

UNITED STATES GOVERNMENT  
MEMORANDUM

November 14, 2005

To: Public Information (MS 5030)  
From: Plan Coordinator, FO, Plans Section (MS 5231)

Subject: Public Information copy of plan

Control # - N-08609

Type - Initial Exploration Plan

Lease(s) - OCS-G19989 Block - 732 Mississippi Canyon Area  
OCS-G19990 Block - 733 Mississippi Canyon Area  
OCS-G21777 Block - 689 Mississippi Canyon Area

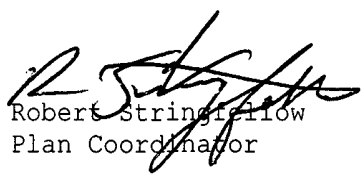
Operator - Exxon Mobil Corporation

Description - Wells MC 733 F; MC 732 E; MC 689 G and A

Rig Type - DRILLSHIP

Attached is a copy of the subject plan.

It has been deemed submitted as of this date and is under review for approval.

  
Robert Stringfellow  
Plan Coordinator

Site Type/Name	Botm Lse/Area/Blk	Surface Location	Surf Lse/Area/Blk
WELL/A	G21777/MC/689	4938 FSL, 3171 FWL	G21777/MC/689
WELL/E	G19989/MC/732	8053 FNL, 6218 FWL	G19989/MC/732
WELL/F	G19990/MC/733	1882 FNL, 724 FWL	G19990/MC/733
WELL/G	G21777/MC/689	3112 FSL, 5196 FWL	G21777/MC/689

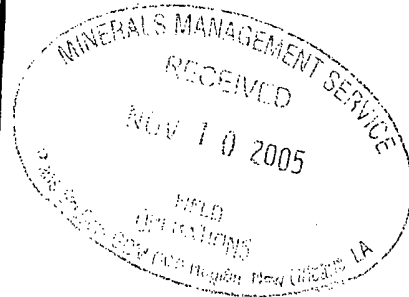
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NOTED - SCHEXNAILDRE

**1 Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA**

October 10, 2005

**CONTROL No.** 18609  
**REVIEWER:** Robert Stringfellow  
**PHONE:** (504) 736-2437



U. S. Department of the Interior  
Minerals Management Service  
Gulf of Mexico, OCS Region  
Regional Supervisor - Field Operations  
1201 Elmwood Park Boulevard  
New Orleans, LA 70123-2394

Attention: Mr. Nick Wetzel, MS 5231  
Chief, Plans Section

**Initial EXPLORATION PLAN  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/G 19989/G 19990  
SPUR Prospect  
Offshore, Louisiana**

Gentlemen:

ExxonMobil herein submits for your approval the Initial Exploration Plan (EP) for the Spur Prospect, which covers exploratory drilling operations on our Mississippi Canyon blocks 689, 732, and 733, Leases OCS-G 21777, OCS-G 19989, and OCS-G 19990. Activity covered in this Exploration Plan could begin as early as August 06, 2005.

Certain portions of the enclosed plan contain proprietary information not subject to release under the Freedom of Information Act, and may not be released without prior written notice and the expressed written consent of ExxonMobil.

This submittal for the Spur Prospect, includes:

- ❖ Coastal Zone Management Consistency Certification
- ❖ One (1) copy of the plan marked "Proprietary"
- ❖ One (1) CD copy of the plan marked "Proprietary"
- ❖ One (1) copy marked "Public Information"
- ❖ One (1) CD copy of the plan marked "Public Information"
- ❖ Two (2) copies of the "Environmental Impact Analysis Report" covering the Mississippi Canyon area covering Blocks 689, 732, and 733 (prepared by Continental Shelf Associates, Inc.). (other copies contained in the CD submissions)

If you have any questions or require additional information, please contact me at (281) 654-1941 or e-mail at [bryan.l.chapman@exxonmobil.com](mailto:bryan.l.chapman@exxonmobil.com) or Roxanne Tack at (281) 654-1883, e-mail [roxanne.tack@exxonmobil.com](mailto:roxanne.tack@exxonmobil.com).

Yours very truly,  
**EXXON MOBIL CORPORATION**

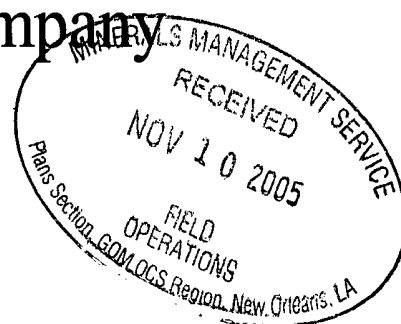
Bryan L. Chapman  
USP - R/S/O - Permits Group  
ExxonMobil Production Company  
(a division of Exxon Mobil Corporation)

### OCS PLAN INFORMATION FORM

General Information											
Type of OCS Plan:	<input checked="" type="checkbox"/>	Exploration Plan (EP)	Development Operations Coordination Document (DOCD)								
Company Name: Exxon Mobil Corporation			MMS Operator Number: 00276								
Address: Corp-MI-P047			Contact Person: Bryan L Chapman								
PO Box 4358			Phone Number: (281) 654-1941								
Houston, TX 77210-4358			E-Mail Address: bryan.l.chapman@exxonmobil.com								
Lease(s): OCS-G19990/G19989/G21777		Area: MC		Block(s): 689/732/733		Project Name (If Applicable): L Spur					
Objective(s): <input checked="" type="checkbox"/> Oil <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Sulphur <input type="checkbox"/> Salt		Onshore Base: Fouchon, LA		Distance to Closest Land (Miles): 60.2							
Description of Proposed Activities (Mark all that apply)											
<input checked="" type="checkbox"/>	Exploration drilling				Development drilling						
	Well completion				Installation of production platform						
	Well test flaring (for more than 48 hours)				Installation of production facilities						
	Installation of caisson or platform as well protection structure				Installation of satellite structure						
	Installation of subsea wellheads and/or manifolds				Commence production						
	Installation of lease term pipelines				Other (Specify and describe)						
Have you submitted or do you plan to submit a Conservation Information Document to accompany this plan?								Yes	<input checked="" type="checkbox"/> No		
Do you propose to use new or unusual technology to conduct your activities?								Yes	<input checked="" type="checkbox"/> No		
Do you propose any facility that will serve as a host facility for deepwater subsea development?								Yes	<input checked="" type="checkbox"/> No		
Do you propose any activities that may disturb an MMS-designated high-probability archaeological area?								<input checked="" type="checkbox"/> Yes	No		
Have all of the surface locations of your proposed activities been previously reviewed and approved by MMS?								Yes	<input checked="" type="checkbox"/> No		
Tentative Schedule of Proposed Activities											
Proposed Activity				Start Date		End Date		No. of Days			
MC 733 F				15-January-06		25-May-06		140			
MC 732 E				01-January-07		11-May-07		140			
MC 689 G				01-January-08		10-May-08		140			
MC 689 A				01-January-09		11-May-09		140			
Description of Drilling Rig					Description of Production Platform						
<input checked="" type="checkbox"/>	Jackup		<input checked="" type="checkbox"/>	Drillship		<input type="checkbox"/>	Caisson		<input type="checkbox"/>	Tension leg platform	
	Gorilla Jackup			Platform rig			Well protector			Compliant tower	
	Semisubmersible			Submersible			Fixed platform			Guyed tower	
	DP Semisubmersible			Other (Attach Description)			Subsea manifold			Floating production system	
Drilling Rig Name (If Known):					Spar		Other (Attach Description)				
Description of Lease Term Pipelines											
From (Facility/Area/Block)				To (Facility/Area/Block)				Diameter (Inches)		Length (Feet)	

**2Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA**

**ExxonMobil Production Company**



***Initial* EXPLORATION PLAN (EP)**

**SPUR Prospect**

**MISSISSIPPI CANYON BLOCKS 689/732/733**

**LEASES OCS G-21777/19989/19990**

**OFFSHORE LOUISIANA**

**October 10, 2005**

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

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**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
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- B. Coastal Zone Consistency Information
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Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA

**I. CONTENTS OF THE PLAN**

**A. Description, Geologic Objectives, and Tentative Schedule:**

**Description**

- This Initial Exploration Plan for **Mississippi Canyon 688, 689, 732, 733** covers the drilling of the proposed wells listed below:
- ♦ **Lease OCS-G 21777, Mississippi Canyon Block 689: Well "A"**
- ♦ **Lease OCS-G 21777, Mississippi Canyon Block 689: Well "G"**
- ♦ **Lease OCS-G 19989, Mississippi Canyon Block 732: Well "E"**
- ♦ **Lease OCS-G 19990, Mississippi Canyon Block 733: Well "F"**

ExxonMobil, as operator of the *Spur* Prospect (Lease OCS-G 19984, Lease OCS- G 21777, Lease OCS- G 19989, Lease OCS- G 19990), intends to conduct exploratory drilling operations to evaluate the potential for commercial quantities of oil and / or gas.

**Geologic Objectives**

The objective of the exploratory wells on MC-689, MC-732 and MC-733, (Lease OCS- G 21777, Lease OCS- G 19989, Lease OCS- G 19990

**Tentative Well Schedule**

Plans are to spud the Mississippi Canyon Block 733 Lease OCS- G 19990 Well - F on or about January 15, 2006. Drilling time is estimated to be 140 days.

**WELL SCHEDULE**

Well	OCS #	DURATION (DAYS)	START	FINISH	COMMENTS
MC 733 F	OCS-G-19990	140	15-January-06	25-May-06	Spur Well #1
MC 732 E	OCS-G-19989	140	01-January-07	11-May-07	Spur Well #2
MC 689 G	OCS-G-21777	140	01-January-08	10-May-08	Spur Well #3
MC 689 A	OCS-G-21777	140	01-Januray-09	11-May-09	Spur Well #4

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

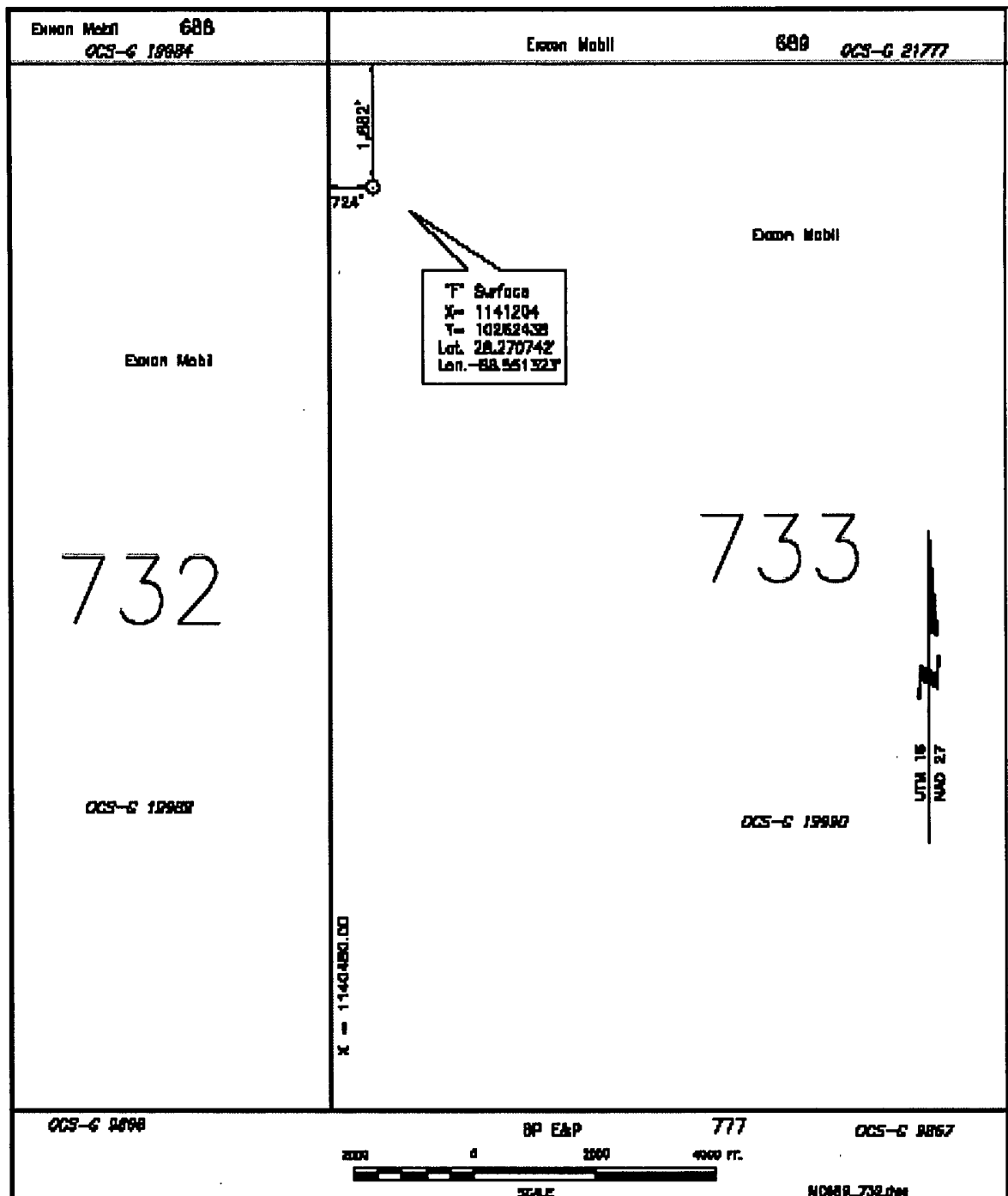
**B. Proposed Well Locations:**

	Well	Surface Location	Surface Location X & Y	Latitude & Longitude	Bottom Hole Location	Bottom Hole Location X & Y	MD / TVD Depth	Est. Days	Water Depth
<b>OCS-G-19990</b>	<b>MC 733 F</b>	1,882' FNL 724' FWL	X= 1141204 Y= 10262438	Lat: 28.270742 Long: -88.551323				140	
<b>OCS-G-19989</b>	<b>MC 732 E</b>	8,053' FNL 6,218' FWL	X= 1130858 Y= 10256267	Lat: 28.253400 Long: -88.583213				140	
<b>OCS-G-21777</b>	<b>MC 689 G</b>	3,112' FSL 5,196' FWL	X=1145676 Y= 10267432	Lat: 28.284635 Long: -88.537628				140	
<b>OCS-G-21777</b>	<b>MC 689 A</b>	4,938' FSL 3,171' FWL	X=1143651 Y= 10269258	Lat: 28.289585 Long: -88.543992				140	

A Location Plat is included:

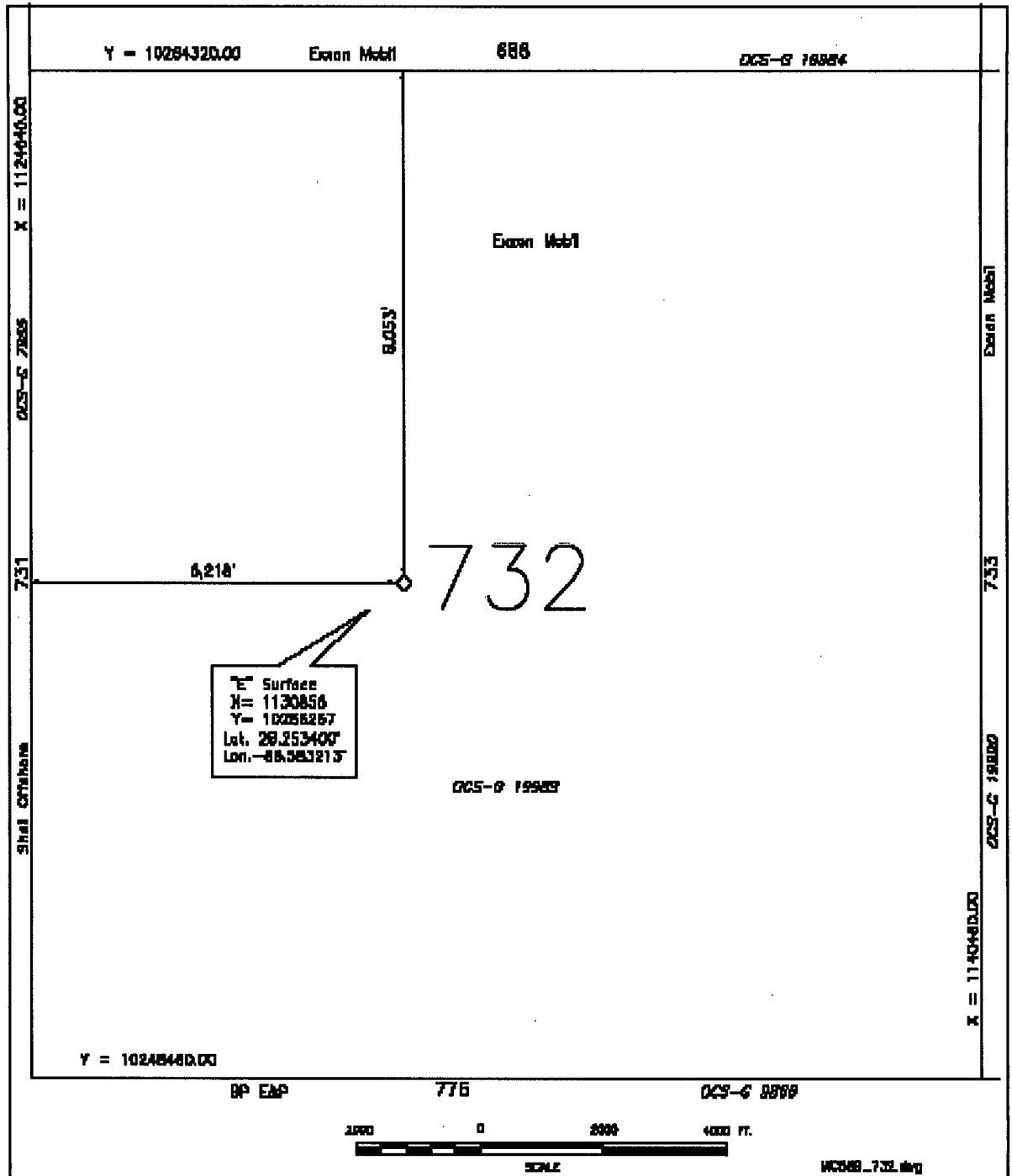


**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**



<b>O.C.S.-G 19990</b> <b>MISSISSIPPI CANYON AREA</b> <b>GULF OF MEXICO</b>		<b>Exxon Mobil Corporation</b> Prepared by <b>ExxonMobil Production Company</b> U. S. Production Houston, TX	
DRAWN <u>UJM</u> CHECKED <u>MEZ</u>	APPROVED _____ REVISION _____	SCALE: <u>Shown</u> DATE: <u>8/10/95</u>	FILE NO. <b>EA-7176A</b>

Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
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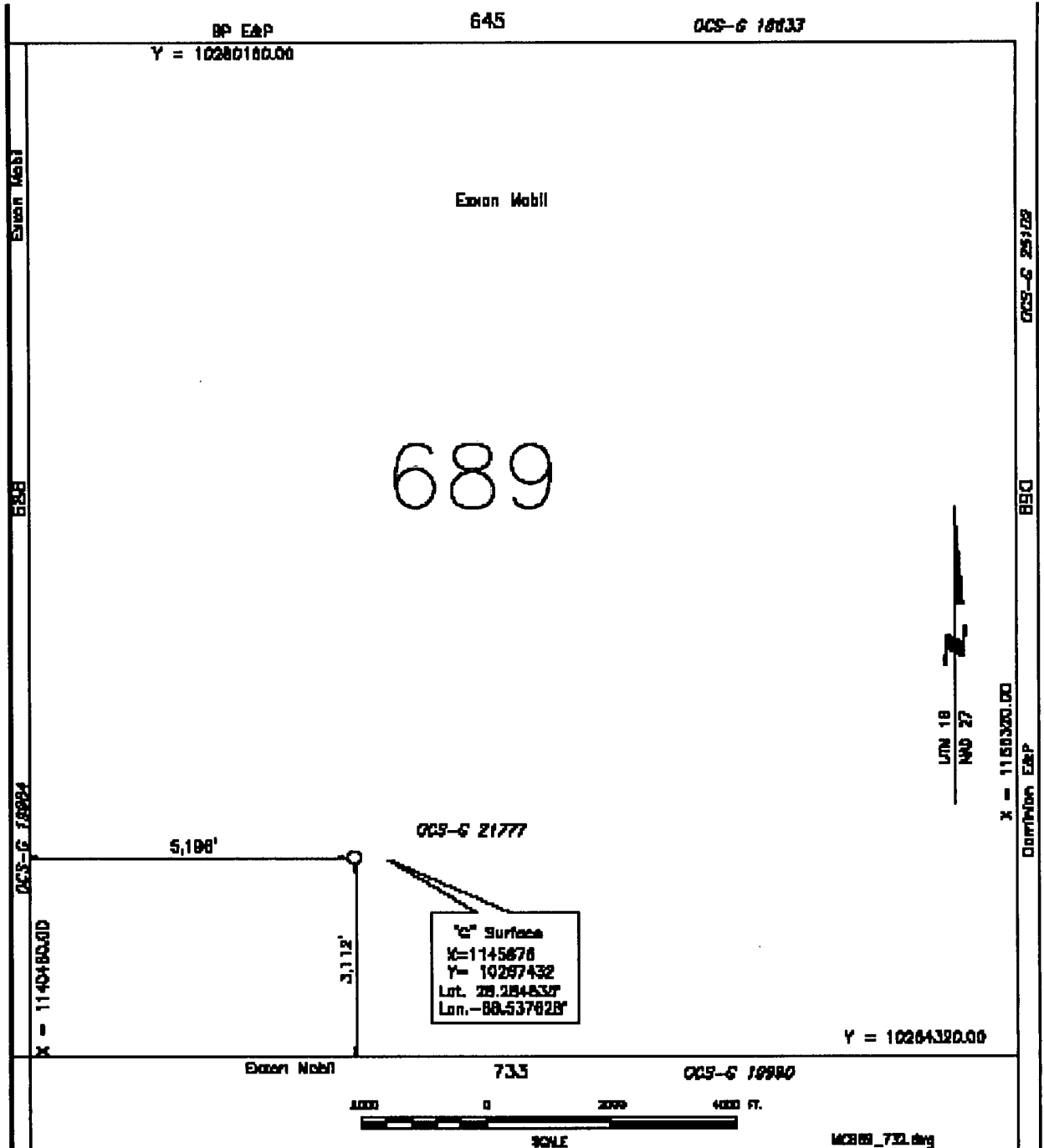


O.C.S.-G 19989  
MISSISSIPPI CANYON AREA  
GULF OF MEXICO

**Exxon Mobil Corporation**  
Prepared by  
ExxonMobil Production Company  
U. S. Production  
Houston, TX

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Initial EXPLORATION PLAN (EP)  
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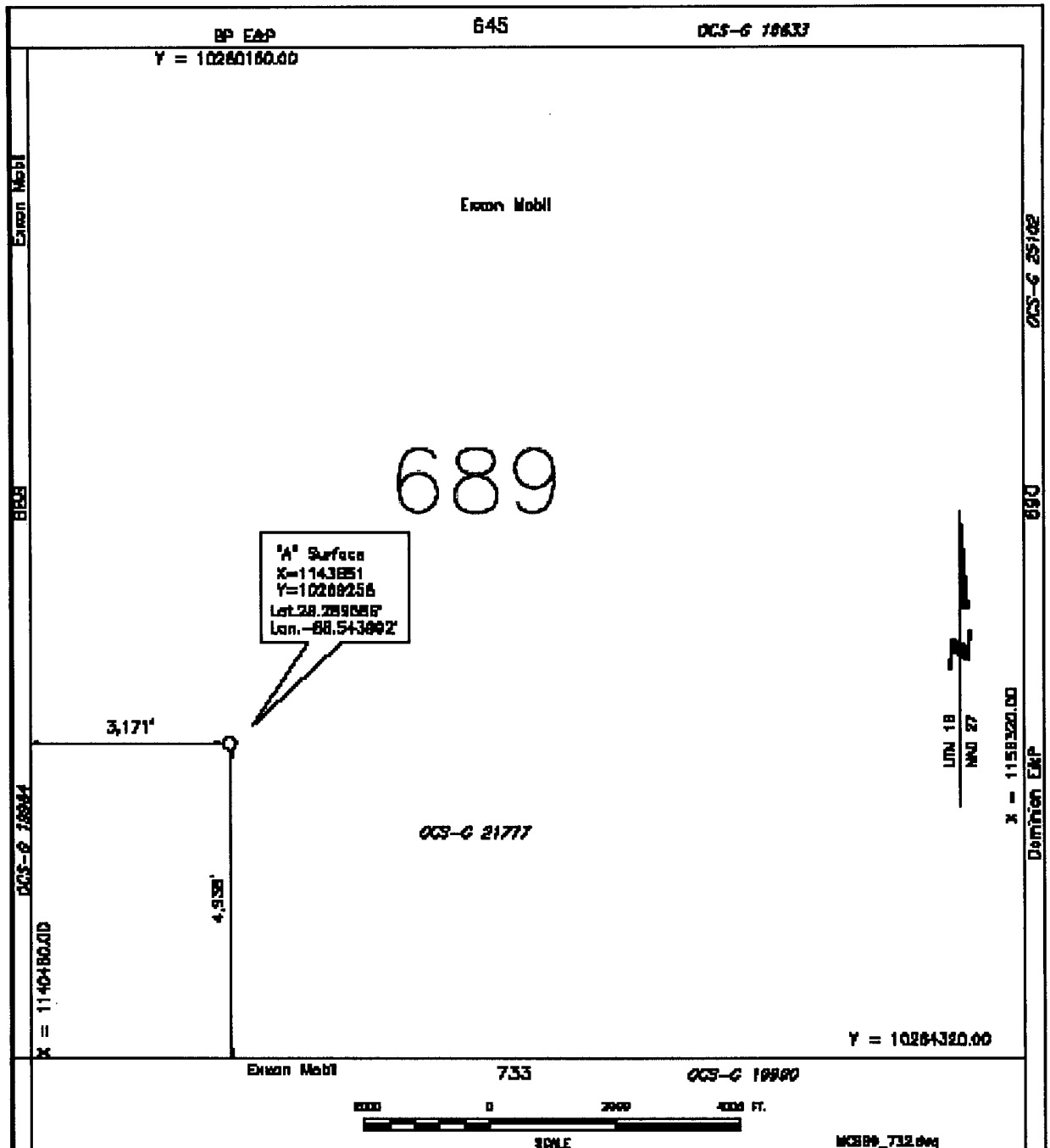
**O.C.S.-G 21777**  
**MISSISSIPPI CANYON AREA**  
**GULF OF MEXICO**

**Exxon Mobil Corporation**

*Prepared by*  
**ExxonMobil Production Company**  
*U. S. Production*  
*Houston, TX*

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Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA



**O.C.S.-G 21777**  
**MISSISSIPPI CANYON AREA**  
**GULF OF MEXICO**

**Exxon Mobil Corporation**

*Prepared by*  
**ExxonMobil Production Company**  
*U. S. Production*  
*Houston, TX*

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DATE: 8/10/88

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**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

**C. Drilling Unit (Appendix B)**

**Description**

The use of the *Discoverer Spirit*, a dynamically positioned drill ship, is planned for the drilling activity for the *Spur* prospect. There is therefore no associated anchor pattern.

The Transocean *Discoverer Spirit* is an Astilleros y Talleres del Nordeste (ASTANO) S.A. North Sea shuttle tanker design dynamically positioned drill ship designed to drill to 35,000 feet in water depths up to 10,000 feet. The *Discoverer Spirit* has an overall length of 837.6 feet, a beam of 124.7 feet, and a hull depth of 62.3 feet. It is anticipated the maximum variable load will be 20,000 metric tons. The rig has been designed, built and classed in accordance with the International Maritime Organization (IMO), Resolution A.649 (16) Code for the Construction of Mobil Offshore Drilling Units 1989, and has the classification designation of DNV 1A1 Drilling Vessel, EO, DYNPOS AUTR, DRIL, CRANE, HELDK.

**Emergency Plan**

*Discoverer Spirit* has written safety and emergency operations instructions to cover the foreseeable emergencies that may be encountered onboard the *Discoverer Spirit*. These instructions are provided in the rig's Operating Manual and Emergency Response Manual (DSP-HSE-001), as well as in the Transocean Field Operations Manual (HQS-OPS-HB-05). Other rig safety equipment as described below.

**Safety Features**

The *Discoverer Spirit* is equipped with well control and personal safety equipment as required to meet the codes, rules and regulations of DNV, SOLAS, and IMO (MODU 1989). A listing of key elements of the rig's well control and personnel safety equipment are as follows.

**Well Control**

The *Discoverer Spirit* utilizes a Hydril 18-3/4 inch 15,000 psi WP guidelineless BOP system (suitable for H2S service) consisting of three (3) 15,000 psi WP type "Compact Double" ram preventers, one (1) 10,000 psi WP Hydril Annuflex annular preventer and a Vetco Super HD-H4 15,000 psi WP wellhead connector. The marine riser system consists of Vetco 22 inch OD riser, with 4-1/2 inch ID 15,000 psi choke and kill lines, 3.82 inch ID 5,000 psi mud booster line and 2.62 inch ID 5,000 psi BOP hydraulic fluid conduit line. The rig choke manifold is suitable for H2S service, complete with two (2) 3-1/16 inch adjustable chokes and two (2) 3-1/16 inch hydraulic chokes.

**Personal Safety**

The *Discoverer Spirit* is equipped with four (4) 85 person covered self propelled life boats and sufficient approved inflatable life rafts to accommodate all persons on board, life jackets for 200 percent of the vessels rated capacity, as well as other safety features to meet the requirements of DNV, the rig's certifying authority.

**Pollution Plan**

Transocean is committed to the well being of all employees and to the protection of the environment in which we operate and live. It is the clear intention of the Company to

Initial EXPLORATION PLAN (EP)  
MISSISSIPPI CANYON BLOCKS 689/732/733  
LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA

conduct all operations in a manner that will comply with all environmental laws, rules and regulations applicable to our operations. The *Discoverer Spirit* is designed and operated to meet or exceed acceptable environmental regulatory standards to ensure protection of human health and the environment. The vessel has been designed, built and classed in accordance with the rules of the International Maritime Organization (IMO) and complies with the regulations of the International Convention of the Prevention of Pollution from Ships (MARPOL) 1973/1978, Consolidated Edition, IMO, 1989. The vessel has also been designed and constructed in accordance with United States Coast Guard (USCG) Rules and Regulations pertaining to foreign flag vessels.

**Remotely Operated Vehicle (ROV) Survey Plan**

ExxonMobil is familiar with the ROV survey and reporting provisions of NTL 2001-G04.

ExxonMobil will, if required, conduct surveys immediately prior to commencing drilling operations of the Location A, G, E, and F well on the Mississippi Canyon Blocks 689, 732, and 733 which may begin as early as January 15, 2006, and following the completion of drilling operations on this well, approximately 140 days later.

ExxonMobil will use the Transocean *Discoverer Spirit* rig-based ROV equipped with video imaging capabilities. The survey pattern will consist of six transects centered on the well location with tracks extending approximately 100 meters away from the well on bearings of 30 degrees, 90 degrees, 150 degrees, 210 degrees, 270 degrees and 330 degrees. The seafloor will be videotaped continuously along each track.

ExxonMobil will make biological and physical observations as described in the NTL 2001-G04 and Form MMS -141 prior to commencing drilling operations and also following the completion of drilling operations but prior to moving the rig off location. The observations will be documented using Form MMS-141 or a facsimile and submitted to the MMS within 60 days after the second survey is completed.

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LEASES OCS G-21777/19989/19990  
OFFSHORE LOUISIANA

**II. GENERAL INFORMATION**

**A. ExxonMobil Contact Person for the Activity Proposed in this Initial EP**

**Bryan L. Chapman**      Phone: (281) 654-1941, Fax: (281) 654-1940  
bryan.l.chapman@exxonmobil.com  
or

**Roxanne Tack**      Phone: (281) 654-1883, Fax: (281) 654-1940  
roxanne.tack@exxonmobil.com

ExxonMobil Production Company  
USP Production  
P.O. Box 4358  
Houston, TX 77210-4358

**B. Project Name**  
**SPUR - Prospect**

**C. New or Unusual Technology**  
No new or unusual technology will be employed during drilling of the **SPUR** Prospect on the Mississippi Canyon Blocks 688, 689, 732, and 733.

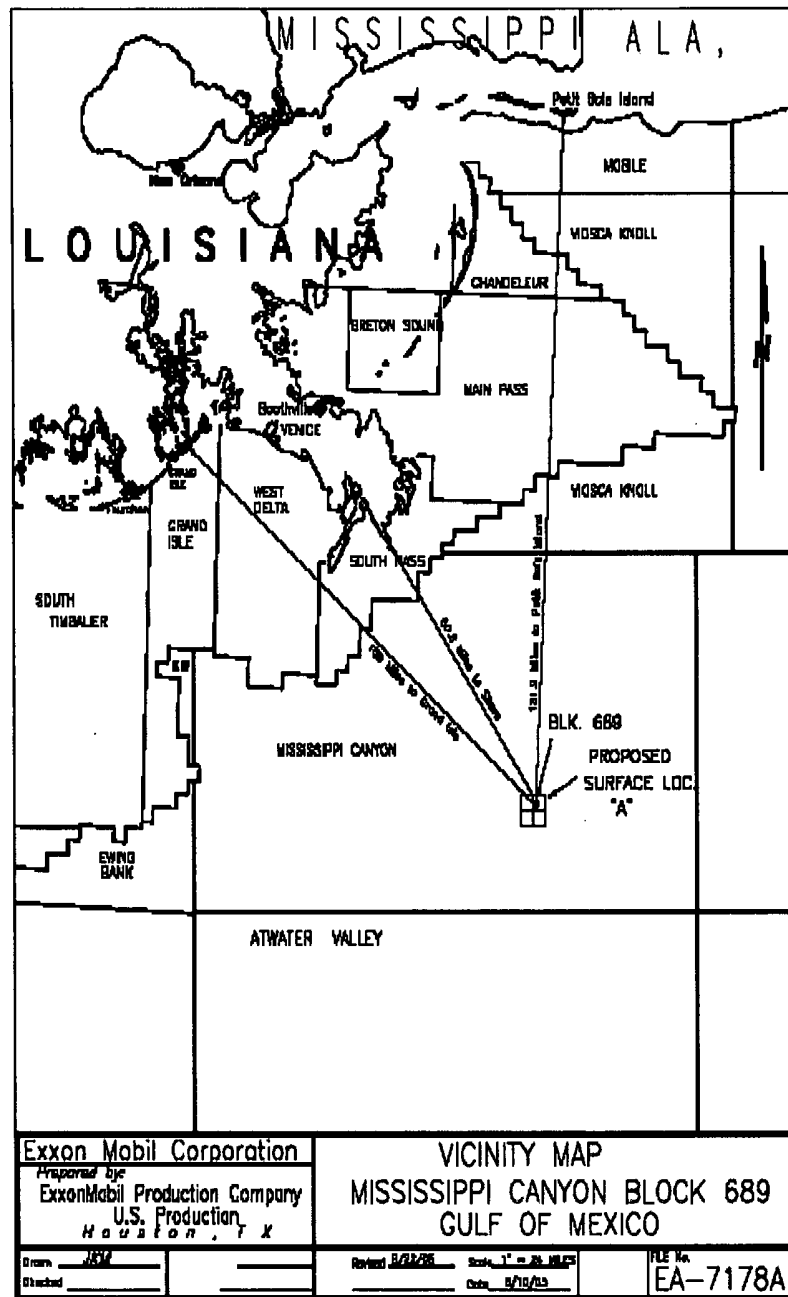
**D. Bonding Information**  
Exxon Mobil's \$3,000,000.00 Surety Bond was accepted by the Mineral Management Service  
Adjudication Group on January 5, 1994.

**E. Onshore Base and Support Vessels**  
Helicopters and boats will move supplies and personnel to and from the offshore and onshore locations. *Helicopters* will make approximately **30** round trips per month to and from the drilling rig. *Work boats* will make approximately **15** round trips per month, and *crew boats* will make approximately **5** round trips per month. If servicing only this lease in the subject area, helicopters and boats will normally take the most direct route, traffic and weather conditions permitting.

A copy of the **vicinity map** for Mississippi Canyon Blocks 688, 689, 732, and 733.

The air onshore support base for helicopters will be located at the Era Aviation facility in Fouchon, Louisiana, and the marine onshore support base for the work and crew boats will be the C-Port base in Fouchon, Louisiana. These bases are capable of providing the services necessary for the proposed activities. No new facilities or workers will be needed for the proposed activities.

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***Initial EXPLORATION PLAN (EP)***  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
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**F. Lease Stipulations**

No Lease Stipulations for these Blocks.

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**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

**III. GEOLOGICAL, GEOPHYSICAL, AND H2S INFORMATION**

**A. Geological and Geophysical Data**

**Structure Contour Map**

**ExxonMobil considers this data to be Proprietary.**

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
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**OFFSHORE LOUISIANA**

**III. GEOLOGICAL, GEOPHYSICAL, AND H2S INFORMATION**

**Interpreted 2-D and/or 3-D Seismic Lines**

**ExxonMobil considers this data to be proprietary.**

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**III. GEOLOGICAL, GEOPHYSICAL, AND H2S INFORMATION**

**Geological Structure Cross-Section**

**ExxonMobil considers this data to be proprietary.**

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**III. GEOLOGICAL, GEOPHYSICAL, AND H2S INFORMATION**

**Geological and Geophysical Survey Results and Shallow Hazards Reports**

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**III. GEOLOGICAL AND GEOPHYSICAL INFORMATION**

**A. GEOLOGICAL AND GEOPHYSICAL DATA**

**Geological and Geophysical Survey Results and Shallow Hazard Report**

All anticipated geophysical and geotechnical work preparatory to initiation of exploratory drilling operations has been completed. The following proposed surface locations have been reviewed for potential shallow and intermediate depth drilling hazards:

<b>Lease Block</b>	<b>Surface Location</b>	<b>UTM 16 Grid Coordinates</b>	<b>Water Depth (feet)</b>
MC 689	A	X=1143650.73 Y=10269258.23	5340
MC 689	G	X=1145676.31 Y=10267431.77	5352
MC 732	E	X=1130857.78 Y=10256267.61	5363
MC 733	F	X=1141204.58 Y=10262438.33	5362

The database for this shallow hazard report includes geophysical 3D seismic, seabed piston cores and offset well information. The 3D seismic data was specially reprocessed as a resolute (2ms processing sample rate) short-offset cube with a CDP interval of 41.0ft (12.5m) and an inline spacing of 65.6ft (20.0m). For this study the 3D short-offset cube covers all of Mississippi Canyon Blocks 644, 645, 688, 689, 732, 733 and portions of 646, 690, 731, 734, 775, 776 and 777. Eight piston cores, with soil sample recoveries ranging from 15 to 17ft (4.6 to 5.2m), were acquired at various locations within the study area in order to identify seafloor hydrocarbon seeps and to assess geotechnical conditions.

Water depths within the ~88 mi<sup>2</sup> study area vary from a minimum of 4,980ft in the northwest to a maximum of 5,780ft in the southeast. The seafloor within the study area generally slopes from the northwest to the southeast, with an average gradient of 1.8°. Local variations occur with the steepest slopes (up to 29.5°) associated with faulting. A large normal fault trending northeast to southwest through MC 689, 732 and 733 displays distinct offset at the seafloor with throws of up to ~60-70ft. Another series of slightly arcuate, west-east trending faults affect the seafloor in the east-central portion of MC 733 and western MC 734. Faults in the study area appear to have been induced by mobilization of salt at depth. Other local variations in slope (up to 8.0°) result from the presence of a buried mass transport deposit covered by a 250 to 300ft hemi-pelagic drape.

**III. GEOLOGICAL AND GEOPHYSICAL INFORMATION**

## **A. GEOLOGICAL AND GEOPHYSICAL DATA**

### **Geological and Geophysical Survey Results and Shallow Hazard Report (cont.)**

Eight piston cores were recovered proximal to the fault escarpments and in areas of hummocky seafloor morphology. Geochemical analytical results of these piston cores show a low rate of fluid seepage from depth in the basin to the sea floor and not anomalous with respect to hydrocarbon seepage. Although hydrocarbons are present in sediments at low concentration, rates of leakage do not compare with any documented chemosynthetic communities thus far studied in detail (Sassen et al., 1994, 1998, 1999b). Complex chemosynthetic communities are characterized by UCM concentrations ranging from thousands of ppm upward to weight percent values, and similarly, gas concentrations will often range from several thousands of ppm and higher (Sassen et al. 1994, 1998, 1999a). An exception could occur at the piston core site MC 689 C02. At this site, anomalous concentrations of methane and ethane suggest that isolated chemosynthetic mussels may be possible (Sassen et al., 1999b). However, the low concentration of hydrocarbons in other area cores suggests that seepage is limited to localized sites and rates of seepage are generally too low to support significant chemosynthetic communities.

**Location MC 689A:** Water depth at this location is expected to be ~5,340ft. The shallow section from the seafloor to ~194ft BML is interpreted to consist of stratified hemi-pelagic clays. The interval from ~194ft to ~806ft BML is interpreted to consist of two slump units separated by a condensed clay unit. The upper slump unit (approximately 183ft thick) is interpreted to be predominantly clay-rich sediments. The condensed section is approximately 79ft thick at the proposed location. The lower slump unit (approximately 350ft thick) is interpreted to contain a mixture of clay and sand-rich slump deposits. There is a potential for sand at the base of the unit. From ~806ft to ~962ft the seismic character suggests a ponded turbidite sequence consisting of sands interbedded with silts, shales and clays. This unit correlates regionally to a sand-prone, intraslope fan sequence referred to in the literature as the Blue Unit (Burman and Norton, 1998; Winker and Booth, 2000; Ostermeier et al., 2000). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location these equivalent sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if drilled under-balanced. The interval from ~962ft to ~1,586ft BML is interpreted to consist of muddy and silty turbidite deposits and correlates locally with the hard clay sequence encountered below the Blue Unit in the soil boring collected at Mensa (Burman and Norton, 1998). The interval from ~1,586ft to ~2,596ft is interpreted to represent stacked slump deposits, consisting of reworked clays, silts and sands. This unit correlates to the massive sand-prone slump unit occasionally referred to as the Chaotic Sands (Burman and Norton, 1998). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location the equivalent sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~2,596ft to 4,410ft is interpreted to represent slump deposits comprised of reworked clays and silts. Drilling Operations personnel have been informed of these conditions and appropriate drilling practices will be employed.

## **III. GEOLOGICAL AND GEOPHYSICAL INFORMATION**

**A. GEOLOGICAL AND GEOPHYSICAL DATA**

**Geological and Geophysical Survey Results and Shallow Hazard Report**  
**(cont)**

**Location MC 689G:** Water depth at this location is expected to be ~5,352ft. The shallow section from the seafloor to ~191ft BML is interpreted to consist of stratified hemi-pelagic clays. The interval from ~191 to ~825ft BML is interpreted to consist of two slump units separated by condensed clay unit. The upper slump unit (approximately 183ft thick) is interpreted to be predominantly clay-rich sediments. The condensed section is approximately 93ft thick at the proposed location. The lower slump unit (approximately 358ft thick) is interpreted to contain a mixture of clay and sand-rich slump deposits. There is a potential for sand at the base of the unit. From ~825ft to ~956ft the seismic character suggests a ponded turbidite sequence consisting of sands interbedded with silts, shales and clays. This unit correlates regionally to a sand-prone, intraslope fan sequence referred to in the literature as the Blue Unit (Burman and Norton, 1998; Winker and Booth, 2000; Ostermeier et al., 2000). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location equivalent sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~956ft to ~1,519ft BML is interpreted to consist of muddy and silty turbidite deposits and correlates locally with the hard clay sequence encountered below the Blue Unit in the soil boring collected at Mensa (Burman and Norton, 1998). The interval from ~1,519ft to ~2,197ft is interpreted to represent stacked slump deposits, consisting of reworked clays, silts and sands. This unit correlates to the massive sand-prone slump unit occasionally referred to as the Chaotic Sands (Burman and Norton, 1998). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location these sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~2,197ft to ~2,674ft is interpreted to represent slump deposits comprised of reworked clays and silts. The proposed well will penetrate salt at a depth of ~2,674ft BML. Drilling Operations personnel have been informed of these conditions and appropriate drilling practices will be employed.

**Location MC 732E:** Water depth at this location is expected to be ~5,363ft. The shallow section from the seafloor to ~198ft BML is interpreted to consist of stratified hemi-pelagic clays. The interval from ~198ft to ~845ft BML is interpreted to consist of two slump units separated by condensed clay unit. The upper slump unit (approximately 271ft thick) is interpreted to be predominantly clay-rich sediments interbedded with possible thin sands at the base. The condensed section is approximately 53ft thick at the proposed location. The lower slump unit (approximately 323ft thick) is interpreted to contain a predominantly clay-rich slump deposits. From ~845ft to ~1,103ft the seismic character suggests a ponded turbidite sequence consisting of sands interbedded with silts, shales and clays. This unit correlates regionally to a sand-prone, intraslope fan sequence referred to in the literature as the Blue Unit (Burman and Norton, 1998; Winker and Booth, 2000; Ostermeier et al., 2000). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location these sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced.

**III. GEOLOGICAL AND GEOPHYSICAL INFORMATION**



**A. GEOLOGICAL AND GEOPHYSICAL DATA**

**Geological and Geophysical Survey Results and Shallow Hazard Report**  
**(cont)**

The interval from ~962ft to ~1,393ft BML is interpreted to consist of muddy and silty turbidite deposits and correlates locally with the hard clay sequence encountered below the Blue Unit in the soil boring collected at Mensa (Burman and Norton, 1998). The interval from ~1,393ft to ~2,163ft is interpreted to represent stacked slump deposits, consisting of reworked clays, silts and sands. This unit correlates to the massive sand-prone slump unit occasionally referred to as the Chaotic Sands (Burman and Norton, 1998). Offset wells in the study area have experienced shallow water flow within this unit. At the proposed location these sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~2,163ft to 2,869ft is interpreted to represent slump deposits comprised of reworked clays and silts. The proposed well will penetrate salt at a depth of ~2,869ft BML. Drilling operations personnel have been informed of these conditions and appropriate drilling practices will be employed.

**Location MC 733F:** Water depth at this location is expected to be ~5,362ft. The shallow section from the seafloor to ~201ft BML is interpreted to consist of stratified hemi-pelagic clays. The interval from ~201ft to ~906ft BML is interpreted to consist of two slump units separated by condensed clay unit. The upper slump unit (approximately 188ft thick) is interpreted to be predominantly clay-rich sediments. The condensed section is approximately 96ft thick at the proposed location. The lower slump unit (approximately 421ft thick) is interpreted to contain a predominantly clay-rich slump deposits with thin sands possible near the base. From ~906ft to ~1,217ft the seismic character suggests a ponded turbidite sequence consisting of sands interbedded with silts, shales and clays. This unit correlates regionally to a sand-prone, intraslope fan sequence referred to in the literature as the Blue Unit (Burman and Norton, 1998; Winker and Booth, 2000; Ostermeier et al., 2000). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location these sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~1,217ft to ~1,629ft BML is interpreted to consist of muddy and silty turbidite deposits and correlates locally with the hard clay sequence encountered below the Blue Unit in the soil boring collected at Mensa (Burman and Norton, 1998). The interval from ~1,629ft to ~2,276ft is interpreted to represent stacked slump deposits, consisting of reworked clays, silts and sands. This unit correlates to the massive sand-prone slump unit occasionally referred to as the Chaotic Sands (Burman and Norton, 1998). Offset wells in the study area have experienced shallow water flow from this unit. At the proposed location these sands may also be slightly overpressured and capable of producing shallow water flow in the riserless interval if they are drilled under-balanced. The interval from ~2,276ft to ~2,799ft is interpreted to represent slump deposits comprised of reworked clays and silts. The proposed well will penetrate salt at a depth of ~2,799ft BML. Drilling Operations personnel have been informed of these conditions and appropriate drilling practices will be employed.

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**III. GEOLOGICAL AND GEOPHYSICAL INFORMATION**

**A. GEOLOGICAL AND GEOPHYSICAL DATA**

**Geological and Geophysical Survey Results and Shallow Hazard Report  
(cont)**

*In accordance with the guidelines set forth in Notice to Lessees and Operators 98-20 (effective date September 15, 1998) and Notice to Lessees and Operators 2000-G20 (effective December 6, 2000), all relevant Geophysical Site-Survey data, 3D Short Offset seismic, seabed piston core data and offset well data have been evaluated. No prohibitive top-hole conditions exist at any of these proposed locations. All Company drilling and operations personnel will be apprised of these conditions.*

Rosanne M. Lindholm  
Site Investigation Specialist  
ExxonMobil Exploration  
Company  
06 June, 2005

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**III. GEOLOGICAL, GEOPHYSICAL, AND H2S INFORMATION**

**Stratigraphic Column**

**ExxonMobil considers this data to be proprietary.**

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**Time Vs. Depth Tables**

**ExxonMobil considers this data to be proprietary.**

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**III. GEOLOGICAL, GEOPHYSICAL, AND H<sub>2</sub>S INFORMATION**

**B. H<sub>2</sub>S Information**

We expect no H<sub>2</sub>S in the Spur wells based on the fact that we will be drilling the same target intervals that were penetrated in the

#### **IV. BIOLOGICAL INFORMATION**

##### **Chemosynthetic Information**

##### **Seafloor and Surficial Sediments**

Isolated, seafloor mounds in the study area suggest migration of water and hydrocarbons to the seafloor has occurred in the past but current migration activity is unknown. Small mounds are scattered in the vicinity of faults in the southern portion of MC 732, the southwestern quadrant of MC 733, and the northeastern portion of MC 775. A similar, isolated mound is located in MC 689, at the northern extent of a southwest-northeast trending normal fault. This particular mound has nearly 25ft of relief and a diameter of approximately 400ft and is associated with a possible gas chimney and increased amplitude at the seafloor. This seafloor feature is located ~3,500ft northeast of the proposed MC 689G and ~5,280ft east-southeast of MC 689A. The mound is interpreted as a local vent with a potential authigenic carbonate cap. Geotechnical data gathered from piston cores positioned along the southwest-northeast fault (MC 689 C01, MC 733 C02 and MC 732 C01) suggest that rates of seepage are too low to support significant chemosynthetic communities (GERG, 2000c). Simple chemosynthetic mussels or bacterial mats may be possible in the vicinity of the mound, but high-density chemosynthetic communities are not expected. However, this feature will be avoided by all drilling operations.

The closest fault to the proposed drill sites is a large normal fault trending northeast to southwest through MC 689, 732, and 733. This fault exhibits offsets up to 60 -70ft and is interpreted as a result of subsurface salt movement. The fault is downthrown to the northwest, forming a structural high to the southeast. All proposed well locations are greater than 1,500ft northwest of this fault. Proposed location MC 689A is ~4,750ft, MC 689G is ~2,200ft, MC 732E is ~2,400ft, and MC 733F is ~2,750ft to the northwest of the fault. This fault is considered potentially active, though rates of movement along the faults are interpreted to be very low at present.

Eight piston cores were collected in the four-block area of interest shown in blue on the Seafloor Rendering Map constructed from the 3D short-offset data. Three of the piston cores (MC 689 C01, MC 732 C01, and MC 733 C02) are positioned along the major northeast-southwest fault trending through MC 689, 732 and 733. Core MC 732 C02 is positioned along a northeast-southwest fault in the southwestern corner of MC 732. Cores MC 733 C01 and MC 733 C03 are positioned along west-east trending faults in the southeast quadrant of MC 733. Core MC 688 C01 is not associated with seafloor faults, but rather is situated in the center of the region with irregular seafloor topography. Core MC 689 C02 is located at the eastern boundary of a transition zone between irregular and smooth seafloor that coincides with the distal edge of a regional buried slump. Core analyses concluded that authentic seepage of thermogenic hydrocarbon is occurring in the vicinity (GERG, 2000c). However, the concentration is generally too low to support significant chemosynthetic communities. A geochemical analysis from core MC 689 C02 showed anomalous concentrations of methane and ethane suggesting that isolated chemosynthetic mussels may be possible in isolated areas.

#### IV. BIOLOGICAL INFORMATION

##### Anchoring Considerations

The surface locations proposed in this Exploration Plan will be drilled by a dynamically positioned drillship. This mobile drilling unit will not use a mooring system for station keeping. Therefore, anchoring considerations are not applicable. Seafloor impact will be limited to the point of emplacement of the structural casing, wellhead, and BOP stack.

No high-density chemosynthetic communities occur within a 1,500-foot radius of each proposed surface location. Therefore, incidental discharges during drilling operations will have no adverse affect on chemosynthetic benthic fauna.

##### Analysis and Summary Statement

###### **Location MC 689A**

- NO ASSOCIATED ANCHORS -- NO DISTURBANCE WITHIN 1,500 FEET OF CHEMOSYNTHETIC COMMUNITIES.
- Features or areas that could support high-density chemosynthetic communities are *not* located within 1,500 feet of the proposed mud and cuttings discharge location.

###### **Location MC 689G**

- NO ASSOCIATED ANCHORS -- NO DISTURBANCE WITHIN 1,500 FEET OF CHEMOSYNTHETIC COMMUNITIES.
- Features or areas that could support high-density chemosynthetic communities are *not* located within 1,500 feet of the proposed mud and cuttings discharge location.

###### **Location MC 732E**

- NO ASSOCIATED ANCHORS -- NO DISTURBANCE WITHIN 1,500 FEET OF CHEMOSYNTHETIC COMMUNITIES.
- Features or areas that could support high-density chemosynthetic communities are *not* located within 1,500 feet of the proposed mud and cuttings discharge location.

###### **Location MC 733F**

- NO ASSOCIATED ANCHORS -- NO DISTURBANCE WITHIN 1,500 FEET OF CHEMOSYNTHETIC COMMUNITIES.
- Features or areas that could support high-density chemosynthetic communities are *not* located within 1,500 feet of the proposed mud and cuttings discharge location.

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**IV. BIOLOGICAL INFORMATION**

Included herein are **bathymetry and seafloor rendering maps**, showing the proposed surface locations.

*In accordance with the guidelines set forth in Notice to Lessees and Operators 98-12 (effective August 10, 1998) and Notice to Lessees and Operators 2000-G20 (effective December 6, 2000); all relevant Geophysical Site-Survey data, 3D Short Offset seismic, seabed piston core data and offset well data have been evaluated. No prohibitive top-hole conditions exist at any of these proposed locations. All Company drilling and operations personnel will be apprised of these conditions.*

Rosanne M. Lindholm  
Site Investigation Specialist  
ExxonMobil Exploration Company  
06 June, 2005



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## **MC Blks 688, 689, 732 and 733**

### **Proposed Surface Locations**

Location A x=1143650.73 y=10269258.23

Location E x=1130857.78 y=10256267.61

Location G x=1145676.31 y=10267431.77

Location F x=1141204.58 y=10262438.33

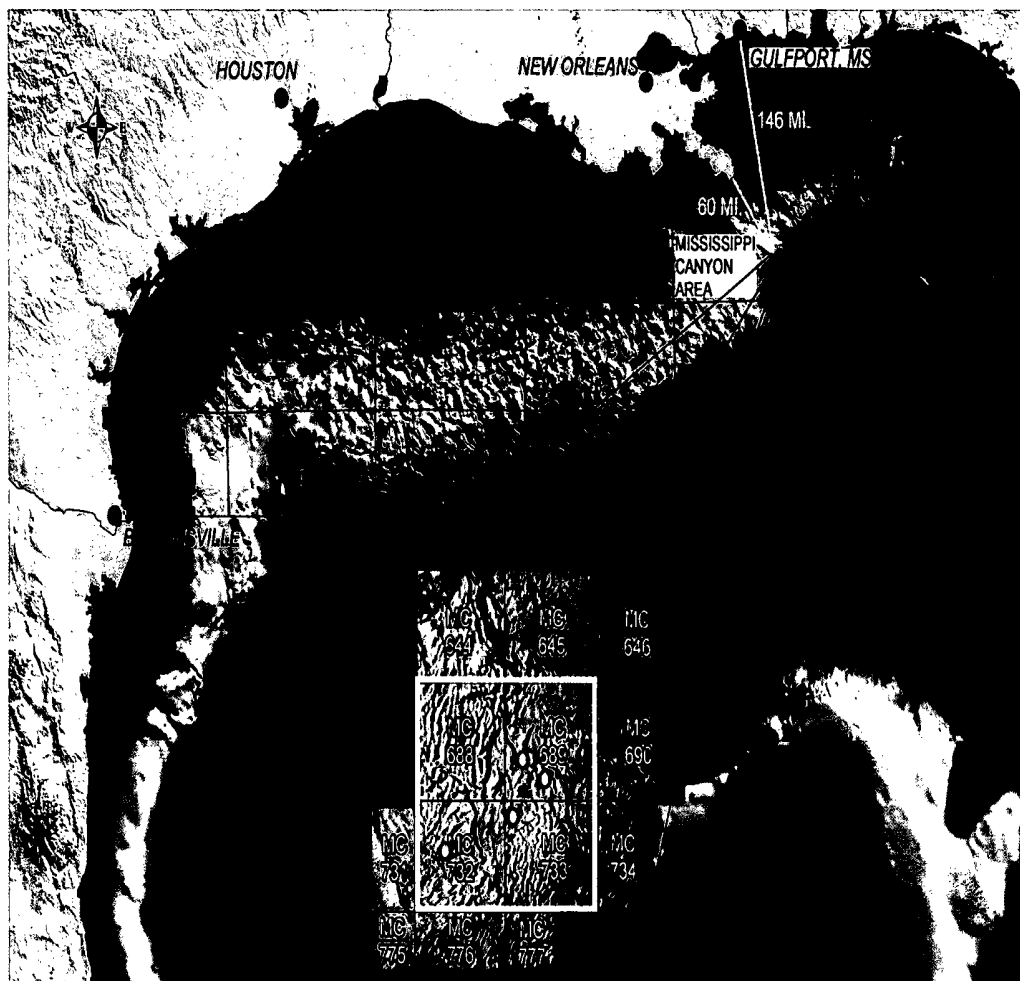
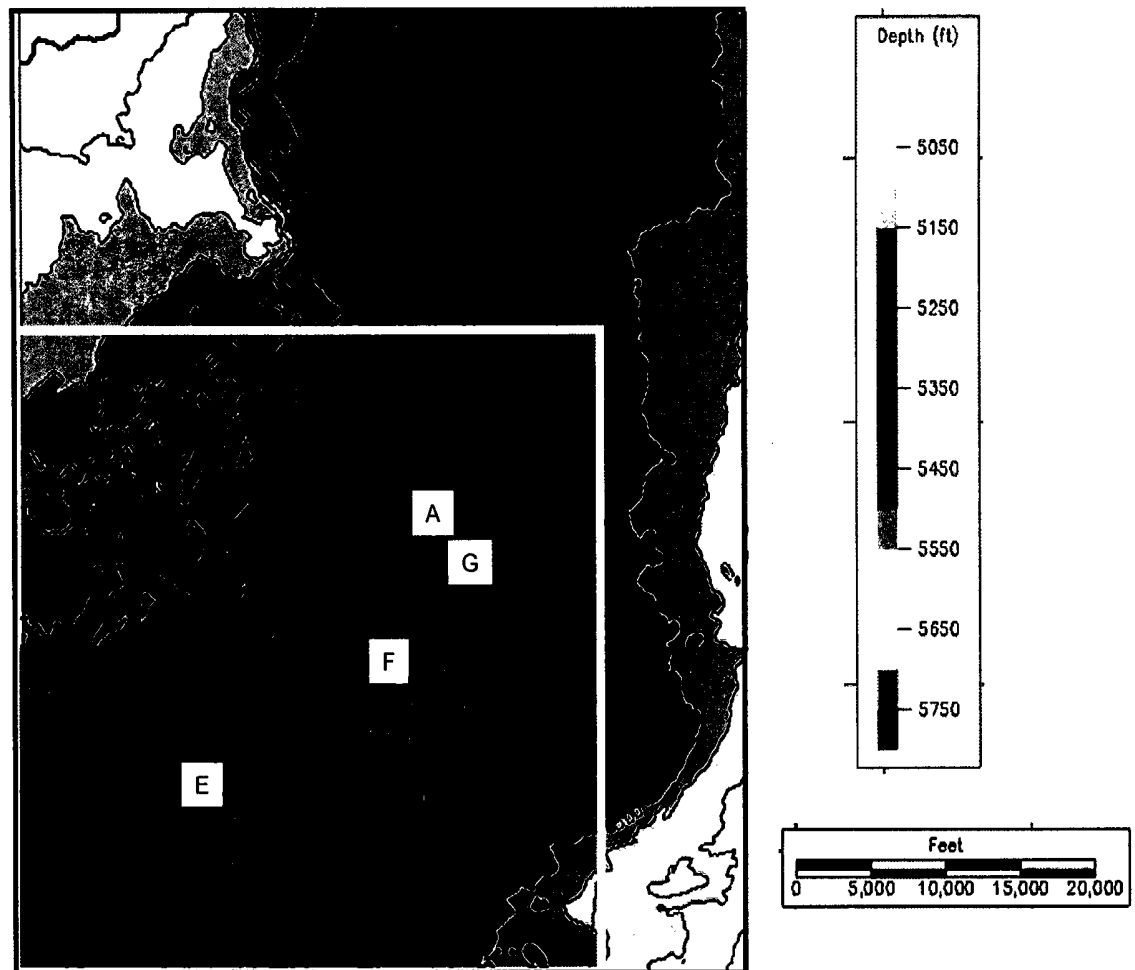


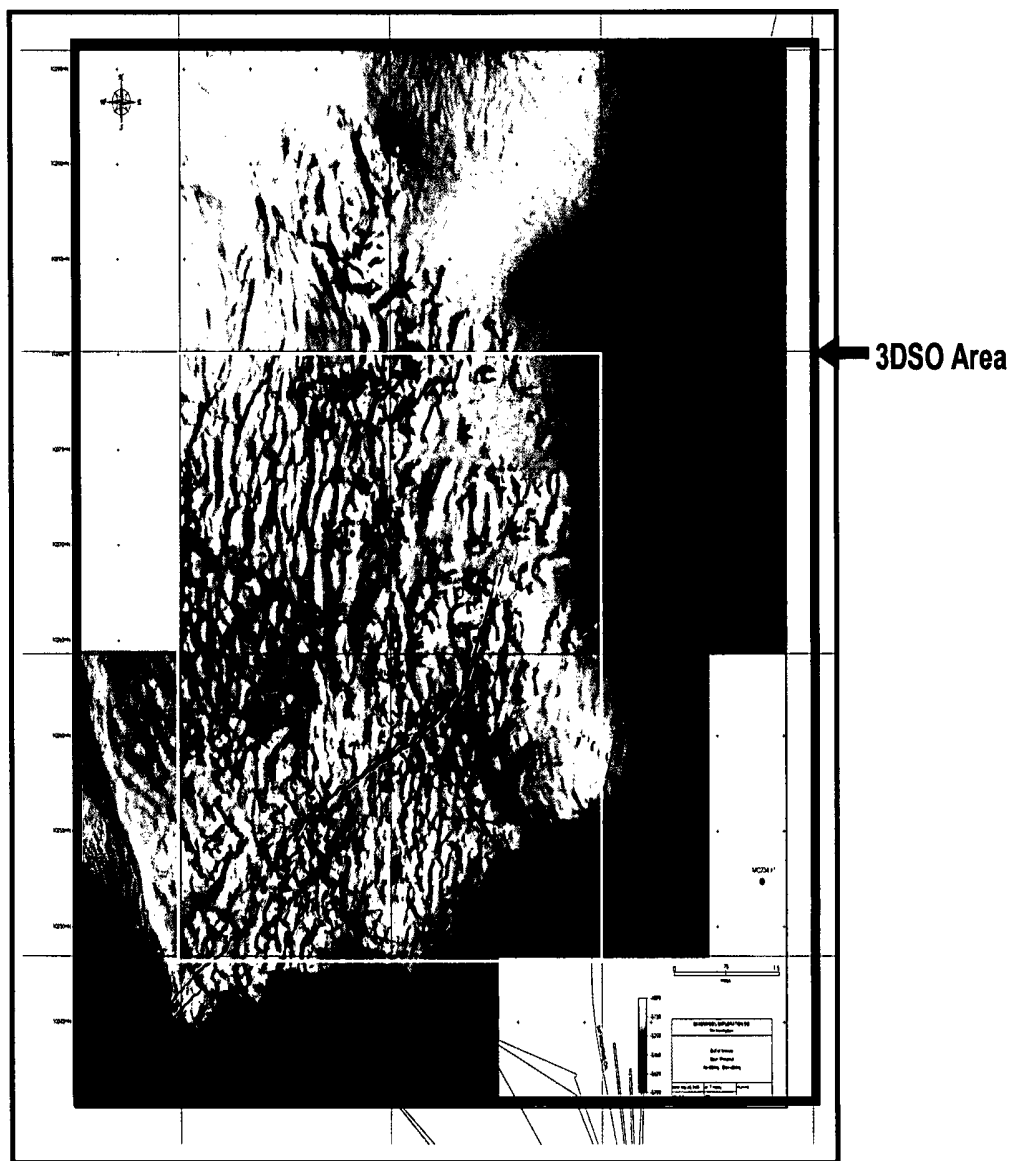
Figure 1: Location Map – GOM Seafloor Rendering, 3DSO area outlined in Red, Mississippi Canyon Blocks 688, 689, 732 and 733 outlined in Yellow.

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**Figure 3:** Water Bottom Depth Map (Bathymetry) for Spur area including Mississippi Canyon Blocks 688, 689, 732 and 733. Contour Interval = 50'.

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**Figure 6:** Seafloor Rendering – Mississippi Canyon 688, 689, 732 and 733 area with proposed surface locations shown in red circles, piston cores in blue, offset wells in solid red, infrastructure and block outlines in grey.

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**V. WASTE AND DISCHARGE INFORMATION**

**Compliance**

All discharges associated with drilling and potentially completing/testing of the subject wells will be in accordance with regulations implemented by the Minerals Management Service (MMS), U.S. Coast Guard (USCG), and the U.S. Environmental Protection Agency (EPA).

ExxonMobil will strictly adhere to the National Pollutant Discharge Elimination System-NPDES permit #290000 for Region VI of the Gulf of Mexico in regards to discharges into offshore waters. The types and amounts of planned discharges are outlined in the waste and discharge spreadsheets included here with a general discussion of each below. Wastes that are not discharged overboard will be transported to an appropriate treatment or disposal site, in accordance with all federal, state, and local rules and regulations. Any wastes classified as hazardous will be properly transported using a uniform hazardous waste manifest, documented, and disposed of at an approved hazardous waste facility.

**Drill Cuttings**

An estimated 11,000 bbls of drill cuttings from the subject well will be discharged. This assumes a 50% washout in each hole-section of the well. The cuttings will consist primarily of native solids, shales, clays, and sands. In the event that synthetic base drilling fluids (SBM) are used, the discharge of these cuttings will meet the NPDES permit criteria for stock and effluent limitations.

**Sanitary Waste**

The total amount sanitary waste to be discharged is estimated to be 540 k-gals. This assumes an 120-man crew on board the vessel, with an average usage of 30 gals per day per man. This waste will be collected and treated on board in an USCG approved sewage treatment plant prior to discharge.

**Deck Drainage**

Deck drainage consists primarily of water and wash liquids. An estimated 37.5 k-bbls of this type fluid will be discharged overboard. Prior to being discharged, the fluid will be collected and processed through an oil-water separator. Recovered oil will be recycled or properly disposed of as appropriate. The processed water will be discharged, meeting MARPOL 73/78 regulations.

**Drilling Fluids**

Water and synthetic base drilling fluids will be used on the subject wells. In the course of drilling the well, it is estimated that 30,000 bbls of water base mud will be discharged. No discharge of synthetic base fluid is planned. Strict adherence to the NPDES permit will be followed in discharging drilling fluids.

**Domestic Waste**

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Domestic waste/trash will be collected and transported to shore for disposal at an authorized disposal site. Food solids consisting of leftover scraps will be disposed of under the requirements of **MARPOL 73/78** as implemented by the U.S. Coast Guard. Approximately 28,000 lbs of domestic waste is expected to be generated on the subject well.

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**Waste and Discharge Calculations**

Solid and liquid wastes predicted to be generated from the drilling of this Hadrian Prospect wells are indicated on the **spreadsheet** contained in this EP.

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**Table 1. Discharges Table (Wastes to be discharged overboard)**

<b>Type of Waste Approximate Composition</b>	<b>Amount to be Discharged (volume or rate)</b>	<b>Maximum Discharge Rate</b>	<b>Treatment and/or Storage, Discharge Location*, and Discharge Method</b>
Water-based drilling fluids	30,000 bbl/well	1,000 bbl/hr	MC 698, 732, 733 108 Discharged at seafloor
Drill cuttings associated with water-based fluids	4,000 bbl/well	1,000 bbl/hr	MC 698, 732, 733 108 Discharged at seafloor
Drill cuttings associated with synthetic drilling fluids	7,000 bbl/well	100 bbl/hr	MC 689, 732, 733 Shunt through downpipe to 10 feet below sea level
Muds, cuttings and cement at the seafloor	Gel – 1,000 bbl WBM – 30,000 bbl Cuttings – 4,000 bbl Cement – 100 bbl	Not applicable	MC 698, 732, 733 108 Discharged at seafloor
Sanitary wastes	30 gal/person/day	Not applicable	MC 689, 732, 733 Chlorinate and discharge
Domestic waste	200 lbs/day	Not applicable	MC 689, 732, 733 Remove floating solids and discharge
Deck Drainage	0-200 bbl/day Dependant upon rainfall	15 bbl per hour (maximum separator discharge)	MC 689, 732, 733 Remove oil and grease and discharge
Desalinization Unit water	700 bbl/day	Not applicable	MC 689, 732, 733 Discharged overboard
Uncontaminated bilge water	500 bbl	260 m <sup>3</sup> /hr	MC 689, 732, 733 Discharged overboard
Uncontaminated ballast water	1,000 bbl	2,600 m <sup>3</sup> /hr	MC 689, 732, 733 Discharged overboard

Note: Above table shows discharge volume / well.

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**Table 2. Disposal Table Example (Wastes to be disposed of, not discharged)**

<b>Type of Waste Approximate Composition</b>	<b>Amount*</b>	<b>Rate per Day</b>	<b>Name/Location of Disposal Facility</b>	<b>Treatment and/or Storage, Transport and Disposal Method</b>
Spent synthetic-based drilling fluids	8,000 bbl/well	3,000 bbl/day	BHI Fluids Base, Fourchon, LA	Transport to shore in supply boat tanks to process and re- use.
Waste oil	55 bbl/well	0.51 bbl/ day	Newpark Environmental Services, Cameron, LA	Pack in drums and transport to an onshore incineration site
Trash and debris	7,000 ft <sup>3</sup>	3 ft <sup>3</sup> /day	Newpark Environmental Services, Cameron, LA	Transport in storage bins on work boat to a landfill
Recyclable Waste		zero		
Chemical product wastes		zero		

\*can be expressed as a volume, weight, or rate



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**VI. OIL SPILL RESPONSE AND CHEMICAL INFORMATION (see Appendix F)**

## APPENDIX F OIL SPILL INFORMATION

### ***A. Regional OSRP Information***

ExxonMobil Corporation's Regional Oil Spill Response Plan (OSRP) was approved on October 22, 2003, and is approved through September 30, 2005. The most recent updates to this plan were approved on February 1, 2005. Modifications for the plan were submitted on July 12, 2005. Activities proposed in this EP will be covered by the Regional OSRP.

### ***B. OSRO Information***

ExxonMobil's primary equipment providers are Clean Gulf Associates (CGA) and the Marine Spill Response Corporation (MSRC). MSRC's STARS network will provide closest available personnel, as well as an MSRC supervisor to operate the equipment.

### ***C. Worst-Case Scenario Comparison***

Category	Regional OSRP WCD *	EP WCD
Type of Activity	Exploratory Drilling	Exploratory Drilling
Facility Location (Area/Block)	AT 108/152	MC 689
Facility Designation		
Distance to Nearest Shoreline (miles)	77	62
Volume Uncontrolled blowout Total Volume	235,000 BBLS	
Type of Oil(s) (crude, condensate, diesel)	Crude Oil	
API Gravity	27½	

ExxonMobil has determined that the worst-case scenario from the activities proposed in this EP do not supercede the worst-case scenario from our approved regional OSRP for exploratory drilling activities. (NOTE: An amended Appendix H to our Regional Oil Spill Response Plan, adding AT 108/154 exploratory drilling activity as the WCD, was filed with the MMS on July 12, 2005.)

Since ExxonMobil has the capability to respond to the worst-case spill scenario included

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in our Regional OSRP approved on October 22, 2003 and an amendment for the worst-case scenario in our regional OSRP has been filed, I hereby certify that ExxonMobil has the capability to respond, to the maximum extent practicable, to a worst-case discharge, or a substantial threat of such a discharge, resulting from the activities proposed in our EP.

***D. FACILITY TANKS, PRODUCTION FACILITIES***

There are no production vessels associated with the activities in this EP. All facility tanks are associated with the *Discovery Spirit* as follows:

Type Storage Tank	Largest Tank Capacity (bbls)	Number of Tanks	Total Capacity (bbls)	Fluid Gravity (API)
Fuel Oil (Marine Diesel)	6,702.9	12	48,365.5	32.4°
Oil Based Mud	N/A			

***E. SPILL RESPONSE SITES***

NA for the purposes of this plan as per NTL 2003-G17

***F. DIESEL OIL SUPPLY VESSELS***

NA for the purposes of this plan as per NTL 2003-G17

***G. SUPPORT VESSEL FUEL TANKS***

NA for the purposes of this plan as per NTL 2003-G17

***H. PRODUCED LIQUID HYDROCARBONS TRANSPORTATION VESSELS***

NA for the purposes of this plan as per NTL 2003-G17

***I. OIL- AND SYNTHETIC-BASED DRILLING FLUIDS***

NA for the purposes of this plan as per NTL 2003-G17

***J. OILS CHARACTERISTICS***

NA for the purposes of this plan as per NTL 2003-G17

***K. BLOWOUT SCENARIO***

NA for the purposes of this plan as per NTL 2003-G17

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
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***L. SPILL RESPONSE DISCUSSION FOR NEPA ANALYSIS***

NA for the purposes of this plan as per NTL 2003-G17

***M. POLLUTION PREVENTION MEASURES***

NA for the purposes of this plan as per NTL 2003-G17

***N. FGBNMS MONITORING PLANS***

NA for the purposes of this plan as per NTL 2003-G17

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

**VII. AIR EMISSIONS INFORMATION**

The *Discoverer Spirit or similar type*, a dynamically positioned drill ship, is to be used to drill the *Spur* prospect, and drill sites at Mississippi Canyon Blocks 689, 732, and 733, are located 60.2 miles from shore, accordingly a full set of spreadsheets is being submitted.

The nearest shoreline to the *Spur* Prospect at Mississippi Canyon Blocks 689, 732, and 733 is a distance of approximately 60.2 miles, per the vicinity map that is included in this Exploration Plan.

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

<b>COMPANY</b>	ExxonMobil
<b>AREA</b>	Mississippi Canyon
<b>BLOCK</b>	689, 732, 733
<b>LEASE</b>	OCS-G 21777, 19989, 19990
<b>PLATFORM</b>	N/A
<b>WELL</b>	MC 733F, 732E, 689G, 689A
<b>COMPANY CONTACT</b>	Bryan L Chapman
<b>TELEPHONE NO.</b>	281 654 1941
<b>REMARKS</b>	Spur

"Yes"	"No"	Air Quality Screening Questions
	x	1. Are the proposed activities east of 87.5° W latitude?
	x	2. Are H <sub>2</sub> S concentrations greater than 20 ppm expected?
	x	3. Is gas flaring proposed for greater than 48 continuous hours per well?
	x	4. Is produced liquid burning proposed?
	x	5. Is the exploratory activity within 25 miles of shore?
	x	6. Are semi-submersible activities involved and is the facility within 50 miles of shore?
x		7. Are drillship operations involved and is the facility within 120 miles of shore?
	x	8. Will the exploratory activity be collocated (same surface location) on a production facility?

Screening Questions for EP's	Yes	No
Is any calculated Complex Total (CT) Emission amount (in tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: CT = 3400D <sup>2/3</sup> for CO, and CT = 33.3D for the other air pollutants (where D = distance to shore in miles)?		x
Do your emission calculations include any emission reduction measures or modified emission factors?		x
Are your proposed exploration activities located east of 87.5° W longitude?		x
Do you expect to encounter H <sub>2</sub> S at concentrations greater than 20 parts per million (ppm)?		x
Do you propose to flare or vent natural gas for more than 48 continuous hours from any proposed well?		x
Do you propose to burn produced hydrocarbon liquids?		x

**PUBLIC INFORMATION**

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL	CONTACT		PHONE	REMARKS							
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777	N/A	MC 733F, 732E, 689G, 689A	Bryan L. Chapman		281 654 1941								
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	1	140	6.89	31.60	236.77	7.10	51.66	0.48	2.21	16.57	0.50	3.62
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	24	140	4.59	21.07	157.85	4.74	34.44	7.71	35.39	265.19	7.96	57.86
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	1	140	4.59	21.07	157.85	4.74	34.44	0.32	1.47	11.05	0.33	2.41
	Emergency Gen. >600hp diesel	3257	157.3131	3775.51	1	20	2.30	10.53	78.91	2.37	17.22	0.02	0.11	0.79	0.02	0.17
	Fork Lift <600hp diesel	50	2.415	57.96	1	140	0.04	0.16	1.21	0.04	0.26	0.00	0.01	0.08	0.00	0.02
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Workboat >600 hp diesel	2025	97.8075	2347.38	10	92	1.43	6.55	49.06	1.47	10.70	0.66	3.01	22.52	0.68	4.91
	Workboat Gen. >600 hp diesel	800	38.64	927.36	3	92	0.56	2.59	19.38	0.58	4.23	0.08	0.36	2.67	0.08	0.58
	Crewboat>600hp diesel	2025	97.8075	2347.38	6	37	1.43	6.55	49.06	1.47	10.70	0.16	0.72	5.41	0.16	1.18
	Crewboat Gen. <600hp diesel	600	28.98	695.52	2	37	0.42	1.94	14.54	0.44	3.17	0.02	0.07	0.53	0.02	0.12
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2006 YEAR TOTAL							43.06	197.54	1480.18	44.41	322.95	44.17	202.61	1518.17	45.55	331.24
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											2004.66	2004.66	2004.66	2004.66	52224.78
	60.2															

PUBLIC INFORMATION

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT		PHONE	REMARKS						
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777	N/A	MC 733F, 732E, 689G, 689A		Bryan L. Chapman		281 654 1941							
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	1	140	6.89	31.60	236.77	7.10	51.66	0.48	2.21	16.57	0.50	3.62
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	24	140	4.59	21.07	157.85	4.74	34.44	7.71	35.39	265.19	7.96	57.86
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	1	140	4.59	21.07	157.85	4.74	34.44	0.32	1.47	11.05	0.33	2.41
	Emergency Gen. >600hp diesel	3257	157.3131	3775.51	1	20	2.30	10.53	78.91	2.37	17.22	0.02	0.11	0.79	0.02	0.17
	Fork Lift <600hp diesel	50	2.415	57.96	1	140	0.04	0.16	1.21	0.04	0.26	0.00	0.01	0.08	0.00	0.02
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Workboat >600 hp diesel	2025	97.8075	2347.38	10	92	1.43	6.55	49.06	1.47	10.70	0.66	3.01	22.52	0.68	4.91
	Workboat Gen. >600 hp diesel	800	38.64	927.36	3	92	0.56	2.59	19.38	0.58	4.23	0.08	0.36	2.67	0.08	0.58
	Crewboat>600hp diesel	2025	97.8075	2347.38	6	37	1.43	6.55	49.06	1.47	10.70	0.16	0.72	5.41	0.16	1.18
	Crewboat Gen. <600hp diesel	600	28.98	695.52	2	37	0.42	1.94	14.54	0.44	3.17	0.02	0.07	0.53	0.02	0.12
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2007 YEAR TOTAL							43.06	197.54	1480.18	44.41	322.95	44.17	202.61	1518.17	45.55	331.24
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											2004.66	2004.66	2004.66	2004.66	52224.78
	60.2															

**PUBLIC INFORMATION**



**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT			PHONE	REMARKS					
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777	N/A	MC 733F, 732E, 689G, 689A		Bryan L Chapman			281 654 1941						
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	1	140	6.89	31.60	236.77	7.10	51.66	0.48	2.21	16.57	0.50	3.62
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	24	140	4.59	21.07	157.85	4.74	34.44	7.71	35.39	265.19	7.96	57.86
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	1	140	4.59	21.07	157.85	4.74	34.44	0.32	1.47	11.05	0.33	2.41
	Emergency Gen. >600hp diesel	3257	157.3131	3775.51	1	20	2.30	10.53	78.91	2.37	17.22	0.02	0.11	0.79	0.02	0.17
	Fork Lift <600hp diesel	50	2.415	57.96	1	140	0.04	0.16	1.21	0.04	0.26	0.00	0.01	0.08	0.00	0.02
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Workboat >600 hp diesel	2025	97.8075	2347.38	10	92	1.43	6.55	49.06	1.47	10.70	0.66	3.01	22.52	0.68	4.91
	Workboat Gen. >600 hp diesel	800	38.64	927.36	3	92	0.56	2.59	19.38	0.58	4.23	0.08	0.36	2.67	0.08	0.58
	Crewboat>600hp diesel	2025	97.8075	2347.38	6	37	1.43	6.55	49.06	1.47	10.70	0.16	0.72	5.41	0.16	1.18
	Crewboat Gen. <600hp diesel	600	28.98	695.52	2	37	0.42	1.94	14.54	0.44	3.17	0.02	0.07	0.53	0.02	0.12
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2008 YEAR TOTAL							43.06	197.54	1480.18	44.41	322.95	44.17	202.61	1518.17	45.55	331.24
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											2004.66	2004.66	2004.66	2004.66	52224.78
	60.2															

PUBLIC INFORMATION

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT				PHONE	REMARKS				
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777	N/A	MC 733F, 732E, 689G, 689A		Bryan L. Chapman				281 654 1941					
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	140	6.89	31.60	236.77	7.10	51.66	11.57	53.08	397.77	11.93	86.79
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	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	1	140	6.89	31.60	236.77	7.10	51.66	0.48	2.21	16.57	0.50	3.62
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	24	140	4.59	21.07	157.85	4.74	34.44	7.71	35.39	265.19	7.96	57.86
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	1	140	4.59	21.07	157.85	4.74	34.44	0.32	1.47	11.05	0.33	2.41
	Emergency Gen. >600hp diesel	3257	157.3131	3775.51	1	20	2.30	10.53	78.91	2.37	17.22	0.02	0.11	0.79	0.02	0.17
	Fork Lift <600hp diesel	50	2.415	57.96	1	140	0.04	0.16	1.21	0.04	0.26	0.00	0.01	0.08	0.00	0.02
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	20	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.01	0.00	0.00
	Workboat >600 hp diesel	2025	97.8075	2347.38	10	92	1.43	6.55	49.06	1.47	10.70	0.66	3.01	22.52	0.68	4.91
	Workboat Gen. >600 hp diesel	800	38.64	927.36	3	92	0.56	2.59	19.38	0.58	4.23	0.08	0.36	2.67	0.08	0.58
	Crewboat>600hp diesel	2025	97.8075	2347.38	6	37	1.43	6.55	49.06	1.47	10.70	0.16	0.72	5.41	0.16	1.18
	Crewboat Gen. <600hp diesel	600	28.98	695.52	2	37	0.42	1.94	14.54	0.44	3.17	0.02	0.07	0.53	0.02	0.12
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2009 YEAR TOTAL							43.06	197.54	1480.18	44.41	322.95	44.17	202.61	1518.17	45.55	331.24
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											2004.66	2004.66	2004.66	2004.66	52224.78
	60.2															

**PUBLIC INFORMATION**

**Initial EXPLORATION PLAN (EP)**  
**MISSISSIPPI CANYON BLOCKS 689/732/733**  
**LEASES OCS G-21777/19989/19990**  
**OFFSHORE LOUISIANA**

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT		PHONE	REMARKS						
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777,	N/A	MC 733F, 732E, 689G, 689A		Bryan L Chapman		281 654 1941							
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR					ESTIMATED TONS				
	Diesel Engines	HP	GAL/HR	GAL/D												
	Nat. Gas Engines	HP	SCF/HR	SCF/D												
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC	CO	PM	SOx	NOx	VOC	CO
DRILLING	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	0	6.89	31.60	236.77	7.10	51.66	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	0	6.89	31.60	236.77	7.10	51.66	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	24	0	6.89	31.60	236.77	7.10	51.66	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	9772	471.9876	11327.70	1	0	6.89	31.60	236.77	7.10	51.66	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	24	0	4.59	21.07	157.85	4.74	34.44	0.00	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	6515	314.6745	7552.19	1	0	4.59	21.07	157.85	4.74	34.44	0.00	0.00	0.00	0.00	0.00
	Emergency Gen. >600hp diesel	3257	157.3131	3775.51	1	0	2.30	10.53	78.91	2.37	17.22	0.00	0.00	0.00	0.00	0.00
	Fork Lift <600hp diesel	50	2.415	57.96	1	0	0.04	0.16	1.21	0.04	0.26	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Lifeboat<600hp diesel	36	1.7388	41.73	1	0	0.03	0.12	0.87	0.03	0.19	0.00	0.00	0.00	0.00	0.00
	Workboat >600 hp diesel	2025	97.8075	2347.38	10	0	1.43	6.55	49.06	1.47	10.70	0.00	0.00	0.00	0.00	0.00
	Workboat Gen. >600 hp diesel	800	38.64	927.36	3	0	0.56	2.59	19.38	0.58	4.23	0.00	0.00	0.00	0.00	0.00
	Crewboat>600hp diesel	2025	97.8075	2347.38	6	0	1.43	6.55	49.06	1.47	10.70	0.00	0.00	0.00	0.00	0.00
	Crewboat Gen <600hp diesel	600	28.98	695.52	2	0	0.42	1.94	14.54	0.44	3.17	0.00	0.00	0.00	0.00	0.00
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	MISC.	BPD	SCF/HR	COUNT												
	TANK-	0			0	0				0.00					0.00	
DRILLING	OIL BURN	0			0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WELL TEST	GAS FLARE		0		0	0		0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
2010 YEAR TOTAL							43.06	197.54	1480.18	44.41	322.95	0.00	0.00	0.00	0.00	0.00
EXEMPTION CALCULATION	DISTANCE FROM LAND IN MILES											2004.66	2004.66	2004.66	2004.66	52224.78
	60.2															

PUBLIC INFORMATION

## Air Quality Report Summary

COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL
ExxonMobil	Mississippi Canyon	689, 732, 733	OCS-G 21777, 19989, 19990	N/A	MC 733F, 732E, 689G, 689A
Year	Emitted		Substance		
	PM	SOx	NOx	VOC	CO
2006	44.17	202.61	1518.17	45.55	331.24
2007	44.17	202.61	1518.17	45.55	331.24
2008	44.17	202.61	1518.17	45.55	331.24
2009	44.17	202.61	1518.17	45.55	331.24
2010	0.00	0.00	0.00	0.00	0.00
2011	0.00	0.00	0.00	0.00	0.00
2012	0.00	0.00	0.00	0.00	0.00
2013	0.00	0.00	0.00	0.00	0.00
2014	0.00	0.00	0.00	0.00	0.00
2015	0.00	0.00	0.00	0.00	0.00
Allowable	2664.00	2664.00	2664.00	2664.00	63125.61

## **VIII. ENVIRONMENTAL IMPACT ANALYSIS**

### **A. ENVIRONMENTAL IMPACT ANALYSIS REPORT (prepared by Continental Shelf Associates, Inc.)**

Nine (9) copies of the *Environmental Impact Analysis Report (Exploration Plan) Gulf of Mexico: Offshore Louisiana, Mississippi Canyon Blocks 689, 732, and 733* are being submitted to the MMS with this Exploration Plan.

This Environmental Report was prepared August 2005, for Exxon Mobil Corporation by Continental Shelf Associates, Inc., of Jupiter, Florida.

### **B. CONSISTENCY CERTIFICATION INFORMATION**

A. Certificate of Coastal Zone Consistency  
(See Attachment "G")

B. Louisiana Coastal Zone Consistency Information

1. Relevant enforceable policies were considered in certifying consistency

C. Mississippi Coastal Zone Consistency Information

1. Relevant enforceable policies were considered in certifying consistency.

a. Attached: Mississippi enforceable policies

# **COSTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION**

**Initial Exploration Plan**

Type of OCS Plan

**Mississippi Canyon Blocks 689, 732, 733**

Area and Block

**OCS-G 21777, G 19989, G 19990**

Lease Number

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

**Exxon Mobil Corporation**

Lessee or Operator

**Bryan L Chapman**

Certifying Official



Signature

\_\_\_\_\_  
Date

## **COSTAL ZONE MANAGEMENT CONSISTENCY CERTIFICATION**

\_\_\_\_\_  
**Initial Exploration Plan**

Type of OCS Plan

\_\_\_\_\_  
**Mississippi Canyon Blocks 689, 732, 733**

Area and Block

\_\_\_\_\_  
**OCS-G 21777, G 19989, G 19990**

Lease Number


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

\_\_\_\_\_  
**Exxon Mobil Corporation**

Lessee or Operator

\_\_\_\_\_  
**Bryan L Chapman**

Certifying Official

\_\_\_\_\_  


Signature

\_\_\_\_\_  
10/10/05

Date

**STATE OF MISSISSIPPI  
COASTAL ZONE CONSISTENCY POLICIES**

<b>Goal 1</b>	<b>To Provide For Reasonable Industrial Expansion In The Coastal Area And To Insure The Efficient Utilization Of Waterfront Industrial Sites So That Suitable Sites Are Conserved For Water Dependent Industry.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's coastal area.

<b>Goal 2</b>	<b>To Favor The Preservation Of The Coastal Wetlands And Ecosystems, Except Where A Specific Alternation Of Specific Coastal Wetlands Would Serve A Higher Public Interest In Compliance With The Public Purposes Of The Public Trust In Which The Coastal Wetlands Are Held.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's coastal wetlands and ecosystems.

<b>Goal 3</b>	<b>To Protect, Propagate, And Conserve The State's Seafood And Aquatic Life I Connection With The Revitalization, and Conserve the State's Seafood And Aquatic Life In Connection With The Revitalization Of the Seafloor Industry Of The State Of Mississippi.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's seafood and aquatic life.

<b>Goal 4</b>	<b>To Conserve The Air And Waters Of The State, And To Protect, Maintain, And Improve The Quality Thereof For Public Use, For The Prorogation Of Wildlife, Fish, And Aquatic Life, And For Domestic, Agricultural, Industrial, Recreational, And Other Legitimate Beneficial Uses.</b>
---------------	--

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the



nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's air and water quality.

#### **STATE OF MISSISSIPPI COASTAL ZONE CONSISTENCY POLICIES (continued)**

<b>Goal 5</b>	<b>To Put TO Benefit Use To The Fullest Extent Of Which They Are Capable To Water Resources Of The State, And To Prevent The Waste, Unreasonable Use, Or Unreasonable Method Of Use Of Water.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's water resources.

<b>Goal 6</b>	<b>To Preserve The State's Historical And Archaeological Resources, To Prevent Their Destruction, And To Enhance These Resources Whenever Possible.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's historical and archaeological resources.

<b>Goal 7</b>	<b>To Encourage The Preservation Of Natural Scenic Qualities In The Coastal Area.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's natural scenic qualities in the coastal area.

<b>Goal 8</b>	<b>To Assist Local Governments In The Provision Of Public Facilities Services I A Manner Consistent With The Coastal Program.</b>
---------------	---

The proposed activities are located in OCS Federal Waters, Gulf of Mexico, approximately 131.9 miles from the Mississippi coast line, and 60.2 miles from the nearest Louisiana shoreline. ExxonMobil will utilize existing facilities in Fouchon, Louisiana. Therefore, there should not be any adverse impacts to Mississippi's public facilities..

**ENVIRONMENTAL IMPACT ANALYSIS**  
Initial Exploration Plan  
Mississippi Canyon Block 689 (OCS-G 2160.27)  
Mississippi Canyon Block 732 (OCS-G 19989)  
and Mississippi Canyon Block 733 (OCS-G 19990)

August 2005

**Prepared for:**  
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**PUBLIC INFORMATION**

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## A. Impact-Producing Factors

This Environmental Impact Analysis (EIA) evaluates the potential impacts of exploratory drilling in Mississippi Canyon Blocks 689, 732, and 733. There are four wells included in this Exploration Plan (EP). The drilling unit will be the *Discoverer Spirit*, a dynamically positioned drillship.

Water depths at the four well locations range from 1,628 to 1,635 m (5,340 to 5,363 ft). The lease area is approximately 60 statute miles from the nearest shoreline (Louisiana). The onshore support base for helicopters will be located at the ExxonMobil Heliport in Grand Isle, Louisiana, and the marine onshore support base for the work and crew boats will be the BHI Fluids facility in Port Fourchon, Louisiana. No new facilities or workers will be needed for the proposed activities. Helicopters and boats will move supplies and personnel between the offshore and onshore locations. Helicopters will make approximately 30 round trips per month. Work boats will make approximately 15 round trips per month, and crew boats will make approximately 5 round trips per month. Helicopters and boats will normally take the most direct route, traffic and weather conditions permitting.

**Table 1** is a matrix of impact-producing factors (IPFs) and potentially affected environmental resources. The table is based on the matrix provided by the Minerals Management Service (MMS). An "X" in a table cell indicates that an IPF could affect a certain resource, and a dash (--) indicates no impact or negligible impact. Where there may be an effect, an analysis is provided in **EIA Section B**. For those cells that are footnoted, a statement has been provided after the table as to the applicability of the proposed operations.

The following IPFs applicable to the proposed activity have been identified:

- Drilling rig presence, noise, and lights;
- Air pollutant emissions;
- Effluent discharges;
- Physical disturbance to the seafloor;
- Marine debris;
- Support vessel and helicopter traffic; and
- Accidents (oil spills).

Physical disturbance to the seafloor was determined not to be a relevant IPF for the proposed action because a dynamically positioned drillship will be used, with no anchoring or rig emplacement on the seafloor. This IPF was included in the matrix, but all of the entries in the column indicate no impact.

Accidents include the worst case discharge, which is a crude oil spill of 212 barrels.

**Table 1.** Matrix of impact-producing factors and environmental resources.

Environmental Resources	Impact-Producing Factors						
	Drilling Rig Presence, Noise, and Lights	Air Pollutant Emissions	Effluent Discharges	Physical Disturbance to the Seafloor <sup>a</sup>	Marine Debris	Support Vessel and Helicopter Traffic	Accidents (oil spills)
<b>Site-specific at Offshore Location</b>							
Designated topographic features	--	--	--(1)	--(1)	--	--	--(1)
Pinnacle trend area live bottoms	--	--	--(2)	--(2)	--	--	--(2)
Eastern Gulf live bottoms	--	--	--(3)	--(3)	--	--	--(3)
Chemosynthetic communities	--	--	--	--(4)	--	--	--
Water quality	--	--	X	--	--	--	X
Fisheries	X	--	--	--	--	--	X
Marine mammals	X(8)	--	--	--	X	X	X(8)
Sea turtles	X(8)	--	--	--	X	X	X(8)
Air quality	--	X(9)	--	--	--	--	X
Shipwreck sites (known/potential)	--	--	--	--(7)	--	--	--
Prehistoric archaeological sites	--	--	--	--(7)	--	--	--
<b>Vicinity of Offshore Location</b>							
Essential fish habitat	X	--	X	--	--	--	X(6)
Marine and pelagic birds	X	--	--	--	X	--	X
Public health and safety	--	--	--	--	--	--	--(5)
<b>Coastal and Onshore</b>							
Beaches	--	--	--	--	--	--	--(6)
Wetlands	--	--	--	--	--	--	--(6)
Shore birds and coastal nesting birds	--	--	--	--	--	X	--(6)
Coastal wildlife refuges	--	--	--	--	--	--	--(6)
Wilderness areas	--	--	--	--	--	--	--(6)
<b>Other Resources</b>							
Non-chemosynthetic benthic communities	--	--	X	--	--	--	X
Pelagic communities	X	--	X	--	--	--	X

<sup>a</sup> This column is included for completeness; however, because a dynamically positioned drillship will be used, there will be no anchoring.

### Table Footnotes and Applicability:

- (1) Activities that may affect a marine sanctuary or topographic feature. Specifically, if the well or platform site or any anchors will be on the seafloor within the:
  - (a) 4-mile zone of the Flower Garden Banks, or the 3-mile zone of Stetson Bank;
  - (b) 1000-m, 1-mile or 3-mile zone of any topographic feature (submarine bank) protected by the Topographic Features Stipulation attached to an Outer Continental Shelf (OCS) lease;
  - (c) Essential Fish Habitat (EFH) criteria of 500 ft from any no-activity zone; or
  - (d) Proximity of any submarine bank (500-ft buffer zone) with relief greater than 2 m that is not protected by the Topographic Features Stipulation attached to an OCS lease.

*– This footnote does not apply because the lease area is not within or near any marine sanctuary, topographic feature, or no-activity zone. There are no submarine banks in the lease area.*
- (2) Activities with any bottom disturbance within an OCS lease block protected through the Live Bottom (Pinnacle Trend) Stipulation attached to an OCS lease.

*– The Live Bottom (Pinnacle Trend) Stipulation is not applicable to the lease area.*
- (3) Activities within any Eastern Gulf OCS block where seafloor habitats are protected by the Live Bottom (Low-Relief) Stipulation attached to an OCS lease.

*– The Live Bottom (Low-Relief) Stipulation is not applicable to the lease area.*
- (4) Activities on blocks designated by the MMS as being in water depths 400 m or greater.

*– The lease area is in water depths greater than 400 m, but the chemosynthetic community review indicates that there are no areas that could support high-density chemosynthetic communities within 457 m (1,500 ft) of the well locations. There will be no anchoring.*
- (5) Exploration or production activities where  $H_2S$  concentrations greater than 500 ppm might be encountered.

*– This footnote is not applicable because  $H_2S$  concentrations greater than 500 ppm are not expected to be encountered. ExxonMobil is requesting that this area be classified as a “zone where the absence of  $H_2S$  has been confirmed.”*
- (6) All activities that could result in an accidental spill of produced liquid hydrocarbons or diesel fuel that you determine would impact these environmental resources. If the proposed action is located a sufficient distance from a resource that no impact would occur, the EIA can note that in a sentence or two.

*– Accidental spills could affect the resources marked (X) in the matrix, and impacts are analyzed in EIA Section B. Due to spill response measures, weathering, and the distance from shore, impacts on coastal resources and biota are highly unlikely.*
- (7) All activities that involve seafloor disturbances, including anchor emplacements, in any OCS block designated by the MMS as having high probability for the occurrence of shipwrecks or prehistoric sites, including such blocks that will be affected that are

adjacent to the lease block in which your planned activity will occur. If the proposed activities are located a sufficient distance from a shipwreck or prehistoric site that no impact would occur, the EIA can note that in a sentence or two.

*– The leases are on the MMS list of blocks determined to have a high probability of prehistoric archaeological resources. However, no potential historic or prehistoric archaeological sites were detected in the geophysical and geological survey data. Therefore, no impacts are expected.*

- (8) All activities that you determine might have an adverse effect on endangered or threatened marine mammals or sea turtles or their critical habitats.

*– IPFs that may affect endangered or threatened marine mammals, sea turtles, or their critical habitats include drilling rig presence, noise, and lights; marine debris; support vessel and helicopter traffic; and accidents. Impacts are analyzed in EIA Section B.*

- (9) Production activities that involve transportation of produced fluids to shore using shuttle tankers or barges.

*– This footnote is not applicable. The proposed activity does not involve transportation of produced fluids using shuttle tankers or barges.*

## **B. Analysis**

### **B.1 Site-Specific at Offshore Location**

#### **B.1.1 Designated Topographic Features**

There are no IPFs that could cause impacts to designated topographic features. The lease blocks are not within or near an MMS-designated topographic feature or no-activity zone.

An oil spill is unlikely to occur during the proposed activities. Because of spill response measures described in the ExxonMobil Corporation Gulf of Mexico Regional Oil Spill Response Plan (OSRP) as well as natural weathering processes, significant quantities of oil would be unlikely to reach the vicinity of any topographic feature. Since the crests of designated topographic features in the northern Gulf are at least 10 m below the sea surface, concentrated oil would not be expected to reach their sessile biota. No impacts would be expected.

#### **B.1.2 Pinnacle Trend Area Live Bottoms**

There are no IPFs that could cause impacts to pinnacle trend live bottoms. The Live Bottom (Pinnacle Trend) Stipulation does not apply to the lease area. The pinnacle trend is located along the shelf edge east of the Mississippi River delta.

An oil spill is unlikely to occur during the proposed activities. Because of spill response measures described in the Regional OSRP as well as natural weathering processes, significant quantities of oil would be unlikely to reach the vicinity of the pinnacle trend area. Further, since the crests of pinnacle features are more than 50 m below the sea surface, concentrated oil would not be expected to reach their sessile biota. No impacts would be expected.

#### **B.1.3 Eastern Gulf Live Bottoms**

There are no IPFs that could cause impacts to low-relief Eastern Gulf live bottoms. The Live Bottom (Low Relief) Stipulation does not apply to the lease area.

An oil spill is unlikely to occur during the proposed activities. Because of spill response measures described in the Regional OSRP as well as natural weathering processes, significant quantities of oil would be unlikely to reach the vicinity of Eastern Gulf live bottom areas. Further, since these are low-relief features on the seafloor, concentrated oil would not be expected to reach these communities. No impacts would be expected.

#### **B.1.4 Chemosynthetic Communities**

The chemosynthetic community review indicates that there are no areas that could support high-density chemosynthetic communities within 457 m (1,500 ft) of the proposed surface locations. There will be no anchoring, and there are no IPFs



likely to cause impacts to chemosynthetic communities. It is possible that undiscovered chemosynthetic communities exist in nearby lease blocks. However, a subsurface spill (e.g., a blowout) would be unlikely to affect benthic communities beyond a few hundred meters from the wellsite. Therefore, no impacts on chemosynthetic communities would be expected.

### **B.1.5 Water Quality**

IPFs potentially affecting water quality include:

- Effluent discharges; and
- Accidents (oil spills).

Effluent Discharges. Effluents to be discharged will include water-based drilling fluids and associated cuttings; cuttings with adhering synthetic drilling fluids; sanitary and domestic wastes; deck drainage; desalinization unit brine; and uncontaminated bilge and ballast water. Since all routine discharges from the drilling rig will be made in accordance with the general National Pollutant Discharge Elimination System (NPDES) permit issued by the U.S. Environmental Protection Agency (USEPA), they are not expected to cause significant impacts to water quality. Discharges of sanitary and domestic wastes from support vessels will be in accordance with U.S. Coast Guard (USCG) regulations and also would not cause significant impacts on water quality.

Accidents (oil spills). It is unlikely that an oil spill would occur from the proposed activities. If a spill were to occur, marine water quality would be temporarily affected by the dissolved components and small oil droplets. Spill response measures detailed in the Regional OSRP as well as natural weathering processes would remove the oil from the water column and dilute the constituents to background levels.

### **B.1.6 Fisheries**

The main commercial fishing activity in deepwaters of the northern Gulf of Mexico is pelagic longlining for tuna, swordfish, and other billfishes (Continental Shelf Associates, Inc., 2002). While most recreational fishing activity occurs in depths less than about 200 m, deepwater petroleum platforms attract considerable recreational fishing activity offshore of Louisiana and Texas.

IPFs potentially affecting fisheries include:

- Drilling rig presence, noise, and lights; and
- Accidents (oil spills).

Drilling Rig Presence, Noise, and Lights. Drilling rig presence is the only routine IPF that may have an impact on commercial fishing. There is a slight possibility of pelagic longlines becoming entangled in the drilling rig; however, longline fishers use radar and generally are aware of offshore structures when placing their sets. Therefore, little or no impact on pelagic longlining is expected. Other routine factors such as effluent discharges are likely to have negligible impacts on

commercial or recreational fisheries due to rapid dispersion, the small area of ocean affected, and the intermittent nature of the discharges.

Accidents (oil spills). In the event of a large oil spill, fishing activities near the project area could be temporarily disrupted. The area affected would be relatively small, and the duration presumably would be a few days. Due to spill response measures and natural weathering processes, little or no disruption of fishing activities in coastal waters would be expected.

### **B.1.7 Marine Mammals**

The only endangered marine mammal likely to be present near the project area is the sperm whale (Davis et al., 2000). Five endangered baleen whales (northern right whale, blue whale, fin whale, sei whale, and humpback whale) have been reported from the northern Gulf but are either extralimital or uncommon (Jefferson and Schiro, 1997) and are not discussed further. Another endangered marine mammal, the West Indian manatee, is a coastal species that does not occur in or near the project area, although manatees occasionally occur in Louisiana and Texas coastal waters during summer months. The most common nonendangered cetaceans in the deepwater environment are odontocetes such as pantropical spotted dolphin, spinner dolphin, and clymene dolphin. Other odontocetes that may be present include dwarf and pygmy sperm whales, four species of beaked whales, and 14 species of dolphins and porpoises (Jefferson and Schiro, 1997).

IPFs potentially affecting marine mammals include:

- Drilling rig presence, noise, and lights;
- Marine debris;
- Support vessel and helicopter traffic; and
- Accidents (oil spills).

Other factors such as effluent discharges are likely to have negligible impacts on marine mammals due to rapid dispersion, the small area of ocean affected, and the intermittent nature of the discharges.

Drilling Rig Presence, Noise, and Lights. The behavior of marine mammals could be affected by noise and light emitted from the drilling rig, as well as the presence of fish populations associated with the drilling rig. Drilling-related noise is of relatively low frequency (Richardson et al., 1995). The sperm whale appears to have good low frequency hearing, but the available data do not indicate a consistent response to anthropogenic noise (National Marine Fisheries Service [NMFS], 2001). The other marine mammals commonly seen in deepwater are odontocetes, which have their best hearing in high frequencies and are less likely to be disturbed by low frequency noise. Little is known of the effects of offshore structures and activities on marine mammals, but in any case, such effects would likely consist of short-term behavioral changes and would not be expected to harm the animals.

Marine Debris. Ingestion of, or entanglement with, accidentally discarded debris can kill or injure marine mammals. The disposal of solid waste from drilling rigs and vessels is prohibited by the MMS and the USCG under MARPOL regulations. In addition, MMS has issued Notice to Lessees (NTL) 2003-G11, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires posting of placards at prominent locations on offshore vessels and structures, and requires a marine trash and debris awareness training and certification process. Compliance with this NTL and any related MMS requirements is assumed to be effective in minimizing the potential for debris-related impacts on marine mammals.

Support Vessel and Helicopter Traffic. Vessel and helicopter traffic may startle or disturb marine mammals. Reactions may range from apparent indifference to evasive moves (e.g., turns, diving, etc.) (Richardson et al., 1995). Many of the reactions of marine mammals to vessel traffic appear to be primarily a result of noise, though there may be visual or other cues as well.

There is a small risk of a supply or crew boat striking a sperm whale. To reduce the potential for vessel strikes, the MMS has issued NTL 2003-G10, which recommends protected species identification training, specifies ways for vessel operators and crews to avoid vessel strikes, and requires operators to report sightings of any injured or dead protected species. Compliance with this NTL and any related MMS requirements is assumed to be effective in minimizing the likelihood of vessel strikes.

Accidents (oil spills). The sperm whale is the only endangered marine mammal likely to come into contact with an oil spill at the project area. Sperm whales are widely distributed in the Gulf of Mexico, but concentrations occur in the Mississippi Canyon area south of the Mississippi River Delta (Davis et al., 2000). Common nonendangered cetaceans in the deepwater environment, such as pantropical spotted dolphin, spinner dolphin, and clymene dolphin, also could come into contact with spilled oil. However, the total area of a slick would be small relative to the available deepwater habitat. Oil exposure would not persist in the open ocean, and the animals could avoid oiled areas. Although individual marine mammals may be affected if exposed to oil, no significant population-level impacts on any marine mammal species would be expected.

The West Indian manatee occasionally occurs in Louisiana, Texas, and other northern Gulf states during summer months. It is assumed that natural weathering processes and spill response measures as detailed in the Regional OSRP would remove most or all of the spilled oil before it could contact manatee habitats. The historical spill data and trajectory/risk calculations referenced in the multisale Environmental Impact Statement (EIS) (MMS, 2002) indicate there is little risk of contact or impact to the coastline or associated environmental resources. Therefore, no significant impacts on manatees are expected.

### **B.1.8 Sea Turtles**

Five species of endangered or threatened sea turtles may be found near the project area. Endangered species are the leatherback, Kemp's ridley, and hawksbill sea turtles. The loggerhead sea turtle is a threatened species. The green sea turtle is listed as threatened, except for the Florida breeding population, which is listed as endangered. Leatherbacks and loggerheads are the most likely turtles to be present as adults near the project area. Green, hawksbill, and Kemp's ridley turtles are typically inshore species that are unlikely to occur near the project area as adults. Hatchlings or juveniles of any of the sea turtles may be present in deepwater areas, where they may be associated with sargassum and other flotsam.

Loggerhead turtles nest in significant numbers along the Florida Panhandle and to a limited extent in other northern Gulf coast states. Green turtles infrequently nest on Florida Panhandle and Alabama beaches. Very few leatherback nests have been documented along the northern Gulf coast (e.g., Florida Panhandle). Kemp's ridley turtles nest mainly near Rancho Nuevo in northeastern Mexico and also in South Texas (Padre and Mustang Islands). Hawksbill turtles do not nest anywhere near the project area. Due to the distance from shore, nesting beaches are highly unlikely to be affected by the project.

IPFs potentially affecting sea turtles include:

- Drilling rig presence, noise, and lights;
- Marine debris;
- Support vessel and helicopter traffic; and
- Accidents (oil spills).

Other factors such as effluent discharges are likely to have negligible impacts on sea turtles due to rapid dispersion, the small area of ocean affected, and the intermittent nature of the discharges.

Drilling Rig Presence, Noise, and Lights. Little is known of how turtles may respond to noise from offshore drilling activities. Helicopters and service vessels also may affect sea turtles due to machinery noise and/or visual disturbances. The most likely impacts would be short-term behavioral changes such as diving and evasive swimming, disruption of activities, or departure from the area.

Turtle hatchlings may be attracted to brightly lit offshore platforms, where they may be subject to increased predation by birds and fishes that are also attracted to offshore structures. However, NMFS (2001) states that attraction to offshore platforms is unlikely to appreciably reduce the reproduction, numbers, or distribution of sea turtles in the wild.

Marine Debris. Ingestion of, or entanglement with, accidentally discarded solid debris can kill or injure sea turtles (Lutcavage et al., 1997). Some adult sea turtles such as loggerheads and leatherbacks may ingest plastic debris. The disposal of solid waste from drilling rigs and vessels is prohibited. Also, MMS has issued

NTL 2003-G11, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires posting of placards at prominent locations on offshore vessels and structures, and requires a marine trash and debris awareness training and certification process. Compliance with this NTL and any related MMS requirements is assumed to be effective in minimizing the potential for debris-related impacts on sea turtles.

Support Vessel and Helicopter Traffic. There is a chance of collision between service vessels and sea turtles. While adult turtles are visible at the surface during the day and in clear weather, they can be difficult to spot from a moving vessel when resting below the water surface or during nighttime or periods of inclement weather. To reduce the potential for vessel strikes, the MMS has issued NTL 2003-G10, which recommends protected species identification training, specifies ways for vessel operators and crews to avoid vessel strikes, and requires operators to report sightings of any injured or dead protected species. Compliance with this NTL and any related MMS requirements is assumed to be effective in minimizing the likelihood of striking sea turtles.

Accidents (oil spills). Sea turtles could be affected by an oil spill in offshore waters. Leatherbacks and loggerheads are the most common adult turtles in offshore waters and the most likely to be affected. They are regularly sighted within deepwater areas. In addition, juvenile turtles of any species may be found within convergence zones in deepwater areas. While some turtles may come into contact with spilled oil, the total area affected would be small relative to the available deepwater habitat, and the viability of sea turtle populations as a whole would not likely be threatened.

It is assumed that most or all of the spill volume would be removed due to weathering and spill response measures prior to reaching turtle nesting beaches. Historical spill data and trajectory/risk calculations indicate there is little risk of contact or impact to the coastline or associated environmental resources (MMS, 2002; Ji et al., 2004). Therefore, no significant impacts on turtle nesting beaches would be expected.

#### **B.1.9 Air Quality**

There are no site-specific air quality data for the project area. The attainment status of Federal OCS waters is unclassified due to the lack of representative air quality data. Due to the distance from shore-based pollution sources, offshore air quality is expected to be good.

IPFs potentially affecting air quality include:

- Air pollutant emissions; and
- Accidents (oil spills).

Air Pollutant Emissions. Routine offshore air pollutant emissions will result from drilling rig operations and from helicopters and service vessels. These emissions

occur mainly from combustion or burning of fuels and natural gas and from venting or evaporation of hydrocarbons. The combustion of fuels occurs primarily on diesel-powered generators, pumps, or motors and from lighter fuel motors. Air pollutants associated with OCS activities are nitrogen oxides, carbon monoxide, sulfur oxides, volatile organic compounds, and suspended particulate matter.

Due to the distance from shore, routine operations in the project area will have no impact on air quality conditions along the coast. Based on the air quality screening in **EP Appendix G**, no detailed analysis of emissions is required by MMS.

Accidents (oil spills). An oil spill would affect air quality in the vicinity of the oil slick by introducing volatile organic compounds through evaporation. The emissions would not last long due to rapid volatilization of hydrocarbons. Evaporation is greatest within the first 24 hours. The extent and persistence of impacts would depend on the meteorological and oceanographic conditions at the time. Little or no impact on air quality in coastal areas would be expected.

#### ***B.1.10 Shipwreck Sites (known or potential)***

There are no IPFs that are likely to cause impacts to shipwreck sites. There will be no anchoring around the wellsites, and the leases are not on the MMS list of blocks determined to have a high probability of historic shipwrecks. No potential shipwreck sites were detected in the geophysical and geological survey data. Therefore, no impacts on shipwreck sites are expected. Further, due to natural weathering processes and spill response measures as detailed in the Regional OSRP, it is highly unlikely that significant quantities of oil from a spill in the project area would contaminate shipwreck sites if any are present in adjacent areas.

#### ***B.1.11 Prehistoric Archaeological Sites***

There are no IPFs that are likely to cause impacts to prehistoric archaeological sites. There will be no anchoring around the wellsites. Although the leases are on the MMS list of blocks determined to have a high probability of prehistoric archaeological resources, no potential prehistoric sites were detected in the geophysical and geological survey data. Therefore, no impacts on such sites are expected. Further, due to natural weathering processes and spill response measures as detailed in the Regional OSRP, it is highly unlikely that significant quantities of oil from a spill in the project area would contaminate prehistoric sites if any are present in adjacent areas.

### **B.2 Vicinity of Offshore Location**

#### ***B.2.1 Essential Fish Habitat***

The Gulf of Mexico Fishery Management Council (GMFMC) has prepared fishery management plans (FMPs) identifying EFH for corals and coral reefs,

shrimp, stone crab, spiny lobster, reef fishes, coastal pelagic fishes, and red drum, none of which occur in waters overlying the lease area.

Another group of exploited species, the highly migratory pelagic fishes, are managed by NMFS. NMFS (1999) defined EFH for managed highly migratory species, which include 10 shark, 3 tuna, and single swordfish species of concern. These species may occur as transients in the project area. EFH includes most of the substrate and water column of the Gulf of Mexico where the managed species commonly occur. Although billfishes are now managed as highly migratory species, there were no EFH designations given in NMFS (1999).

Spatially limited EFH called habitat areas of particular concern (HAPC) have been identified in the Gulf of Mexico by the GMFMC. These include the Flower Garden Banks National Marine Sanctuary, Florida Middle Grounds, Florida Keys National Marine Sanctuary, and Dry Tortugas (Fort Jefferson National Monument). The nearest of these, the Flower Garden Banks, is about 80 miles from the lease area.

IPFs potentially affecting EFH include:

- Drilling rig presence, noise, and lights;
- Effluent discharges; and
- Accidents (oil spills).

Drilling Rig Presence, Noise, and Lights. The drilling rig will attract fishes, particularly epipelagic fishes such as tunas, dolphin, billfishes, and jacks (e.g., Holland et al., 1990; Higashi, 1994). This effect could enhance feeding of epipelagic predators by attracting and concentrating smaller fish species. Because the drilling rig is a single, temporary structure, impacts on EFH, whether beneficial or adverse, are considered minor.

Effluent Discharges. Discharges of drilling fluids and cuttings will produce temporary, localized increases in suspended solids in the water column around the drilling rig. Turbid water will persist for minutes to a few hours during and after each discharge and will have a negligible impact on EFH. Other effluent discharges such as sanitary and domestic wastes, deck drainage, desalinization unit brine, and uncontaminated bilge and ballast water will have negligible impacts on ambient water quality. No significant impacts on EFH are expected from these discharges.

Accidents (oil spills). An oil spill in offshore waters would produce a slick and temporarily increase hydrocarbon concentrations. Given that EFH includes most of the substrate and water column of the Gulf of Mexico where highly migratory managed species commonly occur, some impact on EFH would be unavoidable. However, the area affected would be a small percentage of the EFH in the Gulf of Mexico, and the duration would be brief (few hours to a few days).

A large spill could affect biota including phytoplankton, zooplankton, and nekton. Eggs and larvae of fishes will die if exposed to certain toxic fractions of spilled oil. Most of the fishes inhabiting shelf or oceanic waters of the Gulf of Mexico have planktonic eggs and larvae. However, due to the wide dispersal of early life history stages of fishes in the surface waters of the Gulf of Mexico, an oil spill is not expected to have significant impacts at the population level.

### **B.2.2 Marine and Pelagic Birds**

A variety of seabirds such as terns, storm-petrels, shearwaters, and jaegers occur in the deepwater environment (Peake, 1996; Hess and Ribic, 2000). Powers (1987) indicates that seabird densities over the open ocean typically are <10 birds/km<sup>2</sup>. Seabirds spend much of their lives offshore over the open ocean, except during breeding season when they nest along the coast. Other birds such as waterfowl, marsh birds, and shore birds may occasionally be present over open ocean areas, but no endangered or threatened birds are likely to occur at the project area due to the distance from shore. **EIA Section B.3.3** discusses Shore Birds and Coastal Nesting Birds.

IPFs potentially affecting marine and pelagic birds include:

- Drilling rig presence, noise, and lights;
- Marine debris; and
- Accidents (oil spills).

Other factors such as effluent discharges are likely to have negligible impacts on marine birds due to rapid dispersion, the small area of ocean affected, and the intermittent nature of the discharges.

Drilling Rig Presence, Noise, and Lights. Pelagic seabirds and trans-Gulf migrant birds may be present at the project area. Birds may use offshore drilling rigs and platforms for resting, feeding, or as temporary shelter from inclement weather (Russell, 2001). Some birds may be attracted to offshore structures because of the lights and the fish populations that aggregate around these structures. Birds that frequent platforms may be exposed to contaminants including air pollutants and routine discharges, but significant impacts are unlikely due to rapid dispersion of effluents. Birds migrating over water at night have been known to strike offshore structures, resulting in death or injury (Russell, 2001; Wiese et al., 2001).

Marine Debris. Debris lost overboard from offshore operations can injure or kill birds that ingest or become entangled in it. MMS regulations and Federal law prohibit disposal of trash and debris in the ocean. In addition, MMS has issued NTL 2003-G11, which instructs operators to exercise caution in the handling and disposal of small items and packaging materials, requires posting of placards at prominent locations on offshore vessels and structures, and requires a marine trash and debris awareness training and certification process. Compliance with this NTL and any related MMS requirements is assumed to be effective in minimizing the potential for debris-related impacts on birds.



Accidents (oil spills). Pelagic seabirds could be exposed to oil from a spill at the project area. Presumably, birds such as terns, storm-petrels, shearwaters, and jaegers would be the most likely to be present, but in low densities. Due to these low densities and the relatively small percentage of deepwater habitat that would be affected by a spill, total numbers of birds affected would be small, and no significant population-level impacts on any bird species would be expected.

### **B.2.3 Public Health and Safety**

There are no IPFs associated with routine operations that are expected to affect public health and safety.

In the event of a major spill, the main safety and health concerns are those of the offshore personnel responding to the spill. The proposed activities will be covered by the Regional OSRP, and in addition, the drilling rig maintains a Shipboard Oil Pollution Emergency Plan as required under MARPOL. Based on the spill volumes, weathering rates, and response measures as detailed in the Regional OSRP, it is expected that most or all of the spilled oil would be removed before reaching coastal waters or shorelines. Therefore, no impacts on public health and safety would be expected.

## **B.3 Coastal and Onshore**

Coastal habitats in the northeastern Gulf of Mexico that may be affected by oil and gas activities are described in the central Gulf multisale EIS (MMS, 2002). Sensitive coastal habitats are also tabulated in the Regional OSRP. Coastal habitats inshore of the project area include barrier beaches and dunes, wetlands, and submerged seagrass beds. Generally, most of the northern Gulf is fringed by barrier beaches, with wetlands and/or submerged seagrass beds occurring in sheltered areas behind the barrier islands and in estuaries.

### **B.3.1 Beaches**

There are no IPFs associated with routine activities that could affect beaches due to the distance from shore.

Accidents (oil spills). The overall risk of a large spill occurring during offshore operations and contacting beaches is low (MMS, 2002). The MMS oil spill risk analysis model (OSRAM) indicates that for a spill at the project area (represented by launch area 59), no shoreline contacts are expected within 3 days, and after 10 days the most likely contacts are Plaquemines and Lafourche Parishes (5 percent and 1 percent, respectively) (Ji et al., 2004). **EP Appendix F** indicates that ExxonMobil has the capability to respond, to the maximum extent practicable, to a worst-case discharge resulting from the proposed activities. It is assumed that spill response measures as detailed in the Regional OSRP, as well as natural weathering processes, would remove most or all of the spilled oil before it could contact beaches. Therefore, no significant impacts on beaches are expected. Protection strategies for beaches are included in the Regional OSRP.

### **B.3.2 Wetlands**

Coastal wetlands are unlikely to be affected by any routine IPF due to the distance from shore. Support operations including crew boats and supply boats may have a minor incremental impact on coastal wetlands. Over time with a large number of vessel trips, vessel wakes can erode shorelines along inlets, channels, and harbors. Impacts are assumed to be minimized by following the speed and wake restrictions in harbors and channels.

Accidents (oil spills). The overall risk of a large oil spill occurring during offshore operations and contacting wetlands is low (MMS, 2002). The MMS OSRAM indicates that for a spill at the project area, no shoreline contacts are expected within 3 days, and after 10 days the most likely contacts are Plaquemines and Lafourche Parishes (5 percent and 1 percent, respectively) (Ji et al., 2004). Potentially affected coastal areas include Timbalier Bay, Terrebonne Bay, the Mississippi River Delta, and the affiliated islands and bays. This region includes extensive wetland areas that serve as migratory, breeding, feeding and nursery habitat for numerous species of wildlife.

**EP Appendix F** indicates that ExxonMobil has the capability to respond, to the maximum extent practicable, to a worst-case discharge resulting from the proposed activities. It is assumed that spill response measures as detailed in the Regional OSRP, as well as natural weathering processes, would remove most or all of the spilled oil before it could contact wetlands. Therefore, no significant impacts on wetlands are expected. Protection strategies for wetlands are included in the Regional OSRP.

### **B.3.3 Shore Birds and Coastal Nesting Birds**

Endangered or threatened bird species occurring in Louisiana coastal areas include the brown pelican (a seabird discussed previously in **Section B.2.2**), two shorebirds – the piping plover and western snowy plover – and the bald eagle. No threatened or endangered species of waterfowl occur within the project area. Various species of nonendangered birds are also found along the Louisiana coast, including diving birds, shore birds, marsh birds, wading birds, and waterfowl (MMS, 2002).

IPFs potentially affecting shore birds and coastal nesting birds include:

- Support vessel and helicopter traffic; and
- Accidents (oil spills).

Support Vessel and Helicopter Traffic. Due to the distance from shore, the only routine IPF that may affect shore birds and coastal nesting birds is support operations. Support vessels and helicopters will transit coastal areas in Louisiana where shore birds and nesting birds may be found. Helicopter and vessel traffic could periodically disturb individuals or groups of birds within sensitive coastal habitats (e.g., wetlands that may support feeding, resting, or breeding birds).

However, existing mitigation measures requiring aircraft to maintain minimum altitudes over sensitive habitats such as wildlife refuges and park properties would minimize any potential impacts. Similarly, vessel operators are required to use designated navigation channels and comply with posted speed and wake restrictions while transiting sensitive inland waterways. With these measures in effect, it is likely that individual birds would experience at most only short-term behavioral disruption.

Accidents (oil spills). The overall risk of a large oil spill occurring during offshore operations and contacting coastal bird habitats is low (MMS, 2002). Brown pelicans typically do not venture offshore of the inner continental shelf. Piping plovers or western snowy plovers could encounter the spill only if it reached coastal habitats. A spill would not be expected to contact or otherwise impact bald eagles unless contamination and subsequent cleanup activities occurred near eagle nesting or roosting sites. **EP Appendix F** indicates that ExxonMobil has the capability to respond, to the maximum extent practicable, to a worst-case discharge resulting from the proposed activities. It is assumed that spill response measures as detailed in the Regional OSRP, as well as natural weathering processes, would remove most or all of the spilled oil before it could contact coastal bird habitats. Therefore, no significant impacts on shore birds or coastal nesting birds are expected.

#### **B.3.4 Coastal Wildlife Refuges**

National wildlife refuges in the region include Delta and Breton to the northeast and (more distant) Shell Keys to the northwest. In addition, there are various State and private wildlife management areas in southeastern Louisiana, including Wisner and Pass a Loutre.

There are no IPFs associated with routine activities that are likely to affect coastal wildlife refuges.

Accidents (oil spills). The overall risk of a large oil spill occurring during offshore operations and contacting coastal wildlife refuges is low (MMS, 2002). The MMS OSRAM indicates that for a spill at the project area, no shoreline contacts are expected within 3 days, and after 10 days the most likely contacts are Plaquemines and Lafourche Parishes (5 percent and 1 percent, respectively) (Ji et al., 2004). It is assumed that spill response measures as detailed in the Regional OSRP, as well as natural weathering processes, would remove most or all of the spilled oil before it could contact wildlife refuges. No significant impacts on coastal wildlife refuges are expected.

#### **B.3.5 Wilderness Areas**

The Breton Wilderness Area is the nearest designated wilderness area. It is located in southeastern Louisiana on the east side of the Mississippi River delta. There are no IPFs associated with routine activities that are likely to affect wilderness areas in Louisiana or other coastal states.

Accidents (oil spills). The overall risk of a large oil spill occurring during offshore operations and contacting coastal wildlife refuges is low (MMS, 2002). For a spill at the project area, the MMS OSRAM predicts no contact with shorelines in the vicinity of the Breton Wilderness area within 3 days and only a 6 percent probability of contact within 10 days. It is assumed that spill response measures as detailed in the Regional OSRP, as well as natural weathering processes, would remove most or all of the spilled oil before it could contact the coast. Therefore, no significant impacts on coastal wilderness areas are expected.

## **B.4 Other resources**

### **B.4.1 Non-Chemosynthetic Benthic Communities**

Benthic communities in the project area are expected to consist of soft bottom infauna and epifauna. No chemosynthetic communities are expected in the lease area (see **Section B.1.4**). Drilling activities and anchoring will affect a small area of seafloor around the wellsite. Disturbed bottom sediments will be recolonized through larval settlement and migration from adjacent areas. Because some deepsea biota grow and reproduce slowly, recovery may require several years.

Water depths at the four well locations range from 1,628 to 1,635 m. These depths fall within the Lower Archibenthal Zone (800 to 1,650 m) as defined by Gallaway (1988). Macroinfaunal densities for these depths are likely to be about 5,000 individuals/m<sup>2</sup> (Rowe and Kennicutt, 2002). There are no individual dominant species in the deepsea macroinfauna, but polychaetes are the most abundant and diverse group (Pequegnat et al., 1990). Meiofauna and microbiota are also important components of the deepsea benthos. Rowe (2000) indicates that little information is available on either group for the deep Gulf.

Under NTL 2003-G03, the MMS requires remotely operated vehicle (ROV) surveys in deepwater blocks in the Central and Western Planning Areas. If required by the MMS, an ROV survey will be conducted as specified under this NTL. ROV surveys provide information about the extent of drilling-related impacts on deepwater benthic communities.

The IPFs potentially affecting benthic communities are

- Effluent discharges; and
- Accidents (seafloor blowout).

Effluent Discharges. Cuttings associated with both water-based and synthetic drilling fluids will be discharged from the drilling rig. All discharges will be in accordance with the NPDES general permit. Cuttings from synthetic drilling fluid systems tend to clump together and form cuttings piles close to the discharge point (Neff et al., 2000). Where these cuttings accumulate in concentrations of about 1,000 mg/kg or higher, benthic infaunal communities may be adversely affected (Neff et al., 2000). Some benthic organisms will be buried or smothered by cuttings accumulations. Infaunal numbers may increase, and diversity may

decrease as opportunistic species that tolerate low oxygen and high H<sub>2</sub>S predominate. Neff et al. (2000) estimated the area affected around a drilling rig on the Gulf of Mexico continental slope to be about 1 hectare (10,000 m<sup>2</sup>), or about 0.04 percent of a lease block. As the base synthetic fluid is decomposed by microbes, the area will gradually return to pre-drilling conditions. Disturbed soft bottom sediments will be recolonized through larval settlement and migration from adjacent areas.

Accidents (seafloor blowout). A seafloor blowout resulting in an oil spill could affect benthic communities within a few hundred meters of the wellsite. While some oil could initially adhere to surface sediments surrounding the wellsite, resulting in smothering and/or toxicity to benthic organisms, most of the oil is assumed to rise rapidly through the water column. The physical impacts of a seafloor blowout are also a consideration. The MMS (2002) estimates that a seafloor blowout could resuspend and disperse sediments within a 300-m radius. While coarse sediments (sands) would probably settle at a rapid rate near the blowout site, fine sediments (silts and clays) could be resuspended for more than 30 days and dispersed over a much wider area. Surface sediments at the project area are assumed to be largely silt and clay. The affected area would be recolonized by benthic organisms over a period of months to years.

#### **B.4.2 Pelagic Communities**

IPFs potentially affecting pelagic communities include:

- Drilling rig presence, noise, and lights;
- Effluent discharges; and
- Accidents (oil spills).

Drilling Rig Presence, Noise, and Lights. The drilling rig will attract epipelagic fishes such as tunas, dolphin, billfishes, and jacks (e.g., Holland et al., 1990; Higashi, 1994). This effect might enhance feeding of epipelagic predators by attracting and concentrating smaller fish species. Because the drilling rig is a single, temporary structure, impacts on fish populations, whether beneficial or adverse, are considered minor.

Effluent Discharges. Discharges of drilling muds and associated cuttings are likely to have little or no impact on pelagic biota due to the low toxicity and rapid dispersion of these discharges (National Research Council, 1983; Neff, 1987; Hinwood et al., 1994). Other effluent discharges in accordance with the NPDES permit, such as sanitary and domestic wastes, deck drainage, desalinization unit brine, and uncontaminated bilge and ballast water, are expected to be diluted and mixed rapidly with ambient waters and would have little or no impact on water column biota.

Accidents (oil spills). A large spill could affect water column biota including phytoplankton, zooplankton, and nekton. While adult and juvenile fishes may actively avoid a large spill, the planktonic eggs and larvae would be unable to

avoid contact. Eggs and larvae of fishes will die if exposed to certain toxic fractions of spilled oil. Most fishes inhabiting shelf or oceanic waters of the Gulf of Mexico have planktonic eggs and larvae. However, due to the wide dispersal of early life history stages of fishes in the Gulf of Mexico, a large spill would not be expected to have significant impacts at the population level.

### **C. Impacts on Proposed Activities**

A shallow hazards assessment was prepared in accordance with Appendix C of NTL 2003-G17 and with NTL 98-20. The analysis concluded that the drillsites are free of any major constraints to drilling.

Under most circumstances, meteorological and oceanographic conditions are not expected to have any effect on the proposed activities. Extreme weather, including high winds, strong currents, and large waves, has been taken into account in the design criteria for the drilling rig. High winds, waves, and limited visibility during a severe storm could disrupt support activities (vessel and helicopter traffic) and might make it necessary to suspend some activities for safety reasons until the storm or weather event passes.

### **D. Alternatives**

Various technical and operational options have been considered in developing the proposed action, including the selection of a drilling unit, the selection of drilling fluids, and the drilling locations required to meet the objectives. No formal alternatives to the proposed action were evaluated.

### **E. Mitigation Measures**

The proposed action does not involve any mitigation measures other than those required by laws and regulations, including all applicable Federal, State, and local requirements concerning air emissions, discharges to water, and solid waste disposal, as well as any additional permit requirements. All project activities will be conducted under the ExxonMobil Corporation Gulf of Mexico Regional OSRP.

## **F. Consultation**

No persons or agencies were consulted during the preparation of this EIA.

## **G. References**

The following references were used in preparing the EIA.

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