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FORM APPROVED  
OMB NO. 1004-0136  
Expires: November 30, 2000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
APPLICATION FOR PERMIT TO DRILL OR REENTER

070 Farmington, NM

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. SF-078481-A	
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name NA	
2. Name of Operator M&G Drilling Company Inc.		7. If Unit or CA Agreement, Name and No. NA	
3a. Address PO Box 9560, Palm Springs CA		8. Lease Name and Well No. Graham #8	
3b. Phone No. (include area code) 760-323-4524		9. API Well No. 30-045 31752	
4. Location of well (Report location clearly and in accordance with any State requirements)* At surface 2,490' FNL and 660' FEL (SE/NE) At proposed prod. zone Same		10. Field and Pool, or Exploratory Basin Dakota	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* Approximately 12.5 miles SE of Blanco, NM		11. Sec., T., R., M., or Blk. And Survey or Area H Sec. 3, T27N, R8W	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg unit line, if any) 660'		12. County or Parish San Juan	
16. No. of Acres in lease 7,680.00		13. State NM	
17. Spacing Unit dedicated to this well E/S 2nd optional infill well in 320 acre GPU 320.86			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1995' estimated distance to Graham 44		20. BLM/ BIA Bond No. on file NM 2359	
19. Proposed Depth 7,250'			
21. Elevations (Show whether DF, RT, GR, etc.) Graded Ground Level 6,280'		22. Aproximate date work will start* August-03	
		23. Estimated Duration 30 days	

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan
4. Operator certification.

25. Signature 	Name (Printed/ Typed) Pat Gottlieb	Date DEC 16 2003 23-Jun-03
Title Vice-President		
Approved By (Signature) 	Name (Printed/ Typed) David J. Markiewicz	Date DEC 16 2003
Title Assistant Director		

Application approval does not warrant or certify that 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)

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

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

NMOC

## District I

1625 N. French Dr., Hobbs, NM 88240

## District II

1381 W. Grand Avenue, Artesia, NM 88210

## District III

1000 Rio Brumas Rd., Aztec, NM 87410

## District IV

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

State of New Mexico

Energy, Minerals &amp; 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

070 Farmington, NM ☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30045-31757	<sup>2</sup> Pool Code 71649	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code 33250	<sup>5</sup> Property Name GRAHAM 3	<sup>6</sup> Well Number #8
<sup>7</sup> OGRID No. 141852	<sup>8</sup> Operator Name M & G DRILLING COMPANY, INC.	<sup>9</sup> Elevation 6281

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
H	3	27 N	8 W		2450	North	660	East	San Juan

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres 320.86	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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

<sup>16</sup> N 89° 49' W 40.02 am. Lor No. (r.p.) 4 B210824N (20.62) (20.44) N 2° 27' E (40.99) Fil.	3 SEC.	2 LAT. 36.60564° N LONG. 107.66094° W	1 N 89° 24' W 29.82 am. S 89° 55' W 1.81 am. 2490' 660' B214004N (20.88) (20.51) N 3° 00' E (41.01) 79.37 am.	<sup>17</sup> OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. Signature: _____ Printed Name: _____ Title: _____ Date: _____
				<sup>18</sup> SURVEYOR CERTIFICATION 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 to the best of my belief. Date of Survey: _____ Signature and Seal of Registered Surveyor: _____ William E. Mahke II Certificate Number 8466

E2 dedication

# M & G Drilling Company, Inc.

Graham # 3 - 8

SE/NE Section 3, T27N, R8W

San Juan County, New Mexico

## DRILLING PROGNOSIS

1. Location of Proposed Well: Unit H, 2490' FNL & 660' FEL  
Section 3, T27N, R08W  
San Juan County, New Mexico
2. Unprepared Ground Elevation: @ 6281'.
3. The geological name of the surface formation is San Jose/Nacimimiento.
4. Type of drilling tools will be Rotary.
5. Proposed drilling depth is 7160' +/-.
6. The estimated tops of important geologic markers are as follows (reference GL + 12' = KB) and anticipated depths of water, oil, gas or other mineral bearing formations expected to be encountered are as follows:  
San Jose/Nacimeinto - Surface (6281' GL)  
Ojo Alamo - 1676' (Fresh Water)  
Kirtland - 1795'  
Fruitland - 2349' (Coal)  
Pictured Cliffs - 2577' (Gas)  
Lewis Shale - 2667'  
Chacra - 3545' (Gas)  
Cliffhouse - 4262' (Gas)  
Menefee - 4277' (Gas & Coal)  
Pt. Lookout - 4827' (Gas)  
Mancos - 5210'  
Gallup - 6084' (Gas)  
Greenhorn - 6769'  
Dakota - 6954' (Gas)  
T.D. - 7154'
8. The proposed casing program is as follows:

Surface Casing: 9 5/8", 36" J-55 casing will be set at 280' and cemented to surface.

\* The surface casing will be set at a minimum of 280' KB, but could be set deeper if required to maintain hole stability.

Intermediate Casing: 7", J-55, 20# intermediate casing will be set at 2,970' and cemented to surface.

Production Casing: 4 1/2", 11.6#, J-55 casing will be set at 7,160'+/- and cemented to 2,700'+/-, ensuring cement coverage inside intermediate casing.

9. Cement Program:

Surface String: 12-1/4" Hole - 126 sacks of Class "B" cement or equivalent (1.39 ft<sup>3</sup>/sx yield, 14.6 ppg) with 3 percent CaCl in mix water and 1/4# sack cello flake. Volume is based upon 100% excess. A wooden wiper plug will be displaced within 20' of the shoe. This casing string will be cemented to surface.

Intermediate String: 8-3/4" Hole – Single Stage *TOC must overlap p Surface csg 100' min*  
Lead Cement: 250 sacks Type III Cement, w/ additives mixed at 12.1 ppg (2.1 cf/sx yield = 526 cf)

Tail Cement: 70 sacks Type III Cement w/ additives mixed at 14.6 ppg (1.41 cf/sx yield = 99 ft<sup>3</sup>)

Volumes based upon 40% Excess. A Guide Shoe, and autofill float collar will be run 20' off of bottom.

Production String: 6-1/4" Hole – Single Stage *TOC to overlap w/ intermediate csg 100' min*  
Lead Cement: 83 sacks Type III Cement w/ additives mixed at 11.0 ppg (3.09 cf/sx yield = 256 cf)

Tail Cement: 156 sacks Type III Cement w/ additives mixed at 12.5 ppg (2.02 cf/sx yield = 315 ft<sup>3</sup>)

Volumes based upon 25% Excess. A Guide Shoe, and float collar will be run 20' off of bottom.

Note: M & G Drilling continues to work to improve the cement slurries on our wells. Any modifications to cement will be of equivalent total volume, but would have better mechanical properties than the cement we are currently using.

Centralizer Program:

Surface: Total Eight (8) minimum - 10' above shoe and top of Each Joint. One Centralizer will be run per joint.

Intermediate: Total Ten (10) - 20' above shoe and top of 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, 20<sup>th</sup>, 40<sup>th</sup>, 50<sup>th</sup>, and last inside 9-5/8" Surface Casing.

Turbolators: Total Two (2) - one at 1<sup>st</sup> jt below Ojo Alamo and 1 jt above this turbolator.

Production: One (1) inside 7" intermediate casing shoe.

10. A 3000# Blow-Out Preventer System will be used for this well, consisting of the following items:

- 2 Hydraulic Rams (Pipe & Blind) or Hydraulic and Annular with Blind Ram on Bottom.
- 1- Kill Line (2-inch minimum)
- 1- Kill Line Valve (2-inch minimum)
- 1 – Choke Line Valve
- 2 chokes (refer to diagram in Attachment) on Choke Manifold
- Upper kelly cock valve in open position with handle available
- Safety Valve (in open position) and subs to fit all drill strings in use (with handle available)
- Pressure gauged choke manifold
- 2 inch minimum choke line
- Fill-up line above the uppermost preventer

A 6" or 7" Blooie Line will be used in conjunction with a Rotating head to facilitate air and air mist drilling operations.

A De-duster will be utilized at the end of the blooie line.

The BOP equipment will be pressure and function tested according to Onshore Order # 2 – III.A-1. Please see that attached diagram.

11. Drilling Mud Prognosis:

Depth	Type	Wt./ppg.	Vis.,	Fluid Loss	pH
0'-280 '	FW gel/lime spud mud	8.4 – 8.7	30-50	NC	10
280'- 3000'	FW gel / Polymer	8.4 - 9.0	30-40	<20 cc's	9.5-
3000'-TD	Air and/or Air/mist	n/a	n/a	n/a	n/a

Sufficient material needed to maintain mud properties, control loss circulation, and absorbent materials to contain any unforeseen pressure control situations will be maintained at the wellsite during all drilling operations.

12. The testing, logging, and coring programs are as follows:

D.S.T.s or cores: None Planned.

Logs: Intermediate 3000' to TD, Openhole Logs to including GR, SP, Induction, Neutron, Density, Temperature, & Caliper. Additional logs may be run.

13. No Anticipated or abnormal pressures or temperatures should be encountered. No hydrogen sulfide is present or anticipated.

Estimated Bottom hole pressures: Dakota is - +/- 2700 psi  
Mesaverde - +/- 900 psi