

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED

OMB No. 1004-0136

Expires November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Designation and Serial No.

NM-03605

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement, Name and No.

33315

8. Lease Name and Well No.

MARRON #233

9. API Well No.

30 045 32008

10. Field and Pool, or Exploratory

Blanco MV & Basin DK

11. Sec., T., R., M., or Blk. and Survey or Area

C Sec 23, T-27-N, R-08-W

12. County or Parish,

San Juan

13. State

New Mexico

17. Spacing Unit dedicated to this well

320 Acres N/2

20. BLM/BIA Bond No. on file

23. Estimated duration

30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan

3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office.

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the authorized officer

Size of Hole	Grade, Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	9-5/8" K-55	36 #	280'	126 Sxs, 175 ft3 - 100% Excess
8-3/4"	7" K-55	20#	2570'	275 Sxs, 541 ft3 - 40% Excess
6-1/4"	4-1/2" N-80	11.6#	6823'	234 Sxs, 571 ft3 - 25% Excess

SEE ATTACHED APD INFORMATION

Latitude: 36 Deg, 34 Min, 19 Sec N
Longitude: 107 Deg, 39 Min, 39 Sec W

25. Signature	Name (Printed/Typed)	Date
<i>Mike Pippin</i>	Mike Pippin	11/12/03
Title		
Petroleum Engineer		
Approved by (Signature)	Name (Printed/Typed)	Date
<i>/s/ Charlie Beecham</i>		DEC 30 2003
Title	Office	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

HOLD C104 FOR

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

NMOC

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised August 15, 2000

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30045-32008		MV Pool Code DK	BLANCO MV	Pool Name + BASIN DK
Property Code 16600	33315	Property Name MARRON 23		Well Number 23
OGRID No. 141852	Operator Name M & G DRILLING COMPANY, INC.			Elevation 5968

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	23	27 N	8 W		1165	North	1470	West	San Juan

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	23	27 N	8 W		1320	NORTH	1980	WEST	SAN JUAN
Dedicated Acres W/2		Joint or Infill Y		Consolidation Code		Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>16 Fd. 589°12'W</p> <p>1165'</p> <p>1320'</p> <p>1470'</p> <p>1980'</p> <p>BOTTOM HOLE</p> <p>SEC.</p> <p>23</p> <p>81°11'58°47'W</p>	<p>7847CH.</p> <p>81.39CH.</p> <p>81.70CH.</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p>Signature: <i>Mike Pippin</i></p> <p>Printed Name: MIKE PIPPIN</p> <p>Title: PETR. ENGR.</p> <p>Date: 11/14/03</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct in the best of my belief.</p> <p>Date of Survey: 11/14/03</p> <p>Signature: <i>William G. Mahrike II</i></p> <p>Certificate Number: 8466</p>		

RECEIVED

M&G Drilling Company Inc.
Marron #23-3 MV/DK
1470' FWL, 1165' FNL
Unit C Sec. 23 T27N R08W
San Juan County, NM

Drilling Program

1. **ESTIMATED FORMATION TOPS (KB)**

(Assumed 800' deviation at TD, 7 degrees average over depth of well)

<u>Formation Name</u>	<u>Depth (TVD)</u>	<u>Depth (Subsea)</u>	<u>Depth (MD)</u>
Nacimeinto	166'	5813'	167'
Ojo Alamo	1364'	4615'	1373'
Kirtland	1506'	4473'	1517'
Fruitland	2019'	3960'	2033'
Pictured Cliffs	2184'	3795'	2200'
Lewis	2254'	3725'	2270'
Chacra	3159'	2820'	3182'
Cliffhouse	3859'	2120'	3887'
Menefee	3869'	2110'	3898'
Point Lookout	4441'	1538'	4474'
Gallup	5636'	343'	5684'
Greenhorn	6426'	-447'	6474'
Dakota	6601'	-622'	6650'
TD	6801'	-822'	6823'

2. **NOTABLE ZONES**

Gas or Oil Zones

Fruitland
Pictured Cliffs
Chacra
Cliffhouse
Menefee
Point Lookout
Dakota

Water Zones

Nacimiento
Ojo Alamo
Kirtland
Fruitland

Coal Zone

Fruitland

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Oil or gas shows will be tested for commercial potential based on the engineer's recommendations.

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3. PRESSURE CONTROL

Maximum expected pressure is ~2700 psi. The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 11" 3,000 psi model is on PAGE #5.

BOP equipment and all accessories will meet or exceed BLM requirements in 43 CFR Part 3160 for a 3000 psi system. A 3000 psi double ram hydraulic BOP will be used. Accumulator system capacity will be sufficient to close all BOPE with a 50% safety factor. Fill, kill, and choke manifold lines will be 2". Accessories will include upper and lower Kelly cocks with handles, stabbing valve to fit drill pipe on floor at all times, string float at bit, 3000 psi choke manifold with 2" adjustable and 2" positive chokes, and pressure gauge. BOPs will be tested every 24 hours. Tests will be recorded on IADC log.

4. CASING & CEMENT (See Page 15)

Hole Size	O.D.	Weight (lb/ft)	Grade	Age	Connection	GL Setting Depth
12-1/4"	9-5/8"	36#	K-55	New	ST&C	280' (MD)
8-3/4"	7"	20#	K-55	New	ST&C	2570' (MD)
6-1/4"	4-1/2"	11.6#	N-80	New	ST&C	6823' (MD)

Surface casing will be cemented to the surface with ~175 cu. ft. (~126 sx) ~~CL-B~~ ^{Type III} or equivalent (1.39 ft³/sx yield, 14.6 ppg) with 2% CaCl₂ in mix water and 1/4#/sx celloflake. Volume based on 100% excess. We plan to run a minimum of 8 centralizers. A wooden wiper plug will be displaced within 20' of the shoe. WOC = 12 hours. Surface casing will be tested to 500 psi for 15 minutes.

Intermediate casing will be cemented to surface with a single stage. Total cement = 541 cu. ft.. Volumes are calculated at 40% excess. If cement does not circulate to surface, then a temperature survey will be run to determine the actual cement top as needed. WOC = 12 hours. Test to 1000 psi for 15 minutes.

Lead cement will be ~457 cu. ft. (~214 sx) Premium Lite FM w/2% CaCl₂, 1/4#/sx cello flake, 4#/sx Pheno Seal, 8% gel mixed at 12.1 ppg for a yield of 2.13 cu. ft. per sx.

Tail cement will be ~84 cu. ft. (~61 sx) Type III w/2% CaCl₂, 1/4#/sx Cello flake mixed at 14.6 ppg for a yield of 1.39 cu. ft. per sx.

Cementing equipment will include a guide shoe, and autofill float collar will be run 20' off bottom. We plan on running 10 centralizers and 2 turbolators.

Production casing will be cemented to 2370' ensuring cement coverage inside the intermediate casing with a single stage. Total cement = 571 cu. ft.. Volumes are

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calculated at 25% excess. A CBL will be run during completion operations to insure cement coverage inside the 7" intermediate casing. Casing will be pressure tested during completion operations.

Lead cement will be ~257 cu. ft. (~79 sx) Premium Lite High Strength FM w/0.3% R-3, 2% KCl, 1/4#/sx Cello flake, 0.3% CD-32, 4#/sx Pheno Seal, 1% FL-52 mixed at 11.0 ppg for a yield of 3.09 cu. ft. per sx.

Tail cement will be ~315 cu. ft. (~154 sx) Premium Lite High Strength FM w/0.3% R-3, 2% KCl, 1/4#/sx Cello flake, 0.3% CD-032, 4#/sx Pheno Seal, 1% FL-52 mixed at 12.5 ppg for a yield of 2.04 cu. ft. per sx.

Cementing equipment will include a guide shoe, and autofill float collar will be run 20' off bottom. We plan on running 1 centralizer inside the 7" intermediate shoe.

5. MUD PROGRAM

<u>Depth</u>	<u>Type</u>	<u>Wt./ppg.</u>	<u>Vis.</u>	<u>Fluid Loss</u>	<u>PH</u>
0'-280'	FW gel/lime spud mud	8.4-8.7	30-50	NC	10
280'-2570'	FW gel/Polymer	8.4-9.0	30-40	<20cc's	9.5
2570'-6823'	Air &/or Air/mist	N/A	N/A	N/A	N/A

Lost circulation and absorption material will be on location.

6. CORING, TESTING, & LOGGING

No cores or drill stem tests are planned. Open hole logs will include GR, Neutron-Density, and Induction. The Neutron-Density Log will be run from TD on the intermediate casing to 1700' and the Induction log from TD to the surface casing shoe. All logs will be run from TD on the production casing to the intermediate casing shoe.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum pressure will be ~2700 psi.

8. OTHER INFORMATION

The anticipated spud date is March 15, 2004. It is expected it will take ~16 days to drill and ~10 days to complete the well. Completion will start about one month after the spud and will include hydraulic fracturing.