

UNITED STATES GOVERNMENT
MEMORANDUM

December 21, 2005

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

Subject: Public Information copy of plan

| | | |
|-------------|---|--|
| Control # | - | N-08645 |
| Type | - | Initial Exploration Plan |
| Lease(s) | - | OCS-G27306 Block - 736 Mississippi Canyon Area |
| Operator | - | Murphy Exploration & Production Company - USA |
| Description | - | Wells A, B, C, D, and E |
| Rig Type | - | SEMISUBMERSIBLE |

Attached is a copy of the subject plan.

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



Elmo Cooper
Plan Coordinator

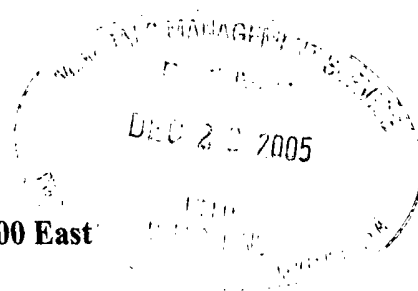
| Site Type/Name | Botm Lse/Area/Blk | Surface Location | Surf Lse/Area/Blk |
|----------------|-------------------|---------------------|-------------------|
| WELL/A | G27306/MC/736 | 6647 FNL, 2752 FEL | G27306/MC/736 |
| WELL/B | G27306/MC/736 | 11676 FNL, 1140 FEL | G27306/MC/736 |
| WELL/C | G27306/MC/736 | 3806 FNL, 6245 FEL | G27306/MC/736 |
| WELL/D | G27306/MC/736 | 1142 FNL, 7703 FEL | G27306/MC/736 |
| WELL/E | G27306/MC/736 | 713 FNL, 3328 FEL | G27306/MC/736 |

PIRS
DEC 22 2005

FOIA - CONFIDENTIAL

★
MURPHY
Exploration &
Production
Company-USA

100 Asma Boulevard, Suite 300 East
Lafayette, Louisiana 70508



U. S. Department of the Interior
Minerals Management Service
Office of Field Operations
MS 5231
1201 Elmwood Park Boulevard
New Orleans, Louisiana

December 14, 2005

70123-2394

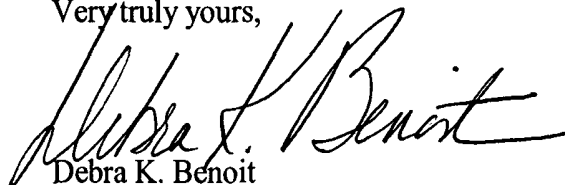
Regarding: **Initial Exploration Plan**
Mississippi Canyon Block 736, OCS-G-27306 #A-E
Anticipated Commencement Date: March 1, 2006

Gentlemen:

Enclosed herewith are eleven (11) sets of the above referenced Initial EP (5 proprietary and 6 Public Information). We respectfully request that a timely review be made to determine whether this document is complete. Should additional information be required, please advise us immediately.

Every effort you extend in order to affect an early approval of this Plan will be greatly appreciated.

Very truly yours,


Debra K. Benoit

/plans/27306 #A-E

| |
|---------------------------|
| CONTROL No. <u>N-8645</u> |
| REVIEWER: Elmo Cooper |
| PHONE: (504) 731-7810 |

Public Information

APPENDIX A

Description, Objectives and Schedule
Drilling Unit w/ Safety & Pollution Prevention Features
Production Facilities
OCS Plan Information Form

MURPHY EXPLORATION & PRODUCTION COMPANY

Initial EP

OCS-G-27306

Mississippi Canyon Block 736

Offshore, Louisiana

Murphy Exploration & Production Company, as designated Operator of the subject lease, hereby submits this proposed Exploration Plan in accordance with the regulations contained in Title 30 CFR 250.200-204 and more specifically defined in the Minerals Management Service NTL 2003-G17.

HISTORY OF LEASE

Mississippi Canyon Block 736 was acquired at Lease Sale 194 effective March 16, 2005. Murphy Exploration & Production Company-USA proposes to drill exploratory wells as per attached location table. This lease contains Stipulation No. 6. Lease Stipulation No. 6 is to reference measures to minimize or avoid potential adverse impacts to protected species (sea turtles, marine mammals, gulf sturgeon and other federally protected species. MMS has issued Notice to Lessees 2004-G-01 "Implementation of Seismic Mitigation Measures and Protected Species Observer Program", NTL 2003-G10 "Vessel Strike Avoidance and Injured/Dead Protected Species Reporting" and NTL 2003-G11 "Marine Trash and Debris Awareness and Elimination". Murphy Exploration & Production Company-USA is aware of these issues and will be in full compliance with these NTL's. A Geophysical Survey was submitted December 14, 2005. The survey, data and report conform to the guidelines established by the Minerals Management Service in their Notices to Lessees (NTL) 98-20, 2000-G20 and 2003-G17. NTL 2005-G07 and NTL 2005-G10, requires that data will be acquired as part of an archaeological assessment for this block. Murphy Exploration & Production Company-USA will perform either an ROV or AUV survey of the well site and anchor locations to comply with these requirements and the results submitted to the Regional MMS office prior to applying for a Permit to Drill.

GEOLOGICAL OBJECTIVES: See Appendix C

SCHEDULE OF OPERATIONS: See attached OCS Plan Information Form

PRODUCTION FACILITIES:

Should proposed wells have no commercial production, they will be plugged and abandoned with casings removed to a minimum of 15' BML. If they prove successful, they will be Temporarily Abandoned in accordance with 30 CFR 250.1721.

There will be no additional onshore or offshore facilities or personnel as a result of these exploration activities.

DESCRIPTION OF DRILLING RIG: See attached OCS Plan Information Form

SAFETY STANDARDS AND PROGRAMS - DRILLING OPERATIONS:

The rig to be used will comply with all of the regulations of the American Bureau of Shipping, International Maritime Organization and the United States Coast Guard. All drilling operations will be conducted under the provisions of 30 CFR, part 250, Subpart C, D E and O and other applicable regulations and notices, including those regarding the avoidance of potential drilling hazards and safety and pollution prevention control. Safety features will include well control and blowout prevention equipment as described in Title 30 CFR 250.440-451. The appropriate life rafts, life jackets, ring buoys, etc. as prescribed by the U.S. Coast Guard will be maintained on the facility at all times.

All production facilities are constructed and installed to meet M.M.S. and Coast Guard standards for safety and protection of the environment. Murphy Exploration & Production Company - USA's Safety and Training Department monitors and trains personnel in the conduct of safe operations and compliance with all safety and pollution prevention standards.

APPENDIX A - OCS PLAN INFORMATION FORM

| General Information | | | | | | | | | | | |
|--|---|-----------------------|--------------------------|--|------------|------------------------------------|--|----------------------|---------------------------|---|--|
| Type of OCS | <input checked="" type="checkbox"/> | Exploration Plan (EP) | | Development Operations Coordination Document (DOCD) | | | | | | | |
| Company Name: Murphy Exploration & Prod. | | | | MMS Operator Number: | | | | 02647 | | | |
| Address: | | | | Contact Person: Debra K. Benoit | | | | | | | |
| Post Office Box 61780 | | | | Phone Number: 504-561-2409 | | | | | | | |
| New Orleans, LA 70161 | | | | E-Mail Address: <u>Debbie_Benoit@MurphyOilCorp.com</u> | | | | | | | |
| Lease: OCS-G-27306 | | | Area: MC | | Block: 736 | | Project Name (If Applicable): ThunderRidge | | | | |
| Objective | <input checked="" type="checkbox"/> | Oil | | Gas | | Sulfur | | Salt | Onshore Base: Fourchon LA | | Distance to Closest Land 67 |
| 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 | | | | | | Installation of production facilities | | | | |
| | Installation of well protection structure | | | | | | Installation of satellite structure | | | | |
| | Installation of subsea wellheads and/or manifolds | | | | | | Installation of lease term pipelines | | | | |
| | Temporary well abandonment | | | | | | Commence production | | | | |
| | 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 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 | | | |
| Drill A | | | | | | 3/1/06 | 6/30/06 | 122 | | | |
| Drill B | | | | | | 5/1/07 | 9/30/07 | 123 | | | |
| Drill C | | | | | | 5/1/08 | 9/30/08 | 123 | | | |
| Drill D | | | | | | 5/1/09 | 9/30/09 | 123 | | | |
| Drill E | | | | | | 5/1/10 | 9/30/10 | 123 | | | |
| When a rig is selected, the rig specifications will be made part in the Application for Permit to Drill. | | | | | | | | | | | |
| Description of Drilling Rig | | | | | | Description of Production Platform | | | | | |
| | Jackup | | | Drillship | | Caisson | | Tension leg platform | | | |
| | Gorilla Jackup | | | Platform rig | | Well protector | | Compliant tower | | | |
| <input checked="" type="checkbox"/> | Semisubmersible | | | Submersible | | Fixed platform | | Guyed tower | | | |
| | DP Semisubmersible | | | Other (Attach Description) | | Subsea manifold | | Floating production | | | |
| Drilling Rig Name (If Known): Unknown | | | | | | Spar | | Other (Attach | | | |
| Description of Lease Term Pipelines | | | | | | | | | | | |
| From (Facility/Area/Block) | | | To (Facility/Area/Block) | | | Diameter (Inches) | Length (Feet) | Product | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Appendix A-OCS PLAN INFORMATION FORM (CONTINUED)

Include one copy of this page for each proposed well/structure

| Proposed Well/Structure Location | | | | |
|---|----------------------------|---------------------------|---------------------------|--|
| Well or Structure Name/Number: A | | | | Subsea Completion |
| Anchor Radius (if applicable) in feet | | | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> X <input type="checkbox"/> No |
| | SURFACE | BOTTOM HOLE | | |
| Lease No. | OCS-G-27306 | | | |
| Area Name | MC | | | |
| Block No. | 736 | | | |
| Blockline Departures (in feet) | N/S Departure 6647' FNL | | | |
| | E/W Departure 2752' FEL | PUBLIC INFORMATION | | |
| Lambert X-Y coordinates | X: 1,201,088 | | | |
| | Y: 10,257,673 | | | |
| Latitude/ Longitude | Latitude: 28° 15' 34.63" | | | |
| | Longitude: -88° 21' 54.40" | | | |
| | | | Water Depth (Feet): 6210' | |
| Anchor Locations for Drilling Rig or Construction Barge | | | | |
| Anchor Name | Area/Block | X Coordinate | Y Coordinate | Length on Seafloor |
| A 1 | MC 736 | 1,203,071.6 | 10,250,270.2 | 2500' |
| A 2 | MC 736 | 1,199,107.8 | 10,250,282.7 | 2500' |
| A 3 | MC 736 | 1,193,582.8 | 10,255,662.0 | 2500' |
| A 4 | MC 736 | 1,193,527.7 | 10,259,698.8 | 2500' |
| A 5 | MC 736/692 | 1,199,029.4 | 10,265,356.0 | 2500' |
| A 6 | MC 736/692 | 1,203,125.9 | 10,265,278.7 | 2500' |
| A 7 | MC 737 | 1,208,631.9 | 10,259,694.4 | 2500' |
| A 8 | MC 737 | 1,208,449.3 | 10,255,700.5 | 2500' |

Appendix A-OCS PLAN INFORMATION FORM (CONTINUED)

Include one copy of this page for each proposed well/structure

| Proposed Well/Structure Location | | | | |
|---|----------------------------|---------------------------|---------------------------|--------------------|
| Well or Structure Name/Number: B | | | Subsea Completion | |
| Anchor Radius (if applicable) in feet | | | Yes | No |
| | SURFACE | BOTTOM HOLE | | |
| Lease No. | OCS-G-27306 | | | |
| Area Name | MC | | | |
| Block No. | 736 | | | |
| Blockline Departures (in feet) | N/S Departure 11676' FNL | | | |
| | E/W Departure 1140' FEL | PUBLIC INFORMATION | | |
| Lambert X-Y coordinates | X: 1,202,700 | | | |
| | Y: 10,252,644 | | | |
| Latitude/ Longitude | Latitude: 28° 14' 45.01" | | | |
| | Longitude: -88° 21' 35.73" | | | |
| | | | Water Depth (Feet): 6375' | |
| Anchor Locations for Drilling Rig or Construction Barge | | | | |
| Anchor Name | Area/Block | X Coordinate | Y Coordinate | Length on Seafloor |
| B 1 | MC 776 | 1,203,071.6 | 10,250,270.2 | 2500' |
| B 2 | MC 776/820 | 1,199,107.8 | 10,250,282.7 | 2500' |
| B 3 | MC 820 | 1,193,582.8 | 10,255,662.0 | 2500' |
| B 4 | MC 736/820 | 1,193,527.7 | 10,259,698.8 | 2500' |
| B 5 | MC 736 | 1,199,029.4 | 10,265,356.0 | 2500' |
| B 6 | MC 736 | 1,203,125.9 | 10,265,278.7 | 2500' |
| B 7 | MC 775 | 1,208,631.9 | 10,259,694.4 | 2500' |
| B 8 | MC 775 | 1,208,449.3 | 10,255,700.5 | 2500' |

Appendix A-OCS PLAN INFORMATION FORM (CONTINUED)

Include one copy of this page for each proposed well/structure

| Proposed Well/Structure Location | | | | |
|---|----------------------------|--------------|---------------------------|--|
| Well or Structure Name/Number: C | | | | Subsea Completion |
| Anchor Radius (if applicable) in feet | | | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> X <input type="checkbox"/> No |
| | SURFACE | | BOTTOM HOLE | |
| Lease No. | OCS-G-27306 | | | |
| Area Name | MC | | | |
| Block No. | 736 | | | |
| Blockline Departures (in feet) | N/S Departure 3806' FNL | | | |
| | E/W Departure 6245' FEL | | PUBLIC INFORMATION | |
| Lambert X-Y coordinates | X: 1,197,595 | | | |
| | Y: 10,260,514 | | | |
| Latitude/ Longitude | Latitude: 28° 16' 23.74" | | | |
| | Longitude: -88° 22' 33.82" | | | |
| | | | Water Depth (Feet): 6125' | |
| Anchor Locations for Drilling Rig or Construction Barge | | | | |
| Anchor Name | Area/Block | X Coordinate | Y Coordinate | Length on Seafloor |
| C 1 | MC 736 | 1,199,578.6 | 10,253,111.1 | 2500' |
| C 2 | MC 736 | 1,195,614.8 | 10,253,123.7 | 2500' |
| C 3 | MC 736 | 1,190,089.8 | 10,258,503.0 | 2500' |
| C 4 | MC 736 | 1,190,034.7 | 10,262,539.8 | 2500' |
| C 5 | MC 692 | 1,195,536.4 | 10,268,197.0 | 2500' |
| C 6 | MC 692 | 1,199,632.9 | 10,268,119.7 | 2500' |
| C 7 | MC 736/737 | 1,205,138.9 | 10,262,535.4 | 2500' |
| C 8 | MC 736/737 | 1,204,956.3 | 10,258,541.5 | 2500' |

Appendix A-OCS PLAN INFORMATION FORM (CONTINUED)

Include one copy of this page for each proposed well/structure

| Proposed Well/Structure Location | | | | |
|---|----------------------------|--------------|---------------------------|--|
| Well or Structure Name/Number: D | | | | Subsea Completion |
| Anchor Radius (if applicable) in feet | | | | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> X <input type="checkbox"/> No |
| | SURFACE | | BOTTOM HOLE | |
| Lease No. | OCS-G-27306 | | | |
| Area Name | MC | | | |
| Block No. | 736 | | | |
| Blockline Departures (in feet) | N/S Departure 1142' FNL | | | |
| | E/W Departure 7703' FEL | | PUBLIC INFORMATION | |
| Lambert X-Y coordinates | X: 1,201,088 | | | |
| | Y: 10,257,673 | | | |
| Latitude/ Longitude | Latitude: 28° 16' 28.61" | | | |
| | Longitude: -88° 22' 50.47" | | | |
| | | | Water Depth (Feet): 6125' | |
| Anchor Locations for Drilling Rig or Construction Barge | | | | |
| Anchor Name | Area/Block | X Coordinate | Y Coordinate | Length on Seafloor |
| D 1 | MC 736 | 1,198,120.6 | 10,255,777.1 | 2500' |
| D 2 | MC 736 | 1,194,156.8 | 10,255,789.7 | 2500' |
| D 3 | MC 736 | 1,188,631.8 | 10,261,169.0 | 2500' |
| D 4 | MC 736/692 | 1,188,576.7 | 10,265,205.8 | 2500' |
| D 5 | MC 692 | 1,194,078.4 | 10,270,863.0 | 2500' |
| D 6 | MC 692 | 1,198,174.9 | 10,270,785.7 | 2500' |
| D 7 | MC 692/693/736 | 1,203,680.9 | 10,265,201.4 | 2500' |
| D 8 | MC 736/737 | 1,203,498.3 | 10,261,207.5 | 2500' |

Appendix A-OCS PLAN INFORMATION FORM (CONTINUED)

Include one copy of this page for each proposed well/structure

| Proposed Well/Structure Location | | | | |
|---|--|--------------|---------------------------|--|
| Well or Structure Name/Number: E | | | | Subsea Completion |
| Anchor Radius (if applicable) in feet | | | | Yes <input type="checkbox"/> X <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| | SURFACE | | BOTTOM HOLE | |
| Lease No. | OCS-G-27306 | | | |
| Area Name | MC | | | |
| Block No. | 736 | | | |
| Blockline Departures (in feet) | N/S Departure 1115 ' FNL 7/3 | | | |
| | E/W Departure 3313 ' FEL 3328 | | PUBLIC INFORMATION | |
| Lambert X-Y coordinates | X: 1,201,088 | | | |
| | Y: 10,257,673 | | | |
| Latitude/ Longitude | Latitude: 28° 15' 34.63" | | | |
| | Longitude: -88° 21' 54.40" | | | |
| | | | Water Depth (Feet): 6210' | |
| Anchor Locations for Drilling Rig or Construction Barge | | | | |
| Anchor Name | Area/Block | X Coordinate | Y Coordinate | Length on Seafloor |
| E 1 | MC 736 | 1,200,913.1 | 10,255,953.5 | 2500' |
| E 2 | MC 736 | 1,197,038.5 | 10,256,789.9 | 2500' |
| E 3 | MC 736 | 1,192,752.6 | 10,263,200.3 | 2500' |
| E 4 | MC 692 | 1,193,538.1 | 10,267,160.4 | 2500' |
| E 5 | MC 692 | 1,200,095.7 | 10,271,550.1 | 2500' |
| E 6 | MC 692/693 | 1,204,086.7 | 10,270,622.8 | 2500' |
| E 7 | MC 693/737 | 1,208,311.3 | 10,264,015.7 | 2500' |
| E 8 | MC 737 | 1,207,302.4 | 10,260,147.1 | 2500' |
| | | | | |

APPENDIX B

Company Contact
New or Unusual Technology
Bonding Requirements
Onshore Base
Support Vessels
Lease Stipulations
Project name
Transportation Routing Map
Bathymetry Plat

COMPANY CONTACT:

Debra Benoit
Post Office Box 61780
New Orleans, Louisiana 70161

Telephone Number: (337) 262-4761
Fax Number: (337) 262-4749
E-Mail: Debbie_Benoit@Murphyoilcorp.com

NEW OR UNUSUAL TECHNOLOGY: None will be used for proposed activities.

BONDING REQUIREMENTS: Murphy Exploration & Production Company - USA's activities are covered by its Area wide Oil and Gas Lease Bond in the amount of \$3,000,000.00.

ONSHORE BASE: Marine operations will be based out of Fourchon, LA (123 miles)
Air (helicopter) operations will be based out of Fourchon, LA (123 miles)
All bases are existing and will not be affected by proposed operations.

SUPPORT VESSELS: 1 Crew Boat will be utilized daily
1 Supply Boat will be utilized twice weekly.
1 Helicopter will be utilized daily.

TRANSPORTATION ROUTING MAP: See attached.

LEASE STIPULATIONS: #6 - See Page 1 of Appendix A

PROJECT NAME: Thunder Ridge

MURPHY EXPLORATION & PRODUCTION COMPANY
NEW ORLEANS, LOUISIANA

VICINITY MAP
BLOCK 736
MISSISSIPPI CANYON AREA

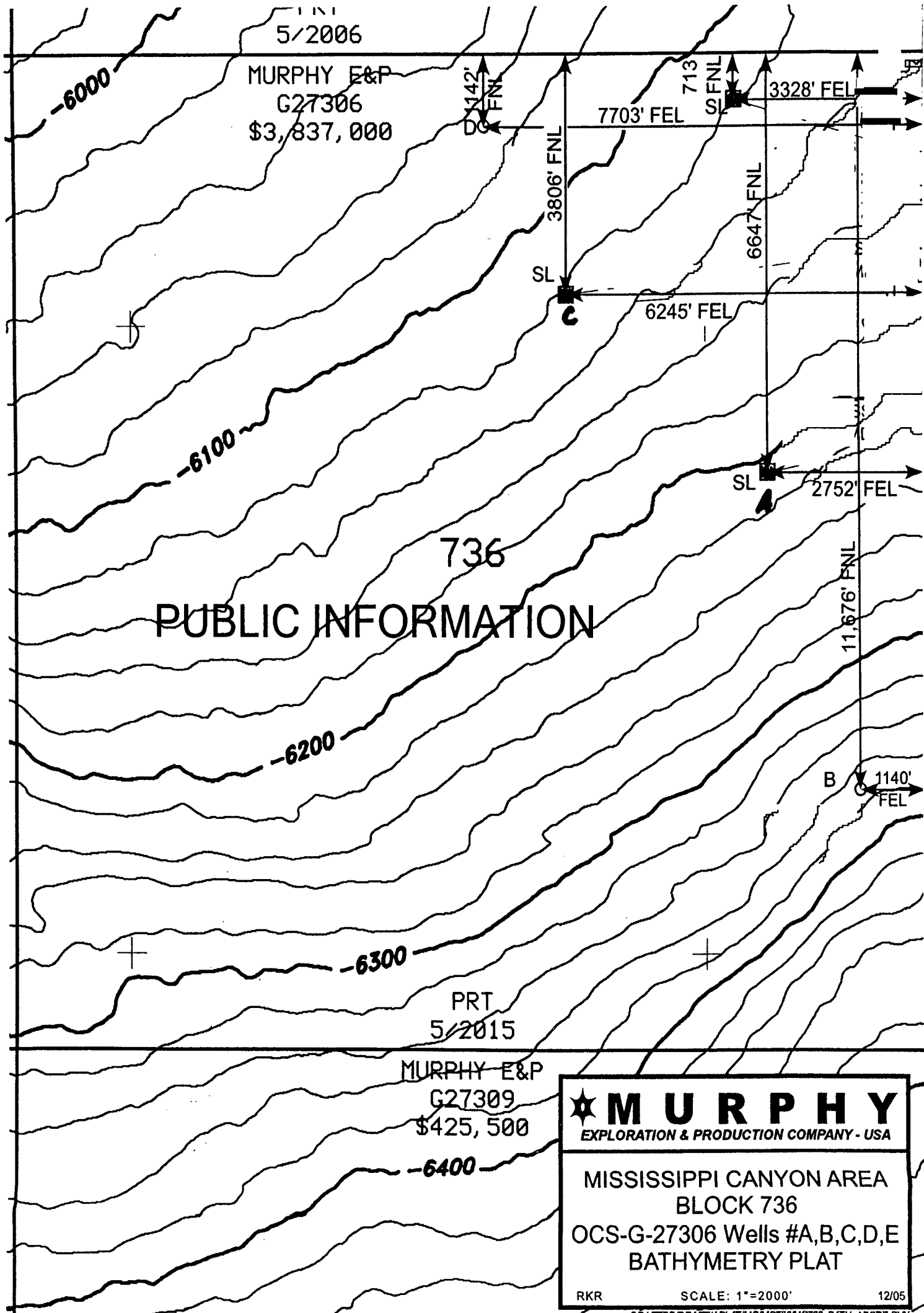


SCALE : 1" = 80 MILES

TIM MORTON & ASSOCIATES, INC.
730 E. KALISTE SALOOM RD.
LAFAYETTE, LOUISIANA

| | |
|----------------|----------------|
| JOB NO. 05-324 | DATE: 12/12/05 |
| MAP NO. | MURPHU16 |

Figure 1



MURPHY
EXPLORATION & PRODUCTION COMPANY - USA

MISSISSIPPI CANYON AREA
BLOCK 736
OCS-G-27306 Wells #A,B,C,D,E
BATHYMETRY PLAT

RKR

SCALE: 1"=2000'

12/05

APPENDIX C

Geological, Geophysical & H2S Information

Structure Contour Map

Interpreted 2-D and/or 3-D Seismic Lines
(to be provided upon request)

Geological Cross Section

Shallow Hazards Report
(previously submitted – see Page 1 in Appendix A)

Shallow Hazards Assessment *(PI copy)*

High-resolution Seismic Lines

Stratigraphic Column

Time vs. Depth Table

(Not applicable to this Plan - Data is based on well control in the area)

Letter Requesting Determination of H2S *(PI copy)*

In the event H2S is classified as either present or unknown, Murphy Exploration & Production will conduct operations proposed in this Plan as per its H2S Contingency Plan, prepared in compliance to 30 CFR 250.490 and 250.504



201 ENERGY PARKWAY (70508)
P.O. BOX 52455
LAFAYETTE, LA 70505-2455
(337) 232-3487
FAX (337) 593-4919

December 13, 2005

Mr. Don Howard
Regional Supervisor
U. S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123

RE: OCS-G-27306
Mississippi Canyon Block 736
Thunder Ridge Prospects
Murphy Expro Well Nos. A, B, C, D and E

Dear Mr. Howard:

Geophysical data in the vicinity of the Murphy Exploration and Production Company's Mississippi Canyon Block 736 well locations have been reviewed and there appears to be no shallow drilling hazards.

PUBLIC INFORMATION

A Geohazard Assessment Study was performed over MC 736, 737 by Fugro-McClelland Marine Geosciences, Inc. on November 8, 2005. Reports will be filed with the Minerals Management Service on December 19, 2005

An Archeological Assessment Study is scheduled to be acquired by C & C Technologies sometime between February 1st and February 15th, 2006. Reports will be filed with the Minerals Management Service approximately February 21, 2006.

In addition, the log from the British Petroleum OCS-G-14658 #1 was reviewed and no impediments to drilling were encountered.

Respectfully submitted,

James R. Murphy
Vice-President U. S. Exploration



100 ASMA BOULEVARD
SUITE 300
LAFAYETTE, LA 70508
(337)232-3487

Dec. 1, 2005

Mr. Don Howard
Regional Supervisor
U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Blvd.
New Orleans, Louisiana 70123-2394

RE: **Plan of Exploration
Hydrogen Sulfide Conditions
Mississippi Canyon Block 736
OCS-G-27306 POE Locations A, B, C, D, & E**

Dear Mr. Howard:

The referenced locations have been proposed in an area where the absence of Hydrogen Sulfide has been substantiated.

In accordance with 30 CFR 250.67, Murphy Expro is requesting the MMS review this determination to confirm the absence of Hydrogen Sulfide in this area.

The conclusion regarding the absence of Hydrogen Sulfide gas is based on information from the following wells:

| | | | |
|------------------|------------------------|-------------|--------------|
| Murphy E&P Co. | Mississippi Canyon 734 | OCS-G-21778 | No. 2 |
| Dominion E&P Co. | Mississippi Canyon 734 | OCS-G-21778 | No. 1 & 1ST1 |
| BP E&P Co. | Mississippi Canyon 776 | OCS-G-09866 | No. 1 & 2 |
| BP E&P Co. | Mississippi Canyon 777 | OCS-G-09867 | No. 1 |
| BP E&P Co. | Mississippi Canyon 778 | OCS-G-09868 | No. 1 |
| BP E&P Co. | Mississippi Canyon 822 | OCS-G-14658 | No. 1 & 3 |

None of these wells encountered hydrogen sulfide as determined from the available drilling/scout reports and openhole well logs. The Murphy POE locations anticipate drilling the same interval as penetrated by the above wells.

This request for classification will be updated when additional data indicates there are causes for a change in an approved classification.

Respectfully submitted,

Rodney K. Rymer
Senior Geologist
Deep Water Gulf of Mexico

APPENDIX D

Chemosynthetic Communities

Topographic Features

Live Bottom Features

ROV Statement (Deepwater Only)

Seafloor Features Map with Associated Anchor Patterns

CHEMOSYNTHETIC COMMUNITIES

Features or areas that could support high-density chemosynthetic communities are **not** located within 1500 feet of each proposed mud and cuttings discharge location.

Features or areas that could support high-density chemosynthetic communities are **not** located within 500 feet of any seafloor disturbances resulting from our use of anchors (including those caused by anchors, anchor chains and wire ropes).

TOPOGRAPHIC FEATURES

There are no topographical features (Flower Gardens, etc) on this lease.

LIVE BOTTOM (PINNACLE) FEATURES

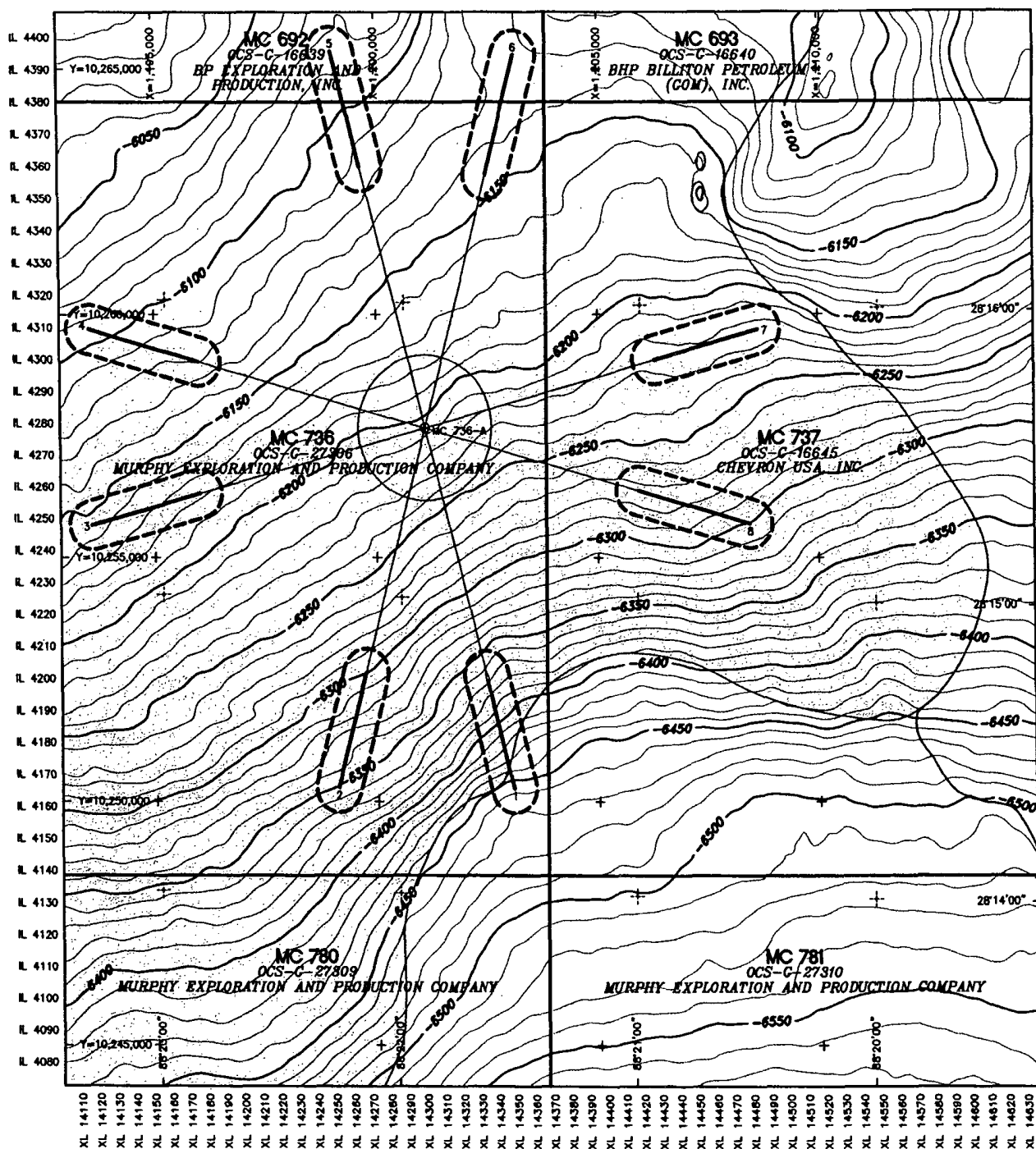
There are no live bottom features (pinnacles) on this lease.

ROV STATEMENT

Murphy Exploration & Production Company-USA is familiar with the ROV Survey Requirements set forth in NTL 2003-G03. A visual survey of the sea floor in the vicinity of the proposed well sites will be performed using an ROV equipped with video imaging capabilities. A survey will be performed immediately before operations commence and immediately after operation completion. The ROV will be run along six transects. Each of the six excursions will extend at least 100 meters from the launch point and that at least one transect passes directly over or very near the well site with the track lines located at 60-degree angles.

The sea floor will be continuously videotaped during the entire survey and the ROV will be run close enough to the sea floor so than relatively small animals and features (1 inch and larger) can be observed and identified. When a type of animal is encountered for the first time or upon encounter with each bottom type, the ROV will be stopped momentarily to attempt close-up video.

Murphy Exploration & Production Company-USA will comply with the provisions stated above when stipulated as a condition of approval for deepwater EP's or Initial DOCD's.



IL 4080 3-D SURVEY LINE NUMBER.

STUDY AREA.

MC 736-A
PROPOSED WELL LOCATION, DESIGNATION AND PROPOSED ANCHOR PATTERN. BOLD PORTION OF ANCHOR CHAIN INDICATES CHAIN CONTACT WITH SEAFLOOR. A 1,500 FT RADIUS CIRCLE IS SHOWN AROUND THE WELL SURFACE LOCATION AND A 1,000 FT POLYGON IS SHOWN AROUND THE ANCHOR AND ANCHOR CHAIN TOUCHDOWN ZONE AS REQUIRED BY NOTICE TO LESSEES 2000-G20. THE ANCHOR PATTERN SHOWN IS DESIGNED BASED ON THE "OCEAN VICTORY" DRILLING RIG AND WAS PROVIDED BY MURPHY ON 6 DECEMBER, 2005.

-6150- WATER DEPTH CONTOUR, IN FEET. CONTOUR INTERVAL IS 10 FEET.

AREA OF HUMMOCKY TO UNDULATORY SEAFLOOR, CAUSED BY THE SEAFLOOR EXPRESSION OF SHALLOW BURIED DEBRIS FLOW DEPOSITS.

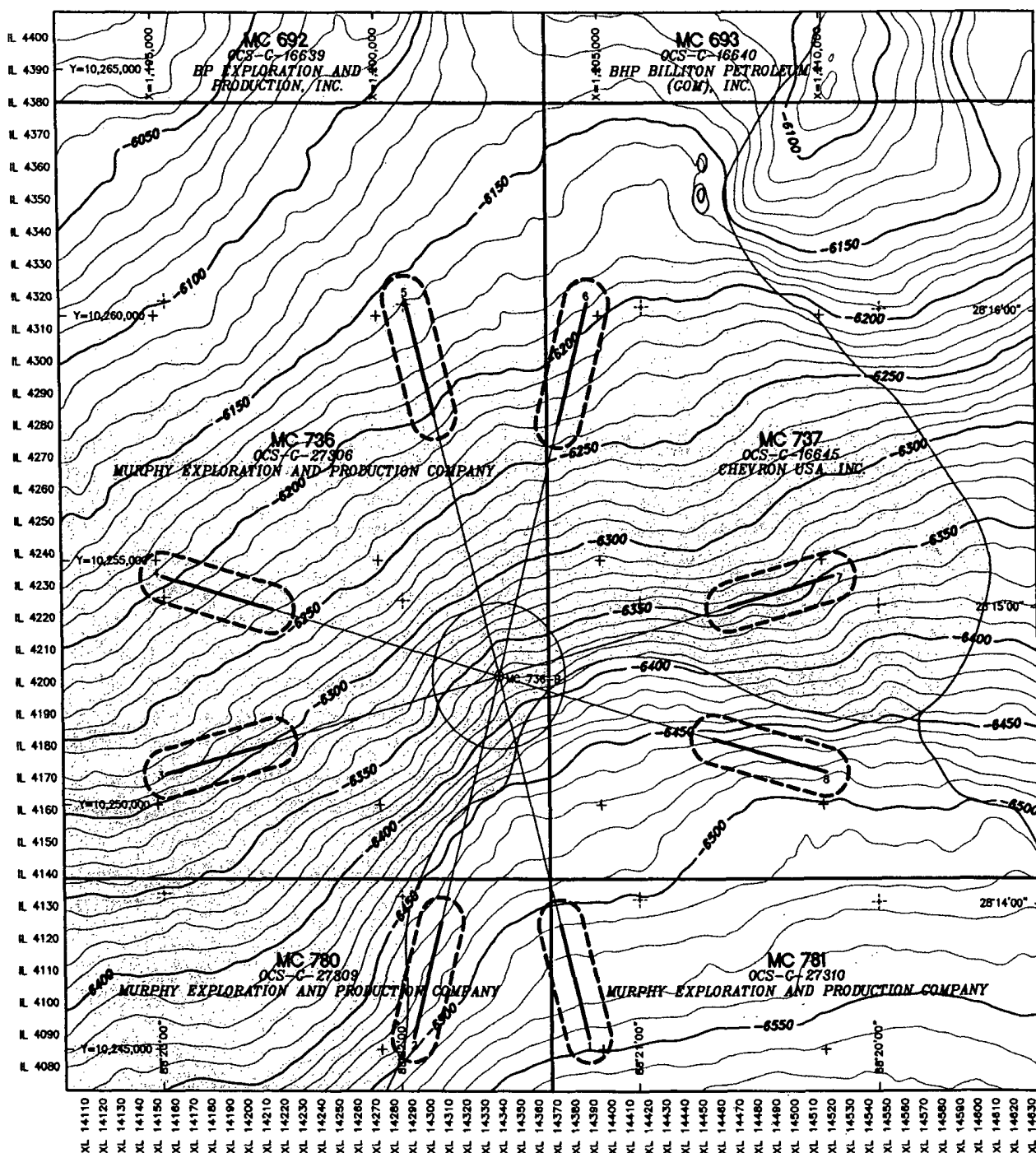
POSSIBLE FLUID EXPULSION MOUND WITH SEAFLOOR AMPLITUDE ANOMALY.

SEAFLOOR DEPRESSION POSSIBLY RELATED FLUID EXPULSION.

AREA OF UPLIFTED SEAFLOOR ABOVE SHALLOW SALT.

0 1,000 2,000 3,000 4,000 5,000
SCALE IN FEET

WATER DEPTH AND SEAFLOOR FEATURES MAP PROPOSED WELLSITE MC 736-A



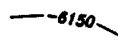
IL 4080 3-D SURVEY LINE NUMBER.



STUDY AREA.



PROPOSED WELL LOCATION, DESIGNATION AND PROPOSED ANCHOR PATTERN. BOLD PORTION OF ANCHOR CHAIN INDICATES CHAIN CONTACT WITH SEAFLOOR. A 1,500 FT RADIUS CIRCLE IS SHOWN AROUND THE WELL SURFACE LOCATION AND A 1,000 FT POLYGON IS SHOWN AROUND THE ANCHOR AND ANCHOR CHAIN TOUCHDOWN ZONE AS REQUIRED BY NOTICE TO LESSEES 2000-620. THE ANCHOR PATTERN SHOWN IS DESIGNED BASED ON THE "OCEAN VICTORY" DRILLING RIG AND WAS PROVIDED BY MURPHY ON 6 DECEMBER, 2005.



WATER DEPTH CONTOUR, IN FEET. CONTOUR INTERVAL IS 10 FEET.



AREA OF HUMMOCKY TO UNDULATORY SEAFLOOR, CAUSED BY THE SEAFLOOR EXPRESSION OF SHALLOW BURIED DEBRIS FLOW DEPOSITS.



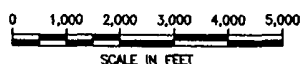
POSSIBLE FLUID EXPULSION MOUND WITH SEAFLOOR AMPLITUDE ANOMALY.



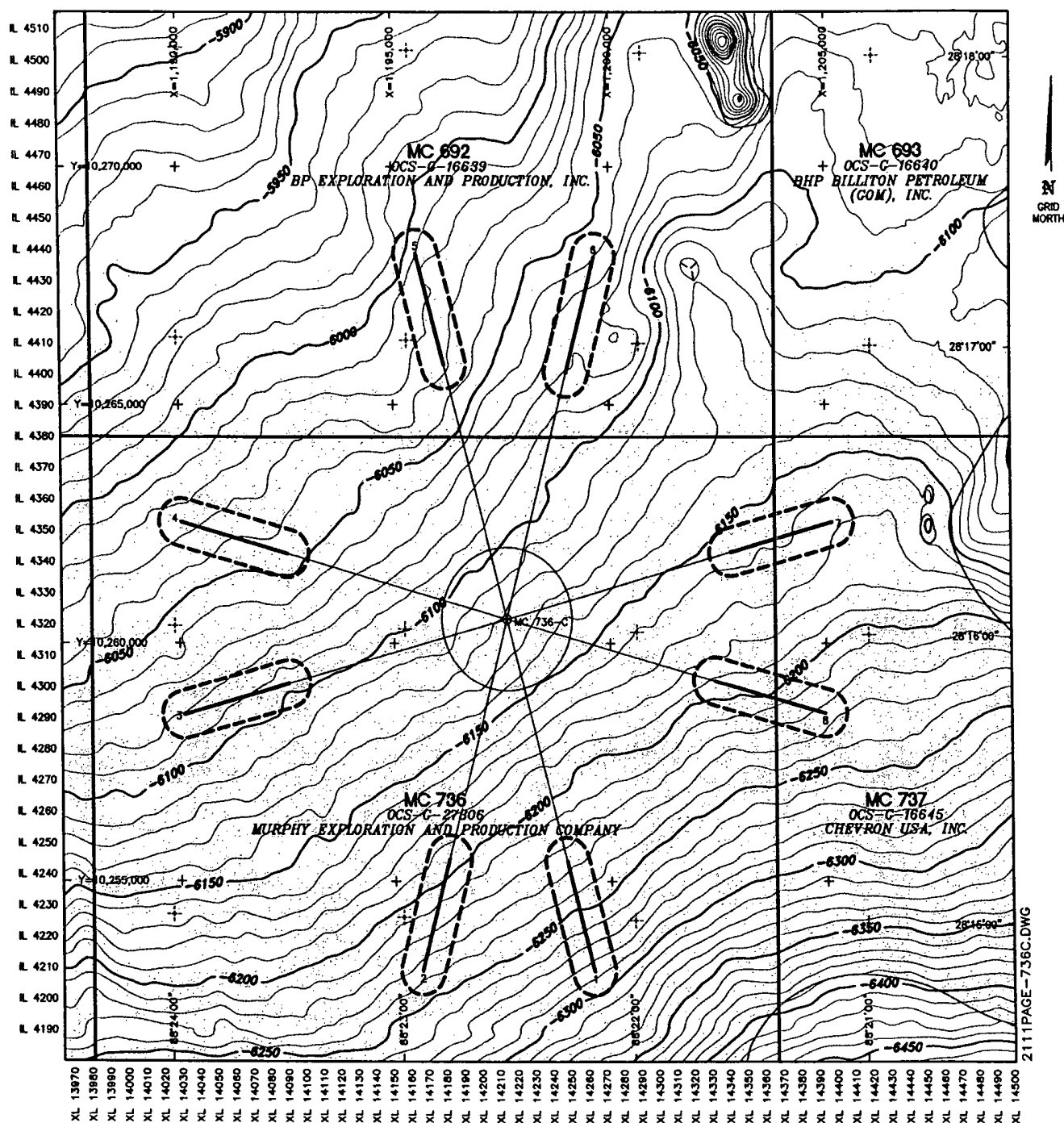
SEAFLOOR DEPRESSION POSSIBLY RELATED FLUID EXPULSION.



AREA OF UPLIFTED SEAFLOOR ABOVE SHALLOW SALT.



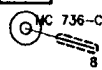
WATER DEPTH AND SEAFLOOR FEATURES MAP PROPOSED WELLSITE MC 736-B



IL 4190 3-D SURVEY LINE NUMBER.



STUDY AREA.



PROPOSED WELL LOCATION, DESIGNATION AND PROPOSED ANCHOR PATTERN. BOLD PORTION OF ANCHOR CHAIN INDICATES CHAIN CONTACT WITH SEAFLOOR. A 1,500 FT RADIUS CIRCLE IS SHOWN AROUND THE WELL SURFACE LOCATION AND A 1,000 FT POLYGON IS SHOWN AROUND THE ANCHOR AND ANCHOR CHAIN TOUCHDOWN ZONE AS REQUIRED BY NOTICE TO LESSEES 2000-G20. THE ANCHOR PATTERN SHOWN IS DESIGNED BASED ON THE "OCEAN VICTORY" DRILLING RIG AND WAS PROVIDED BY MURPHY ON 6 DECEMBER, 2005.

-6150

WATER DEPTH CONTOUR, IN FEET. CONTOUR INTERVAL IS 10 FEET.



AREA OF HUMMOCKY TO UNDULATORY SEAFLOOR, CAUSED BY THE SEAFLOOR EXPRESSION OF SHALLOW BURIED DEBRIS FLOW DEPOSITS.



POSSIBLE FLUID EXPULSION MOUND WITH SEAFLOOR AMPLITUDE ANOMALY.



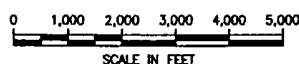
SEAFLOOR DEPRESSION POSSIBLY RELATED FLUID EXPULSION.



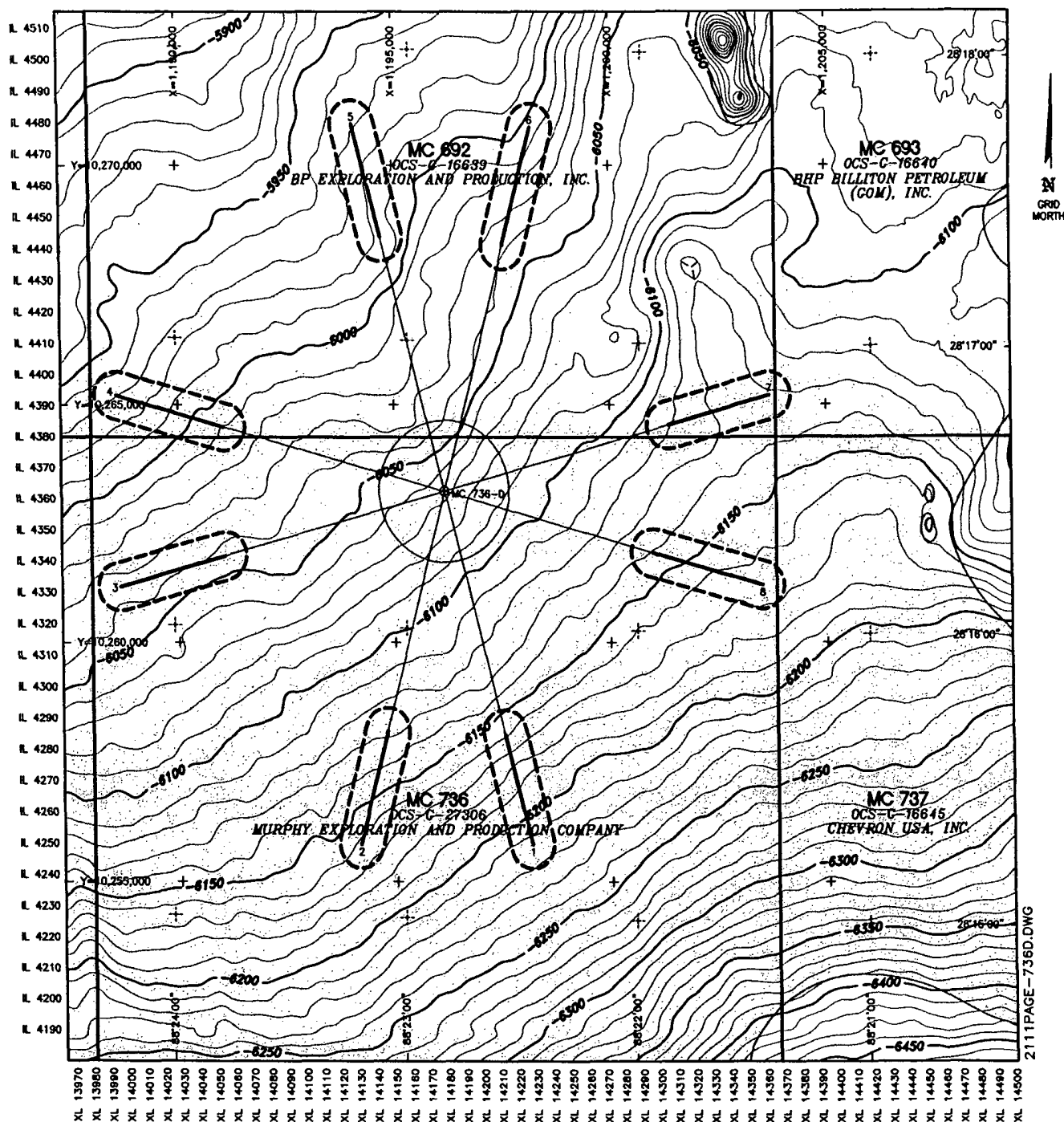
SEAFLOOR EXPRESSION OF SHALLOW BURIED CHANNEL.



AREA OF UPLIFTED SEAFLOOR ABOVE SHALLOW SALT.



WATER DEPTH AND SEAFLOOR FEATURES MAP PROPOSED WELLSITE MC 736-C



IL 4190 3-D SURVEY LINE NUMBER.

STUDY AREA.

MC 736-D PROPOSED WELL LOCATION, DESIGNATION AND PROPOSED ANCHOR PATTERN. BOLD PORTION OF ANCHOR CHAIN INDICATES CHAIN CONTACT WITH SEAFLOOR. A 1,500 FT RADIUS CIRCLE IS SHOWN AROUND THE WELL SURFACE LOCATION AND A 1,000 FT POLYGON IS SHOWN AROUND THE ANCHOR AND ANCHOR CHAIN TOUCHDOWN ZONE AS REQUIRED BY NOTICE TO LESSEES 2000-020. THE ANCHOR PATTERN SHOWN IS DESIGNED BASED ON THE "OCEAN VICTORY" DRILLING RIG AND WAS PROVIDED BY MURPHY ON 6 DECEMBER, 2005.

-6150 WATER DEPTH CONTOUR, IN FEET. CONTOUR INTERVAL IS 10 FEET.

AREA OF HUMMOCKY TO UNDULATORY SEAFLOOR, CAUSED BY THE SEAFLOOR EXPRESSION OF SHALLOW BURIED DEBRIS FLOW DEPOSITS.

POSSIBLE FLUID EXPULSION MOUND WITH SEAFLOOR AMPLITUDE ANOMALY.

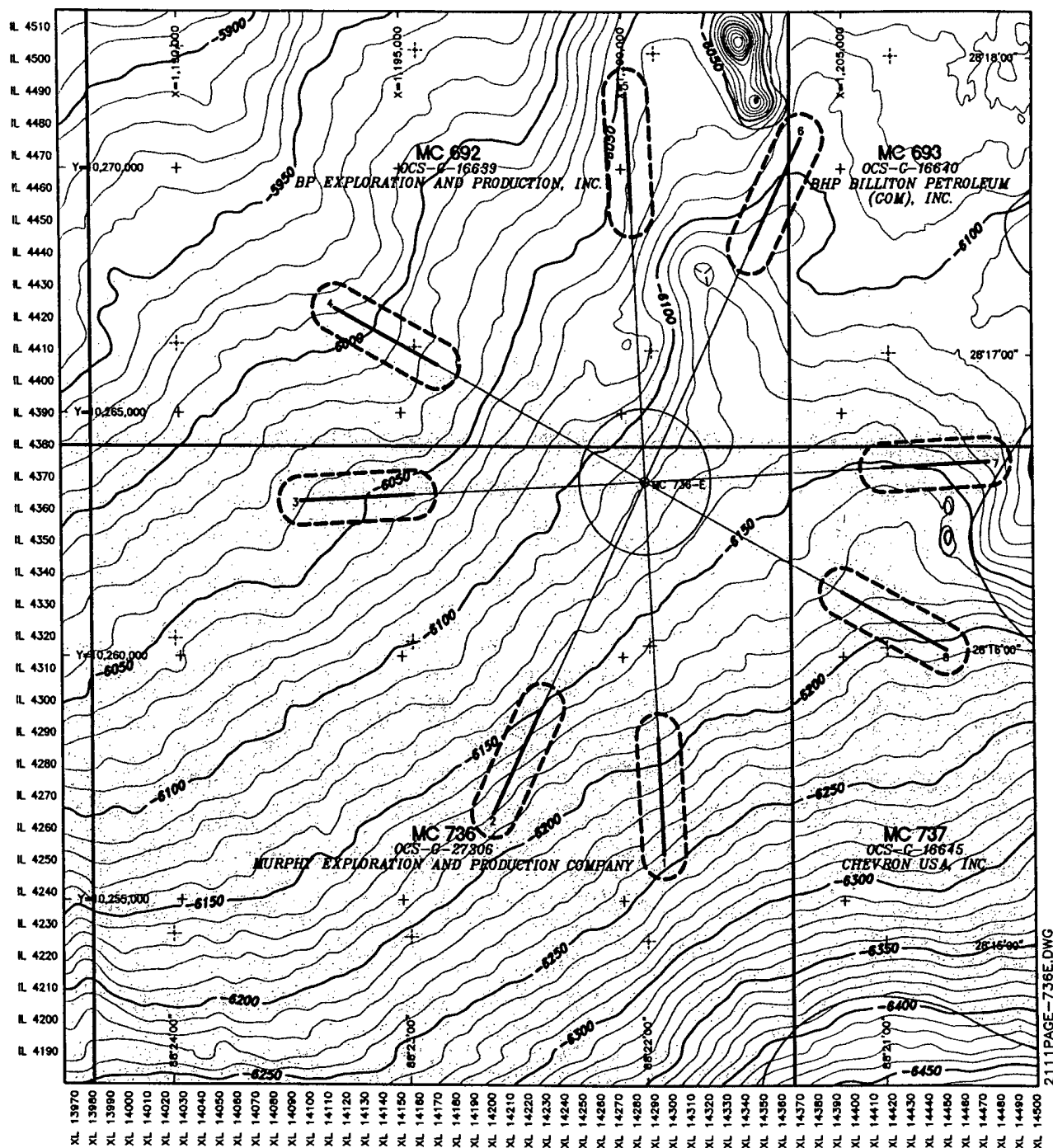
SEAFLOOR DEPRESSION POSSIBLY RELATED FLUID EXPULSION.

SEAFLOOR EXPRESSION OF SHALLOW BURIED CHANNEL.

AREA OF UPLIFTED SEAFLOOR ABOVE SHALLOW SALT.

0 1,000 2,000 3,000 4,000 5,000
SCALE IN FEET

WATER DEPTH AND SEAFLOOR FEATURES MAP PROPOSED WELL SITE MC 736-D



IL 4190 3-D SURVEY LINE NUMBER.

STUDY AREA.

MC 736-E PROPOSED WELL LOCATION, DESIGNATION AND PROPOSED ANCHOR PATTERN. BOLD PORTION OF ANCHOR CHAIN INDICATES CHAIN CONTACT WITH SEAFLOOR. A 1,500 FT RADIUS CIRCLE IS SHOWN AROUND THE WELL SURFACE LOCATION AND A 1,000 FT POLYGON IS SHOWN AROUND THE ANCHOR AND ANCHOR CHAIN TOUCHDOWN ZONE AS REQUIRED BY NOTICE TO LESSEES 2000-G20. THE ANCHOR PATTERN SHOWN IS DESIGNED BASED ON THE "OCEAN VICTORY" DRILLING RIG AND WAS PROVIDED BY MURPHY ON 6 DECEMBER, 2005. THE PATTERN WAS ROTATED 12° CLOCKWISE IN ORDER TO AVOID POSSIBLE FLUID EXPULSION FEATURES NEAR THE NO. 6, 7, AND 8 ANCHORS.

-6150 WATER DEPTH CONTOUR, IN FEET. CONTOUR INTERVAL IS 10 FEET.

AREA OF HUMMOCKY TO UNDULATORY SEAFLOOR, CAUSED BY THE SEAFLOOR EXPRESSION OF SHALLOW BURIED DEBRIS FLOW DEPOSITS.

POSSIBLE FLUID EXPULSION MOUND WITH SEAFLOOR AMPLITUDE ANOMALY.

SEAFLOOR DEPRESSION POSSIBLY RELATED FLUID EXPULSION.

SEAFLOOR EXPRESSION OF SHALLOW BURIED CHANNEL.

AREA OF UPLIFTED SEAFLOOR ABOVE SHALLOW SALT.

0 1,000 2,000 3,000 4,000 5,000
SCALE IN FEET

WATER DEPTH AND SEAFLOOR FEATURES MAP PROPOSED WELLSITE MC 736-E

APPENDIX E

Discharges & Disposed Wastes Information

DISCHARGES

Provide this table and description only when you propose:

1. Activities in the Eastern Planning Area of the GOM.
2. Activities within the Protective Zones of the Flower Mississippi Canyon and Stetson Bank.
3. To use new or unusual technology that changes the nature or magnitude of the waste stream.
4. To use a sulphur recovery unit(s).
5. Deepwater development operations. (You may omit this table if you propose operations in an exempted area. Refer to the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/strategy/strategy.html> for a current listing of exempted areas.)
6. Initial EP's, DOCD's, or Supplemental DOCD's with new multiwell structures for which the State of Texas is an affected State (15 CFR 930.58(a)(2)).
7. Initial or supplemental DOCD's for which the State of Alabama is an affected State (15 CFR 930.58(a)(2)).
8. Initial DOCD's or supplemental DOCD's with new multiwell structure that includes disposal in Louisiana State waters or onshore Louisiana (15 CFR 930.58(a)(2)).

DISPOSED WASTES

Provide this table when you propose **all** Initial and Supplemental EP's and DOCD's. Provide this information in **Revised** EP's or DOCD's only when you propose:

1. Drilling operations in the Eastern Planning Area of the GOM.
2. To use new or unusual technology in the handling or discharge of drilling fluids or drill cuttings.
3. Deepwater development operations. (You may omit this table if you propose operations in an exempted area. Refer to the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/strategy/strategy.html> for a current listing of exempted areas.)

DISCHARGES PER WELL (UNLESS OTHERWISE NOTED):

| Type of Waste Approximate Composition | Amt to be Discharged (Volume or Rate) | Maximum Discharge Rate | Discharge and/or Storage Location and Discharge Method* |
|---|--|---------------------------|---|
| Water-Based Muds | 2090 | 1000 bbl/hr | Discharged at seafloor |
| WBM Drill Cuttings | 400 | 1000 bbl/hr | Discharged at seafloor |
| SBM Drill Cuttings | 4060 | 1000 bbl/hr | Discharged OB via shunt pipe |
| Muds, ctgs & cement at seafloor | 2050 | NA | Discharged at seafloor |
| Produced Water | NA | 12.6×10^6 /yr | NA |
| Sanitary Wastes | 25 gal/person/day | NA | Treated for oil & grease and discharged overboard |
| Domestic Wastes | 35 gal/person/day | NA | Treated for solids and discharged overboard |
| Deck Drainage | 0-4000 bbl/day dependent on rainfall | 15 bbl/hr | Oil & grease removed and discharged overboard |
| Well Treatment, Workover or Completion Fluids | NA | 200 bbl/well | Discharged used fluids overboard, return excess to shore for credit |
| Uncontaminated fresh or seawater | NA | NA | Discharged overboard |
| Desalinization Unit | 2650 bbl/day | NA | Discharged overboard |
| Uncontaminated Bilge Water | 1200 bbl/project | 260 m^3 /hr | Discharged overboard |
| Uncontaminated Ballast Water | 15,000 bbl/project | 2600 m^3 /hr | Discharged overboard |
| Misc. Discharges - Treated Chemicals added | NA | 10 bbl/hr | Discharged overboard |
| Miscellaneous Discharges (permitted under NPDES) (excess cmt w/ cmtg chems) | NA | NA | Discharged overboard at seafloor without treatment |

***All overboard discharges will take place on site.**

Typical semi rig =90 men on board, typical jackup/workover rig=50 men on board

All mud discharged will be tested for toxicity as required by EPA's NPDES discharge permit. Sanitary and domestic wastes are treated in compliance with EPA's NPDES discharge permit. Rig or platform discharge will vary according to the number of personnel on board.

All vessels used in our operations are equipped with Marine Sanitation Devices or holding tanks in compliance with DOT regulations.

DISPOSED WASTES PER WELL (UNLESS OTHERWISE NOTED):

| Type of Waste Approximate Composition | Amt in Volume, Wt or Rate | Rate per Day | Name/Location of Disposal Facility | Treatment and/or Storage, Transport & Disposal Method |
|---|---|---|---|---|
| Spent Oil-based Drilling Fluids & Cuttings | NA | 200/bbl/day | MI Drilling Fluids, Baroid Mud; Fourchon, LA | Put in appropriate containers, transported to dock for disposal; recycled by mud company |
| Spent Syn.- based Drlg Fluids & Cuttings | 4740 | 6% of discharged cuttings | MI Drilling Fluids, Baroid Mud; Fourchon, LA | Put in appropriate containers, transported to dock for disposal; recycled by mud company |
| Oil- contaminated Produced Sand | NA | 0.6 bbl/day | NA | NA |
| Waste Oil | 300 bbl/yr average 18 bbl/year average | Drilling Rig – 0.8 bbl/day average Platform-0.5 bbl/day | ASCO, Fourchon, LA Chemical Waste Mgt - Sulphur, LA | Transported by boat in drums to dock - Fuel blending “...”, Fuel Blending |
| Produced Water | NA | NA | NA | NA |
| NORM- contaminated Wastes | NA | NA | NA | NA |
| Trash and Debris | 3000 ft ³ /yr average Dependent on number | Drilling Rig – 8 ft ³ /yr average Platform – 0.01 m ³ /day/man | Solid Waste Disposal, Inc.–Houma, La Galliano Waste - Galliano, LA | Transported in storage bins to dock by boat, transported from dumpster to landfill. |
| Chemical Product Wastes | Dependent upon operations | Platform-<0.1 gal/day/man | Chemical Waste Mgt - Sulphur, LA | Acids/chems neutralized; haz. wastes sent to incineration at Onyx - Port Arthur, Tx |
| Workover Fluids | NA | 2 bbl/day | NA | NA |

No oil will be added to the drilling mud or discharged at any time. In the event it becomes necessary to add oil to the drilling mud or "spot" an oil base lubricate around a stuck drill string, all mud and cuttings will be transported to shore for proper disposal. Drilling rigs and production platforms are constructed with drip pans and or/drain under the floor and machinery to contain oil spills during operations. All used oil from machinery is collected and stored and later transferred to shore base.

All metal, steel, cables, etc. are stored on the rig until sufficient quantity accumulates. This material is then transported to our shore base for recycling. Paper, bags, plastics, etc. are compacted in a container by an onboard compactor then transported to shore for disposal.

APPENDIX F

Oil Spill Information

Site-Specific OSRP

Regional OSRP

OSRP Information

Worst-case Scenario Comparison

Facility Tanks and Production Vessels

Diesel Oil Supply Vessels

Support Vessels Fuel Tanks

Produced Liquid Hydrocarbon Transportation Vessels

Oil- and Synthetic-based Drilling Fluids

Blowout Scenario

Oils Characteristics

Spill Response Sites

Spill Response Discussion for NEPA Analysis

Pollution Prevention Measures

FGBNMS Monitoring Plans

SITE-SPECIFIC OSRP

Not applicable. This Plan is not for the Eastern Planning Area and Florida or Alabama is not an affected state.

REGIONAL OSRP

Murphy Exploration & Production Company and Murphy Exploration & Production Company-USA are the only companies covered by the Regional Oil Spill Response Plan (OSRP) approved on December 1, 2005. Activities proposed in this EP will be covered by the Regional OSRP.

OSRP INFORMATION

Murphy Exploration & Production Company - USA's oil spill removal organizations are as follows:

Equipment and personnel:

Marine Response Corporation of Lake Charles, LA for CGA equipment and Airborne Support, Incorporated of Bourg, LA.

Source control services:

Well Control Specialists: Boots & Coots, Cudd Pressure Control, International Well Control and Wild Well Control, all of Houston, Texas.

Diving Companies: Cal Dive of Morgan City, LA and Stolt Comex Seaway, Incorporated of New Iberia, LA.

Primary spill response equipment is located at Ingleside and Galveston, TX; Lake Charles, Fort Jackson and Houma, LA and Pascagoula, MS. Murphy Exploration will use equipment located in Houma, LA with a staging area of Fourchon, LA.

APPENDIX F CONTINUED

WORST-CASE SCENARIO COMPARISON

The following worst case scenario volume comparison is greater than 1000 barrels.

| CATEGORY | REGIONAL OSRP | EP OR DOCD |
|--|---------------|------------|
| Type of Activity | Exploration | EP |
| Facility Location (Area/Block) | MC 582 | MC 736 |
| Facility Designation | Well #1 | Well #A-E |
| Distance to Nearest Shoreline (miles) | 33 | 67 |
| Volume | | |
| Storage Tanks (total) | | |
| Flowlines (on facility) | | |
| Lease Term Pipelines | | |
| Uncontrolled Blowout (volume per day) | 30,000/day | 20,000/day |
| Total Volume | 30,000/day | 20,000/day |
| Type of Oil(s)-(crude oil, condensate, diesel) | Crude | Crude |
| API° Gravity(s) | 22° | 22° |

Since Murphy Exploration & Production Company - USA and Murphy Exploration & Production Company has the ability to respond to the worst-case spill scenario included in its regional OSRP approved on September 30, 2003 with annual update submitted October 24, 2005 and since the worst-case scenario determined for our Exploration Plan does not replace the worst-case scenario in our regional OSRP, I hereby certify that Murphy Exploration & Production Company - USA 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 Exploration Plan.

FACILITY TANKS AND PRODUCTION VESSELS

| Type of Storage Tank | Type of Facility | Tank Capacity (bbls) | Number of Tanks | Total Capacity (bbls) | Fluid Gravity (API) |
|----------------------|------------------|----------------------|-----------------|-----------------------|---------------------|
| Fuel Oil | Semi-Submersible | 5000 | 2 | 10,000 | #2 Diesel |
| Crude Storage | Semi-Submersible | 500 | 1 | 500 | Crude |
| Crane | Semi-Submersible | 250 | 2 | 500 | #2 Diesel |

DIESEL OIL SUPPLY VESSELS (transfers of diesel oil used for purposes other than fuel (e.g.) base for corrosion control fluids)

| Size of Fuel Supply Vessel | Capacity of Fuel Supply Vessel | Frequency of Fuel Transfers | Route Fuel Supply Vessel Will Take |
|----------------------------|--------------------------------|-----------------------------|------------------------------------|
| NA | NA | NA | NA |

SUPPORT VESSELS FUEL TANKS (maximum per class in the field at any given time)

| Type of Vessel | Number in Field Simultaneously | Estimated Maximum Fuel Tank Storage Capacity |
|---|--------------------------------|--|
| Supply Boat – 225' | 1 | 2400 bbl each |
| Crew Boat - 162' | 1 | 400 bbl each |
| Tugs * | 2 | 3000 bbl each |
| * Includes anchor-handling vessels, construction barges, lay barges, etc. | | |

PRODUCED LIQUID HYDROCARBON TRANSPORTATION VESSELS

Not applicable. Liquid hydrocarbons will not be transported by means other than pipeline.

SYNTHETIC- AND OIL-BASED DRILLING FLUIDS

| Type of Drilling Fluid | Estimated volume of Mud per Well | Mud Disposal Method | Est. Volume of Cuttings Generated per Well | Cuttings Disposal Method |
|------------------------|----------------------------------|---------------------|--|--------------------------|
| Synthetic-based | 4740 | Recycle | 4060 | Discharge |
| Oil-Based | NA | Recycle | NA | Onshore Disposal |

BLOWOUT SCENARIO

The maximum estimated blowout rate of a well in the vicinity is 20,000 BOPD, therefore the worst case discharge is approximately 600,000 barrels which is determined as the daily volume from an uncontrolled blowout for a period of 30 days. Surface intervention would in all likelihood not be able to be accomplished. The probability of the well bridging over within 30 days is high due to the unconsolidated nature of the sediments. In the event the well did not bridge over, a relief well would be drilled. Rig mobilization and drilling of the relief well could take between 20 and 30 days, depending on variables such as rig positioning and depth of blowout.

OILS CHARACTERISTICS

SPILL RESPONSE SITES

| Primary Response Equipment Location | Preplanned Staging Location |
|-------------------------------------|-----------------------------|
| Houma, LA | Fourchon, LA |

PUBLIC INFORMATION

SPILL RESPONSE DISCUSSION FOR NEPA ANALYSIS

Description of Response Equipment; Description of Personnel, Materials and Support Vessels;
Description of Oil Storage, Transfer and Disposal Equipment *

*See Section 14, 15, 16 and Appendix E and F of Murphy's OSRP approved September 30, 2003.

Vessels are to be provided by Murphy. Workboats under contract will be used. In the event of a spill, the fast response unit that is in Houma, LA will be assembled and loaded onto a workboat in Fourchon, LA. Vessel procurement and assembly of unit will take approximately 2 hours. It will take approximately 3 hours to round up a crew from various areas. All operations will be conducted simultaneously. Vessel travel time from Fourchon, LA to Mississippi Canyon 736 is approximately 18 hours*.

Initial Response - Fast Response Unit from Fourchon , LA to MC 736:

| | |
|------------------|-----------|
| Procurement | 2.0 hrs. |
| Waiting on crew | 1.0 hrs. |
| Loading time | 1.5 hrs. |
| Travel to MC 736 | 12.5 hrs. |
| Deployment time | 1.0 hrs. |

Total Response Time 17.0 hrs.

* (Open water 120 miles @ 10 mph, inland travel 3 miles @ 6 mph

As per 30 CFR 254.254.26 (d) (2) (vi) (e) (2), discussion of range of environmental conditions anticipated and the capabilities of response equipment to worst case discharge scenario during adverse weather conditions, please see table below:

| Operational Limitations of Response Equipment | |
|---|---|
| MSRC OSRV | 8 foot seas |
| Hoss Barge | 7 foot seas |
| FRU | 4 foot seas |
| Expand Boom | 6 foot seas, 20 knot winds |
| Dispersants | Winds more than 25 knots, visibility less than 3 nautical miles, or ceiling less than 1000 feet |

POLLUTION PREVENTION MEASURES

The rig to be used will comply with all of the regulations of the American Bureau of Shipping, International Maritime Organization and the United States Coast Guard. All drilling operations will be conducted under the provisions of 30 CFR, part 250 and other applicable regulations and notices, including those regarding the avoidance of potential drilling hazards and safety and pollution prevention control. Safety features will include well control and blowout prevention equipment as described in Title 30 CFR 250. All production facilities are constructed and installed to meet M.M.S. and Coast Guard standards for protection of the environment. Murphy chooses contractors who have good environmental compliance records and Murphy Exploration & Production Company-USA's Safety and Training Department monitors and trains personnel in the conduct of safe operations and compliance with all pollution prevention standards.

FGBNMS MONITORING PLANS

Not applicable. Activities proposed in this Plan will not affect the Flower Garden Banks National Marine Sanctuary.

APPENDIX G

Air Emissions Information

If you answer **no** to all of the screening questions from the appropriate table, provide:

(1) Summary information regarding the peak year emissions that will be generated by and associated with your Plan Emissions and Complex Total Emissions. This information is compiled on the summary form of the two sets of worksheets, and you can submit either these summary forms or the format below. You do not need to include the entire set of worksheets.

(2) Following your submittal of the summary information, the GOMR may need you to submit the entire set of worksheets regardless of your response to the above screening questions. The GOMR will make this determination on a case-by-case basis.

If you answer **yes** to any of the screening questions from the appropriate table, provide:

(1) Worksheets. Two sets of worksheets; one showing the emission calculations for your Plan Emissions and one showing the emission calculations for the Complex Total Emissions.

| Screening Questions for EP's | | Yes | No |
|--|--|-----|----|
| Is any calculated Complex Total (CT) Emission amount (tons) associated with your proposed exploration activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ 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 ₂ 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 |
| Screening Questions for DOCD's | | Yes | No |
| Is any calculated Complex Total (CT) Emission amount (tons) associated with your proposed development and production activities more than 90% of the amounts calculated using the following formulas: $CT = 3400D^{2/3}$ for CO, and $CT = 33.3D$ for the other air pollutants (where D = distance to shore in miles)? | | | |
| Do your emission calculations include any emission reduction measures or modified emission factors? | | | |
| Does or will the facility complex associated with your proposed development and production activities process production from eight or more wells? | | | |
| Do you expect to encounter H ₂ S at concentrations greater than 20 parts per million (ppm)? | | | |
| Do you propose to flare or vent natural gas in excess of the criteria set forth under 250.1105(a)(2) and (3)? | | | |
| Do you propose to burn produced hydrocarbon liquids? | | | |
| Are your proposed development and production activities located within 25 miles from shore? | | | |
| Are your proposed development and production activities located within 200 kilometers of the Breton Wilderness Area? | | | |

| Air Pollutant | Plan Emission Amounts ¹ (tons) | Calculated Exemption Amounts ² (tons) | Calculated Complex Total Emission Amounts ³ (tons) |
|------------------------------------|--|---|--|
| Carbon monoxide (CO) | SEE ATTACHED | | Na |
| Particulate matter (PM) | | | Na |
| Sulphur dioxide (SO ₂) | | | Na |
| Nitrogen oxides (NO _x) | | | Na |
| Volatile organic compounds (VOC) | | | Na |

¹ For activities proposed in your EP or DOCD, list the projected emissions calculated from the worksheets.

² List the exemption amounts for your proposed activities calculated by using the formulas in 30 CFR 250.303(d). ³ List the complex total emissions associated with your proposed activities calculated from the worksheets

Calculations of the projected Plan Emission, Complex Total Emission and Exemption Amounts were performed by Debra K. Benoit, (504) 561-2409, Debbie_benoit@murphyoilcorp.com

**EXPLORATION PLAN (EP)
AIR QUALITY SCREENING CHECKLIST**

OMB Control No. XXX-XXX
Expiration Date: Pending

| | |
|------------------------|---|
| COMPANY | Murphy Exploration & Production Company |
| AREA | Miss. Canyon |
| BLOCK | 734 |
| LEASE | 27306 |
| PLATFORM | |
| WELL | A-E |
| COMPANY CONTACT | Debra K. Benoit |
| TELEPHONE NO. | 337-262-4761 |
| REMARKS | NA |

| "Yes" | "No" | Air Quality Screening Questions |
|-------|------|--|
| | X | 1. Are the proposed activities east of 87.5° W latitude? |
| | X | 2. Are H ₂ 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? |

If ALL questions are answered "No":

Submit only this coversheet with your plan; a full set of spreadsheets is not needed.

If ANY of questions 1 through 7 is answered "Yes":

Prepare and submit a full set of **EP** spreadsheets with your plan.

If question number 8 is answered "Yes":

Prepare and submit a full set of **DOCD** spreadsheets showing the cumulative emissions from both the proposed activities and the existing production platform.

EMISSIONS CALCULATIONS 1ST YEAR

OMB Control No. xxxx-xxxx

Expiration Date: Pending

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL | CONTACT | PHONE | REMARKS | | | | | | | | | |
|---------------------------|---------------------------------|----------|-----------|-----------|----------|-----------------|-------------------------|---------|---------|-------|--------|----------------|---------|---------|---------|----------|--|
| Murphy Exploration & Prod | Miss. Canyon | 734 | 27306 | | A-E | Debra K. Benoit | 337-262-4761 | | | | | | | | | | |
| 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 | 39555 | 1910.5065 | 45852.16 | 24 | 122 | 27.88 | 127.90 | 958.38 | 28.75 | 209.10 | 40.82 | 187.25 | 1403.07 | 42.09 | 306.12 | |
| | PRIME MOVER>600hp 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 | |
| | PRIME MOVER>600hp 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 | |
| | PRIME MOVER>600hp 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 | |
| | BURNER diesel | 0 | | | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | AUXILIARY EQUIP<600hp 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) | 1800 | 86.94 | 2086.56 | 12 | 122 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.93 | 4.26 | 31.92 | 0.96 | 6.97 | |
| | VESSELS>600hp diesel(supply) | 2100 | 101.43 | 2434.32 | 8 | 35 | 1.48 | 6.79 | 50.88 | 1.53 | 11.10 | 0.21 | 0.95 | 7.09 | 0.21 | 1.55 | |
| | VESSELS>600hp diesel(helicopt.) | 1800 | 86.94 | 2086.56 | 2 | 122 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.15 | 0.71 | 5.32 | 0.16 | 1.16 | |
| FACILITY INSTALLATION | VESSELS>600hp diesel(tugs-2) | 8400 | 405.72 | 9737.28 | 24 | 2 | 5.92 | 27.16 | 203.52 | 6.11 | 44.41 | 0.14 | 0.65 | 4.88 | 0.15 | 1.07 | |
| | 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 | |
| | 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. TANK- | BPD | SCF/HR | COUNT | | | | | | 0.00 | | | | | 0.00 | | |
| | | 0 | | | 0 | 0 | | | | | | | | | | | |
| 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 | |
| 2006 YEAR TOTAL | | | | | | | 37.82 | 173.49 | 1300.01 | 39.00 | 283.64 | 42.25 | 193.82 | 1452.29 | 43.57 | 316.86 | |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 2231.10 | 2231.10 | 2231.10 | 2231.10 | 56086.99 | |
| | 67.0 | | | | | | | | | | | | | | | | |

EMISSIONS CALCULATIONS 2ND YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL | | CONTACT | PHONE | REMARKS | | | | | | | | |
|---------------------------|--------------------------------|----------|-----------|-----------|----------|------|-------------------------|--------------|---------|-------|--------|----------------|---------|---------|---------|----------|--|
| Murphy Exploration & Prod | Miss. Canyon | 734 | 27306 | | A-E | | Debra K. Benoit | 337-262-4761 | | | | | | | | | |
| 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 | 39555 | 1910.5065 | 45852.16 | 24 | 123 | 27.88 | 127.90 | 958.38 | 28.75 | 209.10 | 41.15 | 188.78 | 1414.57 | 42.44 | 308.63 | |
| | PRIME MOVER>600hp 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 | |
| | PRIME MOVER>600hp 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 | |
| | PRIME MOVER>600hp 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 | |
| | BURNER diesel | 0 | | | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| | AUXILIARY EQUIP<600hp 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) | 1800 | 86.94 | 2086.56 | 12 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.94 | 4.30 | 32.19 | 0.97 | 7.02 | |
| | VESSELS>600hp diesel(supply) | 2100 | 101.43 | 2434.32 | 8 | 35 | 1.48 | 6.79 | 50.88 | 1.53 | 11.10 | 0.21 | 0.95 | 7.15 | 0.21 | 1.56 | |
| | VESSELS>600hp diesel(helicop.) | 1800 | 86.94 | 2086.56 | 2 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.16 | 0.72 | 5.36 | 0.16 | 1.17 | |
| | VESSELS>600hp diesel(tugs-2) | 8400 | 405.72 | 9737.28 | 24 | 2 | 5.92 | 27.16 | 203.52 | 6.11 | 44.41 | 0.14 | 0.65 | 4.88 | 0.15 | 1.07 | |
| FACILITY INSTALLATION | 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 | |
| | 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. TANK- | BPD | SCF/HR | COUNT | | | | | | | | | | | | | |
| | | 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 | | | | | | | 37.82 | 173.49 | 1300.01 | 39.00 | 283.64 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 | |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 2231.10 | 2231.10 | 2231.10 | 2231.10 | 56086.99 | |
| | 67.0 | | | | | | | | | | | | | | | | |

EMISSIONS CALCULATIONS 3RD YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

| Murphy Exploration & Pr | Miss. Canyon | 734 | 27306 | | A-E | | Debra K. Benoit | 337-262-4761 | | | | | | | | |
|-------------------------|---------------------------------|----------|-----------|-----------|----------|------|-------------------------|--------------|---------|-------|--------|----------------|--------|---------|-------|--------|
| OPERATIONS | EQUIPMENT | RATING | MAX. FUEL | ACT. FUEL | RUN TIME | | MAXIMUM POUNDS PER HOUR | | | | | ESTIMATED TONS | | | | |
| | Diesel Engines | HP | GAL/HR | GAL/D | | | | | | | | | | | | |
| Murphy Exploration & Pr | Miss. Canyon | 734 | 27306 | | A-E | | Debra K. Benoit | 337-262-4761 | | | | | | | | |
| 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 | 39555 | 1910.5065 | 45852.16 | 24 | 123 | 27.88 | 127.90 | 958.38 | 28.75 | 209.10 | 41.15 | 188.78 | 1414.57 | 42.44 | 308.63 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | BURNER diesel | 0 | | | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | AUXILIARY EQUIP<600hp 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) | 1800 | 86.94 | 2086.56 | 12 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.94 | 4.30 | 32.19 | 0.97 | 7.02 |
| | VESSELS>600hp diesel(supply) | 2100 | 101.43 | 2434.32 | 8 | 35 | 1.48 | 6.79 | 50.88 | 1.53 | 11.10 | 0.21 | 0.95 | 7.15 | 0.21 | 1.56 |
| | VESSELS>600hp diesel(helicopt.) | 1800 | 86.94 | 2086.56 | 2 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.16 | 0.72 | 5.36 | 0.16 | 1.17 |
| | VESSELS>600hp diesel(tugs-2) | 8400 | 405.72 | 9737.28 | 24 | 2 | 5.92 | 27.16 | 203.52 | 6.11 | 44.41 | 0.14 | 0.65 | 4.88 | 0.15 | 1.07 |
| 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 | | | | | | | 37.82 | 173.49 | 1300.01 | 39.00 | 283.64 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| EXEMPTION | DISTANCE FROM LAND IN | | | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| CALCULATION | MILES | | | | | | | | | | | | | | | |
| | 67.0 | | | | | | | | | | | | | | | |

EMISSIONS CALCULATIONS 4TH YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

| Murphy Exploration & Prod | Miss. Canyon | 734 | 27306 | | A-E | | Debra K. Benoit | 337-262-4761 | | | | | | | | |
|---------------------------|--------------------------------|----------|-----------|-----------|----------|------|-------------------------|--------------|---------|-------|--------|----------------|--------|---------|-------|--------|
| 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 | 39555 | 1910.5065 | 45852.16 | 24 | 123 | 27.88 | 127.90 | 958.38 | 28.75 | 209.10 | 41.15 | 188.78 | 1414.57 | 42.44 | 308.63 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | BURNER diesel | 0 | | | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | AUXILIARY EQUIP<600hp 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) | 1800 | 86.94 | 2086.56 | 12 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.94 | 4.30 | 32.19 | 0.97 | 7.02 |
| | VESSELS>600hp diesel(supply) | 2100 | 101.43 | 2434.32 | 8 | 35 | 1.48 | 6.79 | 50.88 | 1.53 | 11.10 | 0.21 | 0.95 | 7.15 | 0.21 | 1.56 |
| | VESSELS>600hp diesel(helicop.) | 1800 | 86.94 | 2086.56 | 2 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.16 | 0.72 | 5.36 | 0.16 | 1.17 |
| FACILITY INSTALLATION | VESSELS>600hp diesel(tugs-2) | 8400 | 405.72 | 9737.28 | 24 | 2 | 5.92 | 27.16 | 203.52 | 6.11 | 44.41 | 0.14 | 0.65 | 4.88 | 0.15 | 1.07 |
| | 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 |
| | 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 | | | | | | | 37.82 | 173.49 | 1300.01 | 39.00 | 283.64 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 67.0 | | | | | | | | | | | | | | | |

EMISSIONS CALCULATIONS 5TH YEAR

OMB Control No. xxxx-xxxx
Expiration Date: Pending

| | | | | | | | | | | | | | | | | |
|---|--------------------------------|----------|-----------|-----------|----------|------|-------------------------|--------|--------------|-------|--------|----------------|--------|---------|-------|--------|
| Murphy Exploration & Prod. Miss. Canyon | | 734 | 27306 | | A-E | | Debra K. Benoit | | 337-262-4761 | | | | | | | |
| 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 | 39555 | 1910.5065 | 45852.16 | 24 | 123 | 27.88 | 127.90 | 958.38 | 28.75 | 209.10 | 41.15 | 188.78 | 1414.57 | 42.44 | 308.63 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | PRIME MOVER>600hp 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 |
| | BURNER diesel | 0 | | | 0 | 0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | AUXILIARY EQUIP<600hp 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) | 1800 | 86.94 | 2086.56 | 12 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.94 | 4.30 | 32.19 | 0.97 | 7.02 |
| | VESSELS>600hp diesel(supply) | 2100 | 101.43 | 2434.32 | 8 | 35 | 1.48 | 6.79 | 50.88 | 1.53 | 11.10 | 0.21 | 0.95 | 7.15 | 0.21 | 1.56 |
| | VESSELS>600hp diesel(helicop.) | 1800 | 86.94 | 2086.56 | 2 | 123 | 1.27 | 5.82 | 43.61 | 1.31 | 9.52 | 0.16 | 0.72 | 5.36 | 0.16 | 1.17 |
| FACILITY INSTALLATION | VESSELS>600hp diesel(tugs-2) | 8400 | 405.72 | 9737.28 | 24 | 1 | 5.92 | 27.16 | 203.52 | 6.11 | 44.41 | 0.07 | 0.33 | 2.44 | 0.07 | 0.53 |
| | 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 |
| | 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. TANK- | BPD | SCF/HR | COUNT | | | | | | 0.00 | | | | | 0.00 | |
| | | 0 | | | 0 | 0 | | | | | | | | | | |
| 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 | | | | | | | 37.82 | 173.49 | 1300.01 | 39.00 | 283.64 | 42.52 | 195.07 | 1481.72 | 43.85 | 318.92 |
| EXEMPTION CALCULATION | DISTANCE FROM LAND IN MILES | | | | | | | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 67.0 | | | | | | | | | | | | | | | |

SUMMARY

OMB Control No. xxxx-xxxx

Expiration Date: Pending

| COMPANY | AREA | BLOCK | LEASE | PLATFORM | WELL |
|----------------|-------------------|---------|---------|----------|----------|
| Murphy Explora | Miss. Canyon | 734 | 27306 | | A-E |
| Year | Emitted Substance | | | | |
| | PM | SOx | NOx | VOC | CO |
| 2006 | 42.25 | 193.82 | 1452.29 | 43.57 | 316.86 |
| 2007 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| 2008 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| 2009 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| 2010 | 42.59 | 195.40 | 1464.16 | 43.92 | 319.45 |
| 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 | 2231.10 | 2231.10 | 2231.10 | 2231.10 | 56086.99 |

APPENDIX H

Environmental Impact Analysis

MISSISSIPPI COASTAL PROGRAM (MCP)
STATEMENT OF FINDINGS REGARDING RELEVANT ENFORCEABLE POLICIES

Goal 1 - 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.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi.

Goal 2 - To favor the preservation of the coastal wetlands and ecosystems, except where a specific alteration 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.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, coastal wetlands and ecosystems will not be adversely impacted.

Goal 3 - To protect, propagate, and conserve the state's seafood and aquatic life in connection with the revitalization of the seafood industry of the State of Mississippi.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's seafood industry will not be adversely impacted.

Goal 4 - To conserve the air and waters of the state, and to protect, maintain, and improve the quality thereof for public use, for the propagation of wildlife, fish and aquatic life, and for domestic, agricultural, industrial, recreational, and other legitimate beneficial uses.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's air and waters will not be adversely impacted.

Goal 5 - To put to beneficial use to the fullest extent of which they are capable the water resources of the state, and to prevent the waste, unreasonable use, or unreasonable method of use of water.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's water resources will not be adversely impacted.

Goal 6 - To preserve the state's historical and archaeological resources, to prevent their destruction, and to enhance these resources wherever possible.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's historical and archaeological resources will not be adversely impacted.

Goal 7 - To encourage the preservation of natural scenic qualities in the coastal area.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's natural scenic qualities will not be adversely impacted.

Goal 8 - To assist local governments in the provision of public facilities services in a manner consistent with the coastal program.

The proposed activities will occur in Mississippi Canyon Area Block 736 which is located approximately 131 miles south of Petit Bois Island, Jackson County Mississippi. Murphy Exploration & Production Company will utilize existing shorebase facilities located in Fourchon, Louisiana. No activities are proposed within coastal Mississippi; therefore, Mississippi's public facilities services will not be adversely impacted.

Environmental Impact Analysis

*Mississippi Canyon Area
Block 736
OCS-G-27306*

December 12, 2005

Prepared for Murphy Exploration & Production Company
by Tim Morton & Associates, Inc.

Filename: D:\2005\Murphy\MissCanyon\324-Block 736\EIA-EPMC736.wpd

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I. Description of the Proposed Activity

This environmental impact analysis addresses the activity proposed by Murphy Exploration & Production Company (Murphy) for Mississippi Canyon Area Block 736 (OCS-G-27306). The approximate location of the activity is presented on a general vicinity map of the Outer Continental Shelf (OCS) lease areas off the coasts of Louisiana and Mississippi (Figure 1).

Murphy proposes to utilize a semi-submersible rig to drill five wells in Mississippi Canyon Area Block 736. More specific information can be found in the attached Exploration Plan (EP).

The proposed activities will be carried out by Murphy with a guarantee of the following:

- The best available and safest technologies will be utilized throughout the projects. This includes meeting all applicable requirements for equipment types, general project layout, safety systems, equipment and monitoring systems.
- All operations will be covered by a Minerals Management Service (MMS) approved Oil Spill Response Plan.
- All applicable Federal, State, and local requirements regarding air emissions, water quality, and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

II. Impact-Producing Factors

| Environmental Resources | Impact Producing Factors (IPF's) Categories and Examples Refer to a recent GOM OCS Lease Sale EIS for a more complete list of IPF's | | | | | |
|---|--|--|--|--|--|-----------------------------|
| | Emissions (air, noise, light, etc.) | Effluents (muds, cuttings, other discharges to the water column or seafloor) | Physical disturbances to the seafloor (rig or anchor emplacements, etc.) | Wastes sent to shore for treatment or disposal | Accidents (e.g., oil spills, chemical spills, H2S releases) | Other IPF's you identify |
| Site-specific at Offshore Location | | | | | | |
| Designated topographic features | | | | | | |
| Pinnacle Trend area live-bottoms | | | | | | |
| Eastern Gulf live bottoms | | | | | | |
| Chemosynthetic communities | | | X | | | |
| Water quality | | X | | | X | |
| Fisheries | | | | | X | |
| Marine mammals | X | | | | X | |
| Sea turtles | X | | | | X | |
| Air quality | X | | | | | |
| Shipwreck sites (known or potential) | | | | | | |
| Prehistoric archaeological sites | | | X | | | |
| | | | | | | |
| Vicinity of Offshore Location | | | | | | |
| Essential fish habitat | | | | | X | |
| Marine and pelagic birds | | | | | X | |
| Public health and safety | | | | | | |
| | | | | | | |
| Coastal and Onshore | | | | | | |
| Beaches | | | | | X | |
| Wetlands | | | | | X | |
| Shore birds and coastal nesting birds | X | | | | X | |
| Coastal wildlife refuges | | | | | X | |
| Wilderness areas | | | | | X | |
| | | | | | | |
| Other Resources You Identify | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

III. Analysis of Impact-Producing Factors

A. Site-specific at Offshore Location

1. Designated Topographic Features

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the EP, there will be no adverse impacts to topographic features. Mississippi Canyon Area Block 736 is located approximately 74 miles southeast of Sackett Bank, the nearest known topographic feature.

The following discussion of topographic features is summarized from the Final Environmental Impact Statement (USDOl, OCS EIS/EA MMS 2002-052). The Topographic Lease Stipulation has been used on leases since 1973, and this experience shows conclusively that the stipulation effectively prevents damage to the biota of these banks from routine oil and gas activities. In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact sessile biota on topographic features. Crests of designated topographic features in the northern Gulf of Mexico are found below 10 meters; therefore, concentrated oil from a surface spill is not likely to reach sessile biota. Subsurface spills could result in the formation and settling of oil-saturated material, and oil-sediment particles could come into contact with living coral tissue; however, a subsurface spill should rise to the surface, and any oil remaining at depth would probably be swept clear of the banks by currents moving around the banks (Rezak et al., 1983). Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

2. Pinnacle Trend Area Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the EP, there will be no adverse impacts to pinnacle trend live bottoms. Mississippi Canyon Area Block 736 is located approximately 64 miles south of Viosca Knoll Area Block 778, the nearest block protected by the pinnacle trend live bottom stipulation.

The following discussion of pinnacle trend area live bottoms is summarized from the Final Environmental Impact Statement (USDOl, OCS EIS/EA MMS 2002-052). By identifying the individual pinnacles present at the activity site, the lessee would be directed to avoid placement of the drilling rig and anchors on the sensitive areas. Thus, mechanical damage to the pinnacles is eliminated when measures required by the stipulation are imposed. The stipulation does not address the discharge of effluents near the pinnacles because the pinnacle trend is subjected to heavy natural sedimentation and is at considerable depths. The rapid dilution of drill cuttings and muds will minimize the potential of significant concentration of effluents on the pinnacles.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact biota of the pinnacle trend. Any surface oil spill resulting from a proposed action would likely have no impact on the biota of the pinnacle trend because the crests of these features are much deeper than 20 meters. All evidence to date indicates that accidental oil discharges that occur at the seafloor from a pipeline or blowout would rise in the water column, surfacing almost directly over the source

location, and thus not impact pinnacles. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

3. Eastern Gulf Live Bottoms

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the EP, there will be no adverse impacts to eastern gulf live bottoms. Mississippi Canyon Area Block 736 is located approximately 36 miles west of the nearest block protected by the eastern gulf live bottom stipulation.

The following discussion of eastern gulf live bottoms is summarized from the Final Environmental Impact Statement (USDO, OCS EIS/EA MMS 2000-077). Through detection and avoidance, the eastern gulf live bottom lease stipulation minimizes the likelihood of mechanical damage from OCS activities associated with rig and anchor emplacement to the sessile and pelagic communities associated with the crest and flanks of such features. Since this area is subject to heavy natural sedimentation, this stipulation does not include and specific measures to protect the pinnacles from the discharge of effluents.

In the unlikely event of an accidental surface or subsurface oil spill, concentrated oil is not expected to impact eastern gulf live bottoms because of the depth of the features and dilution of spills by currents and/or quickly rising oil. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

4. Chemosynthetic Communities

After a review of impact-producing factors (including effluents, physical disturbances to the seafloor, and accidents) resulting from activities proposed in the EP, there are potential impacts to chemosynthetic communities. A Shallow Hazards Assessment of Mississippi Canyon Area Blocks 736 and 737 was prepared by Fugro Geoservices, Inc. The following was extracted from that assessment:

Seven small fluid expulsion features that exhibit anomalous seafloor amplitudes were identified in MC Block 692, 693, and 735. These features may support chemosynthetic communities and should be avoided by 1500 ft with respect to proposed wellsites and by 500 ft with respect to any anchor-related seafloor disturbances.

The following discussion of chemosynthetic communities is summarized from the Final Environmental Impact Statement (USDO, OCS EIS/EA MMS 2002-052). Impacts to chemosynthetic communities from any oil released would be a remote possibility. Release of hydrocarbons associated with a blowout should not present a possibility for impact to chemosynthetic communities located a minimum of 457 meters (1,500 feet) from well sites. Mississippi Canyon Area Block 736 is located approximately 64 miles south-southwest of Viosca Knoll Area Block 826, the nearest block with a known chemosynthetic community. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

5. Water Quality

After a review of impact-producing factors (including effluents and accidents) resulting from activities proposed in the EP, there are potential impacts to water quality. The discharges generated as a result of drilling activities associated with this EP will be discharged upon successful bioassay test as per National Pollutant Discharge Elimination System (NPDES) permit guidelines. Solids wastes; typically paper, plastic, cloth, and metal, will be collected and transported to shore for disposal at an approved disposal facility. Solid wastes generated from the transportation vessels, normally just garbage, will be collected and returned to shore for disposal with the drilling rig refuse. Scrap metal and other metal wastes will be recycled or sold as scrap and will not be shipped to a disposal facility with the other refuse. Sanitary wastes will be treated in approved marine sanitation devices as required by the Clean Water Act. All biodegradable wastes, such as kitchen food scraps, will be comminuted or ground and discharged in accordance with NPDES permit guidelines and Annex V of MARPOL 73/78. Hazardous wastes from the drilling rig, such as paint, or paint thinner, will be collected in sealed metal containers and transported to an approved disposal site in accordance with RCRA guidelines. All applicable Federal, State, and local requirements regarding water quality and discharge for the proposed activities, as well as any other permit conditions, will be complied with.

The following discussion of potential impacts to water quality is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). In the unlikely event of an accidental surface or subsurface oil spill, a variety of physical, chemical, and biological processes act to disperse the oil slick, such as spreading, evaporation of the more volatile constituents, dissolution into the water column, emulsification of small droplets, agglomeration sinking, microbial modification, photochemical modification, and biological ingestion and excretion. The water quality would be temporarily affected by the dissolved components and small oil droplets that do not rise to the surface or are mixed down by surface turbulence. Dispersion by currents and microbial degradation would remove the oil from the water column or dilute the constituents to background levels. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

6. Fisheries

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to fisheries. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to fisheries.

The following discussion of potential impacts to fisheries is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). The Gulf sturgeon (*Ancipenser oxyrinchus desotoi*) is the only listed threatened fish species in the Gulf of Mexico. The Gulf sturgeon could be impacted by oil spills. Contact with spilled oil could cause irritation of gill epithelium and disturbance of liver function in Gulf sturgeon. The likelihood of spill occurrence and contact to the Gulf sturgeon is very low.

Should a spill occur in the area of mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both

metabolites and parent compounds. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

7. Marine Mammals

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the EP, there are potential impacts to marine mammals. Endangered or threatened marine mammal species which might occur in the Gulf of Mexico are West Indian manatee (Trichechus manatus), northern right whale (Eubalaena glacialis), fin whale (Balaenoptera physalus), humpback whale (Megaptera novaeangliae), sei whale (B. borealis), sperm whale (Physeter macrocephalus), and blue whale (B. musculus) (USDOI, OCS EIS/EA MMS 2002-052). Several non-endangered and non-threatened mammal species of whales and dolphins also occur in the Gulf of Mexico.

The following discussion of potential impacts to marine mammals is summarized from the Final Environmental Impact Statement (USDOI, OCS EIS/EA MMS 2002-052). Small numbers of marine mammals could be killed or injured by chance collision with service vessels and by eating indigestible debris, particularly plastic items, lost from service vessels, drilling rigs, and fixed and floating platforms. Sperm whales are one of the 11 whale species that are hit commonly by ships (Laist et al., 2001). Collisions between OCS vessels and cetaceans within the project area are expected to be unusual events.

Deaths due to structure removals are not expected due to existing mitigation measures or those being developed for structures placed in oceanic waters. There is no conclusive evidence whether anthropogenic noise has or has not caused long-term displacements of, or reductions in, marine mammal populations. Contaminants in waste discharges and drilling muds might indirectly affect marine mammals through food-chain biomagnification, although the scope of effects and their magnitude are not known.

Chronic and sporadic sublethal effects could occur that may stress and/or weaken individuals of a local group or population and make them more susceptible to infection from natural or anthropogenic sources. Few lethal effects are expected from oil spills, chance collisions with service vessels and ingestion of plastic material. Oil spills of any size are estimated to be aperiodic events that may contact cetaceans. Disturbance (e.g. noise) may stress animals, weaken their immune systems, and make them more vulnerable to parasites and diseases that normally would not be fatal.

The net result of any disturbance would depend on the size and percentage of the population affected, ecological importance of the disturbed area, environmental and biological parameters that influence an animal's sensitivity to disturbance and stress, and the accommodation time in response to prolonged disturbance (Geraci and St. Aubin, 1980). Routine oil and gas activities are not expected to have long-term adverse effects on the size and productivity of any marine mammal species or population stock endemic to the northern Gulf of Mexico.

8. Sea Turtles

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the EP, there are potential impacts to sea turtles. Endangered or threatened sea turtle species which might

occur in the Gulf of Mexico are Kemp's ridley turtle (Lepidochelys kempii), green turtle (Chelonia mydas), hawksbill turtle (Eretmochelys imbricata), leatherback turtle (Dermochelys coriacea), and loggerhead turtle (Caretta caretta) (USDOl, Region IV Endangered Species Notebook).

The following discussion of potential impacts to sea turtles is summarized from the Final Environmental Impact Statement (USDOl, OCS EIS/EA MMS 2002-052). Routine activities resulting from a proposed action have the potential to harm individual sea turtles. These animals could be impacted by the degradation of water quality resulting from operational discharges; noise generated by helicopter and vessel traffic, platforms, and drillships; brightly-lit platforms; explosive removals of offshore structures; vessel collisions; and jetsam and flotsam generated by service vessels and OCS facilities. Lethal effects are most likely to be from chance collisions with OCS service vessels and ingestion of plastic materials. "Takes" due to explosive removals are expected to be rare due to mitigation measures already established (e.g. National Marine Fisheries Service (NMFS) Observer Program) and in development. Most OCS activities are expected to have sublethal effects. Contaminants in waste discharges and drilling muds might indirectly affect sea turtles through food-chain biomagnification; there is uncertainty concerning the possible effects. Chronic sublethal effects (e.g. stress) resulting in persistent physiological or behavioral changes and/or avoidance of impacted areas could cause declines in survival or fecundity, and result in either population declines, however, such declines are not expected. The routine activities of a proposed action are unlikely to have significant adverse effects on the size and recovery of any sea turtle species or population in the Gulf of Mexico.

In the unlikely event of an accidental surface or subsurface oil spill, sea turtles could be adversely impacted. Oil spills and oil-spill-response activities are potential threats that could have lethal effects on turtles. Contact with oil, consumption of oil particles, and oil-contaminated prey could seriously affect individual sea turtles. Oil-spill-response planning and the habitat protection requirements of the Oil Pollution Act of 1990 should mitigate these threats.

9. Air Quality

Estimated air emissions associated with the proposed activities have been calculated and were determined to be below the MMS exemption levels for particulates, sulfur oxides, nitrogen oxides, volatile organic compounds and carbon monoxide. There would be a limited degree of air quality degradation in the immediate vicinity of the proposed activities; however, the emissions associated with the proposed activities are not projected to have significant effects on onshore air quality.

10. Shipwreck Sites (known or potential)

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the EP, there will be no adverse impacts to known or potential shipwreck sites. The area of proposed activities falls outside the zone designated as an area with a high probability of historic shipwrecks.

11. Prehistoric Archaeological Sites

After a review of impact-producing factors (including physical disturbances to the seafloor) resulting from activities proposed in the EP, there are potential impacts to

prehistoric archaeological sites. The area of proposed activities falls within the zone designated as an area with a high probability of pre-historic archeological resources.

Murphy proposes to conduct an ROV survey of the proposed surface locations and associated anchor locations prior to spudding the wells.

B. Vicinity of Offshore Location

1. Essential Fish Habitat

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to essential fish habitat. In the unlikely event of an accidental surface or subsurface oil spill, there is the potential for some detrimental effects to essential fish habitat.

The following discussion of potential impacts to essential fish habitat is summarized from the Final Environmental Impact Statement (USDOl, OCS EIS/EA MMS 2002-052). Should a spill occur in the area of a mobile adult finfish or shellfish, the effects would likely be sublethal and the extent of the damage would be reduced to the capability of adult fish and shellfish to avoid a spill, to metabolize hydrocarbons, and to excrete both metabolites and parent compounds. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

2. Marine and Pelagic Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the EP, there are potential impacts to marine and pelagic birds.

The following discussion of potential impacts to marine and pelagic birds is summarized from the Final Environmental Impact Statement (USDOl, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened marine birds are expected to be sublethal: behavioral effects, sublethal exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action.

Oil spills pose the greatest potential direct and indirect impacts to marine birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have toxic

effects similar to oil on the reproductive success of marine birds. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

3. Public Health and Safety

After a review of impact-producing factors (including an accidental H₂S release) resulting from activities proposed in the EP, there will be no adverse impacts to public health and safety. Murphy requests that Mississippi Canyon Area Block 736 be classified as an area where the absence of H₂S has been confirmed.

C. Coastal and Onshore

1. Beaches

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to beaches. Mississippi Canyon Area Block 736 is located approximately 67 miles from the coast of Plaquemines Parish, Louisiana and approximately 131 miles from the coast of Petit Bois Island, Jackson County, Mississippi. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to beaches are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

2. Wetlands

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to wetlands. Mississippi Canyon Area Block 736 is located approximately 67 miles from the coast of Plaquemines Parish, Louisiana and approximately 131 miles from the coast of Petit Bois Island, Jackson County, Mississippi. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to wetlands are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

3. Shore Birds and Coastal Nesting Birds

After a review of impact-producing factors (including vessel traffic, noise, accidental oil spills, and loss of trash and debris) resulting from activities proposed in the EP, there are potential impacts to shore birds and coastal nesting birds. Mississippi Canyon Area Block 736 is located approximately 67 miles from the coast of Plaquemines Parish, Louisiana and approximately 131 miles from the coast of Petit Bois Island, Jackson County, Mississippi. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to shore birds and coastal nesting birds are anticipated as a result of the proposed activities.

The following discussion of potential impacts to shore birds and coastal nesting birds is summarized from the Final Environmental Impact Statement (USDO, OCS EIS/EA MMS 2002-052). The majority of effects on endangered/threatened and non-endangered/non-threatened shore birds and coastal nesting birds are expected to be sublethal: behavioral effects, sublethal exposure to or intake of OCS-related contaminants or discarded debris, temporary disturbances, and displacement of localized groups from impacted habitats. Chronic sublethal stress, however, is often undetectable in birds. As a result of stress, individuals may weaken, facilitating infection and disease; then migratory species may not have the strength to reach their destination. No

significant habitat impacts are expected to occur directly from routine activities resulting from a proposed action. Secondary impacts to coastal habitats will occur over the long-term and may ultimately displace species from traditional sites to alternative sites.

Oil spills pose the greatest potential direct and indirect impacts to shore birds and coastal nesting birds. Birds that are heavily oiled are usually killed. If physical oiling of individuals or local groups of birds occurs, some degree of both acute and chronic physiological stress associated with direct and secondary uptake of oil would be expected. Small coastal spills, pipeline spills, and spills from accidents in navigated waterways can contact and affect the different groups of coastal birds, most commonly marsh birds, waders, waterfowl, and certain shorebirds. Lightly oiled birds can sustain tissue and organ damage from oil ingested during feeding and grooming or from oil that is inhaled. Stress and shock enhance the effects of exposure and poisoning. Low levels of oil could stress birds by interfering with food detection, feeding impulses, predator avoidance, territory definition, homing of migratory species, susceptibility to physiological disorders, disease resistance, growth rates, reproduction, and respiration. Reproductive success can be affected by the toxins in oil. Indirect effects occur by fouling of nesting habitat, and displacement of individuals, breeding pairs, or populations to less favorable habitats. Dispersants used in spill cleanup activity can have toxic effects similar to oil on the reproductive success of marine birds. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

4. Coastal Wildlife Refuges

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to coastal wildlife refuges. Mississippi Canyon Area Block 736 is located approximately 67 miles from the Pass a Loutre Wildlife Management Area, the nearest coastal wildlife refuge. Due to the distance from this refuge and the available oil spill response capabilities, no adverse impacts to coastal wildlife refuges are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

5. Wilderness Areas

After a review of impact-producing factors (including accidental oil spills) resulting from activities proposed in the EP, there are potential impacts to wilderness areas. Mississippi Canyon Area Block 736 is located approximately 67 miles from the coast of Plaquemines Parish, Louisiana and approximately 131 miles from the coast of Petit Bois Island, Jackson County, Mississippi. Due to the distance from shore and the available oil spill response capabilities, no adverse impacts to wilderness areas are anticipated as a result of the proposed activities. Activities proposed in the EP will be covered by Murphy's Oil Spill Response Plan (OSRP).

D. Other Environmental Resources Identified

None

IV. Impacts on Proposed Activities

Surface locations were evaluated for any seafloor and subsurface geological and manmade features and conditions that may adversely affect operations. No impacts are expected on the proposed activities from site-specific environmental conditions.

V. Alternatives

No alternatives to the proposed activities were considered to reduce environmental impacts.

VI. Mitigation Measures

No mitigation measures other than those required by regulation will be employed to avoid, diminish, or eliminate potential impacts on environmental resources.

VII. Consultation

No agencies or persons were consulted regarding potential impacts associated with the proposed activities. Therefore, a list of such entities has not been provided.

VIII. References

Fugro Geoservices, Inc.

- 2005 Shallow Hazards Assessment, Thunder Ridge Prospect, Blocks 736 and 737, OCS-G-27306 and 16645, Mississippi Canyon Area, Gulf of Mexico, Report No.: 2405-2111.

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Laist, D. W., A. R. Knowlton, J. G. Mead, A. S. Collet, and M. Podesta

- 2001 Collisions between ships and whales. *Marine Mammal Science*. 17:35-75.

U. S. Department of the Interior, Fish and Wildlife Service

- 1976 Endangered and threatened species of the southeastern United States. Region IV, Atlanta, Georgia (periodically updated).

U. S. Department of the Interior, Minerals Management Service

- 2002 Final Environmental Impact Statement, Gulf of Mexico OCS Oil and Gas Lease Sales: 2003-2007, Central Planning Area Sales 185, 190, 194, 198, and 2001: Western Planning Area Sales 187, 192, 196, and 200, Volume I. Prepared by Minerals Management Service, Gulf of Mexico, OCS Region, New Orleans, Louisiana.

APPENDIX I

Coastal Zone Management Consistency

COASTAL ZONE MANAGEMENT
CONSISTENCY CERTIFICATION

EXPLORATION

TYPE OF PLAN

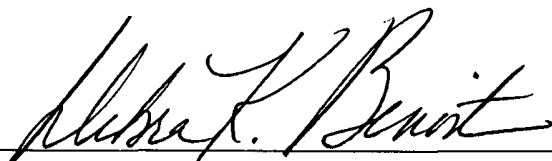
MISSISSIPPI CANYON BLOCK 736

AREA AND BLOCK

The proposed activities described in detail in this Plan comply with the States of Mississippi's and Louisiana's approved Coastal Management Program and Enforceable Policies and will be conducted in a manner consistent with such Programs.

MURPHY EXPLORATION & PRODUCTION COMPANY-USA

LESSEE OR OPERATOR



DEBRA K. BENOIT
CERTIFYING OFFICIAL

December 12, 2005