

**Form MMS 123A/123S - Electronic Version**  
**Application for Permit to Drill a New Well**

**Lease** G19965    **Area/Block** MC 561    **Well Name** 002    **ST** 00    **BP** 00    **Well** Exploration  
**Application Status** Approved    **Operato** 02237    Noble Energy, Inc.

**General Well Information**

<b>API Number</b> 608174114700	<b>Approval Date</b> 05/02/2008	<b>Approved By</b> David Trocquet
<b>Date of Request</b> 04/01/2008	<b>Req Spud</b> 04/30/2008	<b>Kickoff Point</b> N/A
<b>Water Depth (ft.)</b> 6340	<b>Drive Size (in)</b> 36	<b>Mineral Code</b> Hydrocarbon
<b>RKB Elevation</b> 79	<b>Drive Depth</b> 6712	<b>Subsea BOP</b> Yes
<b>Verbal Approval</b>		<b>Verbal Approval By</b>

**Proposed Well Location**

**SURFACE LOCATION**

<b>LEASE (OCS)</b> G19965	<b>Area/Block</b> MC 561	<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> 28.41331944	S 1571.0	<b>X</b> 1213422.070149
<b>Lon:</b> -88.3287	E 6258.0	<b>Y</b> 1.0313410959032E7
<b>Surface Plan</b>	<b>Plan Lease (OCS)</b> G19965	<b>Area/Block</b> MC 561

**BOTTOM LOCATION**

<b>LEASE (OCS)</b> G19965	<b>Area/Block</b> MC561	
<b>Entered NAD 27</b>	<b>Calculated NAD 27 Departures</b>	<b>Calculated NAD 27 X-Y</b>
<b>Lat:</b> 28.41331944	S 1571.0	<b>X</b> 1213422.070149
<b>Lon:</b> -88.3287	E 6258.0	<b>Y</b> 1.0313410959032E7
<b>Bottom Plan</b>	<b>Plan Lease (OCS)</b> G19965	<b>Area/Block</b> MC 561

**Approval Comments**

Cheryl,

The APD is approved with the following cautions/conditions:

1. Please note that I gave Cheryl Daniels verbal approval to spud the well on 4/29/08 when the APD was returned.
2. Caution for a low to moderate potential shallow water flow at 6750-7030 ft and 7200-7440 ft ss.
3. You are approved to have the rig on location through 7/31/08. However, you must contact me by 7/15/08 to update me on the progress of the well and discuss the any forward plan that assures that the rig will be off location by 7/31/08.
4. Please be advised that seafloor locations impacted by the anchor system used in the drilling of this well must have been reviewed and cleared by the MMS Plans Section.
5. 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

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Geologic Information

H2S Designation	Absent	H2S TVD	
Anticipated Geologic Markers			
Name		Top MD	
MM1/UM1		13775	
M-56		18770	
M-55		19275	

Rig Information

RIG SPECIFICATIONS		ANCHORS		Yes
Rig Name	NOBLE AMOS RUNNER			
Type	SEMISUBMERSIBLE	ID Number	92118	
Function	DRILLING	Constructed	1982	
Shipyard	INGALLS-MS	Refurbished		
RATED DEPTHS				
Water Depth	8000	Drill Depth	33200	
CERTIFICATES				
ABS/DNV	09/30/2009	Coast Guard	05/07/2009	
SAFE WELDING AREA				
Approval Date	05/08/2006	District	2.0	
Remarks	REVISED SAFE WELDING AREA. Letter from Tommy Travis on revising the Rated Depths on March 21, 2006.			

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**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	Outfall number pending EPA approval. Mailed March 12, 2008
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	

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**Permit Attachments**

File Type	File Description	Status
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**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	Mooring - Appendix A	Attached
pdf	OSFR Coverage-MMS Approved	Attached
pdf	Hurricane Procedures	Attached
pdf	Certificates/License	Attached
pdf	IOPP Certificate	Attached
pdf	MODU Safety Certificate	Attached
pdf	USCG COFR	Attached
pdf	Loop/Eddy Current Monitoring	Attached
pdf	Mooring - Appendix C	Attached
pdf	Mooring - Appendix B	Attached
pdf	Revised MMS-123S	Attached
pdf	Risk Assessment 3939-RA1-1	Attached
pdf	Departure List	Attached
pdf	Rig Picture and Drawing	Attached
pdf	Mooring Pattern 3939-MP-04	Attached
pdf	Mooring Analysis 3939-R1-1	Attached
pdf	U.S. Coast Guard Certificate	Attached
pdf	ABS/DNV Certificate	Attached

**Contacts Information**

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**Contacts Information**

<b>Name</b>	Cheryl Daniels
<b>Company</b>	02237 Noble Energy, Inc.
<b>Phone Number</b>	281-876-6281
<b>E-mail Address</b>	cdaniels@nobleenergyinc.com
<b>Contact</b>	Regulatory Specialist III
<b>Name</b>	Pam Tullos
<b>Company</b>	02237 Noble Energy, Inc.
<b>Phone Number</b>	281-876-6274
<b>E-mail Address</b>	ptullos@nobleenergyinc.com
<b>Contact</b>	Manager of South Region Environmental & Regulatory

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**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	7500.	7500.	8.8
<b>GENERAL INFORMATION</b>			<b>PREVENTER INFORMATION</b>			<b>TEST INFORMATION</b>		
Hole Size (in)	31.5		Type	No Preventers		Annular Test (psi)		0.0
Mud Weight (ppg)	9.2		Size (in)	N/A		BOP/Diverter Test		0.0
Mud Type Code	Water Base		Wellhead Rating	N/A		Test Fluid Weight		0.0
Fracture Gradient	9.6		Annular Rating (psi)	N/A		Casing/Liner Test		
Liner Top Depth (ft)			BOP/Diverter Rating	N/A		Formation Test (ppg)		0.0
Cement Volume (cu	1444.0							

  

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	225.0	X80	6364.0	3873.0	9000.	9000.	9.2
<b>GENERAL INFORMATION</b>			<b>PREVENTER INFORMATION</b>			<b>TEST INFORMATION</b>		
Hole Size (in)	26.0		Type	Blowout		Annular Test (psi)		5000.0
Mud Weight (ppg)	9.5		Size (in)	18.75		BOP/Diverter Test		7500.0
Mud Type Code	Water Base		Wellhead Rating	15000		Test Fluid Weight		9.5
Fracture Gradient	10.6		Annular Rating (psi)	10000		Casing/Liner Test		2737.0
Liner Top Depth (ft)			BOP/Diverter Rating	15000		Formation Test (ppg)		10.6
Cement Volume (cu	2707.0							

  

Interval Number 3			Type Liner	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	17.875	93.5	P-110	5380.0	1270.0	10800	10800	10.2
<b>GENERAL INFORMATION</b>			<b>PREVENTER INFORMATION</b>			<b>TEST INFORMATION</b>		
Hole Size (in)	22.0		Type	Blowout		Annular Test (psi)		5000.0
Mud Weight (ppg)	10.4		Size (in)	18.75		BOP/Diverter Test		7500.0
Mud Type Code	Synthetic		Wellhead Rating	15000		Test Fluid Weight		10.4
Fracture Gradient	11.8		Annular Rating (psi)	10000		Casing/Liner Test		1434.0
Liner Top Depth (ft)	8600.0		BOP/Diverter Rating	15000		Formation Test (ppg)		11.8
Cement Volume (cu	897.0							

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**Well Design Information**

Interval Number 4		Type Liner		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	16.0	97.0	HCQ-125	7860.0	2990.0	12900 12900	11.0

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	20.0	Type	Blowout	Annular Test (psi)	5000.0
Mud Weight (ppg)	11.3	Size (in)	18.75	BOP/Diverter Test	7500.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	11.3
Fracture Gradient	12.6	Annular Rating (psi)	10000	Casing/Liner Test	2003.0
Liner Top Depth (ft)	8800.0	BOP/Diverter Rating	15000	Formation Test (ppg)	12.6
Cement Volume (cu	786.0				

Interval Number 5		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	13.625	88.2	HCQ-125	10030.0	5930.0	14800 14800	11.7

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	16.0	Type	Blowout	Annular Test (psi)	5000.0
Mud Weight (ppg)	12.0	Size (in)	18.75	BOP/Diverter Test	7500.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	12.0
Fracture Gradient	13.4	Annular Rating (psi)	10000	Casing/Liner Test	3627.0
Liner Top Depth (ft)		BOP/Diverter Rating	15000	Formation Test (ppg)	13.4
Cement Volume (cu	384.0				

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	11.875	71.8	HCQ-125	10720.0	7280.0	17000 17000	12.4

GENERAL INFORMATION		PREVENTER INFORMATION		TEST INFORMATION	
Hole Size (in)	15.5	Type	Blowout	Annular Test (psi)	5000.0
Mud Weight (ppg)	12.7	Size (in)	18.75	BOP/Diverter Test	7500.0
Mud Type Code	Synthetic	Wellhead Rating	15000	Test Fluid Weight	12.7
Fracture Gradient	13.6	Annular Rating (psi)	10000	Casing/Liner Test	1039.0
Liner Top Depth (ft)	14500.0	BOP/Diverter Rating	15000	Formation Test (ppg)	13.6
Cement Volume (cu	812.0				

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**Well Design Information**

<b>Interval Number</b> 7		<b>Type</b> Casing		<b>Name</b> Production				
<b>Section Number</b>	<b>Casing Size (in)</b>	<b>Casing Weight (lb/ft)</b>	<b>Casing Grade</b>	<b>Burst Rating</b>	<b>Collapse Rating (psi)</b>	<b>Depth (ft)</b> MD TVD		<b>Pore Pressure (ppg)</b>
1	9.875	62.8	HCC-125	14950.0	11140.0	19800	19800	12.8
<b>GENERAL INFORMATION</b>			<b>PREVENTER INFORMATION</b>			<b>TEST INFORMATION</b>		
<b>Hole Size (in)</b>		12.25	<b>Type</b>		Blowout	<b>Annular Test (psi)</b>		5000.0
<b>Mud Weight (ppg)</b>		13.1	<b>Size (in)</b>		18.75	<b>BOP/Diverter Test</b>		7500.0
<b>Mud Type Code</b>		Synthetic	<b>Wellhead Rating</b>		15000	<b>Test Fluid Weight</b>		13.1
<b>Fracture Gradient</b>		14.6	<b>Annular Rating (psi)</b>		10000	<b>Casing/Liner Test</b>		6238.0
<b>Liner Top Depth (ft)</b>			<b>BOP/Diverter Rating</b>		15000	<b>Formation Test (ppg)</b>		
<b>Cement Volume (cu)</b>		573.0						

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