

**UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
GULF OF MEXICO OCS REGION**

NTL No. 2004-G05

Effective Date: April 1, 2004

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL, GAS, AND SULPHUR
LEASES AND PIPELINE RIGHT-OF-WAY HOLDERS
IN THE OUTER CONTINENTAL SHELF, GULF OF MEXICO OCS REGION

Biologically Sensitive Areas of the Gulf of Mexico

The Minerals Management Service (MMS) Gulf of Mexico OCS Region (GOMR) is issuing this Notice to Lessees and Operators and Pipeline Right-of-way Holders (NTL) pursuant to 30 CFR 250.103 to provide and consolidate guidance for the avoidance and protection of biologically sensitive features and areas (i.e., topographic features, pinnacles, live bottoms (low-relief features), and other potentially sensitive biological features) when conducting Outer Continental Shelf (OCS) operations in water depths less than 400 meters (1,312 feet) in the Gulf of Mexico. This NTL supersedes and replaces NTL No. 98-12, Implementation of Consistent Biological Stipulation Measures in the Central and Western Gulf of Mexico, effective August 10, 1998, and NTL No. 99-G16, Live-Bottom Surveys and Reports, effective July 8, 1999. For guidance on avoiding biologically sensitive areas in water depths 400 meters (1,312 feet) or greater, refer to NTL No. 2000-G20, Deepwater Chemosynthetic Communities, effective December 6, 2000.

DEFINITIONS

1. Topographic features means isolated areas of moderate to high relief that provide habitat for hard-bottom communities of high biomass and diversity and large numbers of plant and animal species, and support, either as shelter or food, large numbers of commercially and recreationally important fishes.
2. Live bottoms (pinnacle trend features) means small, isolated, low to moderate relief carbonate reefal features or outcrops of unknown origin or hard substrates exposed by erosion that provide surface area for the growth of sessile invertebrates and attract large numbers of fish. Known features occur in an area of topographic relief in the northeastern portion of the western Gulf of Mexico.
3. Live bottoms (low relief features) means seagrass communities, areas that contain biological assemblages consisting of sessile invertebrates living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; and areas where a hard substrate and vertical relief may favor the accumulation of turtles, fishes, or other fauna. These features occur in the Eastern Planning Area of the Gulf of Mexico.

4. Potentially sensitive biological features means those features not protected by a biological lease stipulation that are of moderate to high relief (about 8 feet or higher), provide surface area for the growth of sessile invertebrates, and attract large numbers of fish. These features would be located outside any “No Activity Zone” of any of the named topographic features (banks) listed in Attachment 1 or the 70 live-bottom (pinnacle trend) stipulated blocks listed in Attachment 3.

TOPOGRAPHIC FEATURES (BANKS)

Introduction and Background

Oil and gas exploration, development, and transportation activities in the vicinity of sensitive biological habitats associated with topographic features on the OCS (e.g., coral reefs) may cause deleterious impacts to those habitats in several ways, including toxic and smothering effects from drilling and production effluents and mechanical damage from drilling rigs, platforms, pipelines, and anchor emplacement.

A stipulation to avoid and protect such habitats has been made a part of appropriate OCS oil and gas leases since 1973. The leases resulting from Sales 110, 112, and all subsequent sales contain the current stipulation (see Attachment 1). For leases on affected OCS blocks issued *before* 1987, you have two options. You may elect either to conduct your operations, including lease term pipeline operations, in conformance with this latest version of the stipulation, or you may elect to comply with the stipulation contained in your lease.

In order to provide necessary and sufficient protection for the sensitive biological habitats of the topographic features of the Central and Western Planning Areas of the Gulf of Mexico from the effects of right-of-way pipeline construction activities (including the use of anchors, chains, cables, and wire ropes), all bottom disturbances from right-of-way pipeline construction activities are limited in the same manner as bottom disturbances occurring from lease operations.

For a list and a map of the identified biologically sensitive topographic features in the Gulf of Mexico, see the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/topoblocks.pdf> for the list and <http://www.gomr.mms.gov/homepg/regulate/environ/topomap.pdf> for the map.

Policy

You must adhere to the provisions of the topographic features lease stipulation. In addition, based on an Essential Fish Habitat (EFH) programmatic consultation with the National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries);

1. No bottom-disturbing activities, including the use of anchors, chains, cables, and wire ropes from a semisubmersible drilling rig or from a pipeline construction vessel may

occur within 152 meters (500 feet) of the designated “No Activity Zone” of a topographic feature; and

2. If more than two wells are to be drilled from the same surface location and that surface location is within the 3-mile Zone of an identified topographic feature, all drill cuttings and drilling fluids from the drilling operations are to be shunted to the sea bottom through a structurally sound downpipe that terminates an appropriate distance, but no more than 10 meters (33 feet), from the bottom.

If the proposed bottom-disturbing activities do not meet the criteria set forth in the EFH programmatic consultation outlined above, the MMS must consult with NOAA Fisheries. An individual project-specific EFH consultation could extend the time necessary to complete the review of your Exploration Plan (EP), Development Operations Coordination Document (DOCD), or pipeline application.

Implementation

1. If the proposed activities in your EP or DOCD could cause bottom disturbances in OCS blocks affected by the topographic features lease stipulation, include the information outlined in Attachment 2, Section A, in one copy of your EP or DOCD.
2. If the proposed activities in your pipeline application could cause bottom disturbances in OCS blocks affected by the topographic features lease stipulation, include the information outlined in Attachment 2, Section B, with one copy of your pipeline application.

Note that the topographic features information requirements outlined in Attachment 2 do not modify or cancel the requirements set forth in the topographic features lease stipulation.

3. Within 90 days after completing any activity that proposed disturbance of the seafloor within 305 meters (1,000 feet) of the “No Activity Zone” of a biologically sensitive topographic feature, submit a map at a scale of 1 inch = 1,000 feet with DGPS accuracy showing the location of the seafloor disturbance relative to these features to the MMS GOMR Plans Section for EP’s and DOCD’s and the MMS GOMR Pipeline Section for pipeline applications (with your pipeline construction report required by 30 CFR 250.1008(b)). Make sure that this map demonstrates that the as-placed location of all bottom-disturbing activities did not physically impact any area within 152 meters (500 feet) of the “No Activity Zone” of a topographic feature, unless exempted by a site-specific EFH consultation.

LIVE-BOTTOMS (PINNACLE TREND FEATURES)

Introduction and Background

Oil and gas exploration, development, and transportation activities in the vicinity of the crests and flanks of pinnacle and hard-bottom features, including those located on 70 OCS lease blocks in the northeastern Central Planning Area (CPA) of the Gulf of Mexico, may cause deleterious impacts to the sessile and pelagic communities associated with those habitats. Adverse impacts could be caused by mechanical damage from drilling rigs, platforms, pipelines, and anchor emplacement.

A stipulation (see Attachment 3) to avoid and protect such habitats has been made a part of appropriate CPA OCS oil and gas leases since 1974. Conduct your operations, including lease term pipeline operations, in conformance with this stipulation.

In order to provide necessary and sufficient protection for the sensitive biological habitats of live bottoms (pinnacle trend features) from the effects of right-of-way pipeline construction activities (including the use of anchors, chains, cables, and wire ropes), all bottom disturbances from right-of-way pipeline construction activities are limited in the same manner as bottom disturbances occurring from lease operations.

For a list and a map of the identified pinnacle trend features in the Gulf of Mexico, see the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/topoblocks.pdf> for the list and <http://www.gomr.mms.gov/homepg/regulate/environ/topomap.pdf> for the map.

Policy

You must adhere to the provisions of the live-bottoms (pinnacle trend features) lease stipulation. In addition, based on an EFH programmatic consultation with NOAA Fisheries, no bottom-disturbing activities, including those caused by anchors, chains, cables, or wire ropes from a semisubmersible drilling rig or from a pipeline construction vessel, may occur within 30 meters (100 feet) of any hard bottoms/pinnacles that have vertical relief of 8 feet or more. If the proposed bottom-disturbing activities do not meet the avoidance parameters set forth in the EFH programmatic consultation outlined above, the MMS must consult with NOAA Fisheries. An individual project-specific EFH consultation is also required whenever the route of a proposed pipeline that will transport liquid hydrocarbons having an API gravity of 45° or less is located closer than 91 meters (300 feet) from any pinnacle trend feature having 8 feet or more of vertical relief. An individual project-specific EFH consultation could extend the time necessary to complete the review of your EP, DOCD, or pipeline application.

Implementation

1. If the proposed activities in your EP or DOCD could cause bottom disturbances in OCS blocks affected by the live-bottoms (pinnacle trend) lease stipulation, submit the

information outlined in Attachment 4, Section A, with one copy of your EP or DOCD.

2. If the proposed activities in your pipeline application could cause bottom disturbances in OCS blocks affected by the live-bottoms (pinnacle trend) lease stipulation, submit the information outlined in Attachment 4, Section B, with one copy of your pipeline application.

Note that the live-bottom (pinnacle trend) features information requirements outlined in Attachment 4 do not modify or cancel the requirements set forth in the live-bottoms (pinnacle trend) lease stipulation.

3. Within 90 days after completing any activity that proposed disturbance of the seafloor within 61 meters (200 feet) of pinnacles in the pinnacle trend area, submit a map at a scale of 1 inch = 1,000 feet with DGPS accuracy showing the location of the seafloor disturbance relative to these features to the MMS GOMR Plans Section for EP's and DOCD's and the MMS GOMR Pipeline Section for pipeline applications (with your pipeline construction report required by 30 CFR 250.1008(b)). Make sure that the map demonstrates that the as-placed location of all bottom-disturbing activities did not physically impact any area within 30 meters (100 feet) of the pinnacles, unless exempted by site-specific EFH consultation.

LIVE BOTTOMS (LOW-RELIEF FEATURES)

Introduction and Background

Oil and gas exploration, development, and transportation activities in the vicinity of live-bottom (low relief) features in the Eastern Planning Area of the Gulf of Mexico may cause deleterious impacts to the sessile and pelagic communities associated with those habitats. Adverse impacts could be caused by toxic and smothering effects from drilling and production effluent and mechanical damage from drilling rigs, platforms, pipelines, and anchor emplacement.

A stipulation to avoid and protect such habitats has been made a part of appropriate OCS oil and gas leases since 1982. You may elect to conduct operations, including lease term pipeline operations, in conformance with the current version of the stipulation (see Attachment 5), or you may elect to comply with the stipulation in your lease document.

In order to provide necessary and sufficient protection for the sensitive biological habitats of the live bottoms (low relief features) from the effects of right-of-way pipeline construction activities (including the use of anchors, chains, cables, and wire ropes), all bottom disturbances from right-of-way pipeline construction activities are limited in the same manner as bottom disturbances occurring from lease operations.

For a map of the live-bottom (low relief) area, see the MMS Internet website at <http://www.gomr.mms.gov/homepg/regulate/environ/topomap.pdf>.

Policy

No bottom-disturbing activities, including the use of anchors, chains, cables, or wire ropes from a semisubmersible drilling rig or from a pipeline construction vessel, may cause impacts to live bottoms (low-relief features).

Implementation

1. Before you conduct any drilling activities or construct or place any structure for exploration or development on any lease with the live-bottom (low relief) stipulation, including, but not limited to, well drilling and pipeline and platform placement, prepare a live-bottom survey report containing a bathymetry map constructed from remote-sensing data and an interpretation of live-bottom areas using the results of a photodocumentation survey. Use the guidelines in Attachment 7 to conduct the surveys and prepare the report. Make sure that the live-bottom survey report, including the attendant surveys, encompasses the entire area at least 1,000 meters (3,280 feet) from the proposed activity site. Conduct bathymetric and shallow hazards surveys using the guidelines of NTL No. 98-20, Shallow Hazards Requirements, effective September 15, 1998.
2. If the proposed activities in your EP, DOCD, or Development and Production Plan (DPP) could cause bottom disturbances in OCS blocks affected by the live-bottom (low relief) lease stipulation, submit the information outlined in Attachment 6, Section A, and the live-bottom survey report with one copy of your EP, DOCD, or DPP.
3. If the proposed activities in your pipeline application could cause bottom disturbances in OCS blocks affected by the live-bottom (low relief) lease stipulation, submit the information outlined in Attachment 6, Section B, and the live-bottom survey report with one copy of your pipeline application.

Note that the live-bottom (low relief) information requirements outlined in Attachments 6 and 7 do not modify or cancel the requirements set forth in the live-bottom (low relief) lease stipulation.

4. Within 90 days after completing any activity that proposed disturbance of the seafloor within 30 meters (100 feet) of any live-bottom (low relief) feature, submit a map at a scale of 1 inch = 1,000 feet with DGPS accuracy showing the location of the seafloor disturbance relative to the feature to the MMS GOMR Plans Section for EP's, DOCD's, or DPP's and the MMS GOMR Pipeline Section for pipeline applications (with your pipeline construction report required by 30 CFR 250.1008(b)). Make sure that the map demonstrates that the as-placed location of all bottom-disturbing activities did not physically impact a live-bottom (low relief) feature.

POTENTIALLY SENSITIVE BIOLOGICAL FEATURES

Introduction and Background

Oil and gas exploration, development, and transportation activities in the vicinity of potentially sensitive biological features may cause deleterious impacts to the sessile and pelagic communities associated with those habitats. Adverse impacts could be caused by mechanical damage from drilling rigs, platforms, pipelines, and anchor emplacement.

No lease stipulation to avoid and protect such habitats currently exists. In order to provide necessary and sufficient protection for these potentially sensitive biological habitats from the effects of both lease operations (including lease term pipeline operations) as well as right-of-way pipeline construction activities (including the use of anchors, chains, cables, and wire ropes), all bottom disturbances from such activities are limited as described in the policy and implementation sections below.

Policy

No bottom-disturbing activities, including the use of anchors, chains, cables, or wire ropes from a semisubmersible drilling rig or from a pipeline construction vessel, may cause impacts to potentially sensitive biological features.

Implementation

1. If the proposed activities in your EP or DOCD could cause bottom disturbances in the vicinity of potentially sensitive biological features, as determined from your analysis or MMS GOMR review of survey information (see below), submit the information outlined in Attachment 8, Section A, with one copy of your EP or DOCD.
2. If the proposed activities in your pipeline application could cause bottom disturbances in the vicinity of potentially sensitive biological features, as determined from your analysis or MMS GOMR review of survey information (see below), submit the information outlined in Attachment 8, Section B, with one copy of your pipeline application.
3. Within 90 days after completing any activity that proposed disturbance of the seafloor within 30 meters (100 feet) of potentially sensitive biological features, submit a map at a scale of 1 inch = 1,000 feet with DGPS accuracy showing the location of the seafloor disturbance relative to these features to the MMS GOMR Plans Section for EP's and DOCD's and the MMS GOMR Pipeline Section for pipeline applications (with your pipeline construction report required by 30 CFR 250.1008(b)). Make sure that the map demonstrates that the as-placed location of all bottom-disturbing activities did not physically impact a potentially sensitive biological feature.

MMS REVIEW

As applicable, the MMS GOMR will analyze the submitted biological information during its review of your OCS plan or pipeline application. If the MMS GOMR determines that a biologically sensitive feature could potentially be harmed by your proposed activities, the MMS GOMR will instruct you to:

1. Amend the OCS plan or pipeline application to relocate the proposed activities to avoid impacting the biologically sensitive feature;
2. Amend the OCS plan or pipeline application to provide additional information (perhaps including a photo-survey, a video-survey, or already available information) that documents whether a biologically sensitive feature or features exist in the areas of concern; or
3. Adhere to certain conditions of OCS plan or pipeline application approval such as using a remotely operated vehicle to set anchors precisely or taking other measures to ensure that the proposed anchor pattern does not adversely affect a biologically sensitive feature, monitoring impacts caused by the proposed activities, or adhering to any other condition deemed necessary by the MMS GOMR.

EXCEPTION

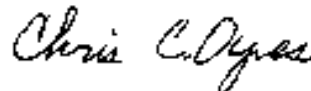
The provisions of this NTL do not modify or cancel any biological monitoring plan that has been approved by the MMS GOMR.

PAPERWORK REDUCTION ACT STATEMENT

The information collection provisions of this notice are intended to provide clarification, description, or interpretation of requirements contained in lease stipulations and 30 CFR 250, Subparts B and J. The Office of Management and Budget (OMB) has approved the information collection requirements for Subparts B and J and assigned OMB Control Numbers 1010-0049 and 1010-0050, respectively. This notice does not impose additional information collection requirements subject to the Paperwork Reduction Act of 1995.

CONTACT

Please address any questions you may have about this NTL to Dr. Robert Rogers, Supervisor, Biological Sciences Unit, at (504) 736-2898.



Chris C. Oynes
Regional Director

List of Attachments

Attachment 1	Topographic Features Stipulation (current)
Attachment 2	Topographic Features Information – Plans and Pipelines
Attachment 3	Live-Bottom (Pinnacle Trend) Stipulation (current)
Attachment 4	Live-Bottom (Pinnacle Trend) Information - Plans and Pipelines
Attachment 5	Live-Bottom (Low-Relief) Stipulation (current)
Attachment 6	Live-Bottom (Low-Relief) Information - Plans and Pipelines
Attachment 7	Live-Bottom (Low-Relief) Photodocumentation and Reports
Attachment 8	Potentially Sensitive Biological Features Information - Plans and Pipelines

ATTACHMENT 1

TOPOGRAPHIC FEATURES STIPULATION

(a) No activity including structures, drilling rigs, pipelines, or anchoring will be allowed within the listed isobath (“No Activity Zone”) of the banks as listed below.

(b) Operations within the area shown as “1,000 Meter Zone” will be restricted by shunting all drill cuttings and drilling fluids to the bottom through a downpipe that terminates an appropriate distance, but no more than ten meters, from the bottom.

(c) Operations within the area shown as “1 Mile Zone” will be restricted by shunting all drill cuttings and drilling fluids to the bottom through a downpipe that terminates an appropriate distance, but no more than ten meters, from the bottom. (Where there is a “1 Mile Zone” designated, the “1,000 Meter Zone” in paragraph (b) is not designated.)

(d) Operations within the area shown as “3 Mile Zone” will be restricted by shunting all drill cuttings and drilling fluids from development operations to the bottom through a downpipe that terminates an appropriate distance, but no more than ten meters, from the bottom (with representative documentation of the shunting.)

The banks of the Central Planning Area of the Gulf of Mexico are:

BANK NAME	ISOBATH (M)	BANK NAME	ISOBATH (M)
McGrail Bank	85	Jakkula Bank	85
Bouma Bank	85	Sweet Bank ¹	85
Rezak Bank	85	Bright Bank	85
Sidner Bank	85	Geyer Bank ³	85
Rankin Bank	85	MacNeil Bank ³	82
Sackett Bank ²	85	Alderdice Bank	80
Ewing Bank	85	Fishnet Bank ²	76
Diaphus Bank ²	85	29 Fathom Bank	64
Parker Bank	85	Sonnier Bank	55

¹ Only paragraph (a) of the stipulation applies.

² Only paragraphs (a) and (b) apply.

³ Western Planning Area bank with a portion of its “3 Mile Zone” in the Central Planning Area.

The banks of the Western Planning Area of the Gulf of Mexico are:

BANK NAME	ISOBATH (M)	BANK NAME	ISOBATH (M)
Shelf Edge Banks		Low Relief Banks³	
West Flower Garden Bank ¹ (defined by ¼ ¼ ¼ System)	100	Mysterious Bank	74, 76, 78, 80, 84
East Flower Garden Bank ¹ (defined by ¼ ¼ ¼ System)	100	Coffee Lump	Various
MacNeil Bank	82	Blackfish Ridge	70
29 Fathom Bank	64	Big Dunn Bar	65
Rankin Bank	85	Small Dunn Bar	65
Geyer Bank	85	32 Fathom Bank	52
Elvers Bank	85	Claypile Bank ⁴	50
Bright Bank ²	85	South Texas Banks⁵	
McGrail Bank ²	85	Dream Bank	78, 82
Rezak Bank ²	85	Southern Bank	80
Sidner Bank ²	85	Hospital Bank	70
Parker Bank ²	85	North Hospital Bank	68
Stetson Bank	52	Aransas Bank	70
Applebaum Bank	85	South Baker Bank	70
		Baker Bank	70

¹ Flower Garden Banks – In paragraph (c), a “4 Mile Zone” rather than a “1 Mile Zone applies.

² Central Planning Area bank with a portion of its “1 Mile Zone” and/or “3 Mile Zone” in the Western Planning Area.

³ Low Relief Banks – Only paragraph (a) applies.

⁴ Claypile Bank – paragraphs (a) and (b) apply. In paragraph (b) monitoring of the effluent to determine the effect on the biota of Claypile Bank shall be required rather than shunting.

⁵ South Texas Banks – Only paragraphs (a) and (b) apply.

ATTACHMENT 2

A. TOPOGRAPHIC FEATURES INFORMATION – PLANS

1. If you propose bottom-disturbing activities (including rig placement, and rig or construction barge use of anchors, chains, cables, and wire ropes) within 305 meters (1,000 feet) of the “No Activity Zone” of an identified topographic feature, include a map at a scale of 1 inch = 1,000 feet with DGPS accuracy depicting

- a. Bathymetric contours;
- b. The “No Activity Zone” surrounding the topographic feature;
- c. The 500-foot area surrounding the “No Activity Zone”;
- d. The surface location of each proposed well or platform; and
- e. The position of anchors, chains, cables, and wire ropes relative to each proposed surface location.

You may use transparency overlays on other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

2. If you propose to drill more than two wells from the same surface location and that surface location is within the 3-mile Zone of an identified topographic feature, include a statement in your EP that you will shunt all drill cuttings and drilling fluids from your drilling operations to the bottom through a structurally sound downpipe that terminates an appropriate distance, but no more than 10 meters (33 feet), from the bottom.

B. TOPOGRAPHIC FEATURES INFORMATION – PIPELINES

If you propose pipeline construction activities (including the use of anchors, chains, cables, and wire ropes) within 305 meters (1,000 feet) of a “No Activity Zone” of an identified topographic feature, include a map at a scale of 1 inch = 1,000 ft with DGPS accuracy depicting

- a. Bathymetric contours;
- b. The “No Activity Zone” surrounding the topographic feature;
- c. The 500-foot area surrounding the “No Activity Zone”;
- d. The proposed pipeline route; and
- e. The maximum area of disturbance potentially caused by the pipeline construction activities (including the use of anchors, chains, cables, and wire ropes.)

You may use transparency overlays on other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

ATTACHMENT 3

LIVE-BOTTOM (PINNACLE TREND) STIPULATION

(To be included only on leases in the following blocks: Main Pass Area, South and East Addition Blocks 190, 194, 198, 219-226, 244-266, 276-290; Viosca Knoll Area Blocks 473-476, 521, 522, 564, 565, 566, 609, 610, 654, 692-698, 734, 778.)

For the purpose of this stipulation, “live bottom areas” are defined as seagrass communities or those areas that contain biological assemblages consisting of such sessile invertebrates as sea fans, sea whips, hydroids, anemones, ascidians, sponges, bryozoans, or corals living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; or areas whose lithotope favors the accumulation of turtles, fishes, and other fauna.

Prior to any drilling activities or the construction or placement of any structure for exploration or development on this lease, including, but not limited to, anchoring, well drilling, and pipeline and platform placement, the lessee will submit to the Regional Director (RD) a live-bottom survey report containing a bathymetry map prepared utilizing remote-sensing techniques. The bathymetry map shall be prepared for the purpose of determining the presence or absence of live-bottoms that could be impacted by the proposed activity. This map shall encompass such an area of the seafloor where surface disturbing activities, including anchoring, may occur.

If it is determined that the live bottoms might be adversely impacted by the proposed activity, the RD will require the lessee to undertake any measure deemed economically, environmentally, and technically feasible to protect the pinnacle area. These measures may include, but are not limited to, the following:

- (a) relocation of operations; and
- (b) monitoring to assess the impact of the activity on the live bottoms.

ATTACHMENT 4

A. LIVE-BOTTOM (PINNACLE TREND) INFORMATION – PLANS

If you propose bottom-disturbing activities (including rig placement, rig or construction barge use of anchors, chains, cables, and wire ropes) within 61 meters (200 feet) of pinnacles, include a map at a scale of 1 inch = 1,000 feet with DGPS accuracy depicting

- a. Bathymetric contours at 2-foot intervals;
- b. An outline of the pinnacles;
- c. An annotation of the height of individual pinnacles;
- d. The surface location of each proposed well or platform; and
- e. The position of anchors, chains, cables, and wire ropes relative to each proposed surface location.

You may use transparency overlays to other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

B. LIVE-BOTTOM (PINNACLE TREND) INFORMATION – PIPELINES

If you propose pipeline construction activities (including the use of anchors, chains, cables, and wire ropes) within 61 meters (200 feet) of pinnacles, include a map at a scale of 1 inch = 1,000 ft with DGPS accuracy depicting

- a. Bathymetric contours at 2-foot intervals;
- b. An outline of the pinnacles;
- c. An annotation of the height of individual pinnacles;
- d. The proposed pipeline route; and
- e. The maximum area of disturbance potentially caused by the pipeline construction activities (including the use of anchors, chains, cables, and wire ropes.)

You may use transparency overlays to other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

ATTACHMENT 5

LIVE-BOTTOM (LOW RELIEF) STIPULATION (EASTERN GULF OF MEXICO PLANNING AREA)

(To be included on leases on blocks in water depths of 100 m or less.)

For the purpose of this stipulation, “live-bottom areas” are defined as seagrass communities; or those areas that contain biological assemblages consisting of such sessile invertebrates as sea fans, sea whips, hydroids, anemones, ascidians, sponges, bryozoans, or corals living upon and attached to naturally occurring hard or rocky formations with rough, broken, or smooth topography; or areas whose lithotype favors the accumulation of turtles, fishes, and other fauna.

Prior to any drilling activities or the construction or placement of any structure for exploration or development on this lease, including, but not limited to, well drilling and pipeline and platform placement, the lessee will submit to the Regional Director (RD) a live-bottom survey report containing a bathymetry map prepared utilizing remote-sensing techniques and an interpretation of live-bottom areas prepared from a photodocumentation survey. The live-bottom survey report, including the attendant surveys, will encompass an area within a minimum 1,000 m distance of a proposed activity site.

If it is determined that live-bottom areas might be adversely impacted by the proposed activity, then the RD will require the lessee to undertake any measure deemed economically, environmentally, and technically feasible to protect live-bottom areas. These measures may include, but are not limited to, the following:

- (a) relocation of operations to avoid live-bottom areas;
- (b) shunting of all drilling fluids and cuttings in such a manner as to avoid live-bottom areas;
- (c) transportation of drilling fluids and cuttings to approved disposal sites; and
- (d) monitoring of live-bottom areas to assess the adequacy of any mitigating measures taken and the impact of lease-initiated activities.

ATTACHMENT 6

A. LIVE-BOTTOM (LOW RELIEF) INFORMATION – PLANS

If you propose bottom-disturbing activities (including rig placement, rig or construction barge use of anchors, chains, cables, and wire ropes) within 30 meters (100 feet) of live-bottom (low relief) features, include a map at a scale of 1 inch = 1,000 feet with DGPS accuracy depicting

- a. Bathymetric contours at 2-foot intervals;
- b. An outline of the live-bottom (low-relief) features;
- c. An annotation of the height of individual low-relief features;
- d. The surface location of each proposed well or platform; and
- e. The position of anchors, chains, cables, and wire ropes relative to each proposed surface location.

You may use transparency overlays on other maps for the display of the items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

B. LIVE-BOTTOM (LOW RELIEF) INFORMATION – PIPELINES

If you propose pipeline construction activities (including the use of anchors, chains, cables, and wire ropes) within 30 meters (100 feet) of live-bottom (low relief) features, include a map at a scale of 1 inch = 1,000 feet with DGPS accuracy depicting

- a. Bathymetric contours at 2-foot intervals;
- b. An outline of the live-bottom (low-relief) features;
- c. An annotation of the height of individual low-relief features;
- d. The proposed pipeline route; and
- e. The maximum area of disturbance caused by the installation of the pipeline, including the use of anchors, chains, cables, and wire ropes.

You may use transparency overlays on other maps for the display of the items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

ATTACHMENT 7

LIVE-BOTTOM (LOW-RELIEF) PHOTODOCUMENTATION AND REPORTS

Following are guidelines for conducting live-bottom (low-relief) photodocumentation surveys and preparing survey reports.

Live-Bottom Photodocumentation Surveys

A. A live-bottom photodocumentation survey is designed to determine the presence and extent of live bottoms in the vicinity of your proposed activities, including anchor locations. You may conduct the photodocumentation survey to "clear" specific proposed activity locations (refer to Section B) or to clear an entire lease block (refer to Section C). In either case, if you observe live-bottom areas during the photodocumentation survey, make sure that you survey the area(s) between transects where the live-bottom area is observed to determine the extent of live-bottom area(s) within the area you choose to clear.

B. Conduct the photodocumentation survey for a specific activity site or sites along at least 12 transects at approximately 30 degrees to each other radiating from the proposed activity site(s) out to at least 1,000 meters (3,280 feet). Position the radial design to correspond as much as possible with any indications of suspected live-bottom areas obtained from any geophysical surveys you may have conducted prior to or during the photodocumentation survey, while ensuring that full coverage around the site(s) is accomplished.

Alternatively, with GOMR concurrence, you may concentrate the photodocumentation survey on live-bottom areas known or suspected from previously conducted studies or surveys. If this alternative is selected, run a grid pattern(s) of 200-meter (656-foot) line spacing to coincide with the shape/configuration of each known or suspected live-bottom area within 1,000 meters (3,280 feet) of the proposed activity site(s). Where separate live-bottom areas (patches) are located in proximity to each other, design a single grid to include all of these areas (patches).

In either case above, if live-bottom areas are encountered during the photodocumentation survey, depart from the preplanned transects to document the extent of the live-bottom area within 1,000 meters (3,280 feet) of the proposed activity site.

C. You have the option to provide photodocumentation for the entire lease block or for a portion of a lease block or blocks instead of conducting site-specific photodocumentation surveys. If this option is selected, you must photodocument the lease block (or portion) and all areas out to at least 1,000 meters (3,280 feet) around the area to be cleared, including outside the lease block boundaries, if necessary, at 200-meter (656-foot) line spacing.

D. Photodocumentation consists of underwater color videography and still photography. Operate the video camera with a surface monitor and recorder. Complement the video photodocumentation with the simultaneous and continuous tracking of Differential GPS

positioning and water depth. Ensure that the photodocumentation is conducted under the proper conditions (e.g., tow speed, water clarity, height above the bottom) to enhance your ability to determine the presence or absence and characterization of any live-bottom areas. Make sure that the still photography camera has a surface-controlled shutter. Mount the still photography camera in conjunction with the underwater video camera. Take still photographs of selected areas at such a frequency to determine the extent, type, and approximate coverage (i.e., percent biotic cover) of the live-bottom areas you encounter along a given photodocumentation transect. (The GOMR anticipates that such live-bottom community areas will probably require a minimum of 100 photographs to provide sufficient data for proper characterization; the number of photographs is, however, a function of the size of the area.)

Document the professional judgment you use to establish the actual number of photographs taken in the photodocumentation survey report. Analyze a sufficient number of photographs, each encompassing a standard surface area (e.g., 0.5 meters²), for each live-bottom community area. This standard surface area allows for direct comparison with known data from live-bottom studies. Identify visually dominant epibiota during each survey. Should you photodocument an area that is devoid of live bottoms, provide the GOMR with video and still photographs of the barren seafloor at least every 200 meters (656 feet).

E. Please be advised that if you materially revise the proposed location(s) of activities after you performed a photodocumentation survey under the provisions of Section B above, you may have to conduct a new survey to provide coverage of the revised location(s).

Live-Bottom Photodocumentation Survey Reports

A. Include the following information in your live-bottom photodocumentation report:

1. Introduction;
2. A brief description of the equipment you used;
3. A discussion of results including:
 - a. A brief discussion of the substrate types observed in the survey area;
 - b. A figure showing any hard-bottom areas indicated by your geohazards survey(s);
 - c. A figure showing the extent and position of live-bottom areas as determined from the photodocumentation survey and the actual locations of where you took representative still images;
 - d. A figure showing the video/still camera transects and the actual locations of the representative photographs appended to the report;
 - e. A bathymetry map at a scale of 1 inch = 1,000 feet showing potential live-bottom areas with isobaths at 2-foot contour intervals;
 - f. A description of live-bottom assemblages. (Individual organisms need only be identified to the level necessary to determine the presence or absence of live

bottoms and to characterize the live bottom, if present. As appropriate, classify each live-bottom type (biological assemblage));

- g. A discussion of the interpretation of the geophysical data as it relates to the actual live bottom determined through the photodocumentation survey, to include:
 - 1) sediment types and thickness;
 - 2) evidence of hard-bottom signature(s); and
 - 3) correlation of geophysical data with photodocumentation data; and
 - h. A general discussion of the extent and percent cover of live-bottom.
4. Conclusions.
5. References.
6. Appendix. Provide representative photographs of each live-bottom community type and substrate type encountered.
- B. If requested by the MMS GOMR, make formal presentation of your live-bottom survey report, including an interpretation of live-bottom areas prepared from your photodocumentation survey showing of representative video footage and stills.
- C. If requested by the MMS GOMR, submit your original data, including photographs.

ATTACHMENT 8

A. POTENTIALLY SENSITIVE BIOLOGICAL FEATURES INFORMATION – PLANS

If you propose bottom-disturbing activities (including rig placement, rig or construction barge use of anchors, chains, cables, and wire ropes) within 30 meters (100 feet) of potentially sensitive biological features, include a map at a scale of 1 inch = 1,000 feet with DGPS accuracy depicting:

- a. bathymetric contours at 2-foot intervals;
- b. an outline of the potentially sensitive biological features;
- c. an annotation of the height of individual potentially sensitive biological features;
- d. the surface location of each proposed well or platform; and
- e. the position of anchors, chains, cables, and wire ropes relative to each proposed surface location.

You may use transparency overlays to other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.

B. POTENTIALLY SENSITIVE BIOLOGICAL FEATURES INFORMATION – PIPELINES

If you propose pipeline construction activities (including the use of anchors, chains, cables, and wire ropes) within 30 meters (100 feet) of potentially sensitive biological features, include a map at a scale of 1 inch = 1,000 ft with DGPS accuracy depicting:

- a. bathymetric contours at 2-foot intervals;
- b. an outline of the potentially sensitive biological features;
- c. an annotation of the height of individual potentially sensitive biological features;
- d. the proposed pipeline route; and
- e. the maximum area of disturbance potentially caused by the pipeline construction activities (including the use of anchors, chains, cables, and wire ropes).

You may use transparency overlays to other maps for the display of items d. and e. above, provided they are at a scale of 1 inch = 1,000 feet.