

In Reply Refer To: RP-2-1

NOV 20 1985

Mark Producing
Attention: Ms. Susan Hathcock
675 Bering Drive
Houston, Texas 77057

Gentlemen:

Reference is made to your Initial Plan of Exploration and Environmental Report received November 6, 1985, for Lease OCS-G 7754, Block 196, Ship Shoal 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 20, 1985, and is now being considered for approval.

Your plan control number is H-2336 and should be referenced in your communication and correspondence concerning this plan.

Sincerely yours,

Original Signed: Douglas J. McIntosh

Acting Regional Supervisor
Rules and Production

bcc: Lease OCS-G 7754 (OPS-3-2) (FILE ROOM)
OPS-3-4 w/Public Info. Copy of the plan and ER (PUBLIC RECORDS ROOM)
DO-6

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Office of
Program Services

NOV 20 1985

Information Services
Section

PUBLIC INFORMATION

MARK PRODUCING, INC.

PLAN OF EXPLORATION

OCS-G 7754

Block 196

Ship Shoal Area

Offshore, Louisiana

MINERALS MANAGEMENT SERVICE

NOV 06 1985

RULES AND REGULATIONS

SECTION

ITEM

- | | |
|----|---|
| 1 | Introductory Letter |
| 2 | Proposed Type and Sequence of Exploration Activities and Timetable |
| 3 | Description of Drilling Vessel |
| 4 | Safety & Environmental Safeguards, Including Oil Spill Contingency Plan |
| 5 | Approximate Location of Proposed Wells and Plat |
| 6 | Structural Interpretation and Shallow Drilling Hazards Report |
| 7 | Onshore Support Base Facilities |
| 8 | Mud Components |
| 9 | Air Quality Review |
| 10 | Coastal Zone Management Statement |
| 11 | Environmental Report |

Mark Producing

675 Bering Drive
Houston, Texas 77057



October 22, 1985

**U.S. Department of the Interior
Minerals Management Service
P. O. Box 7944
Metairie, LA 70010**

**Attention: Mr. Don Solanas
Regional Supervisor
Office of Rules and Production**

**Re: OCS-G 7754
All of Block 196
Ship Shoal Area
Plan of Exploration**

Gentlemen:

In accordance with 30 CFR 250.34, as amended, Mark Producing, Inc., herein respectfully submits for approval a proposed Plan of Exploration for the referenced block.

Lease OCS-G 7754, effective July 1, 1985, was purchased by Mark 100%. Previous activities on these leases consist only of preliminary activities that did not result in any physical penetration of the seabed.

Mark Producing, Inc., submits eleven (11) copies of the proposed Plan of Exploration. Five (5) copies are considered "Proprietary Information" and are exempt from disclosure. Six (6) copies are "Public Information". The information believed to be exempt is geological and/or geophysical. As operator of this lease, Mark requests that this information and data considered exempt be dispersed for use only by the U. S. Government.

Three (3) copies of the High Resolution Geophysical Survey Report for this lease were submitted to your office on October 8, 1985.

We anticipate drilling on this lease to begin on or around February 1, 1986.

If there are any questions, please call.

Sincerely,

A handwritten signature in cursive script that reads 'Susan Hathcock'.

**Susan Hathcock
Supervisor, Regulatory Affairs**

/sh

Enclosures

**PROPOSED TYPE AND SEQUENCE OF
EXPLORATION ACTIVITIES AND TIMETABLE**

SECTION 2

Mark Producing, Inc. proposes to drill five (5) exploratory wells on Ship Shoal Block 196.

Drilling operations are expected to commence February 1, 1986. Each well will take approximately 60 days to drill. Drilling will not be continuous. The total project should be complete by May, 1987.

DESCRIPTION OF DRILLING VESSEL

Section 3

A typical jack-up rig will be utilized for exploratory drilling. See attached equipment list and diverter system drawing.

TYPICAL JACK-UP RIG

I. RIG SPECIFICATIONS

A. PRINCIPAL DIMENSIONS

LENGTH, OVERALL:	230 FEET
BEAM, OVERALL:	200 FEET
DEPTH:	26 FEET
DRILLING SLOT:	50 X 41 FEET
LEG DIMENSIONS:	3 SQUARE - 30 X 467 FEET

B. OPERATING SPECIFICATIONS

DRILLING DEPTH:	30,000+ FEET
OPERATING WATER DEPTH	
NON-HURRICANE SEASON:	350 FEET
HURRICANE SEASON:	275 FEET
VARIABLE LOAD:	4,000,000 LBS
QUARTERS:	USCG CERTIFIED SLEEPING ACCOMMODATIONS FOR 56 MEN WITH COMPLETE MESSING FACILITIES. AIR CONDITIONED
MOORING:	4 - LeTOURNEAU M-1500TS ELECTRIC ANCHOR WINCHES
HELIPORT:	71 FOOT DIAMETER RATED FOR SIKORSKY S-61 HELICOPTER

C. RIG CAPACITIES

BULK MATERIAL:	6 - 1050 CUBIC FOOT "P" TANKS
SACK STORAGE:	5000 SACKS
ACTIVE MUD:	1430 BARRELS
BLACK MAGIC PIT:	142 BARRELS
SLUGGING PIT:	34 BARRELS
DRILL WATER:	5350 BARRELS
POTABLE WATER:	970 BARRELS
FUEL OIL:	3020 BARRELS

D. CLASSIFICATION

CONSTRUCTED IN 1974 AT MARATHON LeTOURNEAU, VICKSBURG, MISSISSIPPI,
IN ACCORDANCE WITH AMERICAN BUREAU OF SHIPPING RULES, MALTESE CLASS.
A-1 DRILLING PLATFORM

UNITED STATES COAST GUARD CERTIFIED

II. EQUIPMENT SPECIFICATIONS

- A. DERRICK:** PYRAMID 147 X 30 X 30 FOOT, 1,329,000 LB GROSS NOMINAL CAPACITY DESIGNED FOR 100 MPH WIND LOAD WITH 18,000 FEET OF 5" DRILL PIPE RACKED
- B. DRAWWORKS:** NATIONAL 1625 DE POWERED BY 2 - EMD-D79 800 HP MOTORS, GROOVED FOR 1-1/2" LINE, AND EQUIPPED WITH CROWN-O-MATIC, AND BAYLOR 7838 ELMAGCO BRAKE. 9/16" X 15,000' SAND LINE
- C. HOISTING EQUIPMENT:** ALL 650+ TON CAPACITY
- CROWN BLOCK:** NATIONAL 860J, 8 - 60 INCH SHEAVES, GROOVED FOR 1-1/2" LINE
- HOOK BLOCK:** NATIONAL 760-G-650, 7 - 60 INCH SHEAVES, GROOVED FOR 1-1/2" LINE
- SWIVEL:** NATIONAL P-650
- ANCHOR:** NATIONAL TYPE EB
- D. ROTARY:** NATIONAL C-375 WITH 2-SPEED TRANSMISSION, POWERED BY 1 EMD-D79 800 HP MOTOR
- E. DRILLER'S CONSOLE:** MARTIN DECKER PANEL WITH HEIGHT INDICATOR, PUMP PRESSURE, PUMP STROKES, ROTARY RPM, TONG TORQUE, PIT LEVEL, FLOW-SHOWN AND RECORDERS WITH REMOTE READOUT
- F. PRIME MOVERS**
- ENGINES, GENERATORS, AND DISTRIBUTION:** 3 - EMD SR-16 CYLINDER DIESEL ENGINES EACH DRIVING A 1500 KW ALTERNATOR, ALL OPERATING A ROSS-HILL SCR SYSTEM
- EMERGENCY POWER:** 1 - EMD SR-8 CYLINDER DIESEL ENGINE DRIVING A 700 KW AC GENERATOR
- G. MUD SYSTEM**
- MUD PUMPS:** 3 - NATIONAL 12-P-160 TRIPLEX PUMPS, EACH DRIVEN BY 2 EMD-D79 800 HP MOTORS
- CHARGING PUMPS:** 2 - MISSION 6" X 8" CENTRIFUGAL PUMPS EACH DRIVEN BY A 50 HP MOTOR
- MUD MIXING PUMPS:** 2 - MISSION 6" X 8" CENTRIFUGAL PUMPS EACH DRIVEN BY A 100 HP MOTOR

SCALE SHAKER:

BRANDT DUAL-TANDEM SCREEN SEPARATOR

DESANDER:

DEMCO 3 - 12" CONES

DESILTER:

DEMCO 12 - 4" CONES

DEGASSER:

SWACO

GAS DETECTOR:

BAROID SINGLE POINT INDUSTRIAL DETECTOR

STAND PIPES:

2 - 5" WITH 2 - 10,000# TEST ROTARY HOSES

MUD TESTING EQUIPMENT:

**MUD WEIGHT BALANCE, VISCOSITY FUNNEL,
VISCOSITY CUP, AND API FILTER PRESS**

CIRCULATING HEAD:

KING WITH 4-1/2" I.F. CONNECTION

MUD AGITATORS:

**3 - LIGHTNIN' MODEL 85Q20 20 HP
MUD MIXERS**

H. BLOWOUT PREVENTERS

RAMS:

**1 - 13-5/8" CAMERON TYPE "U" SINGLE
10,000# CAMLOCK CONNECTIONS, H₂S SERVICE**

**1 - 13-5/8" CAMERON TYPE "U" DOUBLE
10,000# CAMLOCK CONNECTIONS, H₂S SERVICE**

ANNULAR:

**1 - 13-5/8" HYDRIL 10,000# CAMLOCK
CONNECTIONS, H₂S SERVICE**

**1 - 20" HYDRIL MSP 2000# ANNULAR BORED
TO 21-1/4"**

DIVERTER:

**6" LOW PRESSURE DIVERTER SYSTEM WITH FULLY
OPENING HYDRAULICALLY OPERATED 6" HCR
VALVE AND PNEUMATICALLY OPERATED GATE
VALVES FOR OVERBOARD DISCHARGE**

CHOKE MANIFOLD:

10,000# TEST CHOKE MANIFOLD, H₂S SERVICE

CLOSING UNIT:

**KOOMEY PREVENTER CONTROL SYSTEM WITH 2 -
80 GALLON ACCUMULATORS, MASTER AND REMOTE
PANELS**

INSIDE BOP AND SAFETY VALVES:

**INSIDE BOP AND TWO FULL OPENING SAFETY VALVES
ON DERRICK FLOOR TO FIT DRILL PIPE FURNISHED
BY CONTRACTOR**

KELLY VALVE:

6-5/8" OMSCO 10,000# TEST KELLY VALVE

SPOOLS:

21-1/4" 2000# 600 SERIES WITH 1 - 6" & 1 - 4" 5000# OUTLETS

I. DRILL STRING AND HANDLING TOOLS

DRILL PIPE:

12,000' OF 5" 19.50# GRADE "E" WITH 4-1/2" I.F. TOOL JOINTS

3000' OF 5" 24.75# GRADE "E" WITH 4-1/2" I.F. TOOL JOINTS

DRILL COLLARS:

18 - 7-1/2" O.D. 1290#/FT WITH 5-1/2" H-90 TOOL JOINTS

KELLY:

DRILCO, 5-1/4" X 40' HEX

KELLY SPINNER:

VARCO 6500 POWER SUB

IRON ROUGHNECK:

VARCO IR 2060

POWER SLIPS

VARCO FOR 5" DRILL PIPE

SLIPS:

1 SET 5" VARCO

1 SET 5" BAASH ROSS

1 SET 7-1/2" WOOLEY

1 SAFETY CLAMP

TONGS:

2 BJ TYPE DB 3" THROUGH 17-1/2" HINGED JAW ASSEMBLY

ELEVATORS:

2 SETS FOR 5" DRILL PIPE

1 SET FOR DRILL COLLARS

RAILS:

1 SET BJ 500 TON

SUBS:

2 BIT SUBS AND CROSSOVER SUBS FOR CONTRACTOR'S DRILL PIPE AND DRILL COLLARS, 2 SPARE KELLY SAVER SUBS

DRILL PIPE PROTECTORS:

CONTRACTOR WILL SUPPLY PROTECTORS FOR USE IN SURFACE CASING ONLY

FISHING TOOLS:

1 OVERSHOT 8-5/8" O.D., WITH 4-1/2" I.F. BOX, 5", 6-1/4", 6-3/8", 7-1/2" GRAPPLES

J. CEMENTING UNIT:

HALLIBURTON TWIN HT-400 WITH CLOSED HIGH-WEIGHT CIRCULATING UNIT

K. CRANES:

3 - MARATHON LeTOURNEAU PCM 120 WITH 100' BOOMS, RATED FOR 90,000# AT 25' RADIUS

L. LOGGING UNIT:

PROVISIONS TO ACCOMMODATE ONE UNIT

M. WIRELINE UNIT:

**MATHEY ELECTRIC POWERED HYDRAULIC WIRELINE
UNIT WITH 15,000' OF .092" WIRE**

N. MISCELLANEOUS EQUIPMENT

WATERMAKER:

1 - 400 GPH CAPACITY

SAFETY EQUIPMENT:

2 - WHITTAKER 28 MAN SURVIVAL CAPSULES

**APPLIANCES AS REQUIRED BY USCG TO INCLUDE
ALL AIDS TO NAVIGATION FOR DRILLING UNITS**

WELDING EQUIPMENT:

ELECTRIC AND OXYGEN-ACTYLENE

LUBRICATION:

**ALL LUBRICATING OILS AND GREASES FOR ALL
CONTRACTOR'S EQUIPMENT**

COMMUNICATIONS:

360 WATT BASE FM RADIO

VHF MARINE RADIO

RIG TELEPHONE INTERCOM SYSTEM

SUPPLIES AND SERVICES:

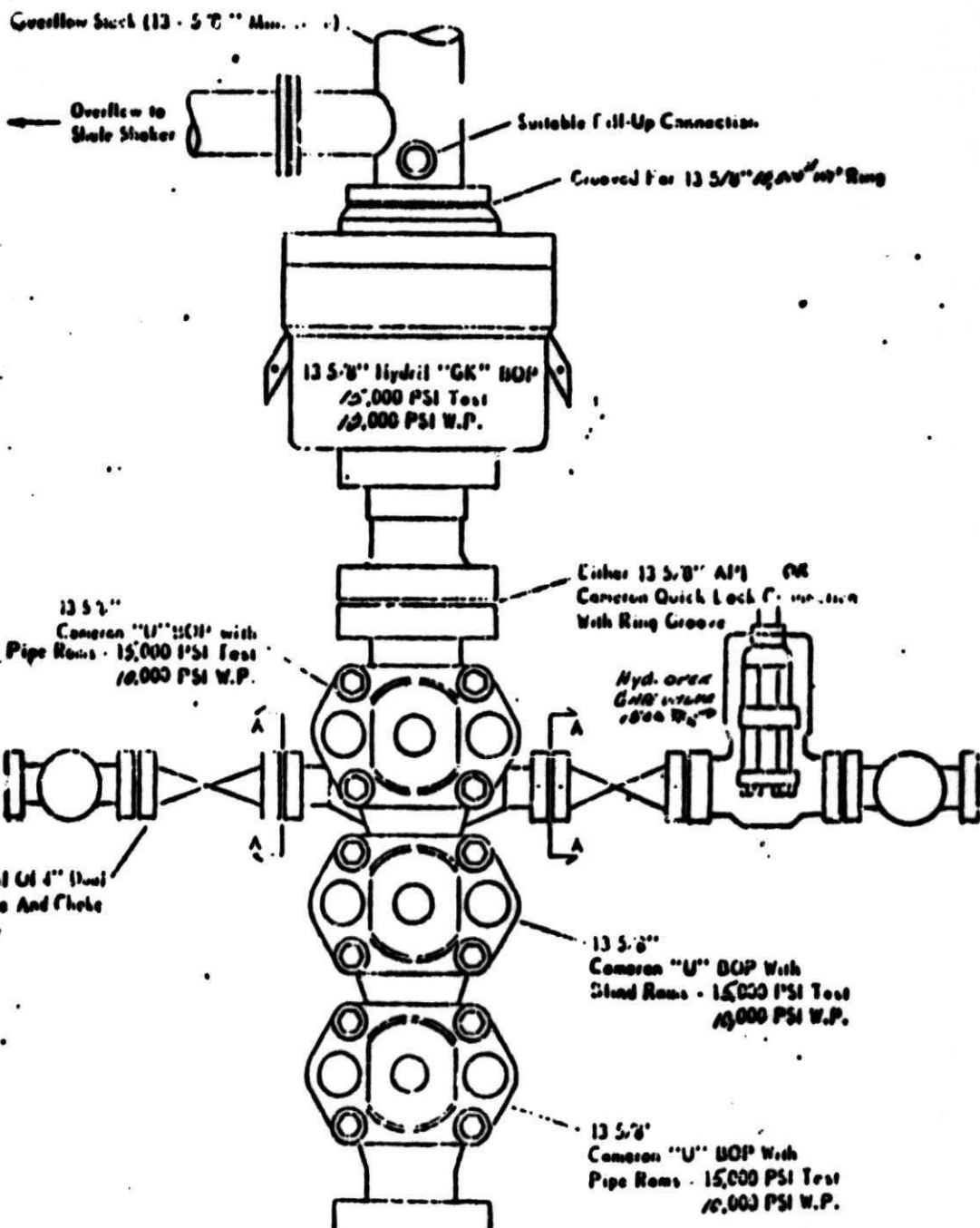
**SUPPLIES AND SERVICES AS REQUIRED TO
PROPERLY OPERATE AND MAINTAIN THE DRILLING
UNIT AND DRILLING EQUIPMENT**

**CATERING SERVICE AND SUPPLIES TO PROVIDE
FOR CONTRACTOR'S PERSONNEL AND REASONABLE
NUMBER OF OPERATOR'S EMPLOYEES**

**SHORE BASED DISPATCHER AND RADIO INSTALLATION
AT DOCKSITE**

TYPICAL JACK-UP RIG

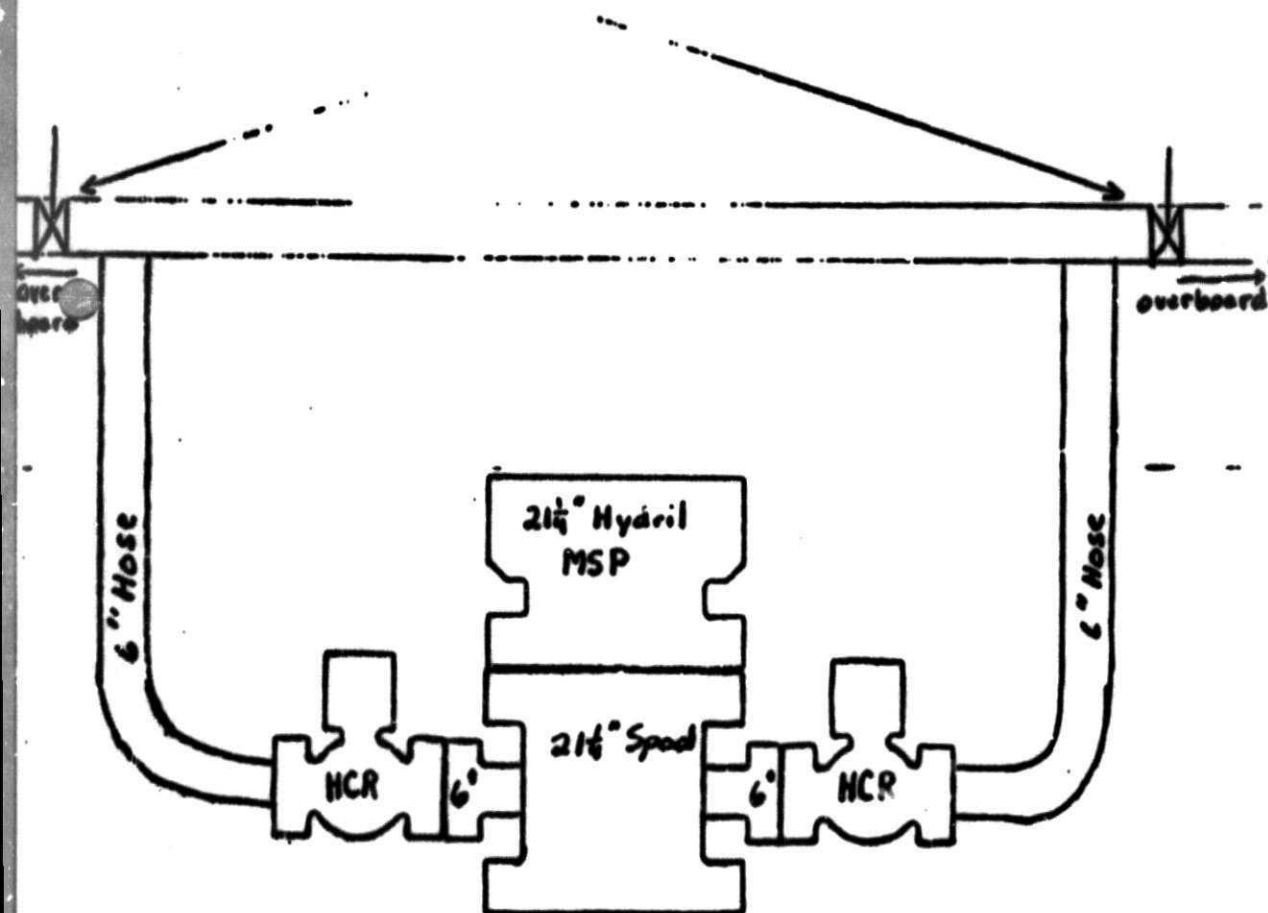
13 5/8" - 15,000 PSI TEST M.O.D. OUT PREVENTER ASSEMBLY



TYPICAL JACK-UP RIG

DIVERTER SYSTEM

*Remote Controlled
Air operated Gate Valve*



SAFETY AND ENVIRONMENTAL SAFEGUARDS

Section 4

Safety features during drilling operations will include well control and blowout prevention equipment that meets or exceeds the requirements of OCS Order No. 1.

Oil in any form shall not be disposed of into the water of the Gulf.

Liquid waste materials containing substances which may be harmful to aquatic life or wildlife, or injurious in any manner to life or property shall be treated to avoid disposal of harmful substances into the waters of the Gulf.

Drilling muds containing oil are not disposed of into the Gulf. This type material is loaded and barged to shore for proper disposal. Drilling mud containing toxic substances are neutralized prior to disposal.

Drill cuttings, sand, and solids containing oil are not disposed of into the Gulf unless the oil has been removed.

The subject offshore mobile drilling unit is equipped with drip pans under the rig floor. All oil from diesel engines is pumped to a sump and then pumped into barrels for return to an onshore site.

Operator personnel are instructed in the techniques and methods necessary to prevent pollution. Non-operator personnel are instructed and supervised to insure that non-pollution practices are adhered to. The facilities are inspected daily.

OIL SPILL CONTINGENCY PLAN

Mark Producing, Inc.'s, Oil Spill Contingency Plan was approved on July 29, 1985, by the MMS. This plan designates an Oil Spill Team consisting of Mark Producing personnel and contract personnel. This team's duties are to eliminate the source of the oil spill, remove all sources of possible ignition, deploy the most viable means of available transportation to monitor the movement of this slick, and contain and remove the slick, if possible.

Mark Producing is a member of the Clean Gulf Associates (CGA). The CGA has four permanent bases in Louisiana at Venice, Grand Isle, Intercoastal City, and Cameron, and two bases in Texas at Galveston and Rockport. Each base is equipped with fast response skimmers and there is a barge mounted high volume sea skimmer based at Grand Isle. In addition to providing equipment, the CGA also supplies advisors for cleanup operations.

Deployment time to Ship Shoal Block 196 is approximately 6 hours from Morgan City, Louisiana.

PUBLIC INFORMATION

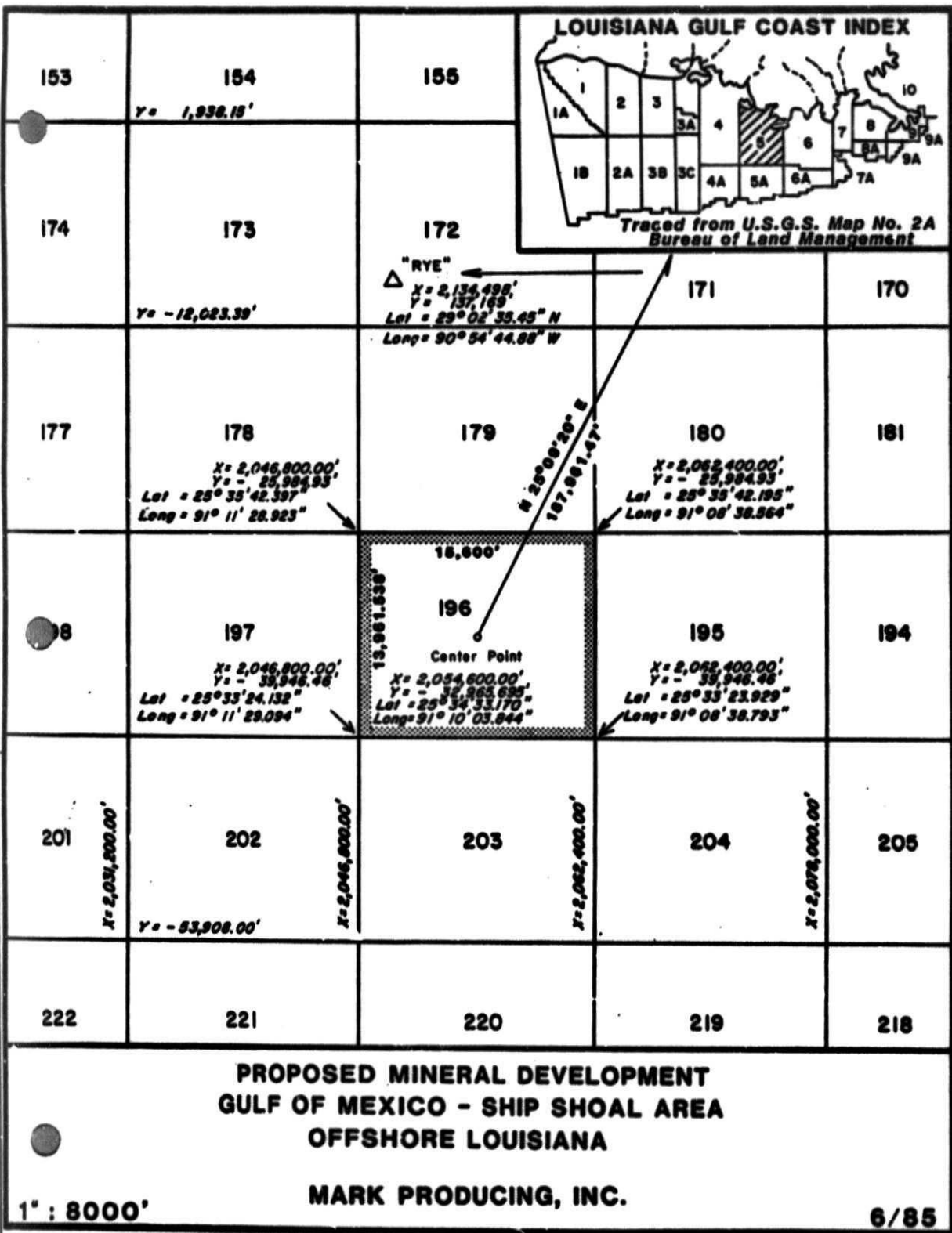
APPROXIMATE LOCATION OF PROPOSED WELLS AND PLAT

Section 5

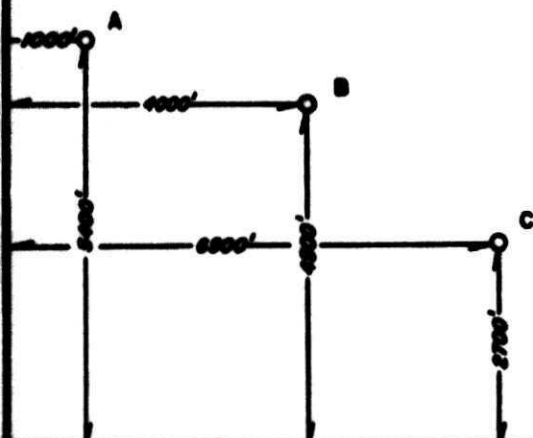
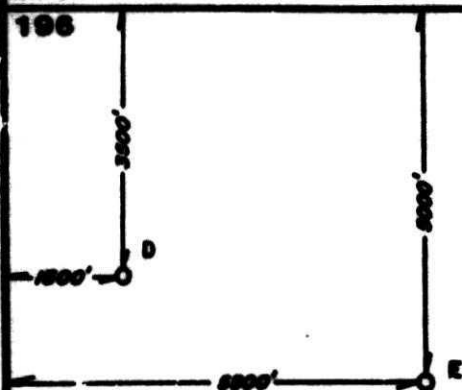
Ship Shoal Block 196 is approximately 70 miles south of Morgan City, Louisiana.

The proposed locations for wells to be drilled on this block are as follows:

<u>SHIP SHOAL BLOCK 196</u>		
<u>WELLS</u>	<u>LOCATIONS</u>	<u>DEPTH</u>
A	Surf: 5400' FSL & 1000' FWL	
B	Surf: 4500' FSL & 4000' FWL	
C	Surf: 2700' FSL & 6500' FWL	
D	Surf: 3500' FNL & 1500' FWL	
E	Surf: 5000' FNL & 5500' FWL	

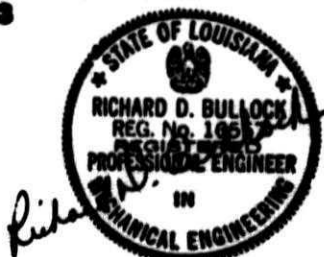


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197 198



MARK PRODUCING, INC.
OCS G-7754

202 203



Mark Producing **MP**

SHIP SHOAL 196
OFFSHORE LOUISIANA

PLAN OF EXPLORATION



PUBLIC INFORMATION

10/9/86

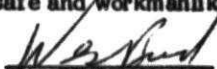
STRUCTURAL INTERPRETATION AND SHALLOW HAZARDS REPORT

Section 6

Mark Producing, Inc., has reviewed the geophysical data pertinent to all of Block 196, Ship Shoal Area. This included Echo Sounder, Marine Magnetometer, Side-Scan Sonar/Sub-Bottom Profiler, E.G.&G. Sparker System data obtained by Gardline Surveys, Inc.

Mark has reviewed all data over and proximal to the surface locations of the proposed wells. These data indicate no valid anomalies and/or shallow drilling hazards.

These wells will be drilled in a safe and workmanlike manner.


Wes Bird
Geophysicist

ONSHORE SUPPORT BASE FACILITIES

Section 7

Mageobar's dock in Morgan City, Louisiana will serve as the onshore support base facility during the exploratory drilling in Ship Shoal Block 196. This will serve as port of debarkation for supplies and crews. No expansion or construction is anticipated with respect to this activity. A list of services and facilities at Mageobar's dock that will be utilized in support of this activity follows.

1. 31,000 sack bulk barite storage
2. 3000 bbl. liquid calcium chloride capacity
3. Twenty-four hour service
4. Parking Lot - 100 cars
5. Drill water
6. Drinking water
7. 300 ft. dock space
8. 20 ton crane
9. Office space available, if needed.
10. Bulk delivery barges, liquid mud barges, rig bulk tank (land and inland water), tugs, offshore boats, and bulk trucks are readily available when needed.

MUD COMPONENTS

Section 8

Attached is a list of mud components and additives, including the common and chemical trade name of each which will be used in Mark Producing, Inc.'s, operations.

SAFETY AND ENVIRONMENTAL TECHNICAL BULLETIN

NO. 6

Date Issued 18 Aug. 1977

ISSUED BY THE SAFETY AND ENVIRONMENTAL CONTROL DEPARTMENT

ENVIRONMENTAL INFORMATION SUMMARY MAGCOBAR PRODUCTS

The information contained in this summary is a compilation of data generated by OPG Environmental Engineering as well as independent testing laboratories. In certain cases the information has been provided by the product supplier.

This summary is intended to be used as a quick reference guide, as more specific information is available through Environmental Engineering. There are eight data columns included; an explanation of each follows:

Column 1 - Product Name: Self explanatory.

Column 2 - Physical or Chemical Composition: Description of the major chemistry involved in the product.

Column 3 - Concentration Normally Used in Drilling Mud (s/bbl and ppm): This column describes the use concentrations in both pounds per barrel (on top), and parts per million (on bottom).

Column 4 - TL_m or LD_{50} : This is toxicity data generally for aquatic organisms. Fresh or salt water tests will be so indicated. If data represents other test species, it will be so noted. TL_m and LD_{50} represent that concentration of material tested that caused fatalities is 50% of the test population. Natural dilutions are not taken into account during these tests. Concentrations are expressed in ppm.

Column 5 - Water Solubility: Descriptive wording found in the column designates if the product is soluble in water, and if so, to what extent.

Column 6 - TLV: This is the Threshold Limit Value established by OSHA (Occupational Safety and Health Administration). This represents an airborne concentration of a substance, under which it is believed that nearly all workers may be repeatedly exposed day after day, without adverse effect. The (*) designates that this material is considered as a nuisance particulate only.

Column 7 - DOT Hazard Class: The Department of Transportation has promulgated very specific regulations pertaining to the transportation of hazardous substances. This column will describe that hazard.

Column 8 - Special Comments: Found here will be any special comments concerning items such as disposal, handling precautions, etc.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 95 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
ALUMINUM STEARATE	Aluminum Stearate	.01 - .1 g/bbl 30 - 300 ppm	N/A	Negligible	None	None	Allowed in the manufacture of food containers.
BENEX	Anhydride Copolymer	.05 g/bbl 150 ppm	Saltwater 690 ppm	Appreciable	*11mg/m ³	None	Avoid prolonged exposure to dust.
BIT LUBE	Reacted and Neutralized Phenolics	3 - 6 g/bbl 9,000 - 18,000 ppm	Fresh - 97 ppm Salt - 80 ppm	Insoluble	None	None	Avoid prolonged exposure to vapors.
CALCIUM CHLORIDE	Calcium Chloride	0 - 210 g/bbl 0 - 630,000 ppm	Fresh > 1,000 ppm	Soluble to Saturation	None	None	Completion fluids
CALCIUM BROMIDE	Calcium Bromide	0 - 210 g/bbl 0 - 630,000 ppm	N/A	Soluble to Saturation	None	None	Completion fluids
CAUSTIC SODA	Sodium Hydroxide	.25 - 2 g/bbl 750 - 6,000 ppm	Toxicity well documented	Complete	2mg/m ³	Corrosive	Should not be a pH change in natural waters. Materials are corrosive to skin, and should be handled accordingly.
CAUSTIC POTASH	Potassium Hydroxide	.25 - 2 g/bbl 750 - 6,000 ppm	Toxicity well documented	Complete	2mg/m ³	Corrosive	
CEASTOP	Calcium Carbonates and lignosulfates	5 - 25 g/bbl 14,000 - 75,000 ppm	Fresh - 8,400 ppm Salt > 30,000 ppm	Slight	*10mg/m ³	None	Avoid prolonged dust exposure.
CEASCAL	Calcium Carbonates and lignosulfates	5 - 10 g/bbl 15,000 - 30,000 ppm	Fresh - 28,000 ppm Salt > 30,000 ppm	Appreciable	*10mg/m ³	None	Basically non-toxic
CELLOREAL	Cellophane	2 - 15 g/bbl 6,000 - 45,000 ppm	N/A	Insoluble	*10mg/m ³	None	Cellophane is normally considered inert.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 96 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
CHIP SEAL	Cedar fiber	2 - 15 #/bbl 6,000 - 45,000 ppm	N/A	Insoluble	5mg/m ³	None	Toxicity of wood chips is of no consequence.
COTTONSEED HULLS	Cottonseed Hulls	2 - 15 #/bbl 6,000 - 45,000 ppm	N/A	Insoluble	*10mg/m ³	None	There should be no Syss-nosis exposure with this product.
CYPAN	Sodium Polyacrylate	.25 - 5 #/bbl 750 - 1,500 ppm	Fresh water - 768 mg/l	Appreciable	None	None	Very low order toxicity to rats and rabbits - Tested by American Cyanamid.
D D	Detergent alkylates	.1 #/bbl 300 ppm	Fresh - 245 ppm Salt - 140 ppm	Appreciable	None	None	Should easily biodegrade
DESCU	Sulfomethylated Tannins	2 - 5 #/bbl 6,000 - 15,000 ppm	N/A	Complete	.05/mg/m ³	None	No toxicity data available - Toxicity should be comparable to Quebracho.
DG-55	Bentonites & Silica Flour	2 - 6 #/bbl 6,000 - 18,000 ppm	N/A	Insoluble	<10mg/m ³ Depending on percent of free silica	None	Toxicity is comparable to MagcoGel.
DIASEAL M	Diatomaceous earth	Depends on spotting application	N/A	Insoluble	2 Fibers/cc for Asbestos content	None	Material contains asbestos, and must be handled accordingly.
DOS-3	Cosmetic Diesel Oil	3% Injection	Salt >1,000 ppm	Insoluble	None	None	Seawater mud with 5% DOS - 3 Toxicity = > 10,000 ppm
DRISPAc	Cellulose Ether polymer	.25 - 5 #/bbl 750 - 15,000 ppm	N A	Complete	*10mg/m ³	None	Toxicity on product is unknown: Drilling fluid with Drispac added has a toxicity of 46,000 - 74,000 ppm.
DRILLAD 420 RAPIDRILL (LO-FLO)	Polymer	Depends on application	N/A	Appreciable	None	None	Avoid eye contact and long term dust exposure.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 95 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
DOUVIS	Polysaccharide	.3 - 1 a/bbl 900 - 3,000 ppm	Fresh > 1,000 ppm	Hygroscopic	None	None	Should easily biodegrade.
DV-22	Blend of metallic oxides and asphalt	.25 a/bbl 750 ppm	N/A	Insoluble	5mg/m ³	None	Long term dust exposure should be controlled.
DV 33	Detergent alkylates in a hydrocarbon carrier	5 - 6 a/bbl 1,500 - 18,000 ppm	Fresh - 32 ppm Salt - 52 ppm	Slight	None	Flammable	Used in oil mud systems which are not disposed of in conventional methods.
FLOXIT	Copolymer of acrylamids and Acrylic Acid	.01 - .04 a/bbl 30 - 120 ppm	N/A	Appreciable	None	None	Avoid prolonged dust exposure.
GEO-GEL	Sepiolite	to 15 a/bbl to 45,000 ppm	Fresh > 16,428 ppm	Insoluble	None	None	Naturally occurring ore. Basically inert.
INHIBITOR 101	Formulated amines in a naphtha base	1 - 4 a/bbl 3,000 - 12,000 ppm	Fresh - 34 ppm Salt - 61 ppm	Dispersible only	10 ppm	None	Dispose of only in approved areas, or as local laws dictate.
INHIBITOR 202	Formulated amines with an organic salt in a hydrocarbon carrier	1 - 4 a/bbl 3,000 - 12,000 ppm	Fresh - 32 ppm Salt - 29 ppm	Dispersible only	400 ppm	Flammable	Dispose of only in approved areas, or as local laws dictate.
INHIBITOR 305	Formulated morpholine com- pounds in an alcohol carrier	1 - 4 a/bbl 3,000 - 12,000 ppm	Fresh - 7,300 ppm Salt - 12,750 ppm	Appreciable	20 ppm	None	Dispose of only in approved areas, or as local laws dictate.
KLEEN-UP	Detergent and degreaser	Varies	Fresh - 70 ppm Salt - 30 ppm	Appreciable	None	None	Should easily biodegrade.
KWIK SEAL	Cane fiber, nut shells, mica	*Depends on severity of lost circulation	Fresh - 17,000 ppm	Insoluble	*10mg/m ³	None	Avoid prolonged exposure to dust.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 65 HR. TL ₅₀ OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *HAZARD SUBST ONLY	(7) D.D.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
KWIK-THIK	Polyzand Bentonite	.5 - 20 a/bbl 15,000 - 80,000 ppm	Fresh $\approx$ 14,500 ppm Salt $\approx$ 100,000 ppm	Insoluble	<10mg/m ³	None	TLV depends on percent of free silica.
LIME	Calcium oxide	.5 - 2 a/bbl 1,500 - 6,000 ppm	N/A	Forms solution	5mg/m ³	Air and water shipments only	Irritating to skin and eyes, handle accordingly.
LO-WATE	Limestone	.5 - 12 lbs/gal oil mud	Fresh > 100,000 ppm Salt > 100,000 ppm	Negligible	*10mg/m ³	None	Used to weight oil muds
MC QUEBRACHO	Tannin	.2 - .5 a/bbl 6,000 - 15,000 ppm	Fresh - 132 ppm Salt - 158 ppm	Moderately	*10mg/m ³	None	Should easily biodegrade
MAGCO- POLY-SAL	Polysaccharide	Up to 12 a/bbl Up to 36,000 ppm	Fresh - 315 ppm	Appreciable	*10mg/m ³	None	Should easily biodegrade with time.
MAGCO CMC	Carboxymethyl- cellulose	.25 - 2 a/bbl 750 - 6,000 ppm	N/A	Appreciable	None	None	Biodegradable. Toxicity is unknown, however it is a food additive.
MAGCOLUMBE	Paraffinic hydrocarbons in an alkane/amide	.5 - 2 a/bbl 1,500 - 6,000 ppm	Fresh - 167 ppm Salt - 477 ppm	Appreciable only in fresh water	None	None	Should easily biodegrade.
MAGCOBAR	Bentonite	Depends on mud weight desired	Fresh > 100,000 ppm Salt > 100,000 ppm	Insoluble	*10mg/m ³	None	Natural mineral ore. Basically inert.
MAGCOGEL	Bentonite	.5 - .35 a/bbl 15,000 - 105,000 ppm	Fresh - 14,500 ppm Salt > 100,000 ppm	Insoluble	<10mg/m ³ Depends on percent of free silica	None	Natural mineral ore.
MAGCONATE	Formulated sulfonate	.5 - 2 a/bbl 1,500 - 6,000 ppm	Fresh - 7.4 ppm Salt - 6,800 ppm	Insoluble	None	None	Almost totally nondispersible in salt water.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 96 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
MAGCONOL	2-ethylhexanol	.1 - .2 #/bbl 300 - 600 ppm	Fresh - 41.5 ppm Salt - 26 ppm	Negligible	None	None	Avoid prolonged exposure to vapors.
MAGCO-PHOS	Sodium Metaphosphate	.1 - .25 #/bbl 300 - 750 ppm	Fresh - 1,200 ppm Salt - 7,100 ppm	Appreciable	*10mg/m ³	None	Avoid prolonged exposure to vapors.
MAGCO MICA	Mica flakes	2 - 30 #/bbl 6,000 - 90,000 ppm	N/A	Insoluble	*10mg/m ³	None	Toxicity should be nil, as these flakes are insoluble.
MIXICAL	Calcium carbonate	5 - 25 #/bbl 1,500 - 75,000 ppm	N/A	Nil	*10mg/m ³	None	There should be no toxicity with calcium carbonate
MUD FIBER	Bagasse - Cane fiber	2 - 15 #/bbl 6,000 - 45,000 ppm	N/A	Negligible	None	None	Should be of no consequence. Dust exposures should be controlled.
MY-LO-JEL	Starch	1 - 8 #/bbl 3,300 - 24,000 ppm	N/A	Appreciable	*10mg/m ³	None	Non-toxic. No restriction as a food operator.
MY-LO-JEL PRESERVA- TIVE	Paraformal- dehyde	.3 - 5 #/bbl 900 - 1,500 ppm	N/A	Partially temperature and pH dependent	3mg/m ³	None	Toxicity. Oral-Rat = LD ₅₀ 800 mg/kg body weight.
NUT PLUG	Ground walnut shells	2 - 30 #/bbl 6,000 - 90,000 ppm	N/A	Negligible	None	None	Toxicity should be of little consequence.
OILFAZE	Blend of dry materials, in- cluding clays and Gilsomite	22 - 40 #/bbl 66,000 - 120,000 ppm	Fresh - 2,676 ppm Salt - 3,500 ppm	Insoluble	*10mg/m ³	None	Disposal is no problem, as this is an oil mud product and is not discharged.
OS-1	Sodium Sulfite	Maintain excess Sulfite at 20 - 300 ppm	Fresh - 450 ppm Salt - 175 ppm	Complete	None	None	This is an O ₂ scavenger.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 86 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
OS-1L	Ammonium Bisulfite	Maintain excess sulfite at 100 - 300 ppm	Fresh - 135 ppm Salt - 185 ppm	Complete	None	None	This is an O ₂ scavenger.
PIPE-LAX	Surfactants in a Naphtha base	1 - 1.5 a/bbl 3,000 - 4,500 ppm	Fresh - 2,800 ppm Salt - 15,000 ppm	Insoluble	400 ppm for Naphtha	Flammable	Used for spot treatments. Emulsifies readily in seawater.
POLYBRINE	Formulated polymers and carbonates	3 - 6 a/bbl 9,000 - 18,000 ppm	Fresh - 2,250 ppm Salt - 6,100 ppm	Insoluble	*10mg/m ³	None	Dry, inert material
POTASSIUM CHLORIDE	Potassium Chloride	Used to build the KCl/Polymers mud systems	N/A	Soluble to saturation	None	None	Toxicity is well established in literature
RESINEX	Sulfonated lignites and resins	2 - 5 a/bbl 6,000 - 15,000 ppm	Fresh - 5,400 ppm Salt - 6,800 ppm	Complete	None	None	Avoid prolonged exposure to dust.
SALINEX	An alcohol ether sulfate	1 - 3 a/bbl 3,000 - 9,000 ppm	Fresh - 16 ppm Salt - 6.7 ppm	Appreciable	None	Flammable	Avoid prolonged exposure to vapors.
SALT GEL	Attapulgite clays	Depends on viscosity treatment	N/A	Insoluble	*10mg/m ³	None	This material is known as Fuller's Earth, a basically inert material.
SE-11	Dodecyl Benzene Sulfonates in a hydrocarbon carrier	.5 - 4 a/bbl 1,500 - 12,000 ppm	Fresh - 165 ppm Salt - 100 ppm	Insoluble	None	None	Control long term vapor exposure. Not discharged - oil mud product.
SI-1000	Organic phosphates	Maintain excess phos- phate at 5 - 10 ppm	Fresh - 2,830 ppm Salt - 7,000 ppm	Complete	None	None	Used as a scale inhibitor.
SODA ASH	Sodium Carbonate	.25 - 2 a/bbl 750 - 6,000 ppm	N/A	Moderate	*10mg/m ³	None	Toxicity: Oral - Rat 4200 mg/kg Basically non-toxic.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 96 HR. TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
SODIUM BICARBO- NATE	Sodium Bicarbonate	.25 - 2 a/bbl 750 - 6,000 ppm	N/A	Appreciable	*10mg/m ³	None	Toxicity: Oral - Rat 5gm/kg. Not an irritant. Basically non-toxic.
SODIUM CHROMATE	Sodium Chromate	.25 - 2 a/bbl 750 - 6,000 ppm	N/A	Complete	1mg/m ³	Corrosive	Chromate treated muds must not be discharged to the natural environment.
SODIUM DICHROM- ATE	Sodium Dichromate	.25 - 2 a/bbl 750 - 6,000 ppm	N/A	Complete	5mg/m ³	Corrosive	Chromate treated muds must not be discharged to the natural environment.
SPERSENE	Chrome Lignosulfonate	Average 4 a/bbl 12,000 ppm	Fresh - 7,800 ppm Salt - 12,200 ppm	Complete	*10mg/m ³	None	Control long term dust exposures.
STABIL- HOLE	Blended clays and asphalts	5 - 10 a/bbl 15,000 - 30,000 ppm	Fresh > 25,000 ppm Salt > 25,000 ppm	Insoluble	5mg/m ³	None	Long term exposure to skin may produce photosensitization.
SURFAK-E	Ethylene oxide nonylphenol	.1 a/bbl 300 ppm	Fresh - 23,000 ppm Salt - 37,500 ppm	Appreciable	50 ppm	Flammable	Control long term vapor exposure.
SURFAK-M	Nonionic Phenol Ethylene oxide	.5 - 1 a/bbl 1,500 - 3,000 ppm	Fresh - 110 ppm Salt - 115 ppm	Appreciable	50 ppm	None	Control long term vapor exposure.
TANNATHIN	Lignite	2 - 5 a/bbl 6,000 - 15,000 ppm	Fresh - 24,500 ppm Salt > 20,000 ppm	Negligible	*10mg/m ³	None	Avoid prolonged dust exposure.
UNISTEAM	Dibasic acid with an amine salt	Dependent of rate of steam produced	Fresh > 2,143 ppm	Complete	None	None	For use in geothermal environments to reduce corrosion.
VERTOIL	Blend of dry ma- terials, including fatty acid soaps and Gilsonite	22 - 40 a/bbl 66,000 - 120,000 ppm	Fresh - 570 ppm Salt - 140 ppm	Insoluble	*10mg/m ³	None	Used in oil muds which are not disposed of in the conventional methods.

(1) PRODUCT NAME	(2) PHYSICAL OR CHEMICAL COMPOSITION	(3) CONCENTRATION NORMALLY USED IN DRILLING MUD	(4) 96 HR TL _m OR LD ₅₀	(5) WATER SOLUBILITY	(6) TLV *NUISANCE DUST ONLY	(7) D.O.T. HAZARD CLASS	(8) SPECIAL COMMENTS NOTES
VG-69	Organophilic Clay	.5 - 2 #/bbl 1,500 - 6,000 ppm	Fresh > 15,000 ppm Salt > 20,000 ppm	Dispersible	*10mg/m ³	None	Gelling agent for oil muds.
VISQUICK VISBESTOS	Asbestos	5 - 10 #/bbl 15,000 - 30,000 ppm	N/A	Insoluble	2 fibers/cc	None	Toxicity well documented for inhalation. Handle with caution. Do not breathe dust.
XP-20	Chrome Lignite	3 - 4 #/bbl 9,000 - 12,000 ppm	Fresh - 3,000 ppm Salt - 8,600 ppm	Appreciable	5mg/m ³	None	Avoid prolonged exposures to dust.

AIR QUALITY REVIEW

Section 9

Attached is the projected air emission schedule for our exploration project at Ship Shoal Block 196.



October 10, 1985

PROJECTED AIR EMISSION SCHEDULE FOR EXPLORATION PROJECT**GENERAL INFORMATION**

Location of Facility:	Ship Shoal Block 196
Distance Offshore:	OCS-G 7754
Name of Rig/Platform:	70 miles
Operator:	Jack-Up
	Mark Producing, Inc.
	675 Bering Drive, Suite 5
	Houston, Texas 77057
Contact Person:	Ms. Susan Hathcock
Total Well Footage to be Drilled:	76,000'
Date Drilling Will Begin:	February 1, 1986
Date Drilling Will End:	May, 1987
Well Footage to be Drilled in 1986:	45,000'
Well Footage to be Drilled in 1987:	31,000'

MAJOR SOURCE (OFFSHORE)

Power used aboard drilling vessel; approximate footage drilled 76,000'.

Emitted Substance	Projected Emissions (lbs/day**)tons/year			
	1986		1987	
CO	(99)	8.91	(102)	6.14
SO ₂	(32)	2.84	(33)	1.95
NOX	(465)	41.85	(481)	28.83
VOC	(38)	3.38	(39)	2.33
TSP	(33)	2.97	(34)	2.05

* Based on 60 hphr/ft. from Table 4-3, "Atmospheric Emissions from Offshore Oil and Gas Development and Production", EPA No. 450/3-77-026, June, 1977.

** Emission factors from Table 3.3-1, "Compilation of Air Pollutant Emission Factors", EPA Report AP-42, August, 1977.

Projected Air Emissions
Ship Shoal Block 196
Mark Producing, Inc.

Page 2

MINOR SOURCES (OFFSHORE)*

Including helicopter landing and take-off (10.5 trips/week); supply and crew boats (7 trips/week); and loading and unloading operations; and incineration of waste paper (average 750 pounds of waste per month).

<u>Emitted Substance</u>	<u>Projected Emissions (tons/year)</u>	
	<u>1986</u>	<u>1987</u>
CO	1.56	1.04
SO ₂	.05	.05
NOX	.29	.20
VOC	.15	.10
TSP	.07	.04

* Tables 3.2.1-3, 3.2.3-1, and 2.1, "Compilation of Air Pollutant Emission Factors", Third Edition, EPA Report AP-42, August, 1977.

TOTAL ALL SOURCES (TONS/YEAR)

	<u>1986</u>	<u>SO₂</u>	<u>NOX</u>	<u>VOC</u>	<u>TSP</u>
MAJOR	8.91	2.84	29.83	3.38	2.97
MINOR	<u>1.56</u>	<u>.05</u>	<u>.29</u>	<u>.15</u>	<u>.07</u>
TOTAL	10.47	2.89	29.83	3.53	3.04
<u>1987</u>					
MAJOR	6.14	1.95	29.83	2.33	2.05
MINOR	<u>1.04</u>	<u>.05</u>	<u>.20</u>	<u>.10</u>	<u>.04</u>
TOTAL	7.18	2.00	29.03	2.43	2.09

ONSHORE SOURCES

These should be about the same as minor sources unless new facilities are installed at the onshore base. No additional facilities are required or planned at this time.

Projected Air Emissions
Ship Shoal Block 196
Mark Producing, Inc.

Page 3

EMISSION EXEMPTION DETERMINATION

For CO: $E = 3400D^{2/3} = 3400 (70)^{2/3} = 57,749 \text{ tons/year}$

For NOX, VOC, TSP & SO : $E = 33.3D^{2/3} = 33.3 (70)^{2/3} = 2,331 \text{ tons/year}$

As per DOI/MMS regulations, this facility is exempt from further air quality review as it has been determined that its operations will not have significant adverse environmental impact on air quality.

COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION

Plan of Exploration
Type of Plan

Ship Shoal Area Block 196
Area and Block

OCS-G 7754
Lease Number

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

Arrangements have been made with the State-Times in Baton Rouge,
Louisiana, to publish a public notice of the proposed activities
no later than November 11, 1985.

Mark Producing, Inc.
Lessee or Operator

Susan Hathcock
Certifying Official
Susan Hathcock

October 22, 1985
Date

**ENVIRONMENTAL REPORT****FEDERAL LEASE OCS-G 7754****SHIP SHOAL BLOCK 196****OFFSHORE TERREBONNE PARISH, LOUISIANA****OCTOBER, 1985**

The following Environmental Report was prepared by J. Connor Consulting for Mark Producing, Inc. for Coastal Management Consistency Determination by the State of Louisiana on operations proposed in the Plan of Exploration for federal lease OCS-G 7754. For inquiries regarding this report please contact:

MARK PRODUCING, INC.**675 BERING DRIVE, SUITE 5****HOUSTON, TEXAS 77057****ATTENTION: SUSAN HATHCOCK****(713) 953-5125**

2. DESCRIPTION OF PROPOSED ACTION

Mark Producing, Inc. plans to conduct exploration activities on Ship Shoal Block 196 (OCS-G 7754).

As proposed, the Plan of Exploration for Ship Shoal Block 196 consists of drilling five (5) wells.

At this time, planned commencement date for Well "A" and all associated activities in Block 196 is on or about February 1, 1986.

(a) TRAVEL MODES, ROUTES AND FREQUENCY

The proposed exploration activity for federal lease (OCS-G 7754) will require the use of a jack-up rig to drill the exploratory wells. The rig will be moved to Ship Shoal Block 196 from an unknown location in the Gulf of Mexico.

In addition to the drilling rig, service boats will be used to transport equipment, material, personnel and supplies to the drill sites. It is estimated that the crew boats and supply boats will make daily trips from support bases located in Morgan City, Louisiana. The vessel will move to Block 196 via the most direct route from Morgan City, Louisiana.

Helicopter flights to Ship Shoal Block 196 will average 10.5 round trips per week and will originate from and return to Morgan City, Louisiana. The helicopters will normally take the most direct route of travel between the two points when air traffic and weather conditions permit.

(b) SUPPORT BASE

The proposed activities will utilize a support base at Morgan City, Louisiana. The base provides 24-hour service, a radio tower with phone patch, dock space, office space, a parking lot, equipment and supply storage space,

drinking and drill water, etc. These proposed exploration activities will help to maintain this base at its present levels of activity. No expansion of the physical facilities or the creation of new jobs is expected to result from the work planned in conjunction with Block 196.

(c) NEW SUPPORT FACILITIES

No new onshore support facilities such as new land bases, refineries, storage facilities, pumping stations, boat docks, helicopter pads or fueling facilities are likely to be required because of the activities planned for Block 196. Any newly discovered deposits of hydrocarbons should help to maintain onshore facilities and activities at or near their present levels rather than result in some type of expansion.

(d) NEW TECHNIQUES OR UNUSUAL TECHNOLOGY

No new techniques or unusual technology will be required for this operation.

(e) MAPS OF PROPOSED ACTIVITY

As shown by the attached Vicinity Plat, the proposed activity is located approximately 70 miles south from the Louisiana shore.

(f) TRANSPORTATION OF OIL AND/OR GAS

If producible hydrocarbons are found they are likely to be transported to shore through connections with the pipelines already in place near Block 196.

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT

(a) PHYSICAL AND ENVIRONMENTAL

(1) Commercial Fishing

Ship Shoal Block 196 is located approximately 70 miles from shore where the water depth is approximately 120 feet. Shrimp and menhaden are the primary fishing resources found in this area.

The placement of a drilling rig on Block 196 may remove a portion of the seafloor and waters above from harvesting by commercial fisheries. Additionally, the waters adjacent to the drill sites may become temporarily turbid due to drilling operations. These operations should have no significant impact on commercial fisheries.

(2) Shipping

Ship Shoal 196 is clear of all fairways and anchorage areas. Operations in this area will be in accordance with the U.S. Coast Guard's regulations regarding navigation standards. There should be little or no impact on shipping resulting from the proposed operations.

(3) Recreation

The proposed activities, which are primarily confined to Ship Shoal Block 196 is located approximately 70 miles south of the Louisiana coastline. Along the coastal waters of the Gulf of Mexico off Terrebonne Parish, Louisiana, are located coastal beaches, and ports supporting pleasure boating and sport fishing. To protect these recreational resources, Mark Producing will comply with OCS Order No. 7 regarding pollution prevention and control, and has established an Oil Spill Contingency Plan which was approved by the Minerals Management Service. There are no adverse impacts expected as a result of the proposed activities.

(4) Cultural Resources

Ship Shoal Block 196 lies inside the Cultural Resource Sensitivity Demarcation Line (USDI, 1979, Visual 1) and, therefore, falls in an area where cultural resources are likely to be found. An archaeological survey was required for Ship Shoal Block 196. Results of the archaeological survey for Ship Shoal Block 196 indicate no areas of possible drowned prehistoric sites or shipwrecks. Mark Producing, Inc. agrees that if any site, structure, or object of historical or archaeological significance should be discovered during operations, the findings will be immediately reported to the Supervisor and every reasonable effort will be made to preserve and protect the cultural resource from damage until the Supervisor has given direction as to its preservation.

(5) Ecologically Sensitive Features

There are no known ecologically sensitive features located on Ship Shoal Block 196. The closest sensitive features are located along the coastal shores of Terrebonne Parish, Louisiana. The sensitive features include the primary fish and shellfish nursery grounds, and the recreational beaches.

With exception to the minimal boat and helicopter traffic, all operations will be restricted to Ship Shoal Block 196. The proposed activity will have no effect on any ecological sensitive feature.

(6) Existing Pipelines and Cables

An ANR 24" line (OCS-G 1687) crosses the north line approximately 1600' from the northwest corner and crosses the east line approximately 3400' from the southeast corner of Block 196. All pipelines and cables will be avoided during these proposed exploration activities.

(7) Other Mineral Uses

The activities proposed for Ship Shoal Block 196 will have no direct or indirect impact on other mineral uses.

(8) Ocean Dumping

Ocean Dumping is prohibited in this area.

(9) Endangered or Threatened Species

Mark Producing, Inc.'s proposed operations at Ship Shoal Block 196 are located approximately 70 miles south of the Louisiana coastline to Terrebonne Parish, Louisiana. These coastal shores and upland areas are the habitat of several endangered or threatened species. These species include the Arctic peregrine falcon, the red-cockaded woodpecker, the bald eagle, the American Alligator, the red wolf, Kemp's ridley sea turtle and the Brown Pelican. These species may be affected by the development of coastal lands and/or the occurrence of oil spills which may affect the species directly or through their food sources. Since the proposed activities include no plans for the development of coastal lands, the impact on endangered or threatened species is primarily based on the occurrence of oil spills.

On pages III-5 through III-72 of the Final Environmental Impact Statement for OCS Sale No. 47 there is a discussion of the factors for estimating the significance of oil spills and their impacts. The impacts on various endangered and threatened species will depend on the nature of the spill, weather conditions, proximity of spill to species, tolerance for oil of species, and the response time and effectiveness of the oil spill clean-up and containment services. Given these variables, the impact on the various endangered or threatened species will vary from little or no effect to serious.

The experience of oil and gas exploration in the Gulf of Mexico indicates that there is a small probability of occurrence of an oil spill. The Draft Environmental Impact Statement (DEIS) for OCS Sale No. A-62 and 62 indicates on page 71 that the "aggregate 15 year spill rate is .0009 percent of the total volume produced." Table 7, page 73, of the DEIS indicated that there have been only 30 incidents of oil spills for this 15 year period. The probability remains low because of the level of technology used by the oil and gas industry to insure safe and responsible operations. Mark Producing, Inc., as a prudent operator will take the necessary measures to reduce the probability of oil spills. Mark Producing, Inc.'s proposed operations in Ship Shoal Block 196 should pose no threat to any endangered or threatened species.

(b) SOCIO-ECONOMIC

(1) Related New Employment

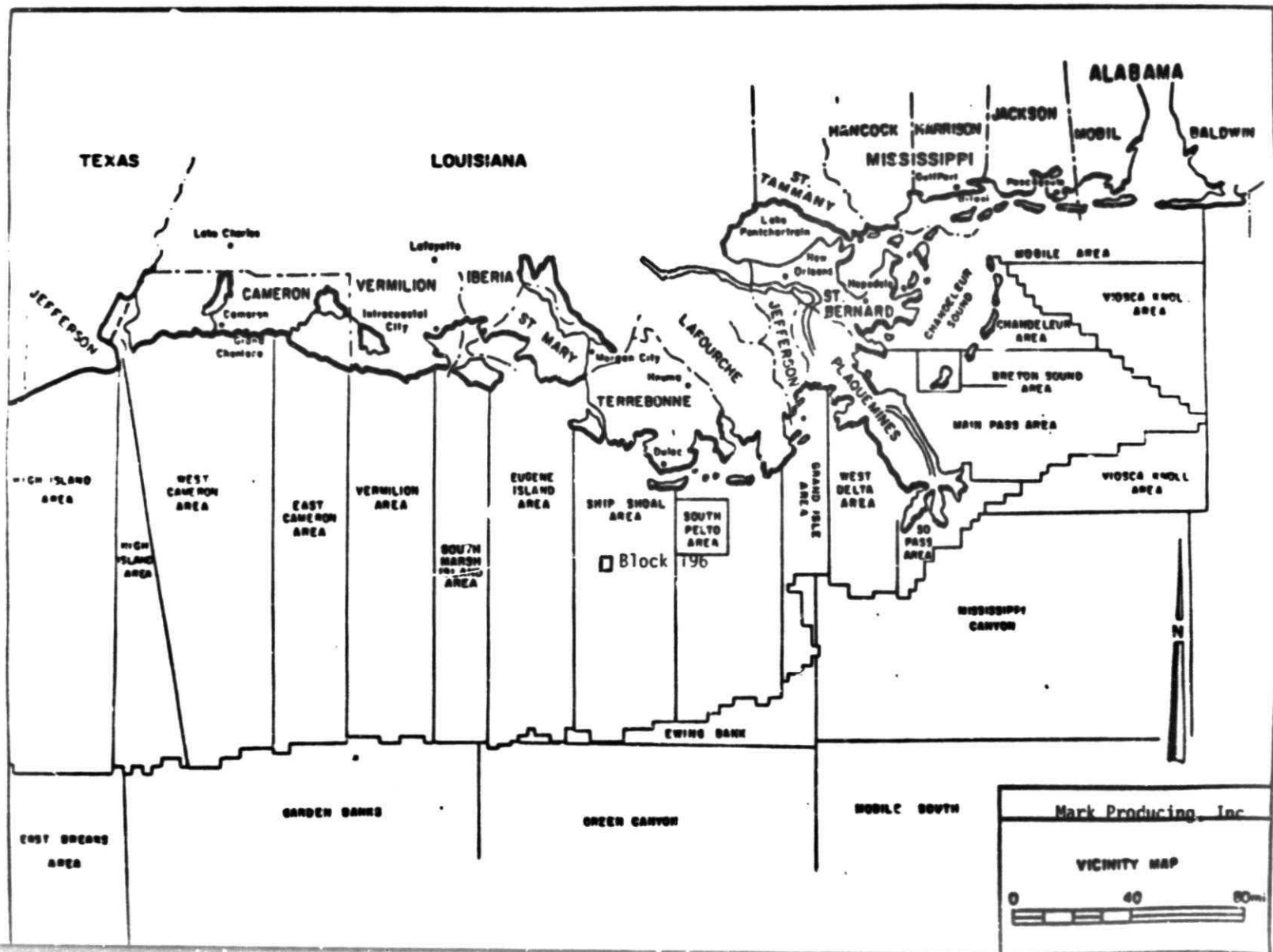
Not applicable at this time.

4. UNAVOIDABLE ADVERSE IMPACTS

The proposed drilling activity in Ship Shoal Block 196 will result in the discharge of drilling mud and cuttings into the waters of the Gulf. The discharge of drill cuttings will bury sessile benthic organisms in local areas under the discharge. The disposal of mud may result in a minor decrease in primary productivity due to the mortality or functional impairment of phytoplankton and algae in area of high turbidity. A large oil spill is very unlikely but could result in localized severe mortalities, probably selective, and functional impairment of phytoplankton communities, thereby altering the community structure for an unknown period of time. These impacts are considered temporary and minor.

Air emissions from combustion of diesel fuel in rig engines, boat engines and helicopters can affect the air quality near the mobile offshore jackup drilling rig and near the onshore travel routes. In most cases, these emissions will be local in nature and will be quickly dissipated by climatic conditions. Highly volatile, low molecular weight hydrocarbons would be released into the atmosphere from a blowout with release of natural gas. These hydrocarbons would undergo some unknown degree of degradation, possibly resulting in photochemical smog. If a blowout resulted in a fire, large amounts of particulate carbon and oxides of carbon, along with smaller but unknown amounts of sulphur oxides, volatile hydrocarbons and partially oxidized compounds would enter the air. Local air would be severely degraded for the duration of the fire. The extent of degradation is indeterminate, but it is unlikely that it would be high enough to affect land resources or human health.

These exploratory activities are not expected to harmfully affect water quality, interfere with commercial fishing operations, recreational activities or shipping traffic.



SUMMARY

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

1. 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.
2. All operations will be covered by a Minerals Management Service approved Oil Spill Contingency Plan.
3. 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.

REFERENCES

1. United States Department of the Interior, BLM Draft Environmental Impact Statement, OCS Oil and Gas Lease Sales A-62 and 62.
2. United States Department of the Interior, BLM Final Environmental Impact Statement, OCS Oil and Gas Lease Sales A-62 and 62.
3. United States Department of the Interior, BLM Final Environmental Impact Statement, OCS Oil and Gas Lease Sale 47.
4. United States Department of the Interior, BLM Draft Environmental Impact Statement, OCS Oil and Gas Sales 67 and 69.
5. United States Department of the Interior, BLM Final Environmental Impact Statement OCS Oil and Gas Sales 67 and 69.
6. United States Department of the Interior, Minerals Management Service, Final Regional Environmental Impact Statement, January, 1983.