

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636 **Area/Block** MC 683 **Well Name** 002 **ST** 00 **BP** 00 **Well** Exploration  
**Application Status** Approved **Operato** 02481 **BP Exploration & Production Inc.**

**General Well Information**

<b>API Number</b> 608174113600	<b>Approval Date</b> 10/09/2007	<b>Approved By</b> David Trocquet
<b>Date of Request</b> 08/06/2007	<b>Req Spud</b> 08/22/2007	<b>Kickoff Point</b> N/A
<b>Water Depth (ft.)</b> 4619	<b>Drive Size (in)</b> 36	<b>Mineral Code</b> Hydrocarbon
<b>RKB Elevation</b> 88	<b>Drive Depth</b> 5007	<b>Subsea BOP</b> Yes
<b>Verbal Approval</b>		<b>Verbal Approval By</b>

**Proposed Well Location**

**SURFACE LOCATION**

<b>LEASE (OCS)</b> G16636	<b>Area/Block</b> MC 683	<b>Authority</b> Federal Lease
<b>Entered NAD 27</b>	<b>Calculated NAD 27 Departures</b>	<b>Calculated NAD 27 X-Y</b>
<b>Lat:</b> 28.27407222	S 629.0	<b>X</b> 1048480.04151
<b>Lon:</b> -88.83947306	W 3040.0	<b>Y</b> 1.0264948992688E7
<b>Surface Plan</b>	<b>Plan Lease (OCS)</b> G16636	<b>Area/Block</b> MC 683

**BOTTOM LOCATION**

<b>LEASE (OCS)</b> G16636	<b>Area/Block</b> MC683
<b>Entered NAD 27</b>	<b>Calculated NAD 27 Departures</b>
<b>Lat:</b> 28.28586083	S 4954.0
<b>Lon:</b> -88.84750611	W 520.0
<b>Bottom Plan</b>	<b>Plan Lease (OCS)</b> G16636 <b>Area/Block</b> MC 683

**Approval Comments**

Susan,

The APD is approved with the following cautions/conditions:

1. Caution for possible shallow gas at 549-832 ft bml and 1128-4903 ft bml. Since the Conductor/Surface Casing may penetrate possible shallow gas, a pre-spud meeting and kill weight mud is recommended.
2. Caution for a high potential shallow water flow at 549-839 ft bml and 1778-2244 ft bml.
3. Please be reminded that an APM should be submitted with a final surveyed surface location plat (in NAD 83), KB, and water depth as soon as they are determined.

Thanks,  
David Trocquet

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636 **Area/Block** MC 683 **Well Name** 002 **ST** 00 **BP** 00 **Well** Exploration  
**Application Status** Approved **Operato** 02481 **BP Exploration & Production Inc.**

**Geologic Information**

<b>H2S Designation</b> Absent	<b>H2S TVD</b>
<b>Anticipated Geologic Markers</b>	
<b>Name</b>	<b>Top MD</b>
Top Salt	9628
Base Salt	18573
M51 (N2 Sand)	24828
M50 (Q4 Sand)	26383
M48 (U10 Sand)	28858

**Rig Information**

<b>RIG SPECIFICATIONS</b>		<b>ANCHORS</b> No	
<b>Rig Name</b>	DIAMOND OCEAN CONFIDENCE		
<b>Type</b>	SEMISUBMERSIBLE	<b>ID Number</b>	45924
<b>Function</b>	DRILLING	<b>Constructed</b>	1998
<b>Shipyard</b>	TDI-HALTER	<b>Refurbished</b>	2000
<b>RATED DEPTHS</b>			
<b>Water Depth</b>	7500	<b>Drill Depth</b>	35000
<b>CERTIFICATES</b>			
<b>ABS/DNV</b>	02/19/2011	<b>Coast Guard</b>	10/24/2008
<b>SAFE WELDING AREA</b>			
<b>Approval Date</b>	02/06/1993	<b>District</b>	
<b>Remarks</b>	12/13/2005 Diamond submitted a letter stating that the rig can drill to 35,000 feet. Temporary ABS certificate.		

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636    **Area/Block** MC 683    **Well Name** 002    **ST** 00    **BP** 00    **Well** Exploration  
**Application Status** Approved    **Operato** 02481    BP Exploration & Production Inc.

**Question Information**

Number	Question	Respons	Response Text
1	Will you maintain quantities of mud and mud material (including weight materials and additives) sufficient to raise the entire system mud weight 1/2 ppg or more?	YES	
2	If hydrocarbon-based drilling fluids were used, is the drilling rig outfitted for zero discharge and will zero discharge procedures be followed?	N/A	
3	If drilling the shallow casings strings riserless, will you maintain kill weight mud on the rig and monitor the wellbore with an ROV to ensure that it is not flowing?	YES	
4	If requesting a waiver of the conductor casing, have you submitted a log to MMS G&G that is within 500 feet of the proposed bottom hole location for the proposed surface casing point?	N/A	
5	Will the proposed operation be covered by an EPA Discharge Permit? (please provide permit number in comments for this question)	YES	GMG290110, Outfall Number 815
6	Will all wells in the well bay and related production equipment be shut-in when moving on to or off of an offshore platform, or from well to well on the platform? If not, please explain.	N/A	

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636    **Area/Block** MC 683    **Well Name** 002    **ST** 00    **BP** 00    **Well** Exploration  
**Application Status** Approved    **Operato** 02481    BP Exploration & Production Inc.

**Permit Attachments**

File Type	File Description	Status
-----------	------------------	--------

**Required Attachments**

pdf	Proposed Well Location Plat	Attached
pdf	Drilling prognosis and summary of drilling, cementing, and mud processes	Attached
pdf	Directional Program	Attached
pdf	Pore pressure (PP), Mud Weight (MW), and Fracture Gradient (FG) Plot	Attached
pdf	Engineering Calculation	Attached
pdf	BOP & Diverter Schematics with Operating Procedures	Attached
pdf	Proposed Wellbore Schematic	Attached

**Optional/Supplemental Attachments**

pdf	Safe Welding Area Drawing	Attached
pdf	Diamond Loop Current Plan	Attached
pdf	U.S. Coast Guard Certificate	Attached
pdf	Logging Program	Attached
pdf	Shallow Water Zone	Attached
pdf	Casing Design Criteria	Attached
pdf	Shallow Water Zone Plan	Attached
pdf	Departure List	Attached

**Contacts Information**

<b>Name</b>	Susan Wilson
<b>Company</b>	02481            BP Exploration & Production Inc.
<b>Phone Number</b>	2813660969
<b>E-mail Address</b>	wilson4@bp.com
<b>Contact</b>	Regulatory

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636 **Area/Block** MC 683 **Well Name** 002 **ST** 00 **BP** 00 **Well** Exploration  
**Application Status** Approved **Operato** 02481 **BP Exploration & Production Inc.**

**Well Design Information**

Interval Number 1		Type Casing			Name Conductor		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	28.0	218.0	X-52	2437.0	952.0	6007. 6007.	8.8

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	32.5	Type	No Preventers	Annular Test (psi)	0.0
Mud Weight (ppg)	8.6	Size (in)	N/A	BOP/Diverter Test	0.0
Mud Type Code	Gelled Sea	Wellhead Rating	0	Test Fluid Weight	0.0
Fracture Gradient	9.9	Annular Rating (psi)	0	Casing/Liner Test	0.0
Liner Top Depth (ft)	4702.0	BOP/Diverter Rating	0	Formation Test (ppg)	0.0
Cement Volume (cu)	2600.0				

Interval Number 2		Type Casing			Name Surface		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	22.0	224.0	X-80	6363.0	3876.0	7857. 7857.	9.5

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	26.0	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	9.6	Size (in)	18.75	BOP/Diverter Test	6000.0
Mud Type Code	Water Base	Wellhead Rating	15000	Test Fluid Weight	8.6
Fracture Gradient	11.2	Annular Rating (psi)	10000	Casing/Liner Test	3100.0
Liner Top Depth (ft)	0.0	BOP/Diverter Rating	15000	Formation Test (ppg)	11.2
Cement Volume (cu)	3500.0				

Interval Number 3		Type Liner			Name Intermediate		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	18.0	117.0	P-110	6680.0	2110.0	10500 10500	10.5

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	21.0	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	10.7	Size (in)	18.75	BOP/Diverter Test	6000.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	10.7
Fracture Gradient	14.3	Annular Rating (psi)	10000	Casing/Liner Test	2500.0
Liner Top Depth (ft)	7462.0	BOP/Diverter Rating	15000	Formation Test (ppg)	14.3
Cement Volume (cu)	1300.0				

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636 **Area/Block** MC 683 **Well Name** 002 **ST** 00 **BP** 00 **Well** Exploration  
**Application Status** Approved **Operato** 02481 **BP Exploration & Production Inc.**

**Well Design Information**

Interval Number 4		Type Casing			Name Intermediate		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	14.0	114.0	Q-125HC	12453.0	11320.0	4801. 4801.	12.5
2	13.625	88.2	BP-135	11147.0	6360.0	17838 17838	12.5

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	16.5	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	13.7	Size (in)	18.75	BOP/Diverter Test	7200.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	13.7
Fracture Gradient	15.5	Annular Rating (psi)	10000	Casing/Liner Test	3500.0
Liner Top Depth (ft)	0.0	BOP/Diverter Rating	15000	Formation Test (ppg)	15.5
Cement Volume (cu)	2600.0				

Interval Number 5		Type Liner			Name Intermediate		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	11.875	71.8	135	11580.0	5810.0	22414 22178	14.5

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	14.0	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	14.6	Size (in)	18.75	BOP/Diverter Test	7700.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	14.6
Fracture Gradient	15.5	Annular Rating (psi)	10000	Casing/Liner Test	2700.0
Liner Top Depth (ft)	17493.0	BOP/Diverter Rating	15000	Formation Test (ppg)	15.5
Cement Volume (cu)	1500.0				

Interval Number 6		Type Liner			Name Intermediate		
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1	9.875	66.6	C-110	13020.0	11810.0	26006 25258	14.0

**Form MMS 123A/123S - Electronic Version**

**Application for Permit to Drill a New Well**

**Lease** G16636 **Area/Block** MC 683 **Well Name** 002 **ST** 00 **BP** 00 **Well** Exploration  
**Application Status** Approved **Operato** 02481 **BP Exploration & Production Inc.**

**Well Design Information**

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	12.25	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	14.2	Size (in)	18.75	BOP/Diverter Test	9700.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	14.6
Fracture Gradient	16.0	Annular Rating (psi)	10000	Casing/Liner Test	2700.0
Liner Top Depth (ft)	22112.0	BOP/Diverter Rating	15000	Formation Test (ppg)	16.0
Cement Volume (cu)	1120.0				

Interval Number		Type		Name			
7		Open Hole		Open Hole			
Section Number	Casing Size (in)	Casing Weight (lb/ft)	Casing Grade	Burst Rating	Collapse Rating (psi)	Depth (ft) MD TVD	Pore Pressure (ppg)
1						30099 28768	15.3

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	8.5	Type	Blowout	Annular Test (psi)	3500.0
Mud Weight (ppg)	15.5	Size (in)	18.75	BOP/Diverter Test	9700.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	0.0
Fracture Gradient	16.5	Annular Rating (psi)	10000	Casing/Liner Test	0.0
Liner Top Depth (ft)	0.0	BOP/Diverter Rating	15000	Formation Test (ppg)	0.0
Cement Volume (cu)	0.0				

PAPERWORK REDUCTION ACT OF 1995 (PRA) STATEMENT: The PRA (44 U.S.C. 3501 et seq. Requires us to inform you that we collect this information to obtain knowledge of equipment and procedures to be used in drilling operations. MMS uses the information to evaluate and approve or disapprove the adequacy of the equipment and/or procedures to safely perform the proposed drilling operation. Responses are mandatory (43 U.S.C. 1334). Proprietary data are covered under 30 CFR 250.196. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number. Public reporting burden for this form is estimated to average 2? hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to the