In Reply Refer To: RP-2-1

AUL ES GOD

Exxon Company, U.S.A. Attention. Mr. Fred A. Ealand Post Office Box 4279 Houston, Texas 77210

Gentlemen:

Reference is made to your Initial Plan of Exploration and Environmental Report received August 14, 1985, for Leases OCS-G 5596 and 5601, Blocks 90 and 107, respectively. South Timbalier Area. This plan includes the activities proposed for Wells A. B. and C in Block 90 and Wells A through F in Block 107.

In accordance with 30 CFP 250.34, revised December 13, 1979, and our letter dated January 29, 1979, this plan has been determined to be complete as of August 28, 1985, and is now being considered for approval.

Your plan control number is k-2254 and should be referenced in your communication and correspondence concerning this plan.

Sincerely yours,

n. Stauffer

D. W. Solanas Regional Supervisor Rules and Production

bcc: Lease OCS-G 5596 (OPS-3-2) [FILE ROOM]
Lease OCS-G 5601 (OPS-3-2) [FILE POOM]
OPS-3-4 w/Public Info. Copy of the plan and ER (PUBLIC RECORDS ROOM)
DO-6

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Program Survices

SEP 0 3 1985

Information Services
Section

EXON COMPANY, U.S.A.

EXP. DRA'NON DEFAALMENT GULF ATLANTIC DIVISION ALASKA PROFE DIVISION

WF MARNA,

August 13, 1985

Initial Plan of Exploration Exxon OCS-G 5596 & 5601 Blocks 90 and 107 South Timbalier Area Offshore Louisiana

MINITALS MANAGEMENT SERVING

EXXON PROPRIETARY

Mr. D. W. Solanas Minerals Management Service P. O. Box 7944 Metairie, Louisiana 70010-7944

RULES AND PROPINCTION

Dear Mr. Solanas:

Enclosed for the captioned lease are nine copies each of 1) an Initial Plan of Exploration (four of which are labeled "For Public Information", 2) an Environmental Report, and 3) a CZM Consistency Certification. We plan to drill the first well covered by the Plan with the Zapata 'Heritage', a self-elevating mobile offshore rig or similar equipment. We are hopeful that we can commence operations in the first quarter of 1986.

In compliance with NTL 83-3, dated September 7, 1983, two copies of the Geohazard Archaeological Survey prepared by COMAP were sent to your office by letter dated May 14, 1985. One copy of the report with supporting detail line data was also sent to the Houma MMS District.

If you have any questions regarding the POE, Environmental Report, or the Consistency Certification, please call me at (713,591-5488).

F. L. Ealand

FAE: slw

Enclosure

EXXON CORPORATION

INITIAL PLAN OF EXPLORATION

BLOCKS 90 AND 107, SOUTH TIMBALIER AREA

GULF OF MEXICO

OFFSHORE LOUISIANA

SECTION 1: PLAN DESCRIPTION

SECTION 2: DRILLING EQUIPMENT

SECTION 3: GEOLOGICAL AND GEOPHYSICAL SURVEY RESULTS, AND SHALLOW DRILLING

HAZARDS REPORT

SECTION 4: LOCATION

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SECTION 5: OIL SPILL CONTINGENCY

SECTION 6: MUD ADDITIVES

SECTION 7: PERMITS

SECTION 8: PROPRIETARY DATA

"PUBLIC INFORMATION"

BUTTER A F TO

INITIAL PLAN OF EXPLORATION

BLOCKS 90 AND 107, SOUTH TIMBALIER

GULF OF MEXICO

OFFSHORE LOUISIANA

SECTION 1: PLAN DESCRIPTION

This Initial Plan of Exploration for South Timbalier, Block 90, OCS-G 5596 and Block 107, OCS-G 5601 consists of from one to nine possible wells as shown below:

Well	Anticipated Surface Location			
BLOCK 90				
A	1600'FSL & 4900'FEL			
В	1700'FSL & 8100'FEL			
С	1600'FSL & 3700'FWL			
BLOCK 107				
A	2700' NL & 4900' FEL			
В	2700 FNL & 2700 FEL			
С	5400'FNL & 5000'FEL			
D	2700'FNL & 6300'FWL			
E	5500'FSL & 4900'FEL			
F	3100'FSL & 1600'FWL			

In the event additional seismic surveys are conducted in the area, a conventional ocean-going seismic survey vessel equipped with an appropriate hydrophone cable and non-dynamite energy source (e.g., air gun) would be used.

Drilling of Well "A", Block 107 is planned for the first quarter of 1986, and will require about 281 days to complete. The drilling of subsequent wells "B" through "F" on Block 107 and wells "A" through "C" on Block 90 will depend on the results of well "A" and other geological data which will be developed. The total drilling and completion time for the Initial Plan of Exploration depends on the drilling of all nine wells, and could require about 7 years to complete. A continuous drilling program, however is not likely. It is our current plan to drill these wells sequentially with no more than one being drilled at a time.

BLOCKS 90 AND 107, SOUTH TIMBALIER AREA

OFFSHORE LOUISIANA

SECTION 2: DRILLING EQUIPMENT

A. DESCRIPTION

We intend to utilize the Zapata 'Meritage drilling platform or similar equipment. This rig is a self-elevating mobile offshore platform ABS approved, for exploration and development drilling. The principal dimensions are 180' long x 175' x 25' deep hull with three 344' legs. The Heritage is designed to withstand any foreseeable conditions in the Gulf of Mexico. A schematic of the diverter system, and a listing of blowout prevention equipment with a configuration schematic is attached. A descriptive brochure for this rig is also included.

B. EMERGENCY PLAN

Our plan for abandoning the location, in case of an emergency such as a well kick, wil' vary in accordance with the severity of the occasion.

Transportation will be available to evacuate personnel from the rig and area as need be. Appropriate U. S. Coast Guard prescribed life rafts, jackets, and ring buoys will be provided.

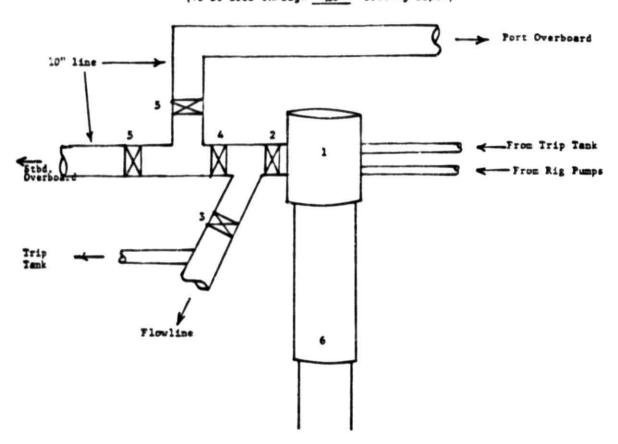
C. SAFETY FEATURES

Safety features will include well control and blowout prevention equipment to comply with OCS Order No. 2.

D. POLIUTION PLAN

Washed cuttings and table scraps will be disposed of into the Gulf. Pollution prevention and control features will prevent contamination, in accordance with OCS Order No. 7. the vessel is equipped with drip pans and coaming, and such will be maintained. The rig has a USCG approved sewage unit installed.

DIVERTER SYSTEM SCHEMATIC Zapata Heritage Jack-up Rig (To be used through 20 * setting depth)



In a drilling mode, the innermost 'igh pressure diverter valve (2) and the flowline valve (3) are in the open position. The secondary diverter valve (4) is kept in the closed position. The port and starboard valves (5) are kept in the open position. When the annular BOP is closed, the flowline valve (3) closes and the secondary diverter valve (4) opens. The upwind diverter valve (5) is then closed. Each component of the diverter system can also be operated from the remote station.

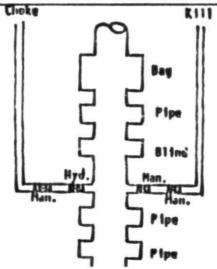
- 1. Reagan Model KFDJ-2000 BOP/Diverter Assembly
- 2. 12" ball valve, 2000 psi working pressure; high pressure diverter valve.
- 3. 10" gate valve 150 psi working pressure; flowline valve
- 4. 10" gate valve 150 psi working pressure; secondary diverter valve
- 5. 10" gate valve 150 psi working pressure; port and starboard diverter valve
- 30" overshot packer, 500 psi W.P. (drilling below 30")
 24" overshot packer, 2000 psi W.P. (drilling below 20")

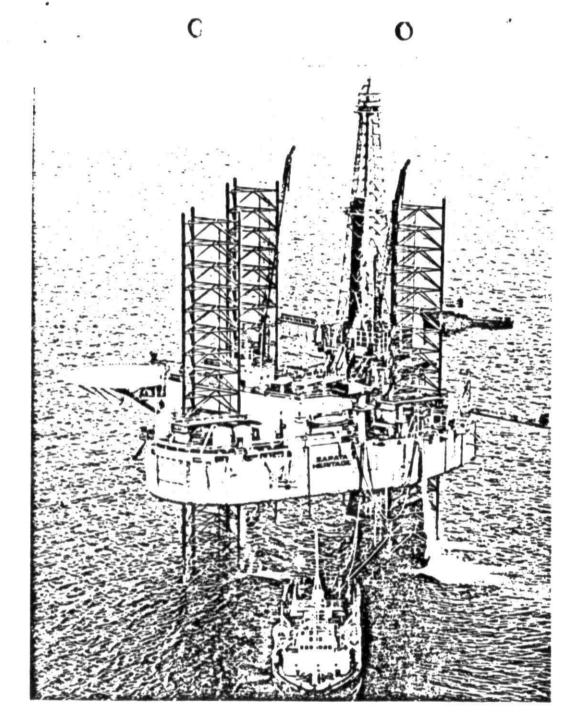
DRILLING RIG:	Zapata Heritage
---------------	-----------------

WELL:	
were.	

BLOWOUT PREVENTION PROGRAM

CASING OD	BOP'S (NUMBER, KIND, PRESSURE, RATING, AND ACCOMPANYING EQUIPMENT)
Diverter (:0" & 20")	Regan Type RFDJ diverter system. Working pressure is 150 psi (diverter valves). Diverter lines are 10" O.D See attached diverter sketch and description.
8lowout Preventers (13-3/8", 9-5/8") 7"	One - 13-5/8", 5,000 psi MP annular preventer One - 13-5/8", 10,000 psi MP Cameron Type Double "U" preventer equipped with blind rams and pipe rams. One - 13-5/8", 10,000 psi MP drilling spool with two side outlets equipped with a choke and kill line containing 3-1/16" valves & 2-1/16" valves respectively. One - 13-5/8", 10,000 psi MP Cameron Type Double "U" Preventer equipped with pipe rams.
BOP Control System	Surface Accumulator BOP Control Unit 3000 psi system with 270 gallon gallon accumulator. Two remote control panels.
Surface Manifold	Surface Manifolding System will two hand adjustable chokes and one hydraulic adjustable choke.





ZAPATA HERITAGE

Nominal water depth rating 250'

Friede & Goldman L-780 Class design with three triangular legs. electro-mechanical type jacking system

U.S.A. Built 1981 Registered

175

25"

by FEL Shipyard, Singapore 180

Overall Length Overall Width **Hull Depth** Overall

Leg Length 344

Available Leg Length

Below Hull Drilling Slot

Cranes

285 Cantilevered

5,000 bbls

1.000 bbls 2,000 bbls

1,600 bbis

3.000 cu. ft.

3,000 cu ft.

Two ABS rated 75 ton Link-Belt 218A cranes with 120' booms

Anchoring System

Four electric driven wireline anchor winches, rated for 36,000 lbs. pull at 39 fpm, four Baldt 10,000 lb. anchors, four anchor lines 114" diameter x 2,500' long, and four anchor buoys

Towing Speed in Calrn Sea

4 knots with 9,000 hp sea tug

Storage

Drilling Water Potable Water Diesel Fuel Liquid Mud **Bulk Mud Bulk Cement** Sack Mud

and Cement Heliport

Quarters

3.000 sacks 62' diameter (for S-61N)

Air-conditioned and heated quarters for 84 persons, with galley and separate recreation room

Personnel Survival

Two 44-passenger self-propelled survival type lifeboats; five 20-person inflatable life rafts; life preservers, life rings and various other safety equipment

Drilling Equipment

Drawworks

National 1320-EU 2,000 hp electric driven unitized, powered by two GE-752 electric motors and with

Elmagco 7838 brake

Two National 12-P-160 triplex, 1,600 Pumps ho each, unitized with two GE-752

44

motors

Power

Rotary

Four Caterpillar D-399 turbocharged and after cooled engines, each 1,215 hp at 1,200 rpm, with 600 volt ac generators Ross-Hill SCR system National 371/2", independent electric driven, with two-speed pearbox, unitized with GE-752 motor

650 ton

Crown Block Traveling Block Swive

Hook

National 650 ton National P-650

B J. model 5500 Dynaplex hook with automatic positioner, 500 ton capacity

BOP Equipment

Regan model KFDJ-2000 BOP/Diverter assembly with housing

and 20" insert 13%" 10,000 psi wo stack

consisting of 13%" 5,000 psi wp annular BOP 13%" 10,000 psi wp single ram BOP 13%" 10,000 psi wp double ram BOP Two sets 5" pipe rams and one set blind rams 13%" 10,000 psi wp drilling spool with 3" side outlets. Two 3" 10,000 psi wp choke line valves, one hydraulically operated.

valves (manually operated) plus check valve

Demick 147' x 30' x 30' derrick, 125 mph

wind load capacity, a 1,044,000 hook

Two 2" 10 000 psi wp kill line

load capacity Cantilevered

Substructure Mud Mixing Pumps

Four 6" x 8' centrifugals with 100 hp electric motors

Cementing Unit **Drill Collars** and Drill Pipe

Dowell

8" OD x 213/16" ID x 30' slick drill collars, 61/2" OD x 21/4" ID x 30" spiral zip grooved drill collars. 5" OD, 19:50 lbs./ft. Grade E and G. Range 2

SECTION 2: DRILLING EQUIPMENT (CONTINUED)

E. PROJECTED GASEOUS EMISSIONS

Projected emissions from the Zapata Heritage are from five sources: power generation engines, emergency generator, cementing unit, miscellaneous service, and storage tank vapors. Equipment in use and the location of the emission discharge are shown in the attached calculations and sketch. The attached table shows projected emissions for facilities in this Plan. Nine wells may be drilled from these blocks.

The shortest distance to shore from any point on the lease is 21 miles. The air emissions calculations contained herein are based on that distance - and therefore present a conservative analysis. It is not anticipated that all described wells will be drilled in the same year.

Based on the exemption formulas shown in 30 CFR 250.57-1(d) and the attached calculations, it is believed the facilities proposed in this Plan of Exploration are exempt from further air quality review. Onshore facilities are described in Section 4; they are not new nor are they to be modified.

CALCULATION OF PROJECTED EMISSIONS ZAPATA MERITAGE

 Electric Power Generation consisting of four Caterpillar D399-SCAC 1215 rated horsepower, turbocharged, seawater after cooled diesel engines driving 930 km AC generators.

Average Fuel use is 47.6 barrels (2000 gallons) per day.

Emission factors provided by the Engine Division of the Caterpillar Tractor Company for the D399-SCAC engine at full load (1325 HP) are as follows:

	1b./10 ³ ga1. of No. 2 diese1
TSP	4.5
MOx	205.6
CO	18.3
VOC (HC)	4.1
\$02*	28.3

 Based on sulfur content of 0.2 percent (by weight) in Po. 2 diesel fuel.

Example Calculations

.

NO, for Electric Power Generation (Source - 1b./day)

205.6 1b.NO_x X 2.000
$$\frac{10^3 \text{ gal.}}{\text{day}}$$
 = 411.2 1b.NO_x $\frac{10^3 \text{ gal.}}{\text{day}}$

NO_x for Electric Power Generation (Facility - Tons/well)

 Emergency power generation engine is a Caterpillar D-343 diesel engine rated at 360 horsepower driving a 250 kw, 480 volt AC generator.

Average fuel use is 19 gallons per hour (456 gallons per day). The unit is operated two hours per week or 44 times during a 307 day well.

Emission factors provided by the Engine Division of the Caterpillar Tractor Co. for the D-343 engine at tull load (360 horsepower) are as follows:

	16./10 ³ gal. No. 2 Diese:
TSP	6.7
NO _x	210.8
CO	19.0
VOC (HC)	4.2
\$0 ₂ *	28.3

* Based on 0.2 percent by weight sulfur content in No. 2 diesel fuel.

Example Calculation

ċ

- NO_x for emergency power generation (Source 1b/day) as above
- NO_x for emergency power generation (Facility Tons/well);

8.0 lb.
$$MO_x$$
 X 44 days X i Ton = 0.17 Tons NO_x well 2000 lb. well

111. Cementing Unit is a Dowell, R-626-J with a recirculating mixer and mixer skid powered by two GM8V-71 and two GM-3-53 diesel engines.

Average fuel consumption is 64 gallons per hour. For the purpose of this calculation, it is assumed all fuel is consumed by the larger engines. The unit is operated 2 hours per week or 44 times per 307 day well.

Emission factors provided by the Detroit Diesel Division of General Motors Corp. for the GMBV-71 engine at full load (300 horsepower) are as follows:

	1b./10 ³ gal. No. 2 Diesel
TSP	47.9
NO _x	688.7
co	434.6
VOC (HC)	29.5
502*	ه.3

 Based on 0.2 percent by weight of sulfur content in No. 2 diesel fuel.

Example Calculation

- . NO_x for cementing unit operation (Source 1b/day) as above
- NO_x for cementing unit operation (Facility Tons/Well)

IV. Miscellaneous Use (fork lift, ergency starting air, welding machines, etc.) Fuel use is estimated to be 10 gallons per day.

Emission factors from EPA AP-42 Section 3.3.3 Gasoline and Diesel Engines Table 3 3.3-1 are as follows:

	No. 2 Diesel
TSP	33.5
NOx	469.0
co	102.0
VOC (HC)	37.5
S02*	28.3

 Based on 0.2 percent by weight sulfur content in No. 2 diesel fuel.

Example Calculation

- . NOx for miscellaneous use (Source 1b/day) as above
- NO_x for miscellaneous use (Facility Tons/Well)

4.7
$$\frac{1b.NO_x}{day}$$
 X 307 $\frac{days}{well}$ X $\frac{1}{2000}$ Ton = 0.72 Tons

V. Fuel Tank Vapors from diesel fuel storage and use. Average stored volume is about 1350 bbl. while daily consumption is 2030 gallons.

Evaporative emission factors for No. 2 diesel fuel are obtained from EPA AP-42 Section 4.3 Storage of Petroleum Liquids Table 4.3.

Breathing Loss

0.0039 lb./103 gal/day

Working Loss

0.023 lb./103 gal./throughout

Example Calculation

Breathing Loss -

0.0039 lb.
$$VOC/day \times (56.7) 10^3 gal. = 0.22 lb. VOC day$$

Working Loss -

0.023 lb. VOC X (2.0)
$$\frac{10^3 \text{ gal.}}{\text{day}} = 0.05 \text{ lb. VOC}$$

. VOC for Fuel Tank Vapors (Facility - Tons/well)

Exemption Calculations

Wells

E for NO_x, TSP, VOC and SO₂ = (33.3)(21) = 699 T/Yr.

E for CO = (3400)(21) 2/3 = 25,880 T/Yr.

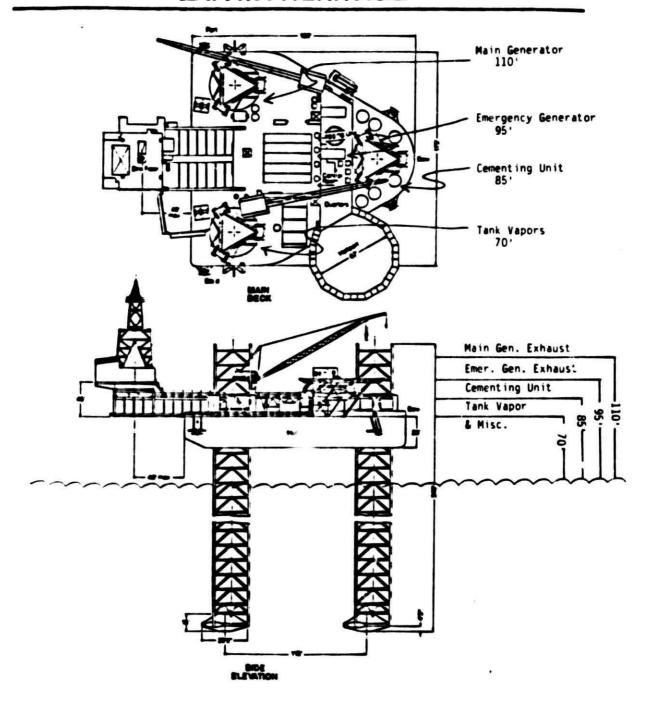
ZAPA A HERITAGE PROJECTED EMISSIONS BLOCKS 90 & 107 SOUTH TIMBALIER

			PROJECTED EMISSIONS (1)									
		ELEVATION FEET	SO2 lb./day T/Wel		TSP ib./day T/We		NO Well 1b./day	x T/Well	VOC 1b./day		lb./day	
1.	Electric Power Generation 2000 gpd (2)	110	56.6	8.7	9.0	1.4	411.2	63.1	8.2	1.3	36.6	
11.	Emergency Generator 19 gpd - 2 hrs per wk (3)	95	1.1	<0.1	0.3	<0.1	8.0	0.2	0.2	<0.1	0.7	<0.1
111.	Cementing Unit 64 gpd - 2 hrs per wk (3)	85	3.6	0.1	6.1	0.1	88.2	1.9	3.6	0.1	55.6	1.2
IV.	Miscellaneous Service 10 gpd (2)	•75	0.3	< 0.1	0.3	< 0.1	4.7	0.7	0.4	0.1	1.0	0.2
7. Tank Vapors 1350 Bb1 storage 2000 gal use (2)		70			¥		٠		u.3	<0.1	:=:	
OTA	L FACILITY											
4Ce	ption E with D = 21 miles (4)		6	99	6	99	•	599	69	19	25,	,880

NOTES:

- See attached calculations.
 Based on continuous emiss for for a 307 day well.
 Based on operation of emergency generator 2 hours per week or 44 times for a 307 day well.
 Shortest distance to shore from any point on the lease.

ZAPATA HERITAGE



BLOCKS 90 AND 107, SOUTH TIMBALIER AREA

OFFSHORE LOUISIANA

SECTION 3: GEOLOGICAL AND GEOPHYSICAL SURVEY RESULTS, AND SHALLOW HAZARDS REPORT

All anticipated geophysical work preparatory to initiation of exploratory drilling operations has been completed.

Water depth on South Timbalier Area, Blocks 90 and 107 ranges from 64 feet to 86 feet. The proposed exploration activity will have no adverse "cultural resource" effect.

Pursuant to Notice to Lessees and Operators No. 83-3, dated September 7, 1983, and to 30 CFR 250.34; we have examined available high resolution geophysical data, seismic CDP and bright spot information, velocity data, and geologic data and find to the best of our knowledge that there are no significant shallow drilling hazards at the proposed drilling locations.

SECTION 4: LOCATION

A. LOCATION MAP OF BLOCK AND SHORELINE.

Please see attached.

B. DESCRIPTION OF ONSHORE SUPPORT BASE FACILITIES.

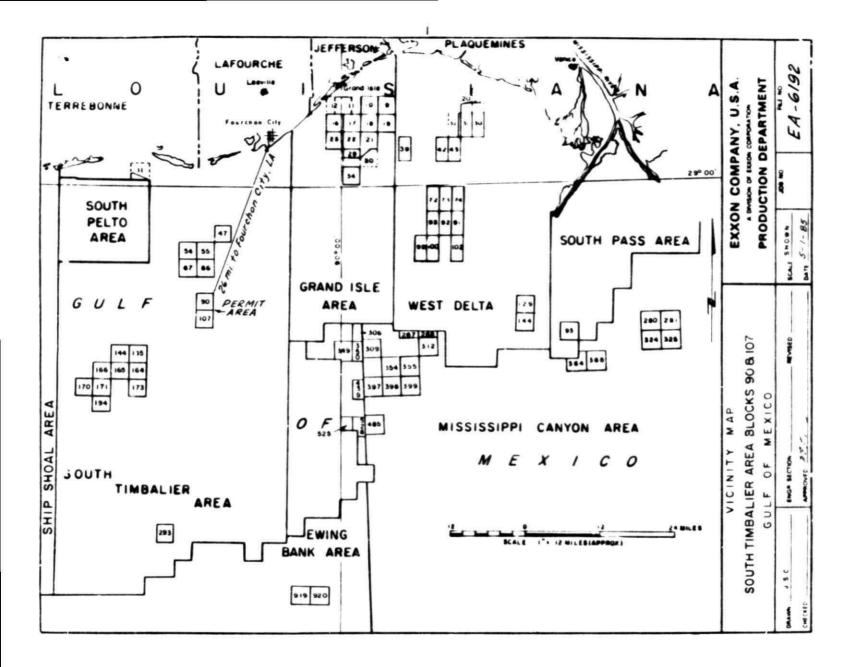
We intend to use existing support facilities at Fourchon, Louisiana. All facilities are considered adequate; no acquisitions for facility expansions are contemplated.

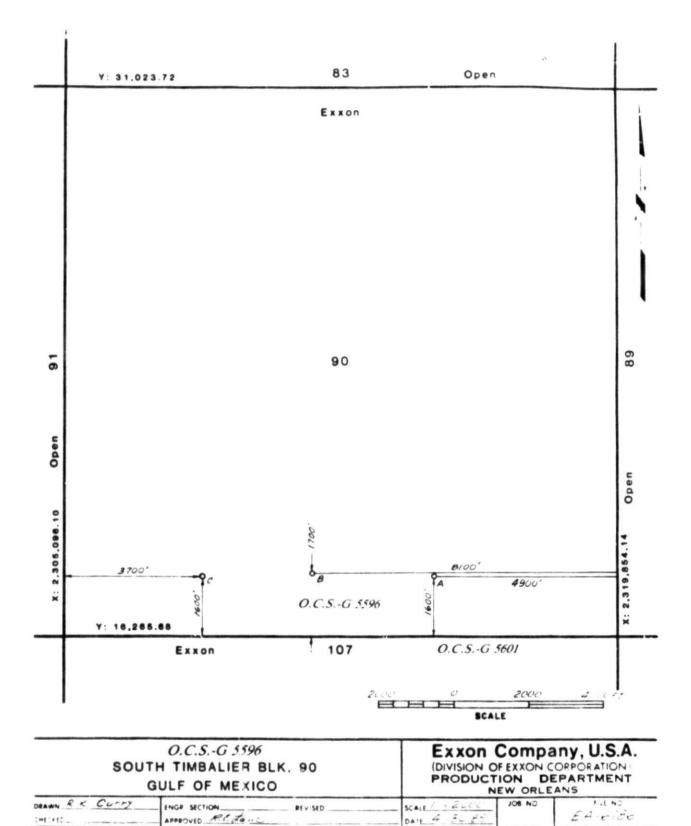
Other than an Exxon dispatcher, if required, it is not anticipated that additional employees will be required to man this facility. No additional employments are forecast at this time, and impact on housing, services, and public facilities is expected to be minimal. The number of persons on the drilling vessel will generally be between 50 and 65.

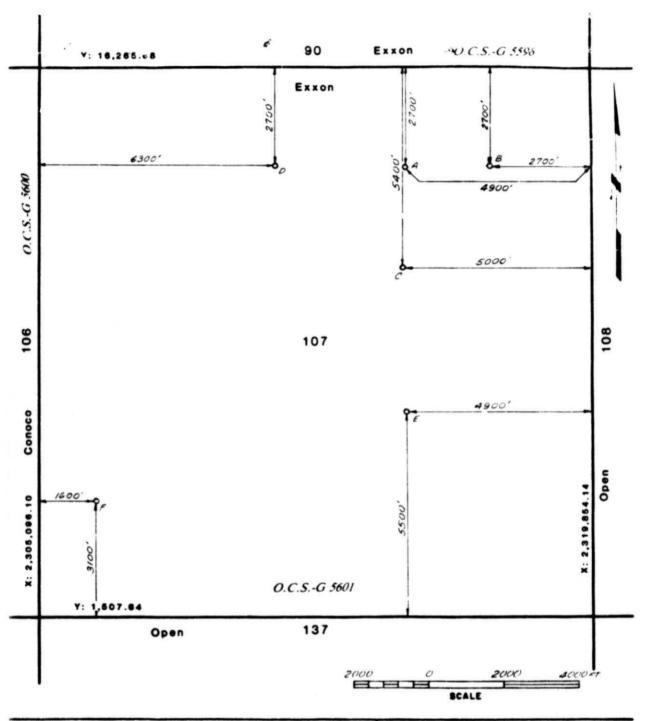
At current exploration activity levels, we anticipate about 20 boat trips and 20 helicopter flights per month from these facilities. The docks are approximately ten miles from open water, and once boats enter open water, they will travel the most practical, direct route to the rig. All helicopter flights follow the most practical and direct route to the rig. The subject lease is approximately 26 miles southwest of Fourchon, Louisiana.

C. LOCATION MAP OF BLOCK WITH WELL LOCATIONS

See attached.







SOUT	(DIVISION OF E	Exxon Company, U.S.A. (DIVISION OF EXXON CORPORATION) PRODUCTION DEPARTMENT NEW ORLEANS			
MECKED & CUTTY	APPROVED REVISED	SCALE / + 2000 N	08 NC	EA-6187	

SECTION 5: OIL SPILL CONTINGENCY

Procedures for preventing, reporting, and cleaning up oil spill or waste materials are included in contingency manuals developed by Eoxon's Southeastern Division office and revisions approved January 9, 1985, by the Oil and Gas Supervisor, Gulf of Mexico, Minerals Management Service. All procedures, personnel training, and equipment are designed to be in compliance with OCS Order No. 7.

The possibility of a spill of any nature and magnitude has been contemplated by the Clean Gulf Associates (CGA). This organization has a membership of almost every operator in the Gulf of Mexico, including Down. CGA maintains spill and containment equipment at strategic locations along the coast, and as a member of the organization, this equipment is immediately available to Down. A list of the principal items of such equipment is included in Section III of the CGA "Oil Spill Contingency Manual".

Response time in the event of an emergency on this specific lease:

- 1. Approximately 30 minutes by helicopter.
- Approximately 6 hours by Clean Gulf from its base at Grand Isle, Louisiana, where fast response systems are located.

SECTION 6: MUD ADDITIVES

A. BASIC MUD CG IPONENTS

Barite (Barium Sulfate)
Bentonite (Sodium Montmorillonite Clay)
Lignosulfonate (Chrome Lignosulfonate)
Lignite (Leonardite-Brown Coal)
Caustic Soda (Sodium Hydroxide)

B. MUD ADDITIVES

Soda Ash (Sodium Carbonate) SAPP (Sodium Acid Pyrophosphate) Sodium Bicarbonate Lime (Calcium Hydroxide)

C. SPECIAL PURPOSE ADDITIVES

Friction Reducers:

Lubra-Glide (Copolymer Beads)
Torq-Trim (Vegetable Oil Base)

Lost-Circulation Material:

Mica Nut Hulls

Special Fluid-Loss Control Agents:

CMC (Carboxymethyl Cellulose)

Defoaming Agents:

Aluminum Stearate Magconol (2-ethyl Hexanol)

D. MATERIALS SPOTTED IN HOLE BUT NOT DISCHARGED TO OCEAN

Pipe Iax (Naptha Base) Black Magic (Oil Base) Oilfaze (Clays, Resins, Emulsifiers, and Fatty Acids)

SECTION 7: PERMITS

- A. Required State Permits: None
- B. Required Federal Permits: Coastal Zone Management Review:

The activities described in detail in this Plan of Exploration and the activities authorized by related Federal permits and licenses comply with the Louisiana Coastal Zone Management Program and will be conducted in a manner consistent with that program. The principal Federal Permits are listed below:

MMS Application for Permit to Drill:

It is anticipated the MMS Form 331 C will be filed about March 1, 1986, pursuant to this Plan of Exploration.

ENVIRONMENTAL PROTECTION AGENCY NATIONAL POLLUTANT DISCHARGE SYSTEM (NPDES GENERAL PERMIT - TX 0085642

Letter of request to be covered under quieral permit mitted October 28, 1983.

Corps of Engineers, U. S. Army, Nationwide Permit Effective July 22, 1982.

In addition to activities authorized by the above permits, Exon will conduct certain supporting functions pursuant to various additional Federal permits, licenses, and approvals, such as those authorized by the Federal Communications Commission and the Federal Aviation Administration. All such activities comply with the Louisiana Coastal Management Program and will be conducted in a manner consistent with that program.

SECTION 8: PROPRIETARY DATA

A structural map and three schematic cross sections with expected depth marker formations are attached. Also attached is a plat showing well locations.

A table describing well permit depths is shown below.

Exon considers the data in this Section to be proprietary and exempt from disclosure under the Preedom of Information Act (5 U.S.C. 552) and implementing regulation (43 CFR Part 2).

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

Initial Plan of Exploration Type of Plan

South Timberlier Area, Blocks 90 and 107 Area and Block

OCS-G 5596 and 5601 Lease Numbers

The proposed activities described in detail in this Plan comply with the Louisiana approved Coastal Management Program and will be conducted in a manner consistent with such Program.

Arrar jements have been made with the State-Times in Baton Rouge, Louisiana to publich a public notice of the proposed activities no later than August 30, 1985.

EXXON CORPORTATION
Lessee or Operator

Certifying Official

August 13, 1985

Date

ADDITIONAL STATEMENT

The proposed activity will be carried out and completed with the guarantee of the following items:

- The best available and safest technologies, as set forth in the Gulf of Mexico Region OCS Orders, will be utilized throughout the project. This includes meeting all applicable requirements for equipment types, general project layout, safety systems, and equipment and monitoring systems.
- All operations will be covered by a M.M.S. approved Oil Spill Contingency Plan.
- All applicable Federal, State and local requirements regarding air emission and water quality and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

Due to the nature and location of the proposed drilling operations to be conducted pursuant to the Plan of Exploration, and based on the impact assessments contained in the Environmental Report, Exxon submits that no adverse impacts on coastal resources can reasonably be expected to occur. Likewise, activities conducted pursuant to this Plan of Exploration are not expected to adversely affect or impact land or water uses within the coastal zone. The Federal consistency provisions of the Coastal Zone Management Act only apply to OCS activities which affect land or water uses within the coastal zone. The term "affecting land or water uses" is not defined by statute, regulation, or judicial accree. To the extent that the statutory language is unclear, Exxon reserves its right to seek future clarification as circumstances may require.

Continental Shelf Associates, Inc.

P. G. BOX 3609

Jupiter/Tequesta, Florida

33458

ENVIRONMENTAL REPORT
(PLAN OF EXPLORATION)
GULF OF MEXICO: OFFSHORE LOUISIANA
SOUTH TIMBALIER AREA
BLOCK 90 (OCS-G 5596)
AND
BLOCK 107 (OCS-G 5601)

EXXON COPPORATION

6 JUNE 1985

Print S Comment School

RULES AND PROT COLON

Mr. W. R. Warnack
Exxon Company, U.S.A.
P.O. Box 4279
Houston, Texas 77210-4279
Telephone: (713) 591-5390

"Applied Science and Technology"

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(2) DESCRIPTION OF THE PROPOSED ACTION

(a) Description of Proposed Travel Modes and Routes and Frequency for
Moving Supplies and Personnel to and from the Offshore Activity Site
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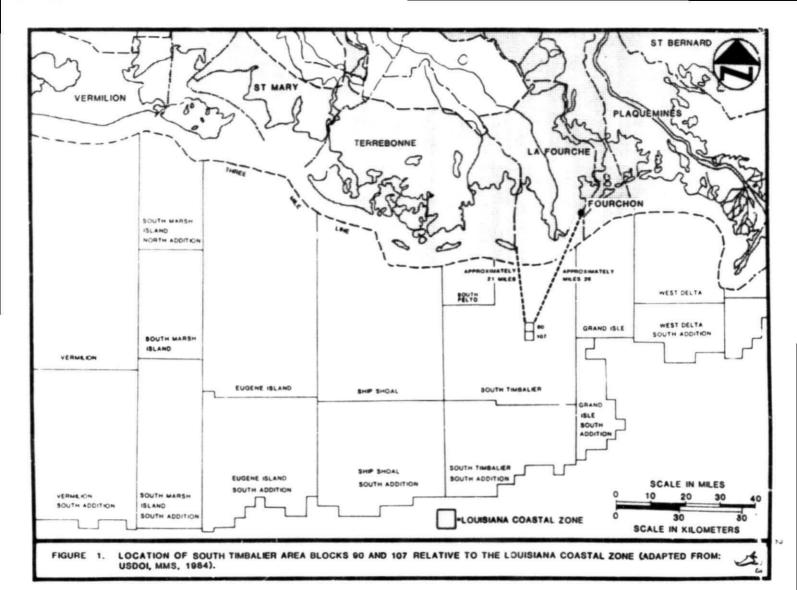
Exxon Company, U.S.A. (a division of Exxon Corporation) plans to conduct exploratory activities in South Timbalier Area Blocks 90 and 107. Helicopters and boats will move supplies and personnel to and from the offshore and onshore locations. Helicopters will make approximately 20 round trips per month, and boats will make approximately 20 round trips per month. If servicing only the proposed lease area, helicopters and boats will normally take the most direct route, weather and traffic conditions permitting (see Figure 1).

Associated with the Proposed Activities. Reference is Also Made to the Most Current U.date of the Socioeconomic Data Base Report

The support base will b. located in Fourchon, Louisiana. The base is capable of providing the services necessary for the proposed activities. No new facilities or workers will be needed for the proposed activities. The initial OCS Socioeconomic Data Base Report will be developed after the MMS and the States of Alabama, Louisiana, and Mississippi have identified the specific parameters to be addressed in these semiannual reports.

(c) Identification of the Number, Location, and Size of Any New Support Facilities That Will Need to be Provided for the Proposed Activities

No new support facilities will be needed for the proposed activities.



(d) Description of Any New Techniques or Unusual Technology That May
Affect Coastal Waters

No new techniques or unusual technology will be used during the proposed activities.

(e) Maps Showing Location of the Proposed Activities in Relation to Each of the Affected States' Coastal Zones

Figure 1 shows the location of the proposed activities in relation to each of the affected States' coastal zones. The proposed activities will take place in waters adjacent to the State of Louisiana.

(f) For Development Operations Coordination Documents, the Means
Proposed to Transport Oil and Gas to Shore from the Lease Area and
the Routes To Be Followed and the Estimated Quantities of Oil and
Gas to be Moved along Such Routes

This Plan is exploratory. No oil or gas will be produced for sale from these proposed activities at this time.

(3) DESCRIPTION OF THE AFFECTED ENVIRONMENT AND IMPACTS

(a) Physical and Environmental

(1) Commercial Fishing

The proposed activities are located within some of the most productive fishing grounds in the Gulf of Mexico. National Marine Fisheries Service Zone 14, which includes the lease area, accounted for approximately 7% of the commercial fisheries **_ ast from the western and central Gulf of Mexico (USDOI, BLM, 1981, Visual No. 5; USDOI, MMS, 1984a, Visual No. 4-I). Gulf waters account for approximately 30° of the total annual U.S. fisheries harvest (USDC, 1982).

The Gulf fishery is dominated by the shellfish fisheries. Shrimps, cral, and oysters (with smaller amounts of clams and scallops) are the most valuable fisheries and are usually worth three or four times more than the greater volume of finfish catch (USDOI, BLM, 1979). The USDC (1982) lists the annual commercial fisheries landings statistics for the northern Gulf coast area onshore from the lease area.

The shrimp fishery in the Gulf of Mexico includes the brown (Penaeus aztecus), white (P. setiferus), and pink (P. duorarum) shrimps. These species are taken almost exclusively by trawls in depths ranging from approximately 2 to 73 m (6 to 240 ft). These shrimps are estuarine-dependent species which spawn in the open ocean, go through a series of larval phases in the plankton, migrate during the post-larval phase to the estuarine nursery areas, and then return to the open Gulf as adults. The USDOI, BLM (1977, Visual No. 5) indicates the seasonal variation in the habits of each of these species. South Timbalier Area

alocks 90 and 107 are located within the spawning grow.ds and migration routes for the brown shrimp in the northern Gulf. Block 90 is also located within the spawning ground and migration routes for the white shrimp in the northern Gulf (USDO¹, MMS, 1984, Visual No. 4-I).

Plankton. eggs and larval stages of all commercially important shrimp species may occur periodically in the lease area.

The bine crab (Callinectes sapidus) makes up 98% of the crab harvest in the Gulf of Mexico (Riley, 1970). Its life cycle is similar to the shrimps' in that it has planktonic, estuarine, and open ocean phases.

Adults spend most of their lives in the estuaries; thus, the blue crab harvest is taken primarily ins - of the lease area. Gravid females migr...s to the open Gulf to release their eggs during spring and summer. Consequently, gravid females and planktonic larvae may occur seasonally in the lease area.

The proposed activities are located within commercially important finfish fishing grounds (USDOI, NMS, 1984, Visual No. 4-I). Three species of menhaden known from the Gulf make up the major finfish tonnage taken. These are <u>Brevoortia patronus</u>, <u>B. gunteri</u>, and <u>B. smithi</u>.

Brevoortia patronus comprises most of the Gulf catch. Purse seining is the major capture method used in this fishery (Lindall et al., 1972).

Red snapper (<u>Lutjanus campechanus</u>) and various species of grouper (i.e., the red grouper <u>Epinephelus morio</u> and gag <u>Mycteroperca microlepis</u>) compose the commercial hook-and-line fishery of the northern Gulf of Mexico. These fishes may be taken over irregular bottom argas in depths of 2 to 305 m (5 to 1,000 ft) (TerEco Corporation, 1976).

The striped mullet (Mugil cephalus) is generally found in nearshore areas such as harbors, estuaries, bays, and along beaches. It is a schooling fish and is generally taken with seines and trawls.

The Atlantic croaker (<u>Micropogonias undulatus</u>) is an abundant fish in estuarine waters. Perret et al. (1971) reported croaker to be the most abundant juvenile commercial fish taken in estuaries. Croaker is harvested and marketed both as a food fish and as an industrial bottom fish (Lindall et al., 1972).

The Florida pompano (<u>Trachinotus carolinus</u>) is primarily an inshore fish that is taken mostly in the surf or at passes. It is seasonally abundant (January to April) in shrimping areas.

The Spanish mackerel (Scomberomorus maculatus) migrates seasonally along the Gulf coast. It is generally taken in nearshore areas.

The red drum (Sciaenops ocellatus) is taken predominantly in nearshore habitats, as are the sheepshead (Archosargus probatocephalus), flounders, and the black drum (Pogonias cromis).

Seatrouts, including the spotted (Cynoscion nebulosus), the silver (C. nothus), and the sand (C. arenarius), are important to the bottos fish fisheries in the northern Gulf (Lindall et al., 1972). They are usually taken in offshore areas with bottom trawls.

TerEco Corporation (1976) describes some additional fish species of the northern Gulf which are important to commercial and/or sport fishermen and their predominant method of capture. Most of the northern Gulf fishes are temperate, with some incursions from Caribbean fauna. They exhibit seasonal distribution and abundance fluctuations related to oceanographic conditions (USDOI, MMS, 1984, p. 63). Many of the coastal

estuarine-dependent, because estuaries or coastal marshes are a critical habitat during some phase of their life cycles. Rogers (1977) postulated a net inshore-offshore movement for many demersal shelf fish species.

Thus, it is probable that many of these species may occur in the lease area at some phase of their life cycles.

Eggs and larvae 'ichthyoplankton) of various commercially important fish species are probably also present in the lease area on occasion. Sixty-nine fish species have been identified from zooplankton samples taken along the northern Gulf coast. Dominant taxa were the families Sparidae, Lutjanidae, Triglidae, Serranidae, and Synodontidae.

Stenotomus caprinus, Pristipomoides aquilonaris, Prionotus paralatus, Serranus atrobranchus, and Synodus foetens were the most important species (Chittenden and Moore, 1976). Since the majority of ichthyoplankters are at the mercy of water movements, their distributions vary considerably with space and time. The primary factors influencing ichthyoplankton in the northern Gulf are the Loop Current, the Mississippi River, and local runoff. Due to "patchiness" in distributions, presence and abundance of ichthyoplankton at any given instance cannot be predicted.

The proposed activities probably will temporarily degrade the water quality in the immediate vicinity of the drillsite due to discharges of drilling fluids and cuttings. This may cause certain fish species to avoid the area. Commercial fishing may be affected temporarily. The situation should revert to noimal as soon as drilling is completed.

Cumulative effects of increasing oil and gas activities off the northern

Gulf coast on annual catches are as yet unknown. However, there are no data to indicate that oil and gas activities are responsible for any decline in annual catches (USDOI, BLM, 1979, D. 181).

Any oil spill that would impact the seafloor could conceivably kill benthic organisms such as shrimps or cause a variety of sublethal effects. The potential long-term effects of a spill on the benthos are unclear because results of hydrocarbon analyses are inconclusive (USDOI, BLM, 1979, p. 160).

An oil spill would temporarily degrade water quality and introduce toxins into the water. Ichthyoplankton, if present, may be killed or functionally impaired. However, most adult fishes encountering a spill and associated toxic water would probably exhibit avoidance behavior. This effect would be temporary and fishes should return to the area after dispersal of the spill. No significant or persistent direct effects from an oil spill on fish populations would be expected. Recruitment from surrounding areas should quickly replenish any affected ichthyoplankton populations once the spill has dispersed. Any spill would be handled according to an oil spill contingency plan approved by the MMS.

(ii) Shipping

The proposed activities are located approximately 35 km (19 NM) south-southeast of the fairway leading to Timbalier Bay (USDOI, MMS, 1984, Visual No. 11). The proposed activities are rated as having minimum potential impact on shipping as they are greater than 5 km (2.6 NM) from a fairway (USDOI, BLM. 1979, p. 145). The offshore structure will be equipped with all safety equipment required by the U.S.

Coast Guard and the MMS to alert ships of its presence in all weather conditions.

(iii) Small Crast Pleasure Bosting, Sport Fishing, and Recreation

Ditton and Graefe (1978) determined that oil and gas structures are the most popular offshore recreation destination areas, attracting 87% of the boats that fished offshore in their study area. Certain pleasure boats (i.e., sailboats, pleasure yachts, and/or open ocean racing power boats) may be slightly inconvenienced by having to maneuver around the ofishore structure and its support vessels. This inconvenience is considered extremely minor as offshore structures can be avoided and ample maneuvering room is available.

Any sports fishing which might occur in the lease area could be temporarily affected by degradation of water quality curing drilling. Such a change in water quality could cause some desirable species to avoid the immediate lease area. However, any such effects are expected to be temporary and localized and should not affect any fishery potential in the area as a whole. Populations should return to normal once drilling is completed.

(1v) Cultural Resources

Coastal Environments, Inc. (1977) has identified two types of cultural resources which may be found in the northern Gulf of Mexico area: (1) historic cultural resources or shipwrecks and (2) prehistoric cultural resources or traces of previously undescribed human c.vilizations (USDOI, MMS, 1983, pp. 228-240). Approximately 82% of the known shipwrecks are located within 10 km (5 NM) of shore, with only a small percentage occurring on the OCS (USDOI, BLM, 1979, p. 91). Known

submarine archeological sites are extremely rare, with none being identified to data in Federal offshore leasing areas (USDOI, BLM, 1979, p. 91).

The proposed activities are located inside the Historic and Prehistoric Cultural Resources High Probability Lines (USDOI, MMS, 1984, Visual No. 11) and therefore are in a large offshore area where historic and prehistoric resources are considered likely to be found. An Archeological Survey was required for South Timbalier Area Blocks 90 and 107. The results of these surveys are summarized below.

Numerous magnetic anomalies were recorded within Block 90. Most of these are believed to be associated with small, buried fragments of metallic debris. One anomaly in the northeast portion of the block is associated with a prominent side-scan sonar target. Although the nature of this object is unknown, it is not considered to constitute a cultural feature. It is recommended in the survey report that the immediate vicinities [152 m (500 ft)] of the five larger anomalies be avoided unless or until they can be shown to be other than cultural resource features. These anomalies will be avoided during the proposed activities. No tentative shipwreck locations have been assigned to the block and no distinct submerged geological features suggesting likely locations for drowned prehistoric sites were noted within Block 90 (Comap Geosurveys Inc., 1985a).

Numerous magnetic anomalies were detected within Block 107 but none could be associated with side-scan sonar data. Most of these anomalies are believed to be small, buried fragments of metallic debris and are not considered to constitute cultural features or pose restrictions to

drilling activities. One anomaly indicates a large ferromagnetic object but there is no evidence of a corresponding object on side-scan sonar data. This anomaly should be avoided when considering anchoring or drilling operations. It is recommended in the survey report that the immediate vicinities (152 m (500 ft)) of the two larger anomalies be avoided unless or until they can be shown to be other than cultural resource features. These anomalies will be avoided during the proposed activities. No tentative shipwreck locations have been assigned to this block and no distinct submerged geological features suggesting likely locations for drowned prehistoric sites were noted within Block 107 (Comap Geosurveys Inc., 1985b).

(v) Ecologically Sensitive Features

Several areas of environmental concern are located onshore of the lease area. The Louisiana Coastal Zone Management Program has been developed by the State to regulate the significant land and water activities between the outer limit of the coastal waters and land up to the Intracoastal Waterway and/or the 10-ft contour. Land uses which are regulated are those that have a direct and significant impact on the coastal area requiring a State permit, and those which are required by Federal law to be consistent with the management program (USDC and LDNR, 1980). The program provides for the protection of beaches, dunes, wetlands, submerged grass beds, barrier islands, oyster reefs, cultural resources, water quality, air quality, biological resources, and wildlife habitat. Unique ecological features include zoological, botanical, and geological formations characteristic of coastal processes (Burk and Associates, Inc., 1975; USDC and LDNR, 1980). Biologically sensitive

areas of the north-central Gulf area include estuarine and coastal ecosystems comprised of salt marshes, oyster beds, grass beds, barrier heaches, and dunes (Coastal Environments, Inc., 1980). These coastal ecosystems contain nursery areas for many species of economic importance as well as habitat, rookeries, major overwintering sites, and nesting areas for many endangered and threatened species, such as the southern bald eagle, brown pelican, golden eagle, osprey, red coctaded woodpecker, American peregrine falcon, and various marine turtles (USDOI, BLM, 1979, Visual No. 3; Coastal Environments, Inc., 1980; USDC and LDNR, 1980).

There are two existing "Special Management Areas" designated by the Louisiana Coastal Management Program (USDC and LDNR, 1980, pp. 104-108) These areas are the "Louisiana Offshore Oil Port" (LOOP or Superport) and the "Marsh Island Wildlife Refuge and Game Preserve." The lease area is located 158 km (85 NM) east-southeast of Marsh Island Wildlife Refuge and Game Preserve and 31 km (16 NH) southwest of the LOOP. None of the proposed activities in this lease area should have any effect upon the Special Management Areas.

Conspicuous areas of environmental concern for Louisiana are depicted by the USDOI, BLM (1979, Visual Nos. 1 and 4) and the USDC and LDNR (1980, Figure No. D-1).

The coastal zone area is also of recreational importance to residents and tourists. Most recreational activities focus on the area's water resources which include beaches, boating areas, and fishing areas. The proposed activities should have no effect on protected areas of biological significance, remnant coastal banks, or oyster grounds.

While oil spills during drilling operations re rare (Danenberger, 1976), the possibility of a spill does exist. Oil fouling in any coastal area could directly or indirectly affect a variety of species, including threatened or endangered species or species important to commercial and sport fisheries. Direct effects on biota would include fouling (particularly birds), suffocation (particularly fish and turtles), and toxicity from contact or from the ingestion of oil or contaminated food. Any of these effects could be lethal, cause weakening, or cause a greater susceptibility to predation. Significant ecological or economic impacts could also result from the fouling of oyster beds and habitats. Indirect effects would include the destruction of critical habitats, especially breeding and nursery areas. Any effects on endangered or threatened species would be significant.

Oil fouling of the coastal area could also have adverse socioeconomic effects. Tourism is an important part of Gulf coast economies. Removal of beach or other coastal areas from recreational use by oil fouling would significantly decrease tourism in the affected area and cause loss of income and a variety of ripple effects in local economies.

Any spill would be handled according to an oil spill contingency plan approved by the MMS. If a spill did occur during operations, it is unlikely that it would affect any nearshore or onshore areas or resources.

(vi) Existing Pipelines and Cables

There are no existing pipelines or cables in the lease area (USDO), MMS, 1985).

(VII) Other Mineral Uses

Other than potential oil and gas reserves, there are no known mineral resources in the lease area.

(viii) Ocean Dumping Activities

The proposed activities are not located in an area designated for ocean dumping activities.

(ix) Endangered or Threatened Species

The USDOI, BLM (1979, p. 45) considers possible impacts of lease activities on endangered species in this area of the Gulf to be temporary, localized, and chance occurrences. It has judged the potential impacts on endangered species to be remote possibilities without major potential for direct effects on any single species. In addition, it has been determined that lease activities will not result in the destruction or modification of designated critical habitats or potential critical habitats. Onshore facilities are located in a previously developed area and pose no new or additional threat to endangered or threatened species.

Approximately six endangered species of cetaceans occur in the Gulf of Mexico. They are the blue whale (Balaenoptera musculus), fin whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), right whale (Eubalaena glacialis), sei whale (Balaenoptera borealis), and sperm whale (Physeter catodon). Generally, most of these larger cetaceans occur in continental shelf, slope, or deep oceanic waters (USDOI, BLM, 1981). The status and migration patterns of these species in the Gulf of Mexico are unknown (Lehman, 1982).

Several endangered or threatened species of sea turtles, including the Kemp's ridley (Lepidochelys kempii), hawksbill (Eretmochelys imbircata), leatherback (Dermochelys coriacea), loggerhead (Caretta caretta), and green (Chelonia mydas), may occasionally visit the lease area.

The primary danger to marine turtles would be possible collisions with boats. Adult turtles, especially loggerheads, seem to be attracted to offshore structures for feeding and resting (USDOI, BLM, 1979, p. 165) increasing the probability of collisions. No critical habitat for any of these species is known to exist in the lease area (USDOI, BLM, 1979, pp. 73-74).

(b) Socioeconomic

The initial OCS Socioeconomic Data Base Report will be developed after the MMS and the States of Alabama, Louisiana, and Mississippi have identified the specific parameters to be addressed in these semiannual reports. No new personnel will be needed for the proposed activities.

(4) UNAVOIDABLE ADVERSE IMPACTS

(a) Summary of the Unavoidable Adverse Impacts

Offshore structures will result in minimal navigational interference to ships using established fairways. However, during times of reduced visibility, vessels have the greatest potential to deviate from established fairways and impact offshore structures (USDOI, BLM, 1979, p. 230). Discharge of drilling muds and cuttings and air emissions during drilling operations will adversely affect marine organisms, water and air quality, commercial fishing as described by the USDOI, BLM (1979, pp. 229-231). These impacts are temporary, however, and will be limited to an extremely small area. They are justified by the national interest in discovering and developing badly needed reserves of oil and gas.

During the exploratory operations, all discharges will comply with all applicable NMS and EPA requirements. No significant adverse impacts are expected. The proposed activities covered by this Plan should not result in unavoidable impacts on wetlands, colcural resources, recreational activities, shoreline aeathetics, or other land uses.

(b) Statement Concerning the Unavoidable Adverse Impacts

None of the environmental consequences expected during normal operations should produce significant or consistive adverse environmental effects. The effect, of a possible oil spill should have no overall cumulative or long-term effect on the environment, except in the possible event of contamination of endangered marine species. A spill would be handled according to an oil spill contingency plan approved by the MMS. Thus, it is unlikely that a spill would notice during operations and

affect any nea shore or onshore areas or resources. The proposed activities should have no significant impact on endangeral species or critical habitat. The information presented in this Environmental Report indicates no clear or present reason not to proceed with the proposed activities. Withdrawal of the Plan would result in the loss of potential hydrocarbon production from this area.

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(5) FINDINGS

- Exxon's Plan of Exploration (Section-7, for OCS-G 5596 and OCS-G 5601 addresses all of the permits, licenses, and clearances needed to conduct the activities described in the Plan.
- To the best of our knowledge, all of the data necessary for Corstal Zone Management Review are contained in this Environmental Report and the accompanying Plan.
- The proposed drilling activities are located outside of the Louisiana Coastal Zone, an are not expected to affect any Special Management Areas.
- 4. No significant detrimental impact is likely to occur to water or land uses in the coastal zones as a result of activities proposed in the Plan of Exploration.
- Bach of the proposed activities, their associated facilities, and their effects are consistent with the provisions of the Louisiana Coastal Management Program.