In Reply Refer To: RP-2-1

NOV 21 1984

Amoco Production Company
Attention: R. A. Fitch
Post Office Box 50879
New Orleans, Louisiana 70150

Gentlemen:

Reference is made to your Initial Plan of Exploration and Environmental Report received November 7, 1984, for Lease OCS-G 5606, Block 149, South Timbalier Area. This plan includes the activities proposed for Wells A through E.

In accordance with 30 CFR 250.34, revised December 13, 1979, and our letter dated January 29, 1979, this plan has been determined to be complete as of November 21, 1984, and is now being considered for approval.

Your plan control number is N-1897 and should be referenced in your communication and correspondence concerning this plan.

Sincerely yours,

(Orig. Sgd.) D.W. Solanas

D. W. Solanas
Regional Supervisor
Rules and Production

bcc: Lease OCS-G 5606 (OPS-2-3) (FILE ROOM)
OPS-2-5 w/Public Info. Copy of the plan and ER (PUBLIC RECORDS ROOM)
DO-6

MJTolbert:gtj:11/9/84 Disk 3b

Amoco Production Company
Amoco Building
Post Office Box 50879
New Orleans, Louisiana 70150
Offshore Division

R. A. Fitch
Assistant Division
Production Manager

November 1, 1984

File: RAF-LF

Minerals Management Service
Offshore Operations Support
P. O. Box 7944
Metairie, LA 70010

Attention: Mr. D. W. Solanas
Deputy Minerals Manager

Plan of Exploration
South Timbalier 149
OCS-G-5606
Offshore Louisiana

In accordance with 30 CFR 250.34-1, Exploration Plan, revised September 14, 1979, and letter dated January 29, 1979, attached please find nine copies of Amoco Production Company's Plan of Exploration and Environmental Report for South Timbalier Block 149, Offshore Louisiana.

Amoco respectfully requests your favorable attention to this matter. Should further information be desired, please contact Harty Van of this office at telephone 504/58[illegible]-6567.

Yours sincerely,

R. A. Fitch

HCV/

Attachments

PLAN OF EXPLORATION

South Timbalier 149

OCS-G-5606

OFFSHORE, LOUISIANA

AMOCO PRODUCTION COMPANY
NEW ORLEANS, LOUISIANA

NOVEMBER, 1984

COASTAL ZONE MANAGEMENT

CONSISTENCY CERTIFICATION

Plan of Exploration
Type of Plan

South Timbalier Block 149
Area and Block

OCS-G-5606
Lease Number

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

Arrangements have been made with the State-Times in Baton Rouge, Louisiana to publish a public notice of the proposed activities no later than NOV 21 1984

Amoco Production Co.
Lessee or Operator

R. A. Fitch
Certifying Official

NOV 1 1984
Date

250.34-1 EXPLORATION PLAN

November 1, 1984

A BRIEF DESCRIPTION OF THE PROPOSED TYPE AND SEQUENCE OF EXPLORATION ACTIVITIES TO BE UNDERTAKEN TOGETHER WITH A TENTATIVE TIMETABLE FOR THEIR PERFORMANCE INCLUDING PLAN COMMENCEMENT DATE, SEQUENCE EACH WELL IS TO BE DRILLED, TIME FRAME (DAYS) TO COMPLETE EACH WELL, AND TOTAL TIME TO COMPLETE THE PROPOSED PROJECT.

Amoco Production Company (100%) acquired South Timbalier Block 149, OCS-G-5606, in Lease Sale No. 72, May, 1983, for $16.0MM.

The block is located in 100-127 feet of water, 30 miles offshore and south of Terrebonne Parish, Louisiana. (See Attachment No. 1, Location Plat).

Amoco's exploratory plan includes drilling five exploratory wells. The proposed locations of the five wells are as follows:

A. Surface: 600' FSL 600' FWL

B. Surface: 50' FSL 600' FWL

C. Surface: 600' FSL 3400' FWL

D. Surface: 2100' FSL 1000' FWL

E. Surface: 2750' FSL 1500' FWL

Drilling of the first well is scheduled to commence on January 1, 1985 with drilling of the remaining wells to end on December 16, 1985. Total time to complete the project is estimated to be 350 days. See Attachment No. 2 for the Timing Schedule on the drilling of the five wells.

A DESCRIPTION OF THE DRILLING VESSEL(S), OR OTHER INSTALLATION(S) OR DEVICE(S) TO BE PERMANENTLY OR TEMPORARILY ATTACHED TO THE SEABED INDICATING THE IMPORTANT FEATURES THEREOF WITH SPECIAL ATTENTION TO SAFETY FEATURES AND POLLUTION PREVENTION AND CONTROL FEATURES INCLUDING OIL SPILL CONTAINMENT AND CLEANUP PLANS.

The actual rig to be used is uncertain at this time, however, it will be a jack-up rig similar to the Sam Noble. The rig will be equipped with all safety and pollution-prevention equipment required by the OCS Orders. See Attachment No. 3 for rig details. See Attachment No. 4 for Air Quality Data.

All operations are covered by Amoco's Oil Spill Contingency Plan previously approved by the MMS on August 10, 1984.

GEOLOGICAL AND GEOPHYSICAL SURVEY RESULTS IDENTIFYING GEOLOGICAL HAZARDS AND/OR SUSPECTED ARCHAEOLOGICAL ANOMALIES RELATIVE TO PROPOSED WELL(S), A MAP IDENTIFYING ANY SUSPECTED ARCHAEOLOGICAL ANOMALIES RELATIVE TO PROPOSED WELL(S) WHERE AN ARCHAEOLOGICAL SURVEY IS REQUIRED, AND A DESCRIPTION OF SURVEY EQUIPMENT UTILIZED.

The attached Shallow Hazard Report (Attachment No. 5) confirms that the proposed well locations are free of surface faults, seafloor anomalies or gas accumulations.

In accordance with the stipulation outlined in the lease agreement, an archaeological survey was conducted and the Cultural Resources Report is included in the Marine High-Resolution Geophysical Survey Report. According to Mr. William H. Spencer, Consulting Archaeologist of Southern Archaeological Research and Mr. Stephen L. Taylor, Chief Geophysicist of Gardline Surveys, Inc. "The single unidentified magnetic anomaly located in the survey area does not represent a significant cultural resource. Although the survey area is within a general environmental zone which is conducive to prehistoric settlement (Spencer 1984), the specific geomorphic features which are associated with prehistoric settlement were not noted in the sub-bottom data. The five unidentified anomalies are believed to be the result of modern ferruginuous material remaining from pipeline construction. The sub-bottom data show no indication of any geomorphic features which would be conducive to prehistoric coastal settlement."

The entire Marine High-Resolution Geophysical Survey Report in 3 copies is attached. (Attachment No. 6)

A LOCATION MAP OF THE LEASE BLOCK(S) RELATIVE TO THE SHORELINE, INCLUDING A DESCRIPTION OF ONSHORE SUPPORT BASE FACILITIES, A LOCATION MAP SHOWING EACH PROPOSED WELL, INCLUDING SURFACE AND PROJECTED BOTTOM-HOLE LOCATION, WATER DEPTH (BATHYMETRY), PROPOSED TRUE VERTICAL AND MEASURED DEPTH OF EACH WELL.

Please reference Attachment No. 1 Location Plat. This map shows the relationship of Block 149 South Timbalier area, to the shoreline as well as each of the proposed wells at surface location. The water depth in the area ranges from 100-127 feet. See Attachment No. 6 for Bathymetry Maps.

Operations will be conducted out of Amoco's base facility at Fourchon, Louisiana located 6 miles southwest of Leeville, La. The facility is equipped with a boat landing and heliport for easy access.

CURRENT STRUCTURE MAPS AND, AS APPROPRIATE, SCHEMATIC CROSS SECTIONS SHOWING EXPECTED DEPTH OR MARKER FORMATIONS.

NOTE: Amoco Production Company believes all geologic information submitted under this section to be exempt from disclosure under the Freedom of Information Act and its implementing regulations.

Attachment No. 7 is a Structure Map demonstrating structural relationships.

Attachment Nos. 8, and 9 are Schematic Cross-Sections showing the geologic setting of the prospects and depicting structural relationships as determined by interpretation of proprietary data.

A BRIEF DESCRIPTION OF PROCEDURES, PERSONNEL, AND EQUIPMENT USED IN YOUR OIL SPILL CONTINGENCY PLAN THAT ARE TO BE USED FOR PREVENTING, REPORTING, AND CLEANING UP A POLLUTION SPILL, INCLUDING EQUIPMENT LOCATION AND TRAVEL AND DEPLOYMENT TIME.

In addition to those systems commonly utilized by industry to prevent pollution, Amoco is a member of Clean Gulf Associates which is a combine of companies formed to clean up oil spills if such occur. Existing oil spill cleanup equipment with beach protection and bird-cleaning stations can be on hand within 9 hours in the event of a spill. This equipment is maintained on standby and in ready state at locations such as Venice, Louisiana; Grand Isle, Louisiana; Houma, Louisiana; Intracoastal City, Louisiana; Cameron, Louisiana; Port Aransas (Fulton), Texas; and Galveston (Texas City), Texas.

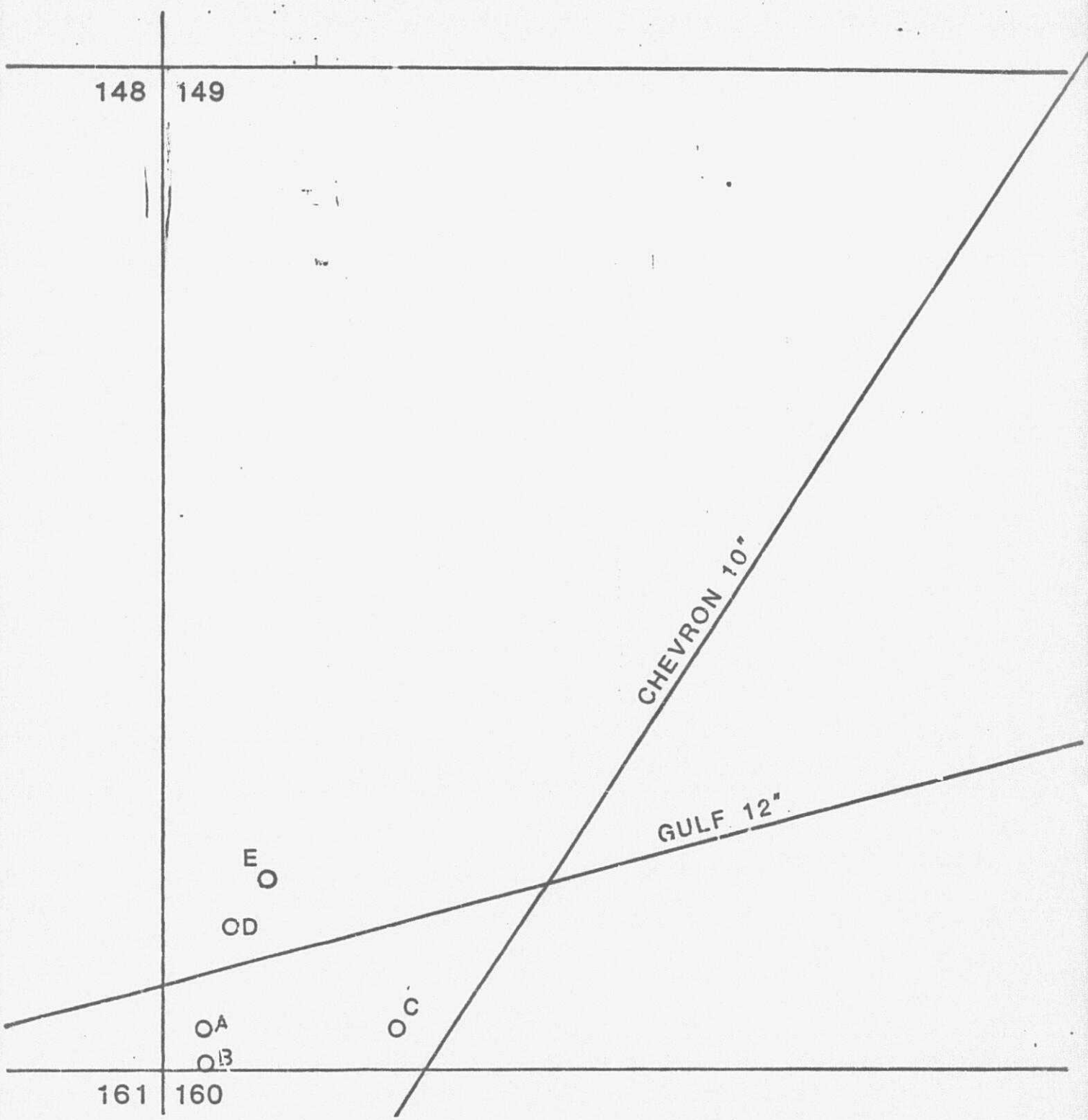
All applicable safety and pollution standards of the MMS, USCG, OSHA, and the EPA will be complied with. All personnel will be trained in the proper maintenance of existing equipment and will participate in drills and inspections designed to enhance their ability to utilize the equipment to its fullest extent and ensure as safe an operation as possible.

Attachment No. 10 is the Environmental Report required by Section 307 of the Coastal Zone Management Act (CZMA).

A DETAILED LIST OF MUD COMPONENTS AND ADDITIVES, INCLUDING THE COMMON OR CHEMICAL TRADE NAME OF EACH.

Components of the drilling mud may include any or all of the following: barite, gel, caustic, soda, chrome lignosulfonate, lignite, sapp, alumi-

num stearate, soda ash, phosphate, gilsonite, surfactant (methanol), Quick Seal, Spotty and CMC. No bactericides will be used in the mud system. Any drilling mud, drill cuttings, sand, or other solids will not be disposed of into the Gulf unless all of the free oil has been removed.



ATTACHMENT NO. 1

LOCATION PLAT
SOUTH TIMBALIER BLK. 149
OCS-G-5606
SCALE: 1" 2000'

4G 3650

SOUTH TIMBALIER BLOCK 149
OCS-G-5606
TIMING SCHEDULE

START DATE: JANUARY 1, 1985

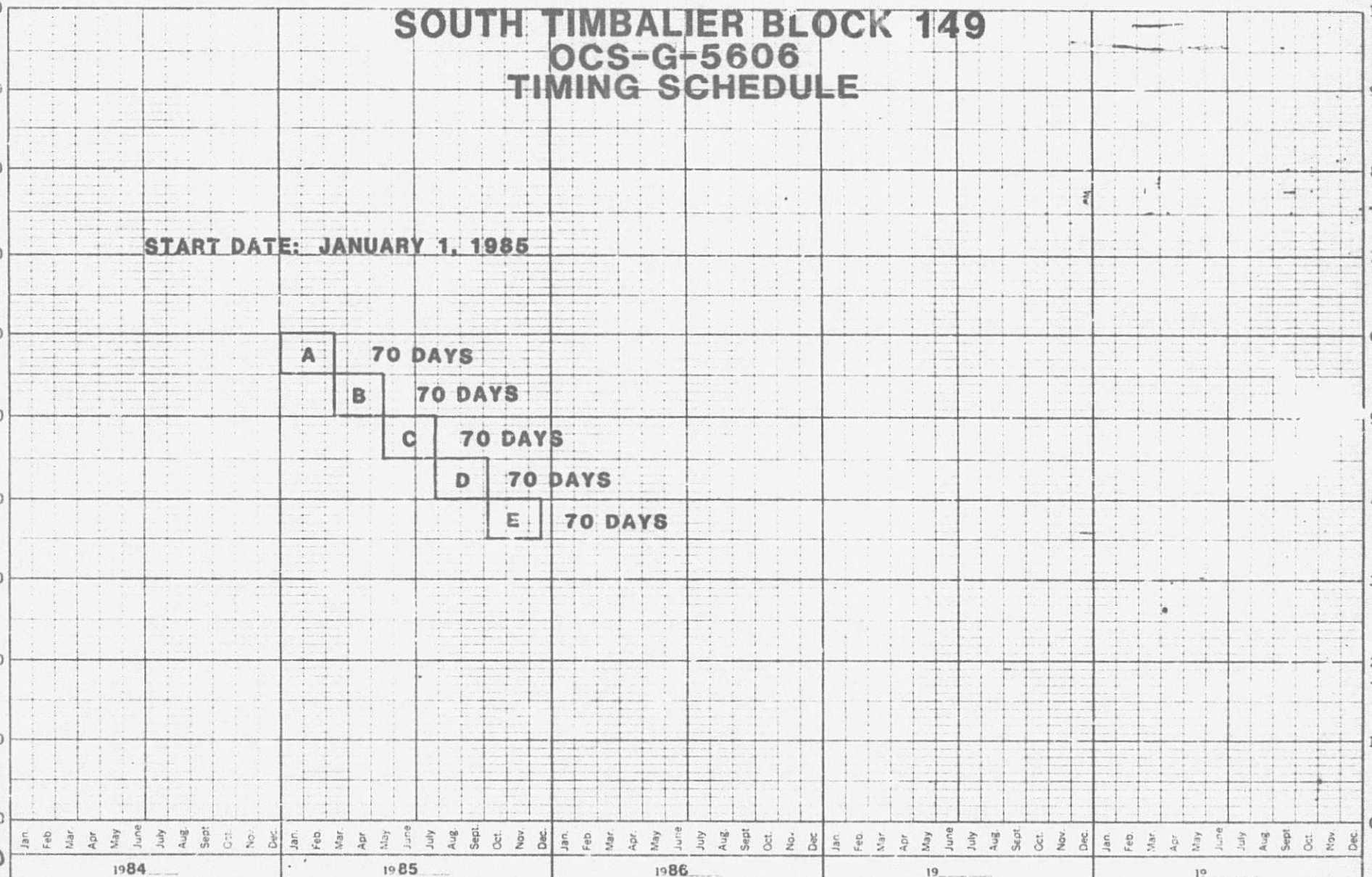
A 70 DAYS

B 70 DAYS

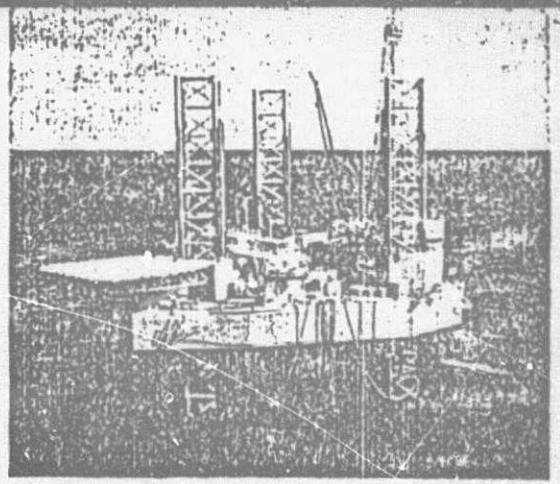
C 70 DAYS

D 70 DAYS

E 70 DAYS



ATTACHMENT NO. 2



General

Hull Dimensions	200'Long x 186'Wide x 22'11" Deep (Triangular)
Leg Length	414'6-¼"
Heliport	62' x 68' for Sikorski S-61
Spud Cans	48' Diameter x 14' High
Light Ship	7,795 Tons (Approx)
Cantilever Distance	14'-30' with 8' P/S Skidding 35' Max. w/10' P/S Skidding
Load Line Draft	14'6"
Operating Depth	300'
Maximum Wind Speed	125 mph
Maximum Wave Height	50' in 300' Water
Air Gap	35'
Design Bottom Penetration	26'; Maximum footing bearing presure 5,500 psf
Jacking Capacity	7,920 Tons
Jacking Speed	1 Ft/Min (Up or Down)
Certifications	U.S. Coast Guard; ABS Class A-1

Levingston's Jack-ups are designed to withstand hurricane conditions in the Gulf of Mexico. The maximum storm criterion can be increased in association with a lesser water depth.

Capacities

Active Mud	1,124 Bbl.
Fuel	4,567 Bbl.
Potable Water	934 Bbl.
Drill Water	5,670 Bbl.
Sack Storage	1,800 Sq. Ft.
Bulk Mud and Cement	6,300 Cu. Ft.
Variable Load	1,800 Tons

ATTACHMENT NO. 3

Levingston Shipbuilding Class 111-C Jack-up Drilling Platform

Class: These vessels will be classed ABS ✠ A1, non-self-propelled, self-elevating drilling units for 300 foot maximum water depth by the American Bureau of Shipping. The vessel is also certified by the U.S. Coast Guard.

Equipment

Equipment Cranes	2-Link-Belt, ABS/API — 218A with 100'Boom
Main Engines	3 — EMD 16 Cylinder (1,950 HP each) (w/GM AB-20-6 Generators)
Emergency Generators	1-Caterpillar D-379 w/400 KW Generator
Sewage Treatment	Red Fox
Jacking System	National Jacks, Racks & Pinion, Electric
2 — Self-Propelled 58-Person Enclosed Life Boats	

Drilling Equipment

Drawworks	Oilwell, E-3000
Auxiliary Brake	Parmac, Inc. V-295
Mud Pumps	2 — Oilwell A-1700-PT (1,700 HP) Triplex
Rotary	Oilwell, B-49½
Derrick	Lee C. Moore Standard (T-Leg) 1,250,000 Capacity with 12 Lines
Blowout Preventers	1 — Double 13-⅝ x 10,000 Type V, Cameron 1 — Single 13-⅝ x 10,000 Type V, Cameron 1 — Shaffer 13-⅝ x 5,000 Spherical 1 — 20" x 2,000 MSP Hydril 1 — NL Control System 190 x 72 Accumulator
Bulk Handling System	1 — Dual 30 Ton Wireline Houston Systems
Drive Motors	8 — GE 752 DC Motors

Quarters

Accommodations	Quarters for 54 Persons
Treatment Space	4-Man

CONTRACTOR FURNISHED EQUIPMENT

DERRICK:	Lee C. Moore 147' x 30' with capacity of 1,300,000#
HULL:	Levingston Class 111-C Jack-up with National rack & pinion jacking system. 186' x 200' x 22'8"
OPERATING DEPTH:	Maximum operating depth 300' water Minumum operating depth 31' water
SUBSTRUCTURE:	Cantilever (from transom to maximum drilling position) 30'0" - 1,000,000# capacity at center line & 8' off center line. (from transom to maximum workover position) 35'0" - 1,000,000 lb. capacity at center line & 10' off center line - 780,000#
DRAWWORKS:	Oilwell E-3000 with Kelco make up and break out catheads, V-295 hydromatic brake, complete with over-running clutch, crown-o-matic, complete with Martin Decker driller console.
CROWN BLOCK:	Oilwell A600 crown block rated at 600 tons with 7 - 60" steel sheaves grooved for 1-3/8" wire line.
HOOK:	One BJ 500 Dynaplex with 500 ton rating
ELEVATOR LINKS:	1 pr. BJ 2-3/4" x 132" 350 ton rated 1 pr. BJ 3-1/2" x 144" 500 ton rated 1 Doll head assembly with 1-3/4" x 36" links 80 ton rated
SLIPS:	1 Varco type PS-15 spring operated with necessary equipment 2 Varco type SDXL for 5" drill pipe 1 Varco type DCS-R for 7" drill collars 1 Varco type DCS-L for 7-3/4" drill collars
ELEVATORS:	1 BJ type TA-150 ton for 6-1/2" & 7" drill collars 1 BJ type TA-150 ton for 7-3/4" drill collars 1 BJ type GG-350 ton for 5" drill pipe 1 BJ type MGG-250 ton for 5" drill pipe 1 set S.BB 5" XH F.H. Elevators Dual System (2 elevators per set) 1 table for dual elevator system
ROTARY TABLE:	Oilwell 49-1/2" with Hi and low reduction gear and air brake, driven by G.E. 752 electric motors.
ROTARY DRIVE BUSHINGS:	1 Varco 27 HDP for 5-1/4" API hex kelly - 49-1/2" rotary 1 Varco kelly bushing safety guard assembly for 49-1/2" rotary table 1 Varco MPCH hinged pin drive master casing bushing for 49-1/2" rotary table
TRAVELING BLOCK:	Oilwell 650 Sheaves 1-3/8 wireline 650 tons
KELLY:	Drilco 5-1/4" hex with 7-3/4" O.D. top upset with 6-5/8" API regular LH box up with 2-13/16" bore bottom upset being 6-3/8" O.D. with 4-1/2" IF pin
SWIVEL:	Oilwell PC-650 with standard equipment

CAPACITIES:	Drill water: 5,530 BBLS Fuel: 4,134 BBLS Potable: 90[illegible] BBLS Total reserve active, & slug pits: 1[illegible]24 BBLS
SEWAGE PLANT:	1 Red Fox model [illegible]-2000C with Paco PIP-550 lift station Coast Guard approved for 100 men
DRILL PIPE SPINNER:	1 Spinnerhawk model 13, air operated drill pipe Spinner
FISHING TOOLS:	Fishing tools and subs for contractor's drill pipe and equipment
MUD LAB:	1 Baroid model 821
EMERGENCY GENERATOR SET:	1 Caterpillar model D379 series B, diesel generator set, 4 cycle, V-8, 6.25" bore x 8" stroke, 3 phase, 1200 RPM, 400 KW (prime), 480 volt
ROTARY TORQUE INDICATOR:	1 Martin Decker model 102A with dual indicating dial for feet/pounds and amps
AUTOMATIC DRILLER:	1 "Bearcat" automatic with necessary equipment
BUG BLOWERS:	1 Brandt model B-150, 15,000 CFM
TORQUE WRENCH:	1 type [illegible]W with necessary equipment
INTERCOM SYSTEM:	1 Gai-Tronics consisting of: 14 ea. weatherproof stations 7 ea. indoor stations 3 ea. explosion proof stations
CENTRIFUGAL MUD PUMPS:	2 Mission Magnum 8" x 6" x 14" charging pumps 2 Mission Magnum 8" x 6" x 14" mud mixing pumps 1 Mission Magnum 8" x 6" x 14" desander pump 1 Mission Magnum 8" x 6" x 14" desilter pump 1 Mission Magnum 8" x 6" x 14" degasser pump 1 Mission Magnum 8" x 6" x 14" spare pump All centrifugal pumps driven by 75HP electric motors
MUD AGITATORS:	3 model 85Q20 Lightnin mud mixers with 20 HP electric motors 1 model 82Q5 Lightnin mud mixers with 5 HP electric motors
DESANDER:	1 Demco model 123 vertical desander with (3) 12" cones
MUD CLEANER:	1 Demco model 4 MC16 mud cleaner with 16 ea. 4" style "F" cones
DEGASSER:	1 Swaco "D" gasser
SHALE SHAKER:	1 Brandt dual tandem shale shaker

MUD SYSTEM:		1 Demco 5" 10,000# W.P. dual standpipe with 5" XXH piping with Demco 10,000# valves and (2) 3-1/2" x 60' drilling hoses with Martin Decker 0 - 10,000# gauges and necessary equipment
SAFETY VALVES:		1 Omsco 10,000# KV200 kelly cock 3 Omsco 10,000# test lower kelly valves - 4-1/2" IF 1 Omsco 10,000# test inside B.O.P. valves - 4-1/2" IF
P-TANKS:		3 ea. 1130 cu. ft., 12'0" dia. X 15'0" high, ASME coded for 40 PSI - for mud 3 ea. 1130 cu. ft.; 12'0" dia. X 15'0" high, ASME coded for 40 PSI - for cement
SACK MUD STORAGE:		Sack cement: 900 sq. ft. floor area Sack chemicals & mud: 900 sq. ft. floor area
BLOWOUT PREVENTERS:	* ** 	1 Hydril 21-1/4" 2000 PSI annular with 21-1/4" bore 1 Shaffer spherical 13-5/8" X 5000 1 ea. 13-5/8" Cameron type "U" 10,000 single ram 1 ea. 13-5/8" Cameron type "U" 10,000 double ram 3 - 5" rams, 1 blind
CENTRIFUGAL PUMPS:		2 Mission 4 x 3 x 13 drill water 2 Mission 3 x 2 x 13 fire water pumps 2 Opeco submersible raw water pumps. 1 Spare 2 Crane Deming 2" potable water pumps 2 Crane Deming 2" sanitary water pumps 2 Gorman Rupp bilge & ballast pumps 2 Brown & Sharp fuel transfer pumps 1 Brown & Sharp dirty oil pump
HELIPORT:		51'6" x 62' suitable for S-61 Sikorsky helicopter
QUARTERS:		For 84 men with 2 galleys, recreation area, offices, etc. Three level; 90' long x 28' side x 30' high
LIFEBOATS:		2 ea. 58 man Watercraft lifeboats 2 ea. 25 man Davit launched liferafts
MOORING WINCHES:		4 Skagit model JUQ-074
CHOKE MANIFOLD:		10,000 PSI with - 1 positive choke 1 hand adjustable choke
TEXAS DECK:		1 - 16' x 16' with (2) - I-R 2 Drum air winch
RIG SKID JACKS:		2 - HSMC 350 ton Jacks Push or Pull @ 2469 PSI Hydraulic Pressure with claws 2 - HSMC 125 ton Jacks Push or Pull @ 2500 PSI Hydraulic Pressure with claws 1 - HSMC Explosion Proof Power Unit

* Hydril element and seal replacements to be furnished by Operator.
** Shaffer spherical element and seal replacements to be furnished by Operator.

ROTARY HOSE:	Two 3-1/2" I.D. x 60', 10,000# test
WEIGHT INDICATOR:	Martin Decker model AWD9-1 with Hercules type 131 wireline anchor.
WIRELINE:	10,000' x 1-3/8" drilling line 20,000' x 9/16" sandline
TONGS:	3 tongs BJ type DB complete with lug jaws to accomodate 3-1/2" to 17" pipe with H6B(G)-28 torque indicating system
MEASURING DEVICE:	1 Mathey surveyor wireline unit with maximum capacity of 20,000' of .092 line
AIR HOIST:	Rig Floor: 2 I-R type K5UL Cellar Deck: 2 I-R type K5UL Derrick: 1 I-R EUAB/PT winch Conductor Pipe Snubbing: 4 Beebe Brothers HM-12W hand winch
WELDING MACHINES:	Lincoln 400 amp.
ENGINE PRIME MOVERS:	3 EMD model 16-645E8, 1950 HP ea. at 900 RPM with spark arresting exhaust silencer, complete with automatic shutdown equipment
AIR COMPRESSORS:	3 Airdyne model H50BP40 for rig air 1 Airdyne model 227PR3 bulk air reduction system with necessary equipment 1 Airdyne L50B for bulk system 1 Airdyne model 7TD cold start compressor package with Lister 8 HP diesel engine
ELECTRIC GENERATORS:	3 EMD model AB20, 2625KVA at 600 volts, 3 phase, 60 hertz 1950 continuous HP with 2200 HP drilling service, ABS 1400 KW with 1575 KW drilling service
D.C. ELECTRIC MOTORS:	8 G.E. 752AR electric motors, 900 HP 3 on drawworks 2 ea. on mud pumps 1 on rotary
HIGH PRESSURE MUD PUMPS:	2 Oilwell A1700-PT 7-1/2" x 12" Triplex
ACCUMULATOR:	1 Koomey model T25240-3S with manifold and remote controls with model T315-25-3 triplex pump with 24 eleven gallon bladder type separate accumulators. Unit complete with model AC-62 air pump package and air control panel and necessary equipment.
KELLY SPINNER:	1 International Tool model A-6C-2
B.O.P. HANDLING SYSTEM:	1 Houston Systems 30 ton; hydraulic powered with control unit and necessary equipment
CRANES	2 FMC Link Belt model ABS/API-218A with 100' boom 88,200# capacity. with Jib 10'

DIVERTER SYSTEM:	1 - 8" System with 20" Hydril
DRILL PIPE:	9000' - 19.5 E 5" 3000' - 19.5 G 5"
DRILL COLLARS:	12 - 6-1/2" Drill Collars 4-1/2" XH Zip Grooved 12 - 7-3/4" Drill Collars 6-5/8" API Reg. Zip Grooved. 30 Jts. 5" Hevi-Wate

Noble Rig Sam Noble

Personel To Be Furnished by Contractor

Classification	No. on Rig	Hours per Day
Toolpusher	2	12
Drillers	2	12
Derrickmen	2	12
Motormen	2	12
Electrician	1	12
Crane Operator	2	12
Welder	1	12
Roustabout Pusher	1	12
Roustabouts	6	12
Floormen	6	12

Commissary Crew consisting of : Steward, Night Cook and 4 Utility men.

Plan of Exploration for South Timbalier Block 149
OCS-G-5606
Air Quality

This attachment includes the information required under 30 CFR Part 250.57(a), to make the necessary findings under that section.

Exemption Formula

The distance of the proposed facility from the closest onshore area of a state is 31 statute miles:

The proposed facility is at: latitude 28° 35' 37.32" north, and
longitude 90° 22' 41.51" west.

The closest onshore area of a state is in Terrebonne parish, Louisiana, at:

latitude 29° 3' 0.0 " north, and
longitude 90° 24' 41.07" west.

This produces the exemption amount of 1,032 tons/year for particulates, sulfur dioxide, nitrogen oxides and volatile organic compounds, and the exemption amount of 33,552 tons/year for carbon monoxide.

Projected Emissions

Drilling

The wells proposed to be drilled on this plan are as follows:

Proposed Well	Proposed Measured Depth (Feet)	Rig Type
OCS-G-5606 A		Jack-up
OCS-G-5606 B		Jack-up
OCS-G-5606 C		Jack-up
OCS-G-5606 D		Jack-up
OCS-G-5606 E		Jack-up
Total Feet Drilled	92,500	

ATTACHMENT NO. 4

Assuming that the rate of drilling will be constant, the total feet drilled during the plan is:

1985 92,500 feet

Assuming 60 horsepower hours required to drill one foot[1] on an offshore oil and gas drilling rig, this plan will require 5,550,000 horsepower hours to complete the drilling. The duration of the operations is 350 days. Using the emission factors for diesel powered industrial equipment from Table 3.3.3-1 of EPA publication AP-42, Compilation of Air Pollutant Emission Factors, the following total emissions are expected from this plan:

	Carbon Monoxide	Nitrogen Oxide	Hydrocarbons	Sulfur Dioxide	Particulates
Drilling Rig	18.54	85.65	6.85	5.70	6.12

We estimate to have two helicopter landing-takeoff cycles each day at the drilling location for the 350 day period of drilling activity. The emission factors per landing-takeoff cycle for helicopters from Table 3.2.1-3 of EPA Publication AP-42 produce the following helicopter emissions in tons:

Helicopters	1.99	0.20	0.18	0.06	0.09

We plan one 2,000 horsepower workboat landing with six hours of idling three times each week at the drilling location. The fuel consumption while idling at the drilling location is seven gallons per hour. The emission factors (7 gallons/hour x 6 hours/landing x 3 landing/week x 50 weeks of drilling = 6,300 gallons) for CO, VOC and NOx from diesel vessel emission factors by operating mode, Table 3.2.3-3, and the factors for SO_2 and particulates from Table 3.3.3-1 produce the following workboat emissions, in tons, at the drilling location:

Workboats	0.92	0.77	0.30	0.10	0.11
Total	21.45	86.62	7.33	5.86	6.32

These emissions are planned to occur in 1985.

---

[1] Atmospheric emissions from offshore oil and gas development and production (EPA 450/3-77-026, p. 82-83, June 1977).

Therefore, since none of these amounts approach 1,032 tons (33,552 tons for carbon monoxide), we request that you determine under Section 250.57(d) that this plan be exempt from further air quality review.

Amoco Production Company
New Orleans Region
Amoco Building
Post Office Box 50879
New Orleans, Louisiana 70150

October 31, 1984

Minerals Management Service
Deputy Minerals Manager
Offshore Operations Support
P. O. Box 7944
Metairie, LA 70010

Subject: Shallow Hazard Report
Plan of Exploration
South Timbalier Blocks 149 & 150 (OCS-G-5607)

A multi-sensor, high resolution, geophysical survey was conducted over both blocks. The results indicate a smooth seafloor, no surface faults, seafloor anomalies, or shallow gas accumulations at the below listed locations:

A.	600' FSL, 600' FWL	Block 149
B.	50' FSL, 600' FWL	Block 149
C.	600' FSL, 3400' FWL	Block 149
D.	2100' FSL, 1000' FWL	Block 149
E.	2750' FSL, 1500' FWL	Block 149

The sub-bottom profiler records indicate the presence of biogenic gas at various locations throughout the area. At those locations, at a proposed drill-site, a soil boring will be taken to ensure that adequate load bearing conditions exist before commencing drilling operations.

Conventional CDP and "bright-spot" seismic data, with associated velocity analyses, are free from anomalies at the above locations.

Geologic control is available immediately west and south at S. Timbalier Blocks 148 and 160. A similar geologic sequence is expected at the proposed locations.

Byron L. Gilleon
Division Geophysical Manager
La. Offshore Division

BLG/LGD/ebc

ATTACHMENT NO. 5

PLAN OF EXPLORATION

ENVIRONMENTAL REPORT

SOUTH TIMBALIER AREA

SOUTH TIMBALIER BLOCK 149

OCS-G-5606

Amoco Production Company

November 1, 1984

P. O. Box 50879
New Orleans, Louisiana 70150
Phone 504/586-6567

ATTACHMENT NO. 10

TABLE OF CONTENTS

LIST OF APPENDICES

OCS-G-5606///

I. DESCRIPTION OF PROPOSED ACTION

A. DESCRIPTION OF PROPOSED TRAVEL MODES ROUTES AND FREQUENCY:
Boats and helicopters will be dispatched from the Fourchon, Louisiana base on a daily basis or as needed to the proposed drilling locations upon commencement of drilling operations. Boats will depart the Fourchon base by Pass Fourchon and upon reaching the Gulf of Mexico, a more or less direct route will be taken.

The breakdown shown below reflects an approximate account of boat and aircraft departures and arrivals for the different phases of the activity, dependent upon variable weather conditions.

Drilling:

Boat	- 1 trip every two days
Helicopter	- 2 trips daily

B. PERSONNEL REQUIRED TO CONDUCT ACTIVITIES:
The number of persons expected to be needed to carry on and support the drilling and production operations is as follows:

Offshore	No. of Employees
Drilling Phase:	
Contract Rig Crew	55 (7/7 shift)
Service Support	10 (7/7 shift)
Catering	8 (7/7 shift)
Company Supervision	2 (7/7 shift)
Onshore	
Dockside Support	6 (7/7 shift)
Transportation	
Helicopter Pilots	2 (7/7 shift)
Marine Crews	12 (7/7 shift)
Total Persons	95

Since the rig and transportation vehicles to be used are currently working in the Gulf of Mexico, no additional families of drilling or transportation personnel are expected in the area. Any personnel needed for onshore support activities will be hired locally; therefore, no new families are anticipated in the coastal area.

C. ONSHORE SUPPORT SYSTEMS:
We expect to use our currently existing support facility in Fourchon, Louisiana, located on Pass Fourchon 6 miles southwest of Leeville, LA. An easily accessible state highway leads to the Amoco base facility. No extra land is expected to be needed under the proposed activities for facilities, storage, rights-of-way or easements. Current facilities already in use seem adequate to support all phases of the drilling plan.

D. NEW OR UNUSUAL TECHNOLOGY:
No new or unusual technology will be employed during this drilling operation.

E. VICINITY MAP:
See Attachment No. 1.

F. PROPOSED MEANS TO TRANSPORT OIL AND GAS TO SHORE, ROUTES, QUANTITIES:
The proposed action is exploratory. No oil or gas will be produced by this plan of exploration.

II. DESCRIPTION OF AFFECTED ENVIRONMENT

A. COMMERCIAL FISHING:
The Gulf fishery is dominated by the shell fisheries: shrimp, crabs, and oysters (with smaller amounts of clams and scallops). The shrimp fishery in the Gulf area includes brown, white, and pink shrimp. These are take almost exclusively by trawl fishing in depths ranging from 2 to 73 meters.

South Timbalier Block 149, is located within the major finfish and brown and white shrimp harvest areas and is inside of the principal industrial bottomfish and high density shellfish areas. Finfish volume for the Gulf states is dominated by menhaden. It is number one in volume and second in value for Louisiana. Landings in 1983 were 1.58 billion pounds, or 53%

of the 2.96 billion pounds U.S. menhaden catch. (Fisheries of the United States 1983, April 1984). Other finfish caught offshore Louisiana include mullet, croaker, groupers, Spanish mackeral, spotted seatrout, red drum, flounders, black drum, king whiting, white seatrout, and sheepshead (FEIS Sale 72). See Appendix No. 1 for a complete listing of the catch by major species.

Since the majority of shrimp and commercial bottom fish are caught by trawling, sites occupied by drilling rigs and attendant service boats must be avoided.

B. SHIPPING:

At least 8,000 km of navigable streams and 1,800 km of intercoastal waterways are located in the state. These waterways include the Mississippi River and the Gulf Intracoastal Waterway which are major waterways for the nation's waterborne commerce. Other notable waterways include the Atchafalaya River in St. Mary Parish. Louisiana has three major ports - New Orleans, Baton Rouge, and Lake Charles. Aside from deep-draft ocean shipping, Louisiana is a key focal point for inland waterway traffic. Inland barge traffic not only links the deepwater ports to the interior of the nation, but also provides important support for the industrial structure of coastal Louisiana. The existence of barge service tends to concentrate petrochemical facilities adjacent to the water sites in Louisiana.

There are no safety fairways near South Timbalier Block 149 See Attachment No. 2. No problems are anticipated in association with fairways (FEIS Sale 72 - Visual No. 11).

In the Gulf of Mexico, safety fairways have been established for the safe passage of vessels en route to or from U.S. ports. Consequently, placement of rigs or platforms are prohibited within these fairways. However, ships do not always use these fairways and this increases the possibility of a collision with drilling rigs, permanent platforms or vessels attending these platforms. In the fairways there is the risk of ship/ship collisions. Impacts which could result include loss of human life, spillage of oil, release of debris, including part of or the entire drilling rig and the ship. The contents of the ship's cargo could pose a serious threat to the environment if it includes toxic materials such as chemicals, crude oil, or refined products. It should by noted that while the number of offshore structures is increasing, the number of accidents involving the structures has not increased.

C. PLEASURE BOATING, SPORT FISHING AND RECREATION:
Sport fishing in Louisiana is a very popular form of recreation. Coastal marshland with few roads reaching the shoreline has limited fishing access and precluded full utilization of the saltwater fishery resources. Nevertheless, a high percentage of Louisiana residents own or have access to boats. Sport fishing around offshore oil and gas rigs is popular. Results of recreational fisheries surveys by Ditton and Graefe (1978) in the northwestern Gulf of Mexico's Houston-Galveston area indicated that only one-third of the boating population was saltwater fishermen and only 5% fished offshore. However, oil and gas structures attracted more fishing that any other structure, natural or artificial (87% of the boats and 50% of all offshore recreational fishing effort were directly associated with oil and gas platforms). Offshore fishermen were estimated to have contributed over five million dollars to the local economy. (The Ecology of Petroleum Platforms in the Northwestern Gulf of Mexico: A Community Profile).

Boating in Louisiana's coastal area is most often related to recreational fishing. Water skiing and sailing are growing in popularity, especially in estuarine lakes near South Louisiana's major urban centers.

Hunting is a popular recreational activity in Louisiana. A variety of water fowl are taken throughout the coastal marshes. There is one National Park, four National Wildlife Refuges and eight additional game management areas.

With the exception of Grand Isle and vicinity and a stretch of beach area in Cameron Parish, Louisiana has very limited beach area suitable for recreation. Most of it is very narrow, of poor recreational quality and generally inaccessible. Undeveloped and inaccessible by automobile, some of the highest quality beach areas in coastal Louisiana are found along the barrier island chain off Terrebonne Parish.

Several additional significant recreations resources are found along the Gulf Coast. Louisiana has ornamental gardens, scenic roads, rivers, and trails. No adverse impacts are anticipated.

D. POTENTIAL OR KNOWN CULTURAL RESOURCES:
South Timbalier Block 149 lies inside the Prehistoric and outside the Historic Cultural Resources High Probability Lines. Pursuant to the lease agreement for the tract, a Cultural Resources Report was required and is included in the Marine High-Resolution Geophysical Survey Report which is an attachment to the Plan of Exploration.

E. ECOLOGICALLY SENSITIVE FEATURES:
There are no areas of particular concern within South Timbalier Block 149. However, there are several areas of environmental concern that lie onshore from the lease area. These include (1) Wisner State Wildlife Management Area, (2) Point Au Chien Wildlife Management Area, (3) East Timbalier Island National Wildlife Refuge, and (4) Grand Isle State Park Beach and other recreational beaches.

Block 149 does not occupy a position within any known breeding habitat, nursery area, or specific migration route. While associated activities could occur in the blocks, they are not known to be concentrated there. No adverse impacts are anticipated.

F. PIPELINES AND CABLES:
There are two existing pipelines crossing South Timbalier Block 149. Proposed well locations are more than 500 feet from these pipelines. See Attachment No. 3 for Pipeline Details. No problems are anticipated in association with the existing pipelines.

G. OTHER MINERAL USES:
There are no known other mineral deposits in the lease area which would be considered commercially important.

H. OCEAN DUMPING ACTIVITIES:
There are no EPA approved ocean dumping sites located within the South Timbalier Area.

I. ENDANGERED OR THREATENED SPECIES AND CRITICAL HABITAT:
Five federally listed endangered whale species occur within the Central Gulf. These include fin, humpback, right, sei, and sperm whales. Generally, these large cetaceans occur in continental slope and deep oceanic waters. Recently, sperm whales have been sighted near the Louisiana Delta (Fritts, 1981, Personal communication).

The red wolf may occur along the Louisiana Gulf coast in Cameron and Vermilion Parishes.

Three federally listed endangered marine turtle species (Kemp s ridley, hawksbill, and leatherback turtles) and two threatened species (green and loggerhead turtles) occur in the Central Gulf area. Only the loggerhead turtle, which wanders widely throughout the Gulf, is sighted fairly frequently in the Central Gulf and has historically nested in the Chandeleur

Islands area. However, it is not believed that any endangered/threatened marine turtles currently nest in the Central Gulf.

The American alligator occurs generally throughout the Central Gulf coastal areas in fresh to brackish water wetlands. It is believed that Louisiana probably has the largest alligator population in the Gulf region of approximately 200,000 animals.

The red-cockaded woodpecker occurs primarily in mature open pine forest throughout the Central Gulf coastal area. A few artic peregrine falcons overwinter and migrate through the Central Gulf. Mississippi sandhill cranes are nonmigratory and a small group inhabits an area in Jackson County, Mississippi. Four small populations of brown pelicans (about 900 - 1000 birds) occur in the Central Gulf in the area of Rockefeller Refuge, Queen Bess Island, northern part of St. Bernard Parish, and North Islands, Louisiana. Bald eagles inhabit several coastal counties in the Central Gulf.

No federally listed endangered plant species are known to occur in the Central Gulf area (FEIS Sale 72).

III. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

A. WATER QUALITY:

Drilling activities will temporarily reduce water quality adjacent to the drilling locations due to discharges of drilling fluids and cuttings. These discharges will increase turbidity in a plume down-current from the drill site. Released formation waters and a minor oil spill could also contribute to water quality degradation.

B. EFFECTS ON MARINE ORGANISMS:

Some organisms will be killed and some will be temporarily functionally impaired as a result of drilling operations. The most affected groups will be plankton and benthos immediately around the drilling rig. Damage will be both mechanical and toxicological. Discharge of formation waters, drill muds and cuttings will damage plankton within the plume. Disposal of cuttings and muds will bury some of the less mobile benthic infauna and epifauna. These impacts are considered to be localized, short term and reversible at the population level.

An oil spill could affect a broad spectrum of marine organisms. However, most effects would be localized and short

term. Any effects on mammals and turtles would be significant.

C. WETLANDS AND BEACH:
In the unlikely event of a spill occurring and reaching shore, organisms in wetland and beach habitats could be killed or functionally impaired. Human community disruption could also occur. Although all such effects would be localized, any effects on endangered species and/or critical habitats would be significant.

D. AIR QUALITY:
The air quality at the lease site will be degraded temporarily during operations, but should return to normal once operations are measurably completed. Offshore activities probably will not affect onshore air quality. Air quality at the onshore base will be only insignificantly reduced by onshore activities. Any such effect will be temporary.

E. COMMERCIAL FISHING:
Only a negligible amount of sea floor will be removed from the use of fishermen by drilling operations, but trawling boats may be inconvenienced by having to avoid the drilling area. These effects and any effect that the drilling and production operations will have on stocks of important species are considered minor.

F. SHIP NAVIGATION:
Very little interference can be expected between the drilling location and ships that use established fairways. However, at night and during rough weather, fog, and heavy seas, ships not using established fairways could collide with the drilling rig.

G. CULTURAL RESOURCES:
There is only a small probability that an unknown cultural resource exists in the lease area. There is an even smaller probability that the activity in the area will adversely affect any unknown cultural resource.

H. RECREATION AND AESTHETIC VALUES:
The drilling locations may represent an obstacle to some sport fishermen, but such an effect is expected to be negligible and only temporary. The effects that normal operations or a minor

oil spill would have on any fish stocks important to sport fishermen are also considered to be negligible.

A minor oil spill and/or non-petroleum floating debris could foul beaches inshore of the lease area. The fouling of the beaches would be an aesthetic detriment that could adversly affect recreation. Any effects on beach recreation could adversely affect tourism and, consequently, the local economy.

IV. THE PROPOSED ACTIVITY WILL BE CARRIED OUT AND COMPLETED WITH THE GUARANTEE OF THE FOLLOWING ITEMS:

A. The best available and safest technologies 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.

B. All operations are covered by Amoco Production Company's Oil Spill Contingency Plan, approved by the M. M. S. on August 10, 1984.

C. 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.

D. The proposed activities described in detail in the Plan of Exploration comply with Louisiana's Coastal Management Program and will be conducted in a manner consistent with such Program.

REFERENCES

1. Final Regional Environmental Impact Statement, Gulf of Mexico, January 1983, OCS Sale 72, Volume 1, prepared by the Bureau of Land Management.

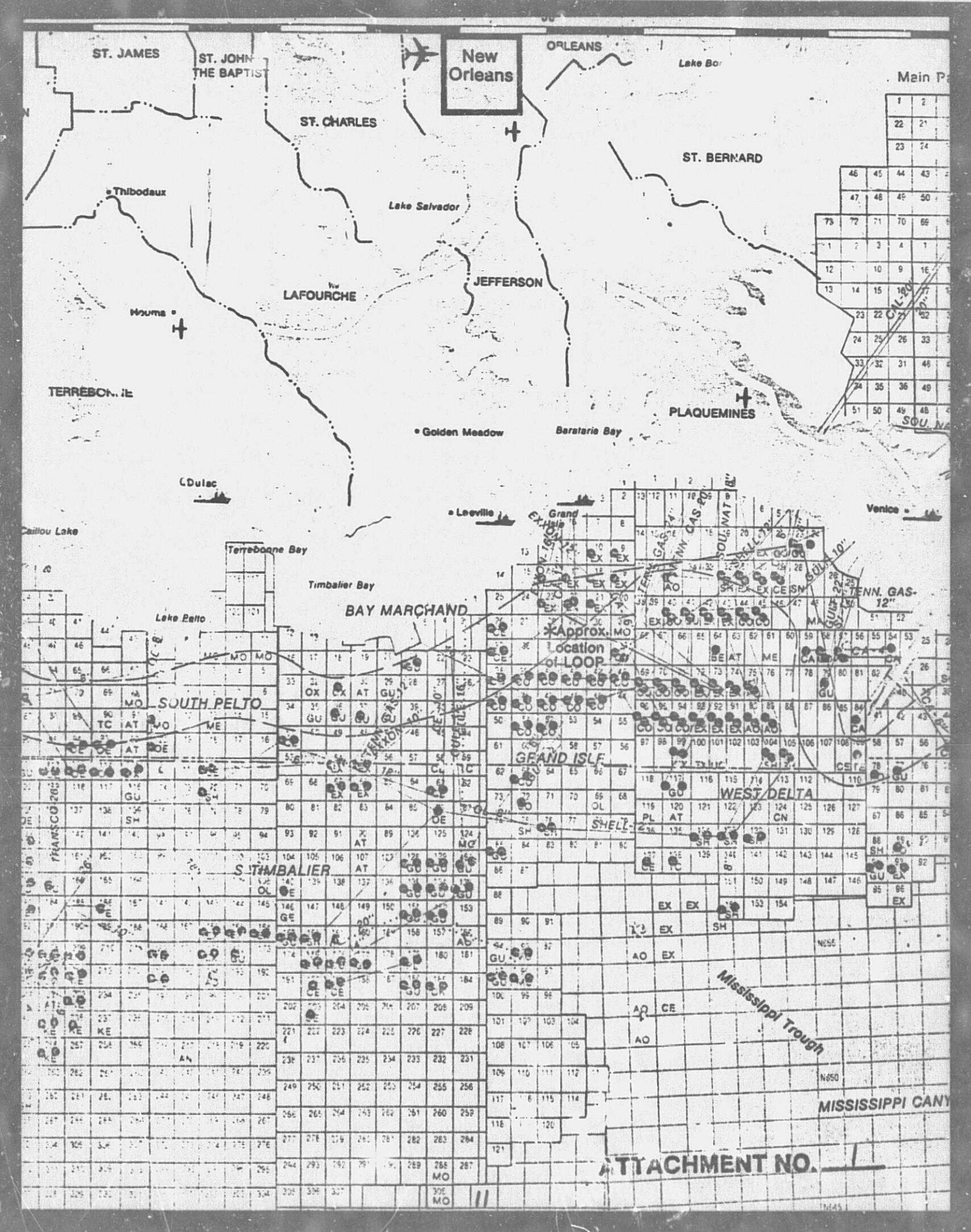
2. Final Regional Environmental Impact Statement, Gulf of Mexico, January 1983, OCS Sale 72, visuals.

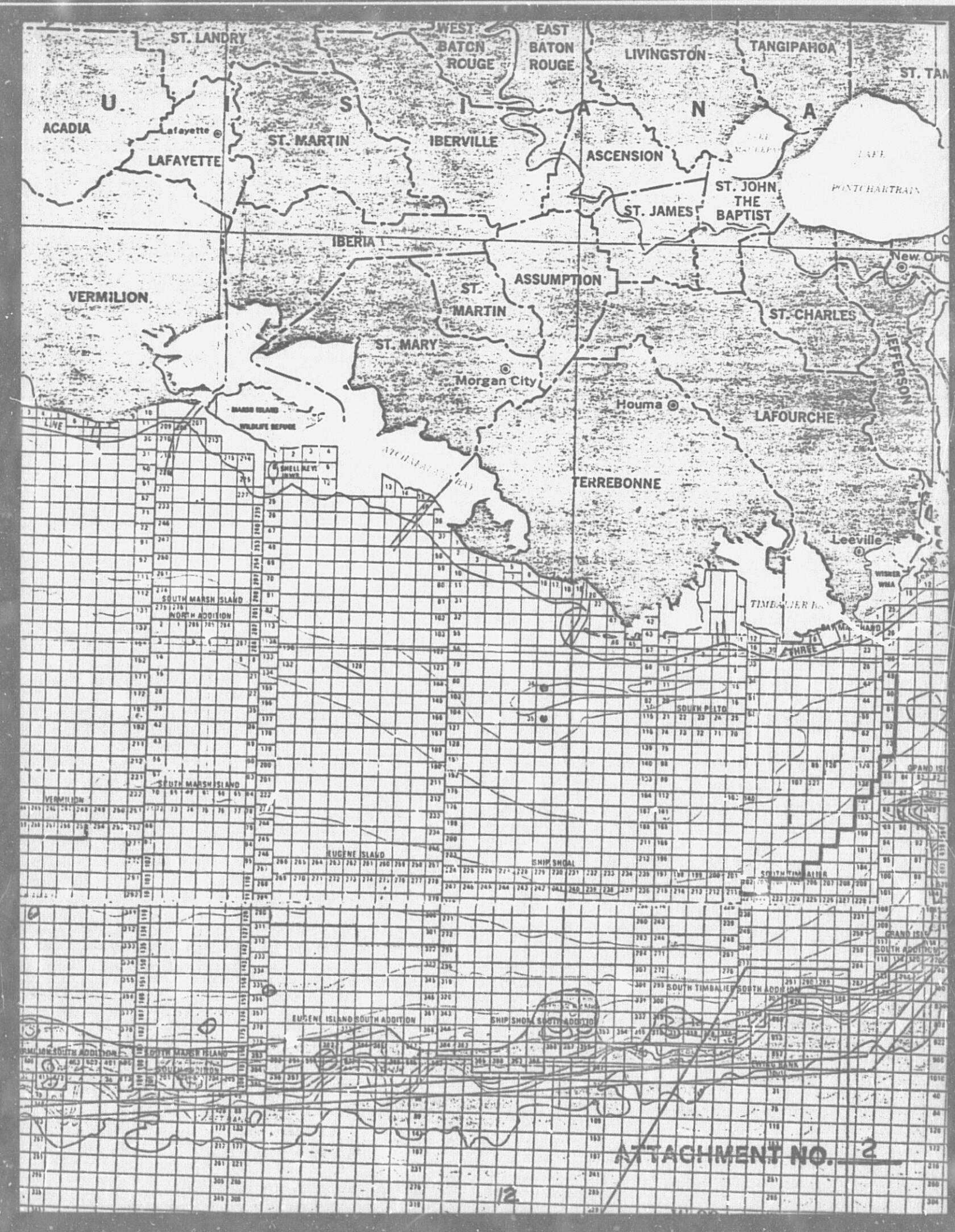
3. Fisheries of the United States, 1983, April, 1984.

4. The Ecology of Petroleum Platforms in the Northwestern Gulf of Mexico: A Community Profile, Bureau of Land Management Open File Report 82-03, July 1982.

APPENDICES

1. LOUISIANA LANDINGS FOR SPECIFIED PERIODS, 1982 and 1983


ST. JAMES
ST. JOHN THE BAPTIST
New Orleans
ORLEANS
ST. CHARLES
ST. BERNARD
Thibodaux
Lake Salvador
JEFFERSON
LAFOURCHE
Houma
TERREBONNE
PLAQUEMINES
Golden Meadow
Barataria Bay
Dulac
Leeville
Grand Isle
Venice
Caillou Lake
Terrebonne Bay
Timbalier Bay
Lake Pelto
BAY MARCHAND
SOUTH PELTO
S. TIMBALIER
GRAND ISLE
WEST DELTA
*Approx. Location of LOOP
TENN. GAS-12"
TRANSCO 20"
SHELL
Mississippi Trough
MISSISSIPPI CANY
ATTACHMENT NO. 1



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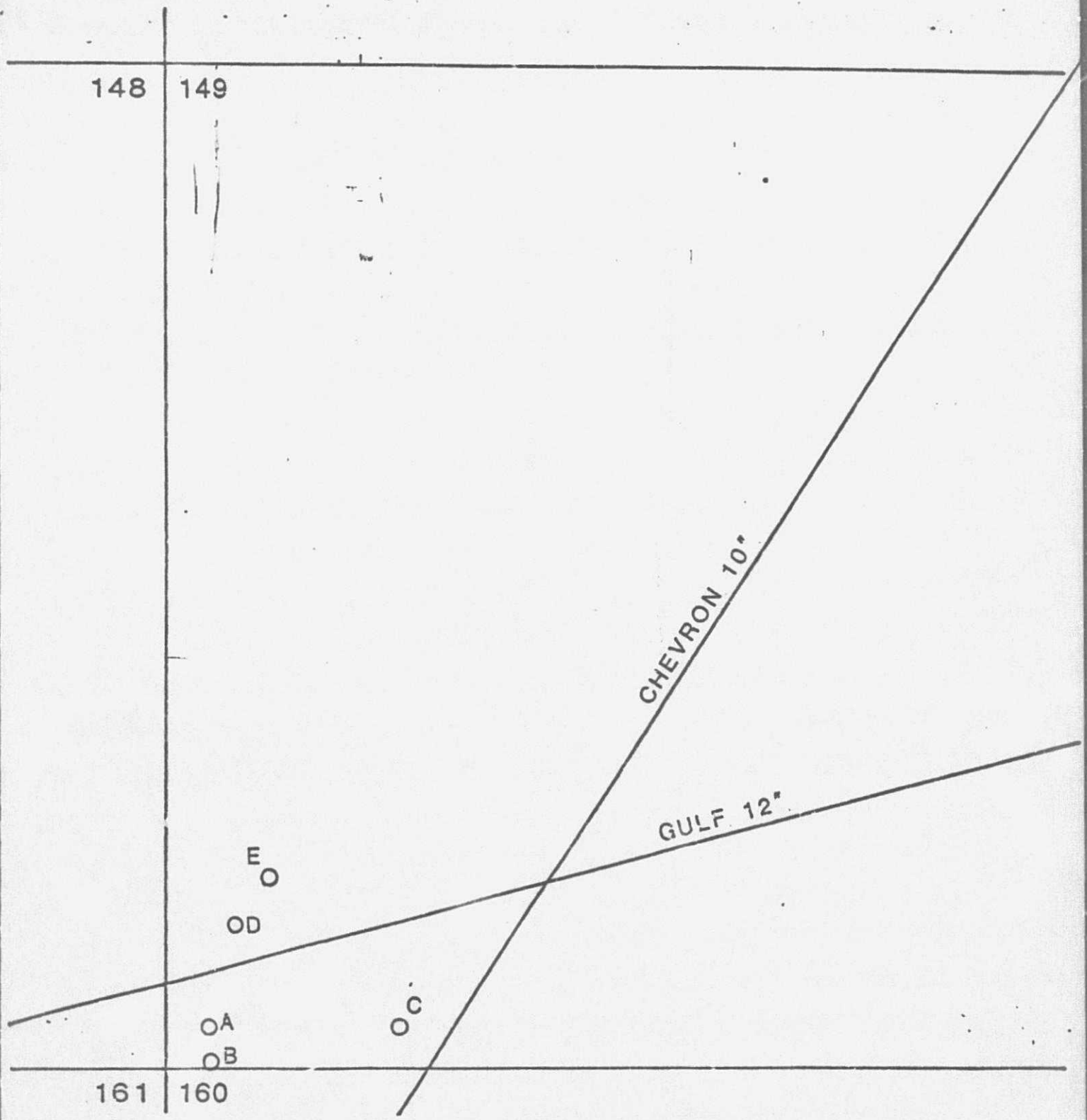

ATTACHMENT NO. 3

LOCATION PLAT
SOUTH TIMBALIER BLK. 149
OCS-G-5606
SCALE: 1" 2000'

LOUISIANA LANDINGS FOR SPECIFIED PERIODS, 1982 AND 1983

SPECIES	12 MONTHS ENDING WITH DECEMBER			
	1982		1983	
FISH	POUNDS	DOLLARS	POUNDS	DOLLARS
AMBERJACK	0	0	452	160
BLUEFISH	0	0	134	30
BUNFIN	19,622	2,453	14,418	1,762
BUFFALOFISH	4,667,795	874,720	3,481,128	652,772
CABIO	153	31	1,033	451
CARP	401,278	37,583	199,401	23,477
CATFISH & BULLHEADS	5,691,857	2,825,940	6,059,356	2,633,552
CROAKER	93,612	36,810	88,906	38,795
DRUM, BLACK	1,690,712	572,882	1,857,815	703,453
DRUM, RED	1,454,503	953,253	1,938,013	1,403,272
EEL, COMMON	7,747	5,460	19,845	13,830
FLOUNDERS	194,742	104,010	276,151	162,455
GARFISH (FRESHWATER)	921,629	249,648	1,162,990	314,822
GROUPERS	33,833	34,607	19,882	12,419
JEWFISH	374	47	791	156
KING MACKEREL & CERO	229,186	217,726	1,489,539	1,312,762
KING WHITING	102,836	20,849	187,277	37,544
MENHADEN	1,580,150,780	61,774,391	1,752,418,150	69,153,659
MULLET, BLACK	1,533,452	306,535	1,886,654	552,799
PADDLEFISH	70,958	10,685	71,789	10,757
POMPANO	7,536	24,675	22,169	62,637
SAWFISH	2,434	194	0	0
SEA CATFISH	59,624	13,933	37,547	5,533
SEA TROUT, SPOTTED	727,606	652,985	1,340,625	1,219,915
SEA TROUT, WHITE	30,538	11,031	94,087	45,180
SHAD, UNCL	1,341,917	124,368	1,811,580	181,153
SHARKS	64,850	17,319	19,919	5,442
SHEEPSHEAD, FRESHWATER	1,042,935	199,132	1,316,701	253,420
SHEEPSHEAD, ATLANTIC	296,758	36,894	543,416	69,542
SNAPPER, RED	467,941	684,629	718,361	1,206,872
SPANISH MACKEREL	15,027	3,126	74,140	40,695
SPOT	727	98	18,373	2,226
TILEFISH	6,611	4,625	0	0
TRIPLETAIL	1,420	215	672	156
FINFISHES, UNCL FOR BA	16,207	2,311	166,000	16,600
TOTAL FISH	1,601,552,200	69,808,367	1,777,337,314	80,139,270
SHELLFISH				
CRAB, BLUE, HARD	17,284,250	4,843,471	19,616,001	6,270,076
CRAB, BLUE, SOFT & PEELE	164,198	431,756	101,497	240,017
CRAWFISH, FRESHWATER	7,676,211	4,074,336	10,568,423	4,701,211
SHRIMP, FRESHWATER	1,000	600	0	0
OYSTER, EAST, MKT, P, SH	1,863,184	2,029,043	925,063	904,181
OYSTER, EAST, MKT, P, FA	1,901,083	2,570,943	1,359,647	2,459,357
OYSTER, EAST, MKT, SEED	0	0	4,932	9,410
OYSTER, EAST, MKT, PR, SP	5,615,116	7,729,732	7,455,126	8,249,505
OYSTER, EAST, MKT, PR, FA	3,242,101	4,681,052	3,484,609	5,998,784
SQUID, UNCLASSIED	0	0	1,235	390
TERRAPIN	79	86	0	0
TURTLE, SNAPPER	96,842	83,756	40,273	36,303
FROGS	42,656	55,034	35,962	37,744
TOTAL SHELLFISH	37,886,720	26,499,809	43,592,768	28,956,978
GRAND TOTAL	1,639,438,920	96,308,176	1,820,930,082	109,096,248

SHRIMP LANDINGS-LOUISIANA

	Heads-off	Heads-on	$ Value
1982	57,368,272	90,531,305	143,697,824
1983	48,860,554	76,953,758	130,911,626

PRELIMINARY
-subject to revision-

APPENDIX 1