

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

2004 DEC 6 PM 2

5. Lease Designation and Serial No.

SE-078481A

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.

GRAHAM #100

9. API Well No.

30-045-32730

10. Field and Pool, or Exploratory

Basin Fruitland Coal

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

Sec 3, T-27-N, R-8-W

12. County or Parish, ☒

San Juan

13. State

New Mexico

17. Spacing Unit dedicated to this well

320.86 Acres E/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"	8-5/8" LS	23#	200'	140 Sxs, 165 ft3 - 100% Excess
6-1/4"	4-1/2" K-55	11.6#	2250'	173 Sxs, 334 ft3 - 45% Excess

The on-site inspection was on 11/29/04 by John Kendell and Brice Barlan

Archy is by DCA.

EA is by Nelson

SEE ATTACHED APD INFORMATION

Latitude: 36 Deg, 35 Min, 55 Sec N  
Longitude: 107 Deg, 39 Min, 57.6 Sec W

25. Signature <i>Mike Pippin</i>	Name(Printed/Typed) Mike Pippin	Date December 5, 2004
Title Petroleum Engineer		
Approved by (Signature) <i>[Signature]</i>	Name(Printed/Typed) AFM	Date 2-7-05
Title AFM	Office FFO	

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)

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

NMOCD

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

**DISTRICT II**  
**811 South First, Artesia, N.M. 88210**

**DISTRICT III**  
**1000 Rio Brazos Rd., Aztec, N.M. 87410**

**DISTRICT IV**  
2040 South Pacheco, Santa Fe, NM 87505

## OIL CONSERVATION DIVISION

2040 South Pacheco  
Santa Fe, NM 87505

**Submit to Appropriate District Office**  
**State Lease - 4 Copies**  
**Fee Lease - 3 Copies**

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30065-32730	*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 16598	*Property Name GRAHAM	*Well Number 100
*OGRID No. 141852	*Operator Name M & G DRILLING COMPANY	*Elevation 5890'

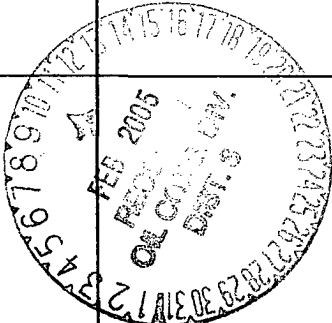
## <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	3	27-N	8-W		890	SOUTH	1845	EAST	SAN JUAN

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 320.86      E/2			<sup>13</sup> Joint or Infill Y		<sup>14</sup> Consolidation Code		<sup>15</sup> 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

16   <div style="text-align: center;">LOT 4</div>	<div style="text-align: center;">LOT 3</div>	<div style="text-align: center;">LOT 2</div>	<div style="text-align: center;">LOT 1</div>
		<div style="text-align: right;">FD. 3 1/4" BC. 1955 B.L.M.</div>	
<div style="text-align: center;">LAT. 36°35'55.0" N. (NAD 83) LONG. 107°39'57.6" W. (NAD 83)</div>		<div style="text-align: right;">FD. 3 1/4" BC. 1955 B.L.M.</div>	
<div style="text-align: right;">890'</div>		<div style="text-align: right;">1845'</div>	
<div style="text-align: right;">FD. 3 1/4" BC. 1955 B.L.M.</div>		<div style="text-align: right;">N 89-28-16 W 2623.7' (M)</div>	

### 17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Mike Pippin  
Signature

MIKE PIPPIN  
Printed Name

AGENT-PETR. ENGR.  
Title

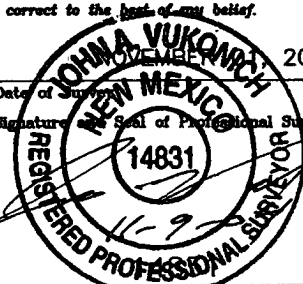
12/6/04  
Date

### 18 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 DECEMBER 1 2004

Signature [Signature] and Seal of Professional Surveyor



Certificate Number \_\_\_\_\_

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., 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 and Natural Resources

Form C-103  
March 4, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.

5. Indicate Type of Lease Federal  
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.:  
Federal: SF-078481A

7. Lease Name or Unit Agreement Name:  
GRAHAM

8. Well Number:  
#100

9. OGRID Number: 141852

10. Pool name or Wildcat:  
Basin Fruitland Coal

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A  
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH  
PROPOSALS.)

1. Type of Well:  
Oil Well ☐ Gas Well ☒ Other

2. Name of Operator  
M & G DRILLING COMPANY

3. Address of Operator c/o Agent, Mike Pippin LLC  
3104 N. Sullivan, Farmington, NM 87401 505-327-4573

4. Well Location

Unit Letter O: 890 feet from the South line and 1845 feet from the East line

Section 3 Township 27N Range 8W NMPM San Juan County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
5890' GL

Pit or Below-grade Tank Application (For pit or below-grade tank closures, a form C-144 must be attached)

Pit Location: UL O Sect 3 Twp 27N Rng 8W Pit type: Drilling Depth to Groundwater >100' Distance from nearest fresh water well >1000'

Distance from nearest surface water <200' Below-grade Tank Location UL  Sect  Twp  Rng ;  
feet from the  line and  feet from the  line

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐

TEMPORARILY ABANDON ☐ CHANGE PLANS ☐

PULL OR ALTER CASING ☐ MULTIPLE COMPLETION ☐

OTHER: Drilling Pit Registration ☒

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐

COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐

CASING TEST AND CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

We intend to drill a new FRTC well. The drilling pit will be built and lined according to our general pit guidelines on file at the NMOCD in Aztec, NM.

When this drilling pit is closed, it will be closed as per our general pit closing guidelines on file at the NMOCD.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Mike Pippin TITLE Agent - Petroleum Engineer DATE December 6, 2004

Type or print name Mike Pippin E-mail address: mpippin@ddbroadband.net Telephone No. 505-327-4573

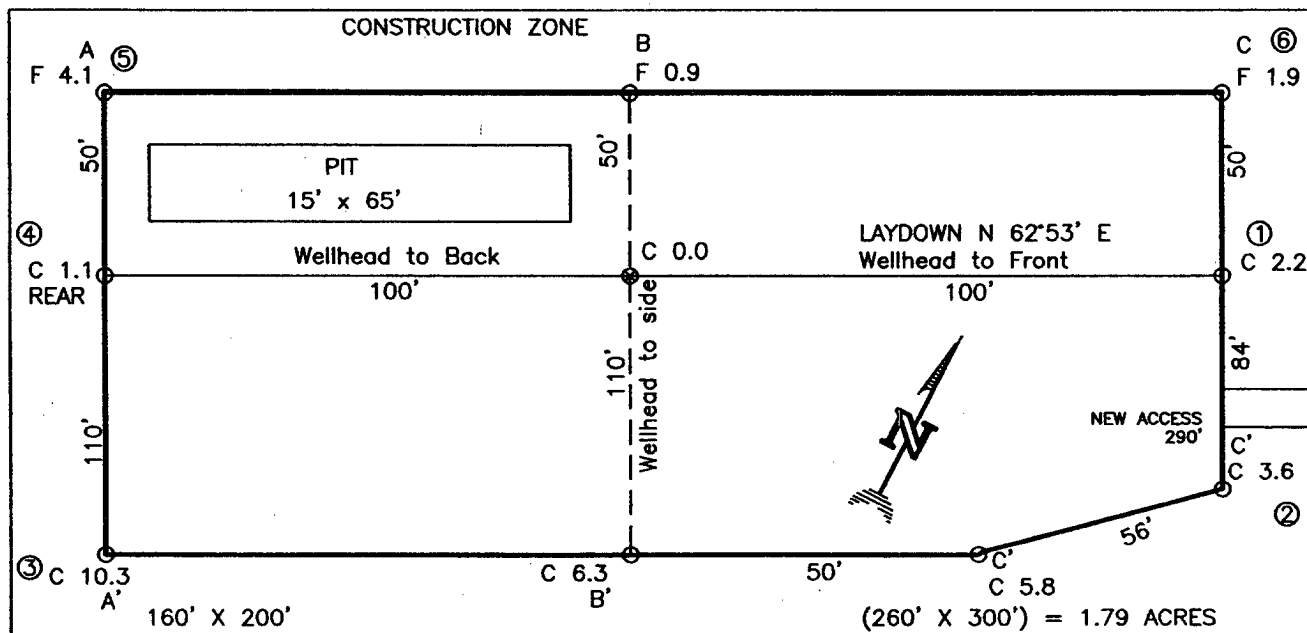
(This space for State use)

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. IV

DATE FEB 10 2005

Conditions of approval, if any:

M & G DRILLING COMPANY  
 GRAHAM No. 100, 890 FSL 1845 FEL  
 SECTION 3, T27N, R8W, N.M.P.M., SAN JUAN COUNTY, N. M.  
 GROUND ELEVATION: 5890, DATE: NOVEMBER 1, 2004

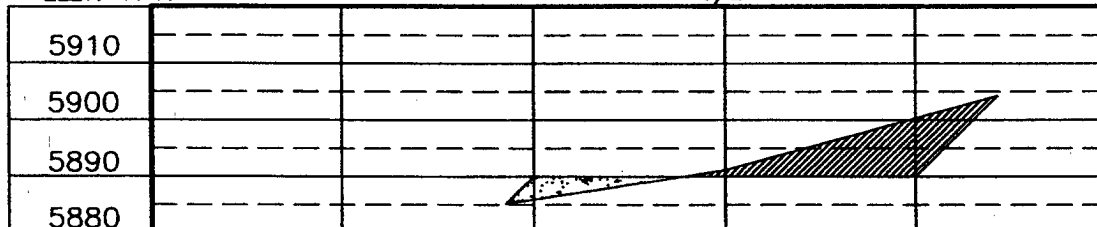


NOTE:

DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR  
 UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO  
 ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO  
 EXCAVATION OR CONSTRUCTION.

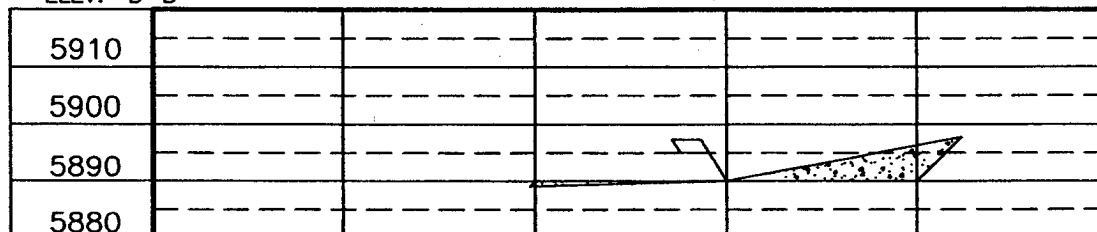
ELEV. A-A'

C/L



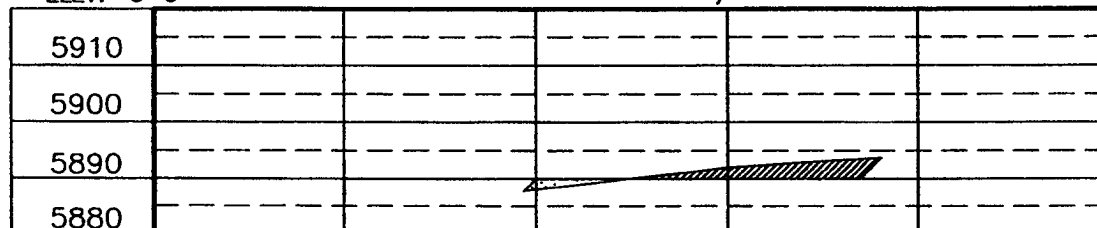
ELEV. B-B'

C/L



ELEV. C-C'

C/L



NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES  
 OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

PAGE #12

REVISION:	DATE:	11/08/04	REVISED BY:	B.L.
RESTAKE WELL LOC.	DATE:	09/22/04	DATE:	09/22/04

**Daggett Enterprises, Inc.**  
 Surveying and Oil Field Services  
 P. O. Box 15088 • Farmington, NM 87401  
 Phone (505) 326-1772 • Fax (505) 326-6019  
 NEW MEXICO L.S. No. 14831  
 DOWNS BY: A.G.  
 ROW# M&G022

# **M & G DRILLING COMPANY**

**GRAHAM #100 FRTC**

**890' FSL, 1845' FEL**

**Unit O Sec. 3 T27N R8W**

**San Juan County, NM**

## **Drilling Program**

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

<u>Formation Name</u>	<u>Depth</u>
Ojo Alamo	1192'
Kirtland	1332'
Fruitland	1987'
Pictured Cliffs	2154'
TD (4-1/2")	2250'

### **2. NOTABLE ZONES**

<u>Gas or Oil Zones</u>	<u>Water Zones</u>	<u>Coal Zone</u>
Fruitland		Fruitland
Pictured Cliffs	Ojo Alamo Kirtland	

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.

### **3. PRESSURE CONTROL**

Maximum expected pressure is ~400 psi. The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A typical 7-1/16" 3,000 psi annular is on PAGE #5 with a choke manifold on PAGE #6.

BOP equipment and all accessories will meet or exceed BLM requirements in 43 CFR Part 3160 for a 3000 psi system. A 3000 psi annular 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 an upper Kelly cock with a handle, 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.

## **M & G DRILLING COMPANY**

**GRAHAM #100 FRTC**

890' FSL, 1845' FEL

Unit O Sec. 3 T27N R8W

San Juan County, NM

### **4. CASING & CEMENT**

<u>Hole Size</u>	<u>O.D.</u>	<u>Weight (lb/ft)</u>	<u>Grade</u>	<u>Age</u>	<u>Connection</u>	<u>GL Setting Depth</u>
12-1/4"	8-5/8"	23#	LS	New	ST&C	200'
6-1/4"	4-1/2"	11.6#	K-55	New	ST&C	2250'

**Surface Casing** will be cemented to the surface with ~165 cu. ft. (~140 sx) Class "B" cmt or equivalent (1.18 ft<sup>3</sup>/sx yield, 15.6 ppg, & 5.2 gps) with 2% CaCl<sub>2</sub> and 1/4#/sx celloflake. Volume based on 100% excess. We plan to run a minimum of at least 3 centralizers. A wooden wiper plug will be displaced to within 20' of the shoe. WOC = 12 hours. Surface casing will be tested to 500 psi for 15 minutes.

**Production Casing** will be cemented to surface with a single stage. Total cement = ~334 cu. ft. (~173sx). Volumes are calculated at 45% excess in the lead cmt. If cement does not circulate to surface, then a temperature survey or CBL will be run to determine the actual cement top as needed. WOC = 12 hours. Casing will be tested to 3800 psi for 15 minutes during completion operations.

Lead cement will be ~279 cu. ft. (~133 sx) Class "B" cmt or equivalent w/2% SM, 1/4#/sx cello flake, 3#/sx gilsonite mixed at 11.9 gps, 12.5 ppg for a yield of 2.09 cu. ft. per sx.

Tail cement will be ~56 cu. ft. (~40 sx) Class "B" cmt or equivalent w/1% gel, 2% Cacl<sub>2</sub>, 1/4#/sx cello flake, 3#/sx gilsonite mixed at 6.8 gps, 14.5 ppg for a yield of 1.4 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 at least 10 centralizers.

### **5. MUD PROGRAM**

<u>Depth</u>	<u>Type</u>	<u>Wt./ppg.</u>	<u>Vis.</u>	<u>Fluid Loss</u>	<u>PH</u>
0'-200'	FW gel/lime spud mud	8.4-8.7	30-50	NC	10
200'-2250'	FW gel/Polymer	8.3-8.6	30-35	<20cc's	9.5

Lost circulation and absorption material will be on location.

### **6. CORING, TESTING, & LOGGING**

No cores or drill stem tests are planned. No open hole logs will run on this well. We plan to run a cased hole GR-neutron log during completion operations.

**M & G DRILLING COMPANY**

**GRAHAM #100 FRTC**

**890' FSL, 1845' FEL**

**Unit O Sec. 3 T27N R8W**

**San Juan County, NM**

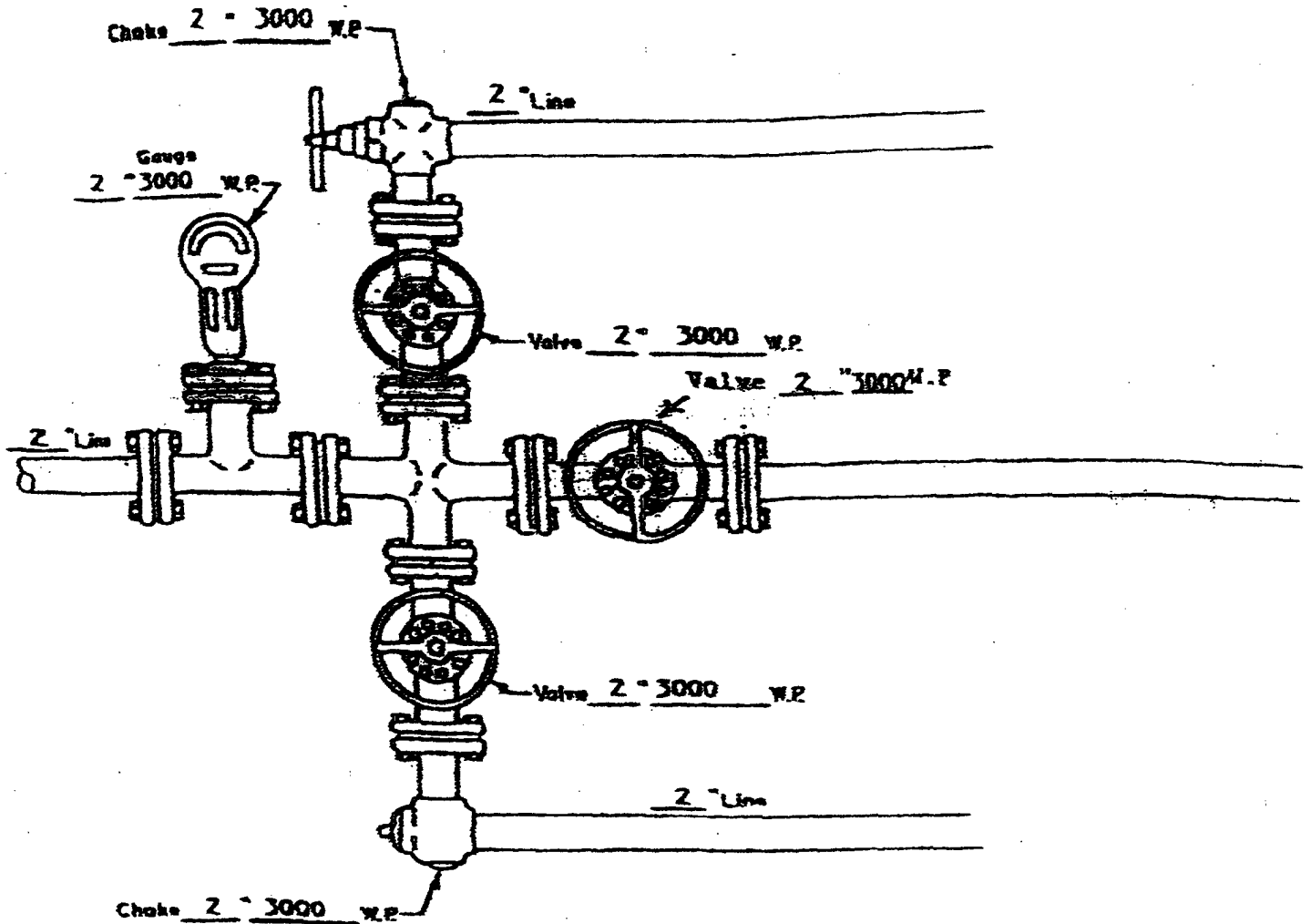
**7. DOWN HOLE CONDITIONS**

No abnormal pressures, temperatures, nor hydrogen sulfide are expected.  
Maximum pressure will be ~400 psi.

**8. OTHER INFORMATION**

The anticipated spud date is June 10, 2005. It is expected it will take ~7 days to drill and ~7 days to complete the well. Completion will start about one month after the spud and will include hydraulic fracturing.

M & G DRILLING COMPANY  
SAN JUAN COUNTY, NM



MANIFOLD  
3000 #W.P.

☒ Manual  
☐ Hydraulic

8-5/8" 23# LS X-42 CASING  
0.250" WALL  
CALLAPSE = 1016 PSI  
INTERNAL YIELD = 1040 PSI

ATTACHMENT NO. 2  
PAGE #5



# Drilling Rig

## 3000 psi BOP System

