

All work will be coordinated with military agencies.

As proposed by Chevron, there will be 12 inches of vertical separation between Chevron's gas and Shell's oil lines. To assure isolation between the lines a sand/cement barrier will be installed (see Chevron, 1982, Figure 2-4).

The same unidentifiable anomalies which are located in the deeper waters off the pipeline route will be avoided during the pipeline laying procedures.

IV. ALTERNATIVES TO THE PROPOSED ACTION

The Alternatives to the proposed action are presented in Chevron, 1982, pages 104 to 109.

Alternative 1 -- No Project

This alternative would prevent the construction of the natural gas pipeline to Platform Eva. Chevron would then be required to re-evaluate its initial plans to reinject the recovered gas into the producing formation or find an alternate method of transporting the gas to shore.

If the project is denied, the impacts which would result due to the proposed action (see Environmental Consequences Section III of this EA) would not occur. Negative impacts due to the denial may result: gas resources unavailable for utilization, increase in adverse air quality impacts due to loss of source of natural gas and use of alternative liquid fossil fuels, reduction in supply of energy available for consumption, resulting in increased energy prices to the consumer, loss of potential income to Chevron, the Federal government, the State of California, the county, and the contractors and personnel, decrease in long-term marine habitat enhancement in the vicinity of the platform, and pipeline.

Alternative 2 -- Project Postponement

Postponement of the installation of the proposed pipeline would cause Chevron to flare the recovered gas; this is not a viable alternative. No flaring and venting of natural gas from any well will be allowed without prior approval from MMS. Such approval will not be granted unless it is found that there is "no practicable way to complete production of such gas or that flaring or venting is necessary to alleviate a temporary emergency situation or to conduct authorized testing or workover operations" 30 CFR 250.55.

Project postponement impacts are essentially the same as those for the proposed action, with the exception of impacts to air quality if Chevron was granted permission to flare the natural gas. This would result in an increase in air pollution and loss of the natural gas. Air quality calculations based upon the flaring would need to be performed. Alternative 2 would require further Federal and State air quality review prior to acceptance.

Alternative 3 -- Alternate Pipe Laying Method

This alternative proposes to utilize a conventional pipelaying barge. This method would allow the construction and installation of the gas pipeline from a single barge.

The conventional lay barge method would allow the construction and installation of the gas pipeline to be accomplished from a single barge, however, at a higher operating cost. Impacts would be similar to the proposed action with a possible increase in anchor scars (see BLM 1981, pages 86 to 89), and a change in impacts to air quality.

Alternative 4 -- Alternate Route

No alternate route for the proposed subsea gas pipeline has been proposed by Chevron.

Alternative 5 -- Reinjection

This alternative proposes to reinject the produced gas into the formation. The recovered gas from the casing-tubing annulus and all separators is piped to compressors, which compresses it for injection into the reservoirs. A smaller portion of the gas would be utilized as a fuel gas for the process heater.

Reinjection of the natural gas would prevent the impacts from the proposed action from occurring. The design of Platform Edith would need to be altered to accommodate the reinjection system. The utilization of the gas produced from the proposed activity as a new energy source would be eliminated.

V. UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

There will be a temporary decrease in offshore air quality although no regulatory limits will be exceeded.

Pipeline installation will result in localized disturbance of the sea-floor.

Localized increase in turbidity will affect the normal functions and interactions of the local benthic communities.

VI. CONTROVERSIAL ISSUES

Although there are no known unusual or controversial issues associated with the proposed project, the United Brotherhood of Carpenters and Joiners of America, Pile Drivers Local 2375, AFL-CIO had submitted comments on the construction of Platform Edith (see MMS, 1982, Appendix 8.) Adverse comments on the construction of the pipeline are not expected since local labor will be used.

VII. PARTICIPATING STAFF

John Lane - Supervisor Environmental Assessment

Debra Agnolet - Geologist

Dirk Kerkhof - Meteorologist

Robert Yamasaki - Environmental Engineer

VIII. REFERENCES

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IX. APPENDICES

- 1. Review Comments, and Correspondence from Other Agencies and the Public**
- 2. Biological, Endangered, and Threatened Species Surveys**
- 3. Cultural Resource Surveys**
- 4. Contingency Plans**
- 5. Maps, Diagrams, Photographs**
- 6. U. S. Geological Survey Reports**
- 7. Proposed Plan of Development and Environmental Report**

APPENDIX 1

REVIEW OF COMMENTS AND CORRESPONDENCE
FROM OTHER AGENCIES AND THE PUBLIC

Correspondence:

MMS Acting Assistant Manager, Lease Management POCS

State of California Department of Fish and Game

National Marine Fisheries Service

Southern Coast Air Quality

U.S. Coast Guard

U.S. Fish and Wildlife Service

The following agencies were requested to submit comments to our office by August 30, 1982:

1. MMS Acting Assistant Manager, Lease Management POCS
2. State of California Department of Fish and Game, Long Beach
3. State of California Department of Fish and Game, Sacramento
4. U.S. Office of Coastal Zone Management
5. U.S. Environmental Protection Agency
6. Air Resources Board
7. State of California Division of Oil and Gas, Long Beach
8. State of California Division of Oil and Gas, Sacramento
9. Port of Long Beach
10. National Marine Fisheries Service
11. State of California Division of Mines and Geology
12. State Lands Commission, Long Beach
13. State Lands Commission, Long Beach
14. State Lands Commission, Sacramento
15. U.S. Coast Guard
16. Channel Islands National Park
17. California Coastal Commission
18. U.S. Fish and Wildlife Service
19. State of California Governor's Office of Planning



United States Department of the Interior

MINERALS MANAGEMENT SERVICE

PACIFIC OCS REGION

1340 WEST SIXTH STREET

LOS ANGELES, CALIFORNIA 90017

August 16, 1982

In Reply Refer To:
MMS-Mail Stop 150

Memorandum

To: Deputy Minerals Manager, Leasing Management

From: Deputy Minerals Manager, Field Operations

Subject: Comments on Supplement to Platform Edith Development and Production Plan and Environmental Report for Gas Pipeline to Platform Eva, OCS-P 0296, Chevron U.S.A. Inc., Operator

In response to your July 9, 1982 memorandum requesting comments on the proposed gas pipeline, we need the following information to perform our review:

1. Details on gas-handling procedures and equipment from Platform Edith to Platform Eva and to onshore facilities.
2. An update and modification of existing Development Plan schematic drawings on the gas processing system; if there are any changes in original drawing, please indicate.
3. Details on the metering system that will be used from Platform Edith to Platform Eva and to onshore facility - such as type, calibration and monitoring of meters especially at onshore gas processing plant.
4. Environmental and Air Quality Analysis:
 - a. Pages 68, 69, 99, 100: Potential conflicts with commercial fishing should be addressed more fully. Types of commercial fishing in these waters should be noted and any potential impacts of pipeline laying (such as anchor scars) and/or the permanent presence of the line be adequately reviewed.
 - b. Pages 61 & 62: The Environmental Report supplement makes reference to 1979 air quality. It is more appropriate to use the most recent data for 1981. Both the California Air Resources Board and the Los Angeles AQMD have issued public documents covering this year.
 - c. Page 106: Alternative Pipe Laying Methods---The air emissions for this alternative should be calculated as was with the original proposal, and impacts from this alternative be addressed.

d. Pages 104-110: Alternatives to the Proposed Action---There should be discussion as to the impacts of the named alternatives. This section does not comply with the minimum requirements set forth in NTL 80-2, Minimum Requirements for Environment Reports.

We suggest setting up a meeting with Chevron to go over their changes from the original plan.

H T Cypher
H. T. Cypher

cc: File: Platform Edith
Chron
MM
Supv. Environmental Unit
Supv. Operations Unit

FO:RTudor:rd (Disk 1D)

MMS Acting Assistant Manager, Lease Management

Comments 1, 2, and 3 which refer to the development portion of the proposed pipeline have been forwarded to Operations.

4. Environmental and Air Quality Analysis

a. For a discussion of commercial and sport fishing, please see the EIR/EA for Shell OCS Beta Unit Development (USGS, et al., 1978) Volume II pages 169 and 170. The comments on pipeline laying have been noted, see pages 18 and 19 in this EA. Also a discussion of these impacts can be found in BLM, 1981, see pages 86 to 89.

b. Comment noted. 1981 data from California Air Resources Board has been utilized to update the material present by Chevron, see pages 7 to 8 in this EA.

c. Air emissions for a lay barge were calculated by Chevron in Chevron, 1980b, Appendix 2.

d. The impacts from Alternative 2 is identical to the proposed action with the exception of flaring the recovered gas. Flaring of the gas is not a viable part of the alternative, see 30 CFR 250.55.

DEPARTMENT OF FISH AND GAME1416 NINTH STREET
SACRAMENTO, CALIFORNIA 95814

(916) 445-3531



August 27, 1982



Mr. Reid T. Stone
Acting Minerals Manager
Minerals Management Service
Pacific OCS Region
1340 West Sixth Street
Los Angeles, California 90017

Dear Mr. Stone:

We have reviewed the Supplement to the Environmental Report and Development and Production Plan for Platform Edith, OCS Lease P0296, for the placement of a gas pipeline between platforms Edith and Eva, as requested in your letter of July 23, 1982. The Department concerns with pipeline projects relate to loss of intertidal and subtidal habitats, kelp beds and interference with commercial and sport fishing activities.

In order to protect living marine resources, we recommend that Chevron be required to implement the measures discussed in the document to reduce or eliminate adverse impacts. With implementation of these measures we will be able to concur with the project.

Should you have any questions, please contact Mr. R. E. Mall, Environmental Services Supervisor, 350 Golden Shore, Long Beach, California 90802. The phone number is (213) 590-5155.

A handwritten signature in cursive script that reads "E. T. Hoffoli".

FOR Director

Department of Fish and Game

1. Comment noted, see Comment 4a MMS Acting Assistant Manager, Lease Management. Chambers and others prepared a Biological Report on the impacts of the installation of the submarine power cables from Chevron's Huntington Beach facility to proposed Platform Edith (Chevron, 1982, Appendix 6).



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

Southwest Region
300 South Ferry Street
Terminal Island, California 90731

August 2, 1982

F/SWR33:RSH
1503-06

Mr. Reid T. Stone
Acting Minerals Manager
Pacific OCS Region
Minerals Management Service
1340 West Sixth Street
Los Angeles, CA 90017

USAS - CONS. DIV.
AUG 4 1982
HECE
LOS ANGELES

Dear Mr. Stone:

We have reviewed the Chevron U.S.A. Inc., April 22, 1982, OCS Lease P-0296, Platform Edith, Supplement to Environmental Report and Development and Production Plan as requested in your letter of July 23, 1982. The activities described in these documents should not have any significant impacts to those marine resources of concern to our Agency. We, therefore, do not have any comments to provide at this time.

Sincerely yours,

Alan W. Ford
Regional Director





**South Coast
AIR QUALITY MANAGEMENT DISTRICT**

HEADQUARTERS, 9150 E. FLAIR DR., EL MONTE, CA 91731
ANAHEIM OFFICE, 1610 E. BALL RD., ANAHEIM, CA 92805 . (714) 991-7200
CARSON OFFICE, 950 DOVLEN PL., SPACE E, CARSON, CA 90746 . (213) 532-4102
COLTON OFFICE, 22850 COOLEY DR., COLTON, CA 92324 . (714) 824-2660

USGS - CONS. DIV.
OCS REGION
AUG 24 1982
RECEIVED
LOS ANGELES

August 20, 1982

Mr. Reid T. Stone
Acting Minerals Manager
1340 W. Sixth St.
Los Angeles, CA 90017



Dear Mr. Stone:

PLATFORM EDITH, OCS-P 0455

Thank you for the opportunity to comment on this environmental report. We reviewed the air quality section for adequacy. We have two comments now, but may have more when the full environmental assessment is complete.

1. Page 95 has a reference to "Rule 13". The correct term is "Regulation 13", which includes a number of rules in the 1300 series. The report should cite the appropriate rules applying to this project.
2. More importantly, the District does not consider the formula used in lieu of evaluating the effect of air contaminant emissions to be sufficient. We intend to employ modeling as well as the results of the atmospheric conditions in the marine area in formally evaluating this project and any consequent permit applications.

If you have any questions, please call me at (213) 572-6418.

Sincerely,

Brian Farris
Senior Air Quality Specialist
Planning Division
Headquarters

BF:ko

Air Quality Management District

1. Comment Noted.

2. In developing the exemption formulas, the GS assumed source characteristics and meteorological conditions similar to those encountered on the OCS. Working with the adopted significance levels, the GS then calculated, for each pollutant and averaging time, the emission rates that would produce, from OCS sources at varying distances from shore, onshore ambient air concentrations equivalent to the significance levels. Three pollutants (total suspended particulates (TSP), sulfur dioxide (SO_2) and nitrogen oxides (NO_x)) produced approximately the same results showing that a 100 tons per year emission rate for a facility located three statute miles from shore would not exceed significance levels onshore. This emission rate is the exemption level used by EPA for new sources locating in nonattainment areas onshore. Because of the higher allowed concentration for carbon monoxide, the GS developed a separate formula for carbon monoxide (CO).



**DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD**

MAILING ADDRESS:
COMMANDER (MCS)
ELEVENTH COAST GUARD DISTRICT
UNION BANK BLDG.
400 OCEANGATE
LONG BEACH, CA. 90822
16475/30
24 August 1982



U. S. Department of Interior
Minerals Management Service
1340 W. Sixth Street
Los Angeles, CA 90017

NOTED-DUNAWAY

Ref: OCS P-0296

Dear Sir:

I have reviewed the Supplement to the Platform Edith Development and Production Plan and Environmental Report. Provided that the following comments are complied with, the Coast Guard has no objection to the installation of the proposed gas pipeline from Platform Edith to Platform Eva.

This office must be advised at least one hundred twenty days prior to the commencement of pipeline installation operations so that the traffic separation scheme in the immediate area of these operations can be interrupted with a Precautionary Area. This much notification is necessary to accomplish the required international notifications.

Thank you for the opportunity to comment on these documents.

Sincerely,

J. E. TERVEEN
Lieutenant Commander, U. S. Coast Guard
Chief, Outer Continental Shelf Branch
By direction of the District Commander

Copy: CCGD11 (oan)

U.S. Coast Guard

1. Chevron will be required to contact the U.S. Coast Guard 120 days prior to the installation of the pipeline.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
24000 Avila Road
Laguna Niguel, California 92677

NOTED - ADVISE

August 5, 1982

Memorandum

To: Minerals Manager, Minerals Management Service
Pacific OCS Region, Los Angeles, CA

From: Field Supervisor (ES-LN), Laguna Niguel, CA

Subject: 655 DM 1 Review, Combined Supplement to Plan of
Development and Environmental Report for Gas Pipeline
from Platform Edith OCS-P 0296, Chevron USA, Operator



The Fish and Wildlife Service (FWS) provides the following 655 DM 1 review comments on the Combined Supplement to Plan of Development by Chevron USA, Inc., for a gas pipeline linking Platform Edith (OCS-P 0296) off Orange County with existing pipelines and onshore facilities.

We found the document was highly informative when reviewed with the previously issued supplements. It appears to cover most structural and environmental issues in an adequate manner. The only concerns that do not appear to be discussed adequately relate to the formation of mounds from the anchor chains and from dragging the pipeline across the soft bottom sediments. We anticipate losses to benthic invertebrates and fish will be minimal because of previous disruption of the habitat by other past pipeline construction and oil/gas developments. Furthermore, the slight changes in relief from the mounds and by laying the pipeline on top of soft sediments will provide some habitat for attachment and attraction of benthic organisms. This may slightly increase the long-term habitat values which may offset some short-term loss of some invertebrates and fishes.

Therefore, with the available information, we foresee no problems to the construction and operation of this pipeline. However, if information does become available about environmental impacts, we would suggest the incorporation of mitigation measures, such as placement of rock on top of the pipeline, planting of a kelp bed, and/or construction of an artificial reef into the project design. We would appreciate being kept informed about this project and any further updates on information obtained during this project.

If you have any questions on above, please contact me or John Wolfe at FTS 796-4270.

U.S. Fish and Wildlife

1. Comment noted, see Comment 4a MMS Acting Assistant Manager, Lease Management.

2. The pipeline itself will introduce a narrow area of hard substrate and may be settled by some organisms of hard bottoms. The sand/cement bags which will be placed where the pipeline crosses Shell's oil and pipeline will cause a more dramatic habitat alteration. Presently, feasibility studies of culturing *Macrocystis pynfera* in deep water are not being conducted.

APPENDIX 2

BIOLOGICAL, ENDANGERED, AND THREATENED SPECIES SURVEYS

FWS Bio. Opinion
Sale 48 i Prior

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6



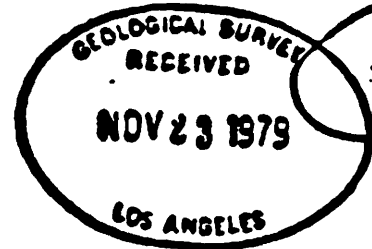
United States Department of the Interior

FISH AND WILDLIFE SERVICE
WASHINGTON, D.C. 20240

In Reply Refer To:
FWS/OES 375.419
ISS 79-2

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Rec'd. of F. Service

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Memorandum

To: Director, U.S. Geological Survey

From: ^{Acting} Director

Subject: Biological Opinion Regarding Oil and Gas Exploration and Certain Development Activities in Southern California

On April 24, 1979, the Fish and Wildlife Service (FWS) sent a memorandum to the U.S. Geological Survey (GS) requesting initiation of consultation under Section 7 of the Endangered Species Act of 1973, as amended, for Outer Continental Shelf (OCS) oil and gas exploration, development, and production activities on tracts in the OCS Sale No. 35 area (Southern California). By memorandum dated May 18, 1979, (Attachment 1) GS requested consultation with the FWS and expanded the scope of the request to include all lease sale activities off Southern California not previously subject to Section 7 consultation.

In response to this request, I appointed a consultation team by memorandum dated May 30, 1979, (Attachment 2) to assist me in determining whether the subject exploration, development, and production activities off Southern California are likely to jeopardize the continued existence of Endangered or Threatened species or result in the destruction or adverse modification of Critical Habitat of such species.

The team was comprised of Nancy Sweeney, Brian Kinnear, Steve Tonjes, and David Watts, Office of Endangered Species, Washington, D.C.; and Ralph Swanson, Sacramento Area Office, FWS.

On June 5 and 6, 1979, the FWS consultation team and National Marine Fisheries Service (NMFS) representatives met with GS representatives in Los Angeles, California, to discuss the exploration, development, and production activities in Southern California and their impact on Threatened and Endangered species within the area. A list of the participants is attached (Attachment 3).



215

The consultation team reviewed reports, publications, and correspondence from knowledgeable sources on the species considered in this consultation identified below, and numerous telephone contacts were made with other experts. Information contained in the Final Environmental Impact Statements (FEIS) for OCS Sales 35 and 48, Southern California, was carefully evaluated to ascertain the effects of the exploration activities on listed species and their habitats. In addition, development plans were reviewed for seven development tracts. Copies of pertinent records and documents are included in an administrative record maintained at the Office of Endangered Species and are incorporated herein by reference.

Project Description

GS has primary regulatory authority for exploration, development, and production activities in the OCS after the issuance of the leases by the Bureau of Land Management (BLM).

Exploration of the OCS requires certain onshore support facilities including office space, helicopter and/or fixed-wing aircraft facilities, docks for boating activities, and supply bases. Due to the uncertain nature of oil exploration, companies are generally unwilling to construct new facilities to support exploration activities and usually prefer to utilize existing areas and facilities. At present, the numerous onshore facilities in Southern California being used for exploration activities will support any proposed new exploration.

Therefore, the biological opinion is based on the assumption that existing onshore facilities will continue to be utilized for exploration activities. Should the use pattern of these facilities be changed or additional onshore facilities be required which may affect listed species or their habitats, GS must reinitiate consultation.

Development and production (development/production) activities planned for seven specific tracts are included in this consultation. In the future, GS will review each development/production plan to insure compliance with Section 7.

Development/production plans include the location for the platform placement, possible transportation routes (pipelines and/or barges, tankers), and identification of specific onshore facilities and their intended use, i.e. storage, refinement, etc. These plans have more specific information than do the exploration plans.

Your request for consultation included the following species: bald eagle (Haliaeetus leucocephalus), American peregrine falcon (Falco peregrinus anatum), southern sea otter (Enhydra lutris nereis), brown pelican (Pelecanus occidentalis), California least tern (Sterna albifrons browni), light-footed clapper rail (Rallus longirostris levipes), Aleutian Canada goose (Branta canadensis leucopareia), San Clemente loggerhead shrike

(Lanius ludovicianus mearnsi), San Clemente sage sparrow (Aphispiza belli clementae), Smith's blue butterfly (Shiriniaecoides enoptes smithi), San Clemente broom (Lotus scoparius ssp. traskiae), San Clemente Island bush-mallow (Malacothamnus clementinus), San Clemente Island larkspur (Delphinium kinkiense), San Clemente Island Indian paintbrush (Castilleja grisea), Olive Ridley sea turtle (Lepidochelys olivacea), green sea turtle (Chelonia mydas), loggerhead sea turtle (Caretta caretta), and leatherback sea turtle (Dermochelys coriacea).

After reviewing the proposed activities and biological data on the above species, we have determined that the following species will not be affected because they are not known to occur in the impact area from the proposed exploration and the specific development/production activities. They are the Aleutian Canada goose, San Clemente loggerhead shrike, San Clemente sage sparrow, Smith's blue butterfly, San Clemente broom, San Clemente Island bush-mallow, San Clemente Island larkspur, and San Clemente Island Indian paintbrush. Therefore, they are not considered in this consultation.

The sea turtles listed above were also included in your consultation request. The NPS has jurisdiction over Endangered and Threatened sea turtles while they are in the aquatic environment; they are under the jurisdiction of the FWS onshore. Since these four sea turtles have no known nesting sites within the proposed project area, we defer consultation to NPS.

We feel that two additional species should be included in this consultation: El Segundo blue butterfly (Shiriniaecoides battoides allyni) and salt marsh bird's beak (Cordylanthus maritimus ssp. maritimus).

The following species are included in this biological opinion: El Segundo blue butterfly, bald eagle, American peregrine falcon, southern sea otter, California brown pelican, California least tern, light-footed clapper rail, and salt marsh bird's beak.

After evaluating the proposed activities and their effects on the following eight species, it is my biological opinion that these activities, as proposed, are not likely to jeopardize the continued existence of the species.

A summary of the biological data and considerations of the consultation team are provided for each of the eight species.

El Segundo Blue Butterfly (Shiriniaecoides battoides allyni)

The El Segundo blue butterfly is an insect endemic to the Southern California coastal strand. This species was listed as Endangered on June 1, 1976. Critical Habitat has not yet been designated for this species.

This butterfly is limited to two small remnants of the once extensive El Segundo Dunes system (36 square miles) extending from the Los Angeles Airport to San Pedro, in Los Angeles County. Its current distribution is limited to dunes adjacent to the Los Angeles Airport and a small parcel of commercially owned land on the Chevron oil refinery in El Segundo.

The El Segundo blue is dependent upon coastal dune habitat which contains two species of buckwheat (Ericogonum) that provide the butterfly with nesting, feeding, and resting habitat. The conversion of this essential dune habitat to urban developments threatens the continued survival of this species.

Onshore activities such as the placement of pipelines and the location of refineries, present the greatest threat to the destruction of this species' habitat. However, since existing onshore facilities are to be used, proposed oil and gas exploration or development/production activities are not expected to jeopardize the continued existence of this species.

Bald Eagle (Haliaeetus leucocephalus)

The bald eagle was listed as Endangered in 43 of the contiguous 48 States including California, and Threatened in the remaining five States on February 14, 1976. Critical Habitat has not yet been determined for this species. This large bird occurs from Alaska to northern Mexico and lives in association with aquatic habitats such as lakes, large rivers, and estuaries.

Bald eagles nested on the Channel Islands until the mid 1950's. Reproductive failure, probably due to pesticide contamination of its food sources, and habitat losses have been the chief causes for the eagle's decline and present status. The reintroduction of the bald eagle to the northern Channel Islands is planned for the future. In addition, Santa Catalina is also being considered for eagle hacking within the near future.

Successful reintroduction of bald eagles to their former nesting range in California will result in the increased numbers utilizing coastal areas.

The potential impacts to the eagle from proposed oil and gas exploration and development/production activities are disturbance to its nesting areas resulting from onshore activities and the possibility of an oil spill reaching the coast and subsequently oiling the eagles and/or contaminating the food source. Oiled eagles returning to the nest to incubate could contaminate the eggs or nestlings. Toxicological studies have indicated that even small amounts of oil applied to an egg are toxic to the embryo.

Recent information indicates that bald eagles may be wintering on the Channel Islands. Since no onshore development is proposed for the Islands, the impacts from an oil spill to wintering eagles would be limited to the contamination of the eagle's food source or feather contamination of individual eagles.

However, the present concentrations of California's eagle population are located along inland lakes and rivers, and are removed from the impacts of coastal oil and gas development activities.

American Peregrine Falcon (*Falco peregrinus anatum*)

The American peregrine was listed as Endangered on June 2 and October 13, 1970, and a portion of the peregrine's Critical Habitat was designated in the August 11, 1977, Federal Register. This subspecies once occurred widely through much of North America from southern Alaska and Canada, to northern Mexico. This peregrine is migratory in the northern portion of its breeding range, but exhibits less migratory behavior toward the southern portion of its range. In California, the species once occurred throughout the State where cliff faces and steep rocky slopes provided suitable nesting locations. The mountains, sea coast, and Channel Islands historically harbored significant populations.

The species has suffered a drastic decline throughout its range primarily due to reproductive failure resulting from pesticide contamination of its avian prey. Currently, less than fifty known pairs remain in California and the species has been extirpated from the Channel Islands.

Several historic eyries are located along the coast from Point Conception south to the Mexican border. At present, however, only one active nest site, located west of Santa Barbara, exists along this reach of the coast. Considerable effort is currently being expended toward recovery of this species, chiefly through captive propagation and reintroduction. The Channel Islands include several sites where reintroduction efforts may eventually be made. Natural expansion of American peregrines is anticipated with the decreased usage of residual pesticides.

The falcons prey heavily upon coastal birds. The potential impacts on the American peregrine falcon from oil and gas exploration and development/production activities are identical to those on the bald eagle.

At this time, there are no proposals for new onshore facilities along the Southern California coast, particularly in the vicinity of Point Conception. Should additional facilities be proposed, GS must reinstate Section 7 consultation. The Oilspill Risk Analysis, prepared by GS for the Southern California (Proposed Sale 48) Outer Continental Shelf Lease Area, arbitrarily divides the California coast into segments and projects the probability of oil impacting these segments from various offshore lease locations. According to this analysis, the probability of an OCS related oil spill reaching the vicinity of the one active peregrine nest is less than ten percent. Since the Critical Habitat is outside of the area considered in this consultation, that habitat will not be destroyed or adversely modified by the proposal.

Transient American peregrines may be found in small numbers along the coast, especially during migration and winter periods. We recommend that the majority of the estuaries, bays, lagoons, and rivers have available cleanup equipment to close off these areas within two hours of a spill occurrence. This action would minimize the impact of the oil, should it reach the shore.

Southern Sea Otter (Enhydra lutris nereis)

The southern sea otter was listed in the Federal Register as Threatened on January 14, 1977. Critical Habitat has not yet been determined for this species.

Historically, the southern sea otter was found in relative abundance along the California coast. The principal population decreases resulted from commercial harvest by fur traders during the 1800's, and the population was brought to near extinction at the turn of the century.

In 1938, the southern sea otter was identified off Point Sur, California and that population has expanded to an estimated high of 1,856 individuals (1976 census) with a range between Point San Luis (San Luis Obispo County) to Ano Nuevo Point (Santa Cruz County). A few wandering individuals have been sighted to the north and south of these range limits. Provided the population continues to increase at the current census rate, it is presumed that the population will extend its range to the Channel Islands and mainland south of Point Conception. Because the area considered in this consultation is part of the southern sea otter's historical range, it will be considered in this consultation.

The southern sea otter is an opportunistic predator which forages in both the rocky and soft sediment communities, seldom ranging beyond the 20-30 fathom depth curve.

An oil spill could affect sea otters in several ways. When trying to determine these effects, the physical configuration and the amount of oil on the surface of the water must be considered. The oil is influenced by environmental factors including wind, waves, temperature, suspended sediments, and time. Direct contact with oil would mat the coat and decrease the otter's natural insulation against temperature loss. Constant preening to maintain the insulating quality of the coat would result in the direct ingestion of some petroleum products. As stated in the DES for Sale No. 45, "Accidental exposure of two sea otters to a small but unknown amount of oil (probably diesel) in an experimental holding pool on Anchitka Island resulted in fur matting, progressively severe distress, emergence from the water, and death by exposure within several hours" (K.W. Kenyon, unpublished data). "The oil in this case formed a visible sheen comparable to that sometimes present in harbor areas where gulls appear unaffected by it."

The sea otter feeds on benthic organisms such as abalone, pistol clams, and urchins.

There are natural factors which affect the persistence of oil such as dilution, evaporation, photo-oxidation, sedimentation by adsorption on suspended particles and microbial degradation. Because of these factors, it makes it difficult to determine the effects of oil on benthic communities. Oil which settles to the bottom, depending upon the factors identified above, could kill benthic organisms by smothering the organisms or from its toxic effects.

In the event of an oil spill, another major effect on otters would be the local loss of food sources. The secondary effect would be the long term contamination of shellfish populations which may also result in the ingestion of petroleum products by the sea otters.

The southern sea otter does not presently inhabit the area considered in this consultation. Should the otter move into this area during the life of these activities, GS must reinitiate Section 7 consultation to determine whether the ongoing activities are likely to jeopardize the continued existence of the sea otter.

California Brown Pelican (Pelicanus occidentalis californicus)

The California brown pelican was originally listed as Endangered on October 13, 1970. Critical Habitat has not yet been determined for this species. All subspecies of brown pelicans were listed on December 2, 1970.

The only regular breeding colonies of this subspecies in the United States are located on Anacapa Island and nearby Scorpion Rock. This nesting population is augmented from late July through early November by large numbers of pelicans which regularly disperse north from Mexican waters. These migrants are generally gone again by early December; however, it has been recently determined that some may be recruited into the Anacapa breeding population.

Pelicans rarely are found far from salt water, or farther than 20-30 miles offshore. They forage intensively in the Santa Barbara Channel. Their major food is small fishes (primarily anchovy), which they capture near the surface by plunge-diving from the air.

During the late 1960's and early 1970's, the Anacapa colony suffered catastrophic nesting failure induced by DDT and its derivatives accumulating in the reproducing adults. Following the ban on this pesticide, the fledging rate has continued to fluctuate widely but has not dropped to the low numbers experienced earlier.

Pelicans may be affected by oil spills through contamination of their plumage as they dive for food or drift on the surface. This may contribute to direct mortality or result in reduced hatchability of eggs oiled from the fouled plumage of an adult bird. Individual pelicans that have been found oiled have responded well to treatment.

In accordance with the Oilspill Risk Analysis, we have identified ten segments which contain habitats important to the listed species and are susceptible to damage from oil (Attachment 4). Of these ten, Anacapa, Segment 50, has the greatest projected likelihood of being hit by oil from the greatest number of sources (Attachment 5).

It is difficult to predict from oil spill probabilities what the effects of oil activities might be on Anacapa. The only known incident of significant numbers of pelicans being oiled was after a spill from the Navy vessel Manatee in August 1973. Concentrations of light tar washed up on beaches from San Clemente south into Mexico. Twenty to 25 juvenile pelicans were found oiled. In contrast, no pelicans were reported oiled as a result of the January 1969, Santa Barbara blowout. Judging only from location of the spills, the results should have been reversed, but timing was the determinant in these cases. The San Clemente spill occurred in the late summer, when large numbers of pelicans were dispersed throughout the area; the Santa Barbara spill occurred in the winter, just following a severe storm, when relatively few pelicans were in the area and fewer still would have been far from shelter. While the breeding grounds and feeding areas surrounding Anacapa Island are extremely vulnerable locations, the San Clemente spill indicates that large amounts of oil anywhere within the pelicans' range could cause significant damage at the wrong time of year.

No pelican losses from OCS activities off Southern California have been reported to date, nor from nearby activities in the State tidelands. Additional threat from OCS Sale 48 has been considerably reduced by the withdrawal of tracts that were close to Anacapa.

To assist GS in carrying out their responsibility for the conservation of the listed species, the following recommendations are given.

From Attachment 5, the following tracts, transportation routes, and pipeline routes indicate a high probability of an oil spill contacting Anacapa Island. Tracts leased before Sale No. 48: 166, 202, 203, 204, 205, 206, 210, 215, 216, 217, 233, 234, 240, and 241. Tracts leased in Sale No. 48: 337, 346, 347, and 361. Transportation Route: T6 and T7. Pipeline Route: L4 and L6.

We recommend that GS require the lessee to assign a high priority and prescribe specific measures for the protection of Anacapa Island in all Oil Spill Contingency Plans submitted to GS for exploration or development/production within the above listed tracts, and for activities that might result in substantially increased tanker traffic over the identified transportation routes.

In accordance with OCS Operating Order No. 7, the proper authorities must be notified in the event of an oil spill occurrence. We would like to insure maximum protection to Anacapa Island by further recommending that GS require the oil spill containment equipment, which is maintained on the individual platforms, also be required to respond to a spill from another platform in the area.

California Least Tern (Sterna albifrons browni)

The California least tern was listed as Endangered in the Federal Register on October 13, 1970. Critical Habitat has not yet been designated for this subspecies.

The least tern migrates from Mexico each spring to establish breeding colonies on the California coast. It occupies coastal habitats from the Pacific coast of Baja California to the San Francisco Bay from April to September.

The least tern usually chooses a nesting location in an open expanse of sand, dirt, or dried mud close to a lagoon or estuary where food can be obtained. Prey consists of small fish such as the northern anchovy (Enchaulis mordax), Deepbody anchovy (Anchoa mitchelli), Jacksmelt (Atherinops affinis), California grunion (Leuresthes tenuis), shiner surfperch (Cyrtocoster aggregata), California killifish (Fundulus parvipinnis), and mosquitofish (Gambusia affinis). The reduction in numbers of least terns has resulted from the loss of feeding and nesting habitats and disruption of nest sites by human-associated activities.

Potential threats to the California least tern from oil and gas activities are related to oil spills and increased human activities in coastal areas where nesting colonies occur. The birds could be contaminated by a spill as they dive for food. This may contribute to direct mortality or result in reduced hatchability of eggs oiled from the fouled plumage of an adult bird. Oil spills cause severe damage when they enter coastal wetlands, and could destroy essential feeding areas for the terns.

To assist GS in implementing its responsibility for the conservation of the species, the following recommendation is given. GS should require that the Oil Spill Contingency Plans include provisions for the deployment of adequate containment equipment into the areas listed below to prevent the entry of an advancing oil spill. The necessary equipment must be onsite, within two hours, on any of these areas that are threatened by a spill.

The areas identified in the Recovery Plan as essential habitat for least terns are: Mission Bay; Sweetwater Marsh Complex; Tijuana River Estuary; South San Diego Bay; North San Diego Bay; Los Penasquitos Lagoon; San Dieguito Lagoon; San Elijo Lagoon; Batiquitos Lagoon; Agua Hedionda Lagoon; Buena Vista Lagoon; Santa Margarita River; Santa Ana River; Anahier Bay/Huntington Harbor; San Gabriel River/Alamitos Bay; Harbor Lake; Terminal Island; Playa del Rey; Mugu Lagoon; and Ormond Beach (Attachment 4).

Light-footed Clapper Rail (Rallus longirostris levipes)

The light-footed clapper rail was listed as Endangered on October 13, 1970. Critical Habitat has not yet been designated for this subspecies. Histori-

cally, the clapper rail's range extended from Santa Barbara County, California, to San Quintin Bay, Baja California, Mexico. Currently, this subspecies probably occurs in 16 California marshes and at least two marshes in Baja California. Distribution is along approximately 200 miles of United States coastline from Goleta Slough in Santa Barbara County south to the Tijuana Estuary in San Diego County.

Food consists of various invertebrates (crustaceans, mollusks and annelids) found in tidal coastal marshes. Past decline of the species has been attributed to the loss of over 65 percent of its former habitat as well as overhunting prior to 1939.

Potential threats from oil and gas activities could be from oil spills and increased human activities in the estuaries where existing populations live. The population estimate of 1976 suggested a total population of 250 birds distributed throughout 16 locations in California. Of these, five are in public ownership and may contain over 40 percent of the estimated population in California. Through the efforts of the Light-footed Clapper Rail Recovery Team, a plan to stabilize this species through land acquisition and marsh management has been approved.

According to the Oilspill Risk Analysis, the possibility of an oil spill hitting clapper rail habitat is low. In addition, with the use of existing onshore facilities, no increased human disturbance from these activities is likely.

In order to assist GS in carrying out its responsibility to conserve the species, it is recommended that GS require the lessee to deploy the required containment equipment onto those areas identified in the Draft Recovery Plan as essential clapper rail habitat (Attachment 4). The necessary equipment should be onsite within two hours of an oil spill to prevent the entry of any advancing spill. Those areas to be included in the Oil Spill Contingency Plans for exploration and development/production are: Mission Bay; Sweetwater River complex; Tijuana River Estuary; South San Diego Bay; San Diego River mouth; Los Peñasquitos Lagoon; upper Newport Bay; Anaheim Bay; Mugu Lagoon area; Carpinteria Marsh; and Goleta Slough.

Salt Marsh Bird's Beak (Cordylanthus maritimus ssp. maritimus)

Salt marsh bird's beak is an annual herb (15-30 cm high) with purple flowers, that inhabits the upper elevations of tidal salt marshes. Populations of bird's beak are associated with pickleweed (Salicornia) and salt grass (Distichlis) near elevations at and above high tide. The bird's beak was listed as Endangered in the Federal Register on September 28, 1978. Critical Habitat has not yet been determined for C. m. maritimus.

Historically, this subspecies occurred from Carpinteria in Santa Barbara County south to San Diego County and northern Baja California, Mexico.

Today, distribution is restricted to the Sandyland Marsh (Carpinteria) in Santa Barbara County, Point Mugu in Ventura County, and the Tijuana River Estuary in San Diego County.

Destruction of coastal salt marshes is the major factor responsible for the elimination of this wetland species.

The Carpinteria Marsh area and the Tijuana River Estuary are in public ownership; and since existing onshore facilities will be utilized, the potential for further destruction of the bird's beak's existing habitat from CCS activities has been reduced. The probability of an oil spill reaching this species' habitat is minimal.

Although the remaining populations of the salt marsh bird's beak are located inside protected estuaries and along the upper elevations of tidal salt marshes, the potential for inundation by an CCS related oil spill still exists.

In order to assist GS in carrying out their responsibility to conserve the listed species, it is recommended that GS require the necessary containment equipment be deployed to those three areas identified above within two hours of an oil spill. This requirement should be a part of the Oil Spill Contingency Plan for each exploration and development/production plan.

Development Plans

This consultation includes three existing development activities and four proposed development plans. A discussion of these development tracts follows:

The three existing development tracts are located in the Santa Barbara Channel (tracts 166, 240, and 241). The proposed development plans for tracts 188, 202, and 217 are also located in the Santa Barbara Channel. The remaining development plan (tract 300) is located south of Long Beach.

There are two platforms on tract 166—Hogan and Houchin—located five miles south of Carpinteria. These platforms are sending 4,600 barrels of oil per day via pipeline to existing facilities at La Conchita. Crew boats make two or three round trips a day from existing facilities at Carpinteria.

Another tract under development, tract 241, has three platforms sending 20,024 barrels of oil per day via existing pipeline to the Rincon facilities. These platforms require two to three crew boat trips a day from Carpinteria.

The third producing tract is tract 240, containing platform Hillhouse. This tract is located ten miles south of Summerland. The platform is serviced by two or three crew boats a day from Carpinteria. The 7,752 barrels of oil per day is transported by connecting pipeline to the tract 241 pipeline which goes to the Rincon facilities.

There are four proposed development plans being considered in this consultation. The first is a proposal for tract 217 for platform Grace. The estimated production is 16,000 barrels of oil per day by 1982. The tract is located 12 miles south-southwest of Rincon. It is proposed to connect this platform to the State platform Hope via pipeline, then to Carpinteria via existing pipeline. An additional pipeline proposal associated with this platform, is a 5.8 mile overland pipeline from Carpinteria south to Ventura. This pipeline is south of Carpinteria Marsh.

Tract 188 is located five miles south of Refugio Cove and platform Hondo will be placed on the tract. It is estimated that a production rate of 60,000 barrels of oil per day will be produced by 1982. The oil will be transported by pipeline to an offshore storage and transport (OS&T) vessel. This OS&T vessel will be located within the same tract. It is anticipated that two to three crew boat trips per day will originate from Carpinteria and two helicopter trips per week out of Ventura or Santa Barbara will be servicing this platform. From the OS&T vessel the oil will be tankered to an existing onshore facility.

Platform Girty is proposed for tract 202, located four miles southwest of Oxnard. Oil production is estimated to be 6,000 barrels per day and will travel via pipeline to a proposed onshore facility south of McGrath Lake at Ventura. It is estimated that three boat trips a day and three to four helicopter trips a month from Ventura will be needed to service this platform. From the proposed facility in Ventura, the oil will go to the Carpinteria facilities and then to Rincon facilities. There are two proposed onshore pipeline routes from Carpinteria to Rincon—one directly to Rincon, the other from Carpinteria to Rincon via La Conchita.

The fourth proposed development plan is located on tract 300, seven miles south of Long Beach. There will be two platforms on this tract, Ellen and Elly, with an estimated production rate of 16,000 barrels of oil per day by 1982. A proposed pipeline will connect these platforms to Long Beach refinery facilities. Three to four crew boats a day and two helicopter trips per week from Huntington Beach are anticipated to serve this tract. There is a proposal to place a platform, Eureka, on the adjacent tract, number 301. This platform will be joined to those on 300 by pipeline.

The four proposed development plans (tracts 188, 202, 217, and 300) specifically address the proposed pipeline routes and the onshore facilities to be used. We have reviewed the proposals and believe that the proposed pipeline routes and the construction of the onshore facility are not likely to jeopardize the continued existence of the listed species or destroy or adversely modify the Critical Habitat of the American peregrine falcon. However, Section 7 consultation must be reinitiated should any of the following occur which may affect listed species or their Critical Habitats: (1) alternative pipeline route be planned; (2) the construction of additional onshore facilities; (3) a change in the use pattern be conducted at the onshore facilities mentioned above; or (4) a new species be listed.

Cumulative Effects

There are numerous offshore and coastal projects and activities in Southern California. Those known to the Office of Endangered Species which could have an impact on the Endangered and Threatened species are considered in this consultation.

The Standard Oil Company of Ohio (SOHIO) pipeline project proposes to transport Alaskan crude oil from Valdez, Alaska to a new (unconstructed) unloading facility at Long Beach, California by tanker. Fourteen tankers will be required, each making 23 round trips per year, to transport the oil. From Long Beach, 500,000 barrels of oil per day will be transported by pipeline to Midland, Texas.

Additional increases in tankers carrying oil out of California can be attributed to the Naval Petroleum Production Act transporting oil from Elk Hills in the San Joaquin Valley to Port Huena via pipeline. It is proposed that 350,000 barrels of crude oil a day be sold to any interested party, which makes it difficult to predict the transport routes. However, it could possibly go to the Los Angeles/Long Beach area or even to the east coast traveling through the Panama Canal.

The Chanslor-Western Oil and Development Company has proposed to explore the Vaca Tar Sands. Because the oil would be extremely viscous, an oil processing plant or coking facility would probably be needed at the project site before being shipped by pipeline.

Additional vessel traffic can be expected in the San Pedro and Santa Barbara Channels from the Space Shuttle program.

There are two nuclear power plant proposals. The first, at Diablo Canyon in San Luis Obispo County, has been constructed, but start-up has not been granted. The second plant is in operation but has proposed to expand the facilities. This one is located at San Onofre, Orange County.

There are several Liquefied Natural Gas (LNG) facilities proposed for Southern California. None have received approval yet. The onshore LNG plant would be at Point Conception and the offshore sites being considered are: Beachers Bay; Chinese Harbor; San Pedro Point; Smugglers Cove; East Channel Shelf; and Camp Pendleton. If the onshore LNG facility at Point Conception is approved, it will be processing gas from Alaska (400 million cubic feet a day) and from Indonesia (500 million cubic feet a day). This would increase tanker traffic (190 trips a year) into Point Conception.

The Office of Coastal Zone Management (CCZM) has proposed a marine sanctuary be designated around the northern Channel Islands and Santa Barbara Island which would exclude oil and gas activities within six nautical miles of the islands. Concurrently, the CCS Sale No. 48 excluded those tracts within six nautical miles of the Channel Islands and Santa Barbara Island.

The State of California leases tracts within three nautical miles of the coast. These activities generate the placement of pipelines, increased crew boats/supply boats and helicopters servicing the rigs, possible construction of additional processing facilities, and increased tankering.

There are several U.S. Army Corps of Engineers projects in the area including maintenance dredging, beach erosion, and harbor deepening projects.

All of the above projects potentially increase the disturbance to Endangered and Threatened species' habitat and/or increase the possibility of an oil spill occurring within the Southern California area considered in this consultation.

An individual project or activity may have no significant impact upon the listed species, but when considered in light of the numerous projects within the same area, significant impacts could occur.

With accelerated offshore oil and gas activities, the probable risk of oil spills also increases. Additional oil spillage could increase the impacts to Endangered and Threatened species. Due to this, immediate oil spill containment response is extremely necessary.

An increase in onshore activities presents another possible impact to the listed species. There are numerous coastal activities in this area. Due to the stress on the coastal area, changes in OCS related onshore activities must be evaluated carefully.

Conclusion

This biological opinion covers the oil and gas exploration activities for those tracts leased prior to OCS Sale 35, and those leased in OCS Sale 35 and 48. It also covers the seven development tracts identified above.

We have rendered our conservation recommendations for the protection of the El Segundo blue butterfly, the California brown pelican, the California least tern, the light-footed clapper rail, and the salt marsh bird's beak. Any activity or program authorized, funded, or carried out by a Federal agency which may affect any listed species or its Critical Habitat, will require Section 7 consultation.

The GS is reminded of their continuing responsibility to review their activities in light of their Section 7 obligations. Should additional onshore facilities be proposed, or the use pattern of existing facilities be changed, or a new species be listed that may be affected by exploration activities, Section 7 consultation must be initiated if a "may affect" determination is made. Also, should the construction of additional onshore facilities be proposed, different pipeline routes be proposed, a change in

the use pattern of the existing onshore facilities be proposed, or a new species be listed which may be affected by the development plans contained in this consultation, Section 7 consultation must be reinitiated.

ES must review all development/production plans not covered by this consultation in light of Section 7(c) of the Endangered Species Act of 1973, as amended.

We would like to thank ES for their consideration in providing the necessary information needed to conduct this consultation.



Robert S. Cook

Attachment: (5)

APPENDIX 3

CULTURAL RESOURCE SURVEYS

See "Archaeological and Cultural Resource Investigation for a Proposed Cable Route from Platform Edith to Huntington Beach, California" in Chevron U.S.A. Inc., April 1982, Supplement to: Development and Production Plan for Platform Edith Lease OCS-P 0296 Appendix 2.

APPENDIX 4

CONTINGENCY PLANS

Chevron U.S.A. Inc. submitted the "Oil Spill and Emergency Contingency Plan for Platform Edith OCS Lease P 0296" on April 10, 1981. It is available for inspection in the Public Information Room at the Minerals Management Service Pacific OCS Region Office, 1340 West Sixth Street, Los Angeles, California 90017.

APPENDIX 5

MAPS, DIAGRAMS, AND PHOTOGRAPHS

See "List of Tables and Figures" in Chevron U.S.A. Inc., December 1980, Platform Edith Environmental Report, and in Chevron U.S.A. Inc., April 1982, Supplement to: Development and Production Plan for Platform Edith.

APPENDIX 6

U.S. GEOLOGICAL SURVEY REPORTS

See Environmental Geology for Proposed Platform Edith and Production Pipeline, Memorandum from Deputy Conservation Manager, June 5, 1981 in MMS, 1982 OCS Environmental Assessment, Plan of Development and Production Proposed Platform Edith Lease OCS-P 0296.

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BIOLOGICAL OPINION

U.S. FISH AND WILDLIFE SERVICE

November 1, 1979

APPENDIX 7

PROPOSED PLAN OF DEVELOPMENT AND ENVIRONMENTAL REPORT

These are available for inspection in the Public Information Room at the Minerals Management Service Pacific OCS Office, 1340 West Sixth Street, Los Angeles, California 90017. Copies were mailed to Federal agencies as specified by 30 CFR 250.34 and the Department of the Interior Manual. State distribution was through the California Coastal Commission and the Governor's Office of Planning and Research.

Revisions to the Development and Production Plan and Air Quality Analysis were received in October 1981 and February 1982, respectively.

Supplement to the Proposed Plan of Development and Environmental Report were received April 1982.