

OCD-ARTESIA

ATS-11-793

FORM APPROVED  
OMB No. 1004-013  
Expires July 31, 2010

FALL-1076

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

|                                                                                                                                                                                                                                 |  |                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------|
| 1. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                     |  | 5. Lease Serial No.<br>NMNM103597                                  |
| 2. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone           |  | 6. If Indian, Allottee or Tribe Name                               |
| Name of Operator<br>COG Operating LLC. [229137]                                                                                                                                                                                 |  | 7. If Unit or CA Agreement, Name and No.                           |
| 3a. Address<br>2208 West Main Street<br>Artesia, NM 88210                                                                                                                                                                       |  | 8. Lease Name and Well No.<br>Magura 8 Federal #4 [96403]          |
| 3b. Phone No. (include area code)<br>575-748-6940                                                                                                                                                                               |  | 9. API Well No.<br>30-015-39472                                    |
| Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface 330' FNL & 2080' FWL Unit Letter C (NENW) SHL<br>At proposed prod. Zone 330' FSL & 1980' FWL Unit Letter N (SESW) BHL |  | 10. Field and Pool, or Exploratory<br>Wildcat; Bone Spring [38855] |
| 11. Distance in miles and direction from nearest town or post office*<br>About 8 miles from White City                                                                                                                          |  | 11. Sec., T.R.M. or Blk and Survey or Area<br>Sec. 8 - T26S - R26E |
| 12. Distance from proposed* location to nearest property or lease line, ft.<br>(Also to nearest drig. Unit line, if any) 2080'                                                                                                  |  | 12. County or Parish<br>Eddy County                                |
| 13. Distance from location* to nearest well, drilling, completed, applied for, on this lease, ft. 3000'                                                                                                                         |  | 13. State<br>NM                                                    |
| 14. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3533.8                                                                                                                                                                   |  | 16. No. of acres in lease<br>2079.71                               |
| 15. Proposed Depth<br>10283'                                                                                                                                                                                                    |  | 17. Spacing Unit dedicated to this well<br>.160                    |
| 18. PHTD 10825' TVD 5822' MD 10285'                                                                                                                                                                                             |  | 20. BLM/BIA Bond No. on file<br>NMB000740-215                      |
| 22. Approximate date work will start*<br>9/15/2011                                                                                                                                                                              |  | 23. Estimated duration<br>30 days                                  |

24. Attachments

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

Well plat certified by a registered surveyor.

A Drilling Plan

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.

|                                             |                                     |                     |
|---------------------------------------------|-------------------------------------|---------------------|
| Signature<br>[Signature]                    | Name (Printed/Typed)<br>Mayte Reyes | Date<br>6/10/2011   |
| Regulatory Analyst                          |                                     |                     |
| Approved by (Signature)<br>/s/ Don Peterson | Name (Printed/Typed)                | Date<br>SEP 28 2011 |
| Field Manager                               | Office<br>CARLSBAD FIELD OFFICE     |                     |

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.

APPROVAL FOR TWO YEARS

Under 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.

Continued on page 2)

\*(Instructions on page 2)

Carlsbad Controlled Water Basin

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

**COG Operating LLC**  
**DRILLING AND OPERATIONS PROGRAM**

**Magura 8 Federal #4H**  
**SHL: 330' FNL & 2080' FWL**  
**BHL: 330' FSL & 1980' FWL**  
**Section 8 T26S R26E**  
**Eddy County, New Meexico**

In conjunction with Form 3160-3, Application for Permit to Drill subject well, COG Operating LLC submits the following ten items of pertinent information in accordance with BLM requirements.

1. Geological surface formation: Permian
2. The estimated tops of geologic markers & estimated depths at which anticipated water, oil or gas formations are expected to be encountered are as follows:

|                     |                      |     |
|---------------------|----------------------|-----|
| Fresh Water         | ~22'                 |     |
| Rustler             | None                 |     |
| Top of Salt         | 320'                 |     |
| Base of Salt        | 1671'                |     |
| Delaware            | 1832'                | Oil |
| Bone Spring         | 5286'                |     |
| Avalon Shale        | 5370'                |     |
| 1 <sup>st</sup> BSS | 6188'                | Oil |
| 2 <sup>nd</sup> BSS | 6641'                | Oil |
| 3 <sup>rd</sup> BSS | 8042'                | Oil |
| Wolfcamp            | 8373'                |     |
| Strawn              | 10,715'              |     |
| TD(Pilot)           | 10,825'              |     |
| TVD                 | 5822'                |     |
| TMD                 | 10,285' <sub>3</sub> |     |

No other formations are expected to give up oil, gas, or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13-3/8" casing and circulating cement back to surface. All oil/gas intervals will be isolated by setting 5-1/2" casing to total depth and circulating cement to surface.

**3. Proposed Casing Program: All casing is new and API approved**

| Hole Size | Interval                  | Hole Section                | OD Casing | New or Used | Wt  | Collar | Grade        | Collapse Design Factor | Burst Design Factor | Tension Design Factor |
|-----------|---------------------------|-----------------------------|-----------|-------------|-----|--------|--------------|------------------------|---------------------|-----------------------|
| 17 1/2"   | 0' - 300' 350'            | Surface                     | 13-3/8"   | New         | 48# | STC    | H-70<br>J-55 | 1.125                  | 1.125               | 1.6                   |
| 12 1/4"   | 0' - 1800'                | Intrmd                      | 9 5/8"    | New         | 36# | STC    | J-55         | 1.125                  | 1.125               | 1.6                   |
| 8 3/4"    | 1800' - 10,825'           | Pilot Hole                  |           |             |     |        |              |                        |                     |                       |
| 7 7/8"    | 0' - 10,285' <sub>3</sub> | Production, Curve & Lateral | 5 1/2"    | New         | 17# | LTC    | P-110        | 1.125                  | 1.125               | 1.6                   |

- While running all casing strings, the pipe will be kept a minimum of 1/3 full at all times to avoid approaching the collapse pressure of casing.

#### 4. Proposed Cement Program:

- a. 13-3/8" Surface      Tail: 300 sx Class C + 2% CaCl<sub>2</sub>  
(14.8 ppg / 1.35 cuft/sx)  
\*\*Calculated w/50% excess on OH volumes
- b. 9 5/8" Intermediate      Lead: 350 sx Class C + 4% Gel  
(13.5 ppg / 1.75 cuft/sx)  
Tail: 250 sx Class C + 2% CaCl<sub>2</sub>  
(14.8 ppg / 1.35 cuft/sx)  
\*\*Calculated w/35% excess on OH volumes
- d. 5 1/2" Production      1<sup>st</sup> Stage:  
Lead: 500 sx Class H + Acid soluble  
(15.0 ppg / 2.6 cuft/sx)  
2<sup>nd</sup> Stage:  
Lead: 400 sx Class C + Bentonite + HALAD-322  
(12.7 ppg / 1.89 cuft/sx)  
Tail: 100 sx Class C  
(14.8 ppg / 1.34 cuft/sx)  
3<sup>rd</sup> Stage:  
Lead: 250 sx Class C + 4% Gel  
(13.5 ppg / 1.75 cuft/sx)  
Tail: 100 sx Class C  
(14.8 ppg / 1.34 cuft/sx)  
DVT @ 5250' & DVT/ECP @ 2000' (approx depths)  
\*\*Calculated w/35% excess on OH volumes

- The above cement volumes could be revised pending the caliper measurement from the open hole logs.
- The 9-5/8" intermediate string is designed to circulate cement to surface.
- The production string is designed to circulate cement to surface.
- After logging the PH, will plug back to kick off point by setting the following plugs:

See COA { PH TD Plug f/10,600 – 10,825'  
100 sx Class H + HR-800 @ 15.6 ppg/1.18 ft<sup>3</sup>/sx  
Wolfcamp Plug f/8150' – 8375' (or 50' above top of Wolfcamp) ← See COA  
100 sx Class H + HR-800 @ 15.6 ppg/1.18 ft<sup>3</sup>/sx  
Kick Off Plug f/5300' – 5800'  
250 sx Class H + CFR3 + HR-800 @ 17.2 ppg / 0.98 ft<sup>3</sup>/sx

#### 5. Minimum Specifications for Pressure Control:

Nipple up on 13 3/8" with 2M system (Hydril) tested to 2000# by independent tester,  
Nipple up on 9 5/8" with 5M system tested to 5000# by independent tester.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and a 3" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold with 3000 psi WP rating.

5000

**6. Estimated BHP:**

- a. PH TD = 4695 psi
- b. Lateral TD = 2552 psi

**7. Mud Program:** The applicable depths and properties of this system are as follows:

| Depth                    | Type System | Mud Weight | Viscosity (sec) | Waterloss (cc) |
|--------------------------|-------------|------------|-----------------|----------------|
| 0' – 300'                | Fresh Water | 8.4        | 29              | N.C.           |
| 300' – 1800'             | Brine       | 10         | 29              | N.C.           |
| 1800' – 10825' (PH)      | Cut Brine   | 8.9 – 9.2  | 29              | N.C.           |
| 1800' – 10285' (Lateral) | Cut Brine   | 8.9 – 9.2  | 29              | N.C.           |

The necessary mud products for weight addition and fluid loss control will be on location at all times.

**8. Auxiliary Well Control and Monitoring Equipment:**

- c. A Kelly cock will be in the drill string at all times.
- d. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.
- e. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13 3/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13 3/8" shoe until total depth is reached.

**9. Testing, Logging and Coring Program:**

- f. Drill stem tests will be based on geological sample shows.
- g. The open hole electrical logging program will be:
  - i. Total Depth to Intermediate Casing: Dual Laterolog-Micro Laterolog and Gamma Ray. Compensated Neutron – Z Density log with Gamma Ray and Caliper.
  - ii. Total Depth to Surface: Compensated Neutron with Gamma Ray
  - iii. No coring program is planned
  - iv. Additional testing will be initiated subsequent to setting the 5-1/2" production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

**10. Potential Hazards:**

- h. No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP: 2525 psi. No H2S is anticipated to be encountered.

**11. Anticipated starting date and Duration of Operations**

- a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.



## **COG Operating LLC**

Eddy County(NAD83)

Magura "8" Federal

#4H

OH

Plan: Plan #1

## **Pathfinder X&Y Report**

07 June, 2011

**PATHFINDER<sup>®</sup>**  
A Schlumberger Company



Pathfinder  
Pathfinder X&Y Report

**PATHFINDER**  
A Schlumberger Company

Company: COG Operating LLC  
Project: Eddy County(NAD83)  
Site: Magura "8" Federal  
Well: #4H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #4H  
TVD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
MD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 Single User Db

Project Eddy County(NAD83)

Map System: US State Plane 1983  
Geo Datum: North American Datum 1983  
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Magura "8" Federal

|                       |           |              |                  |                   |                   |
|-----------------------|-----------|--------------|------------------|-------------------|-------------------|
| Site Position:        |           | Northing:    | 386,841.730 usft | Latitude:         | 32° 3' 48.619 N   |
| From:                 | Map       | Easting:     | 548,922.620 usft | Longitude:        | 104° 18' 31.851 W |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13-3/16 "        | Grid Convergence: | 0.01 °            |

Well #4H

|                      |      |           |                     |                  |               |                  |
|----------------------|------|-----------|---------------------|------------------|---------------|------------------|
| Well Position        | +N-S | 0.00 usft | Northing:           | 386,844.240 usft | Latitude:     | 32° 3' 48.649 N  |
|                      | +E-W | 0.00 usft | Easting:            | 546,380.950 usft | Longitude:    | 104° 19' 1.388 W |
| Position Uncertainty |      | 0.00 usft | Wellhead Elevation: | usft             | Ground Level: | 3,533.80 usft    |

Wellbore OH

| Magnetics | Model Name | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|-----------|------------|-------------|--------------------|------------------|------------------------|
|           | IGRF200510 | 6/7/2011    | 7.90               | 59.93            | 48,475                 |

Design Plan #1

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.00

| Vertical Section: | Depth From (TVD)<br>(usft) | +N-S<br>(usft) | +E-W<br>(usft) | Direction<br>(°) |
|-------------------|----------------------------|----------------|----------------|------------------|
|                   | 0.00                       | 0.00           | 0.00           | 180.66           |

Survey Tool Program Date 6/7/2011

| From<br>(usft) | To<br>(usft) | Survey (Wellbore) | Tool Name | Description    |
|----------------|--------------|-------------------|-----------|----------------|
| 0.00           | 10,282.52    | Plan #1 (OH)      | MWD       | MWD - Standard |



Pathfinder  
Pathfinder X&Y Report

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Planned Survey

| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| 0.00         | 0.00       | 0.00                 | 0.00          | -3,550.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 100.00       | 0.00       | 0.00                 | 100.00        | -3,450.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 200.00       | 0.00       | 0.00                 | 200.00        | -3,350.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 300.00       | 0.00       | 0.00                 | 300.00        | -3,250.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 400.00       | 0.00       | 0.00                 | 400.00        | -3,150.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 500.00       | 0.00       | 0.00                 | 500.00        | -3,050.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 600.00       | 0.00       | 0.00                 | 600.00        | -2,950.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 700.00       | 0.00       | 0.00                 | 700.00        | -2,850.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 800.00       | 0.00       | 0.00                 | 800.00        | -2,750.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 900.00       | 0.00       | 0.00                 | 900.00        | -2,650.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,000.00     | 0.00       | 0.00                 | 1,000.00      | -2,550.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,100.00     | 0.00       | 0.00                 | 1,100.00      | -2,450.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,200.00     | 0.00       | 0.00                 | 1,200.00      | -2,350.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,300.00     | 0.00       | 0.00                 | 1,300.00      | -2,250.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,400.00     | 0.00       | 0.00                 | 1,400.00      | -2,150.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,500.00     | 0.00       | 0.00                 | 1,500.00      | -2,050.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,600.00     | 0.00       | 0.00                 | 1,600.00      | -1,950.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,700.00     | 0.00       | 0.00                 | 1,700.00      | -1,850.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,800.00     | 0.00       | 0.00                 | 1,800.00      | -1,750.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 1,900.00     | 0.00       | 0.00                 | 1,900.00      | -1,650.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,000.00     | 0.00       | 0.00                 | 2,000.00      | -1,550.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,100.00     | 0.00       | 0.00                 | 2,100.00      | -1,450.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,200.00     | 0.00       | 0.00                 | 2,200.00      | -1,350.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,300.00     | 0.00       | 0.00                 | 2,300.00      | -1,250.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,400.00     | 0.00       | 0.00                 | 2,400.00      | -1,150.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,500.00     | 0.00       | 0.00                 | 2,500.00      | -1,050.80       | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,600.00     | 0.00       | 0.00                 | 2,600.00      | -950.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |



Pathfinder  
Pathfinder X&Y Report

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Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #4H  
TVD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
MD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 Single User Db

Planned Survey

| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| 2,700.00     | 0.00       | 0.00                 | 2,700.00      | -850.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,800.00     | 0.00       | 0.00                 | 2,800.00      | -750.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 2,900.00     | 0.00       | 0.00                 | 2,900.00      | -650.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,000.00     | 0.00       | 0.00                 | 3,000.00      | -550.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,100.00     | 0.00       | 0.00                 | 3,100.00      | -450.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,200.00     | 0.00       | 0.00                 | 3,200.00      | -350.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,300.00     | 0.00       | 0.00                 | 3,300.00      | -250.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,400.00     | 0.00       | 0.00                 | 3,400.00      | -150.80         | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,500.00     | 0.00       | 0.00                 | 3,500.00      | -50.80          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,600.00     | 0.00       | 0.00                 | 3,600.00      | 49.20           | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,700.00     | 0.00       | 0.00                 | 3,700.00      | 149.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,800.00     | 0.00       | 0.00                 | 3,800.00      | 249.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 3,900.00     | 0.00       | 0.00                 | 3,900.00      | 349.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,000.00     | 0.00       | 0.00                 | 4,000.00      | 449.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,100.00     | 0.00       | 0.00                 | 4,100.00      | 549.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,200.00     | 0.00       | 0.00                 | 4,200.00      | 649.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,300.00     | 0.00       | 0.00                 | 4,300.00      | 749.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,400.00     | 0.00       | 0.00                 | 4,400.00      | 849.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,500.00     | 0.00       | 0.00                 | 4,500.00      | 949.20          | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,600.00     | 0.00       | 0.00                 | 4,600.00      | 1,049.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,700.00     | 0.00       | 0.00                 | 4,700.00      | 1,149.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,800.00     | 0.00       | 0.00                 | 4,800.00      | 1,249.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 4,900.00     | 0.00       | 0.00                 | 4,900.00      | 1,349.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 5,000.00     | 0.00       | 0.00                 | 5,000.00      | 1,449.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 5,100.00     | 0.00       | 0.00                 | 5,100.00      | 1,549.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 5,200.00     | 0.00       | 0.00                 | 5,200.00      | 1,649.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 5,300.00     | 0.00       | 0.00                 | 5,300.00      | 1,749.20        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |



Pathfinder  
Pathfinder X&Y Report

**PATHFINDER**  
A Schlumberger Company

Company: COG Operating LLC  
Project: Eddy County(NAD83)  
Site: Magura "8" Federal  
Well: #4H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #4H  
TVD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
MD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 Single User Db

Planned Survey

| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| 5,344.54     | 0.00       | 0.00                 | 5,344.54      | 1,793.74        | 0.00          | 0.00          | 0.00             | 0.00                | 386,844.24         | 546,380.95        |
| 5,350.00     | 0.66       | 180.66               | 5,350.00      | 1,799.20        | -0.03         | 0.00          | 0.03             | 12.00               | 386,844.21         | 546,380.95        |
| 5,375.00     | 3.66       | 180.66               | 5,374.98      | 1,824.18        | -0.97         | -0.01         | 0.97             | 12.00               | 386,843.27         | 546,380.94        |
| 5,400.00     | 6.66       | 180.66               | 5,399.88      | 1,849.08        | -3.22         | -0.04         | 3.22             | 12.00               | 386,841.02         | 546,380.91        |
| 5,425.00     | 9.66       | 180.66               | 5,424.62      | 1,873.82        | -6.76         | -0.08         | 6.76             | 12.00               | 386,837.48         | 546,380.87        |
| 5,450.00     | 12.66      | 180.66               | 5,449.14      | 1,898.34        | -11.60        | -0.13         | 11.60            | 12.00               | 386,832.64         | 546,380.82        |
| 5,475.00     | 15.66      | 180.66               | 5,473.38      | 1,922.58        | -17.71        | -0.20         | 17.71            | 12.00               | 386,826.53         | 546,380.75        |
| 5,500.00     | 18.66      | 180.66               | 5,497.27      | 1,946.47        | -25.08        | -0.29         | 25.09            | 12.00               | 386,819.16         | 546,380.66        |
| 5,525.00     | 21.66      | 180.66               | 5,520.73      | 1,969.93        | -33.70        | -0.39         | 33.70            | 12.00               | 386,810.54         | 546,380.56        |
| 5,550.00     | 24.66      | 180.66               | 5,543.72      | 1,992.92        | -43.53        | -0.50         | 43.53            | 12.00               | 386,800.71         | 546,380.45        |
| 5,575.00     | 27.66      | 180.66               | 5,566.16      | 2,015.36        | -54.54        | -0.63         | 54.55            | 12.00               | 386,789.70         | 546,380.32        |
| 5,600.00     | 30.66      | 180.66               | 5,587.99      | 2,037.19        | -66.72        | -0.77         | 66.73            | 12.00               | 386,777.52         | 546,380.18        |
| 5,625.00     | 33.66      | 180.66               | 5,609.15      | 2,058.35        | -80.02        | -0.93         | 80.03            | 12.00               | 386,764.22         | 546,380.02        |
| 5,650.00     | 36.66      | 180.66               | 5,629.59      | 2,078.79        | -94.42        | -1.09         | 94.42            | 12.00               | 386,749.82         | 546,379.86        |
| 5,675.00     | 39.66      | 180.66               | 5,649.24      | 2,098.44        | -109.86       | -1.27         | 109.87           | 12.00               | 386,734.38         | 546,379.68        |
| 5,700.00     | 42.66      | 180.66               | 5,668.06      | 2,117.26        | -126.31       | -1.46         | 126.32           | 12.00               | 386,717.93         | 546,379.49        |
| 5,725.00     | 45.66      | 180.66               | 5,686.00      | 2,135.20        | -143.72       | -1.66         | 143.73           | 12.00               | 386,700.52         | 546,379.29        |
| 5,750.00     | 48.66      | 180.66               | 5,703.00      | 2,152.20        | -162.05       | -1.87         | 162.06           | 12.00               | 386,682.19         | 546,379.08        |
| 5,775.00     | 51.66      | 180.66               | 5,719.01      | 2,168.21        | -181.24       | -2.10         | 181.25           | 12.00               | 386,663.00         | 546,378.85        |
| 5,800.00     | 54.66      | 180.66               | 5,734.00      | 2,183.20        | -201.24       | -2.33         | 201.25           | 12.00               | 386,643.00         | 546,378.62        |
| 5,825.00     | 57.66      | 180.66               | 5,747.92      | 2,197.12        | -222.00       | -2.57         | 222.01           | 12.00               | 386,622.24         | 546,378.38        |
| 5,850.00     | 60.66      | 180.66               | 5,760.74      | 2,209.94        | -243.46       | -2.82         | 243.48           | 12.00               | 386,600.78         | 546,378.13        |
| 5,875.00     | 63.66      | 180.66               | 5,772.42      | 2,221.62        | -265.56       | -3.07         | 265.58           | 12.00               | 386,578.68         | 546,377.88        |
| 5,900.00     | 66.66      | 180.66               | 5,782.92      | 2,232.12        | -288.24       | -3.33         | 288.26           | 12.00               | 386,556.00         | 546,377.62        |
| 5,925.00     | 69.66      | 180.66               | 5,792.22      | 2,241.42        | -311.44       | -3.60         | 311.47           | 12.00               | 386,532.80         | 546,377.35        |
| 5,950.00     | 72.66      | 180.66               | 5,800.29      | 2,249.49        | -335.10       | -3.88         | 335.12           | 12.00               | 386,509.14         | 546,377.07        |
| 5,975.00     | 75.66      | 180.66               | 5,807.12      | 2,256.32        | -359.15       | -4.15         | 359.17           | 12.00               | 386,485.09         | 546,376.80        |



Pathfinder  
Pathfinder X&Y Report



Company: COG Operating LLC  
Project: Eddy County(NAD83)  
Site: Magura "8" Federal  
Well: #4H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference:  
TVD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
MD Reference: KB=17' @ 3550.80usft (Original Well Elev)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 Single User Db

Planned Survey

| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| 6,000.00     | 78.66      | 180.66               | 5,812.68      | 2,261.88        | -383.52       | -4.44         | 383.54           | 12.00               | 386,460.72         | 546,376.51        |
| 6,025.00     | 81.66      | 180.66               | 5,816.95      | 2,266.15        | -408.14       | -4.72         | 408.17           | 12.00               | 386,436.10         | 546,376.23        |
| 6,050.00     | 84.66      | 180.66               | 5,819.93      | 2,269.13        | -432.96       | -5.01         | 432.99           | 12.00               | 386,411.28         | 546,375.94        |
| 6,075.00     | 87.66      | 180.66               | 5,821.61      | 2,270.81        | -457.90       | -5.30         | 457.93           | 12.00               | 386,386.34         | 546,375.65        |
| 6,094.54     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -477.43       | -5.52         | 477.47           | 12.00               | 386,366.81         | 546,375.43        |
| 6,100.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -482.89       | -5.58         | 482.92           | 0.00                | 386,361.35         | 546,375.37        |
| 6,200.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -582.89       | -6.74         | 582.92           | 0.00                | 386,261.35         | 546,374.21        |
| 6,300.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -682.88       | -7.90         | 682.92           | 0.00                | 386,161.36         | 546,373.05        |
| 6,400.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -782.87       | -9.05         | 782.92           | 0.00                | 386,061.37         | 546,371.90        |
| 6,500.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -882.87       | -10.21        | 882.92           | 0.00                | 385,961.37         | 546,370.74        |
| 6,600.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -982.86       | -11.37        | 982.92           | 0.00                | 385,861.38         | 546,369.58        |
| 6,700.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,082.85     | -12.52        | 1,082.92         | 0.00                | 385,761.39         | 546,368.43        |
| 6,800.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,182.85     | -13.68        | 1,182.92         | 0.00                | 385,661.39         | 546,367.27        |
| 6,900.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,282.84     | -14.84        | 1,282.92         | 0.00                | 385,561.40         | 546,366.11        |
| 7,000.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,382.83     | -15.99        | 1,382.92         | 0.00                | 385,461.41         | 546,364.96        |
| 7,100.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,482.83     | -17.15        | 1,482.92         | 0.00                | 385,361.41         | 546,363.80        |
| 7,200.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,582.82     | -18.30        | 1,582.92         | 0.00                | 385,261.42         | 546,362.65        |
| 7,300.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,682.81     | -19.46        | 1,682.92         | 0.00                | 385,161.43         | 546,361.49        |
| 7,400.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,782.81     | -20.62        | 1,782.92         | 0.00                | 385,061.43         | 546,360.33        |
| 7,500.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,882.80     | -21.77        | 1,882.92         | 0.00                | 384,961.44         | 546,359.18        |
| 7,600.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -1,982.79     | -22.93        | 1,982.92         | 0.00                | 384,861.45         | 546,358.02        |
| 7,700.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,082.79     | -24.09        | 2,082.92         | 0.00                | 384,761.45         | 546,356.86        |
| 7,800.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,182.78     | -25.24        | 2,182.92         | 0.00                | 384,661.46         | 546,355.71        |
| 7,900.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,282.77     | -26.40        | 2,282.92         | 0.00                | 384,561.47         | 546,354.55        |
| 8,000.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,382.77     | -27.56        | 2,382.92         | 0.00                | 384,461.47         | 546,353.39        |
| 8,100.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,482.76     | -28.71        | 2,482.92         | 0.00                | 384,361.48         | 546,352.24        |
| 8,200.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,582.75     | -29.87        | 2,582.92         | 0.00                | 384,261.49         | 546,351.08        |



Pathfinder  
Pathfinder X&Y Report

**PATHFINDER**  
A Schlumberger Company

Company: COG Operating LLC  
Project: Eddy County(NAD83)  
Site: Magura "8" Federal  
Well: #4H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #4H  
TV Reference: KB=17' @ 3550.80usft (Original Well Elev)  
MD Reference: KB=17' @ 3550 80usft (Original Well Elev)  
North Reference: Gnd  
Survey Calculation Method: Minimum Curvature  
Database: EDM 5000.1 Single User Db

Planned Survey

| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVD<br>(usft) | TVDSS<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
|--------------|------------|----------------------|---------------|-----------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| 8,300.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,682.75     | -31.02        | 2,682.92         | 0.00                | 384,161.49         | 546,349.93        |
| 8,400.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,782.74     | -32.18        | 2,782.92         | 0.00                | 384,061.50         | 546,348.77        |
| 8,500.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,882.73     | -33.34        | 2,882.92         | 0.00                | 383,961.51         | 546,347.61        |
| 8,600.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -2,982.73     | -34.49        | 2,982.92         | 0.00                | 383,861.51         | 546,346.46        |
| 8,700.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,082.72     | -35.65        | 3,082.92         | 0.00                | 383,761.52         | 546,345.30        |
| 8,800.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,182.71     | -36.81        | 3,182.92         | 0.00                | 383,661.53         | 546,344.14        |
| 8,900.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,282.71     | -37.96        | 3,282.92         | 0.00                | 383,561.53         | 546,342.99        |
| 9,000.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,382.70     | -39.12        | 3,382.92         | 0.00                | 383,461.54         | 546,341.83        |
| 9,100.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,482.69     | -40.28        | 3,482.92         | 0.00                | 383,361.55         | 546,340.67        |
| 9,200.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,582.69     | -41.43        | 3,582.92         | 0.00                | 383,261.55         | 546,339.52        |
| 9,300.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,682.68     | -42.59        | 3,682.92         | 0.00                | 383,161.56         | 546,338.36        |
| 9,400.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,782.67     | -43.74        | 3,782.92         | 0.00                | 383,061.57         | 546,337.21        |
| 9,500.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,882.67     | -44.90        | 3,882.92         | 0.00                | 382,961.57         | 546,336.05        |
| 9,600.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -3,982.66     | -46.06        | 3,982.92         | 0.00                | 382,861.58         | 546,334.89        |
| 9,700.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,082.65     | -47.21        | 4,082.92         | 0.00                | 382,761.59         | 546,333.74        |
| 9,800.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,182.65     | -48.37        | 4,182.92         | 0.00                | 382,661.59         | 546,332.58        |
| 9,900.00     | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,282.64     | -49.53        | 4,282.92         | 0.00                | 382,561.60         | 546,331.42        |
| 10,000.00    | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,382.63     | -50.68        | 4,382.92         | 0.00                | 382,461.61         | 546,330.27        |
| 10,100.00    | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,482.63     | -51.84        | 4,482.92         | 0.00                | 382,361.61         | 546,329.11        |
| 10,200.00    | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,582.62     | -53.00        | 4,582.92         | 0.00                | 382,261.62         | 546,327.95        |
| 10,282.52    | 90.00      | 180.66               | 5,822.00      | 2,271.20        | -4,665.13     | -53.95        | 4,665.44         | 0.00                | 382,179.11         | 546,327.00        |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



Project: Eddy County(NAD83)  
Site: Magura "8" Federal  
Well: #4H  
Wellbore: OH  
Plan: Plan #1 (#4H/OH)

**PATHFINDER**  
A Schlumberger Company

PROJECT DETAILS: Eddy County(NAD83)  
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level  
Local North: Grid

#### WELL DETAILS #4H

Ground Elevation: 3533.80  
RKB Elevation KB-17' @ 3550.80usft (Original Well Elev)  
Rig Name Original Well Elev

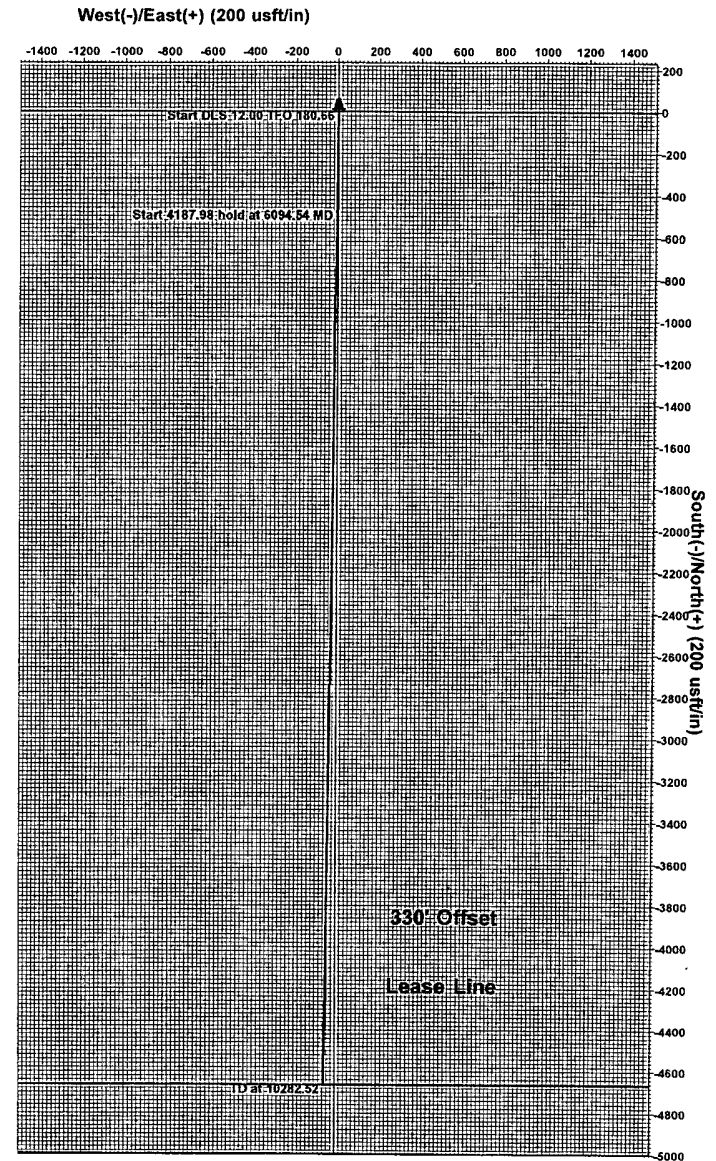
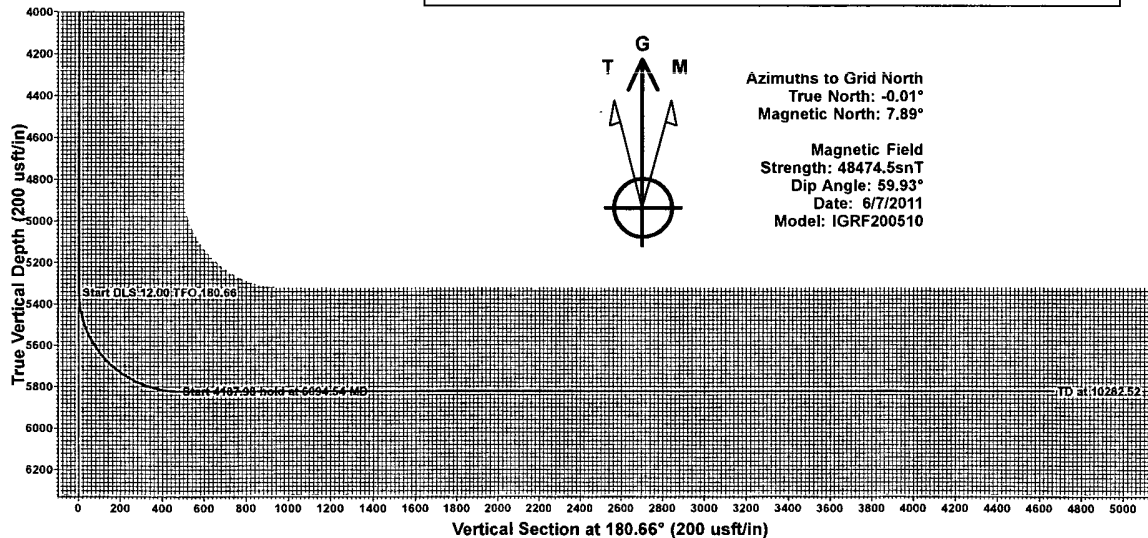
| +N/-S | +E/-W | Northing   | Easting    | Latitude        | Longitude        | Slot |
|-------|-------|------------|------------|-----------------|------------------|------|
| 0.00  | 0.00  | 386844.240 | 546380.950 | 32° 3' 48.649 N | 104° 19' 1.388 W |      |

#### SECTION DETAILS

| MD       | Inc   | Azi    | TVD     | +N/-S    | +E/-W  | Dleg  | TFace  | Vsect   | Target           |
|----------|-------|--------|---------|----------|--------|-------|--------|---------|------------------|
| 0.00     | 0.00  | 0.00   | 0.00    | 0.00     | 0.00   | 0.00  | 0.00   | 0.00    |                  |
| 5344.54  | 0.00  | 0.00   | 5344.54 | 0.00     | 0.00   | 0.00  | 0.00   | 0.00    |                  |
| 6094.54  | 90.00 | 180.66 | 5822.00 | -477.43  | -5.52  | 12.00 | 180.66 | 477.47  |                  |
| 10282.52 | 90.00 | 180.66 | 5822.00 | -4665.13 | -53.95 | 0.00  | 0.00   | 4665.44 | BHL (Magura #4H) |

#### WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name             | TVD     | +N/-S    | +E/-W  | Northing   | Easting    | Shape |
|------------------|---------|----------|--------|------------|------------|-------|
| BHL (Magura #4H) | 5822.00 | -4665.13 | -53.95 | 382179.110 | 546327.000 | Point |

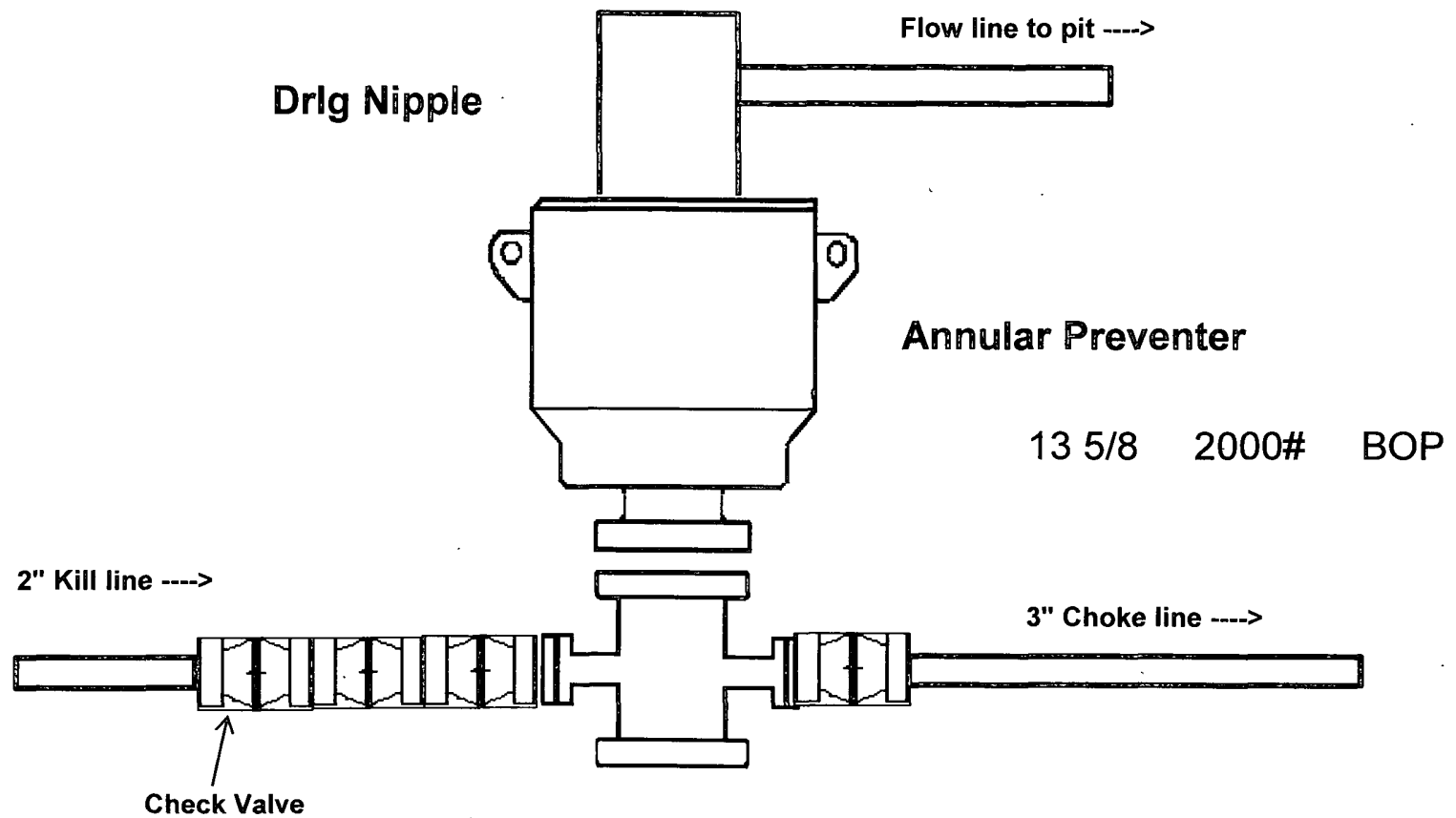


Plan: Plan #1 (#4H/OH)

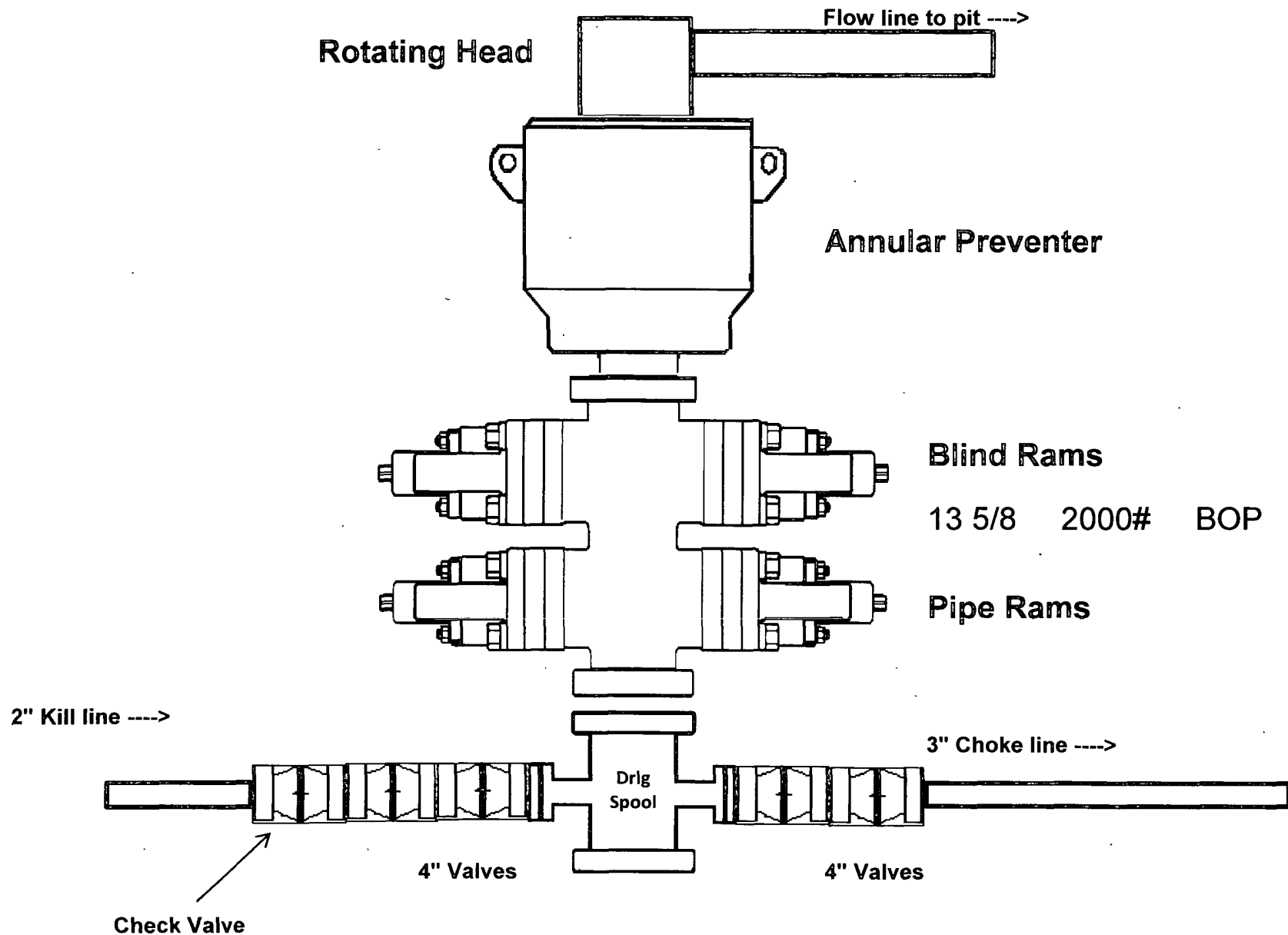
Created By: Nate Bingham Date: 10:47, June 07 2011

Checked: \_\_\_\_\_ Date: \_\_\_\_\_

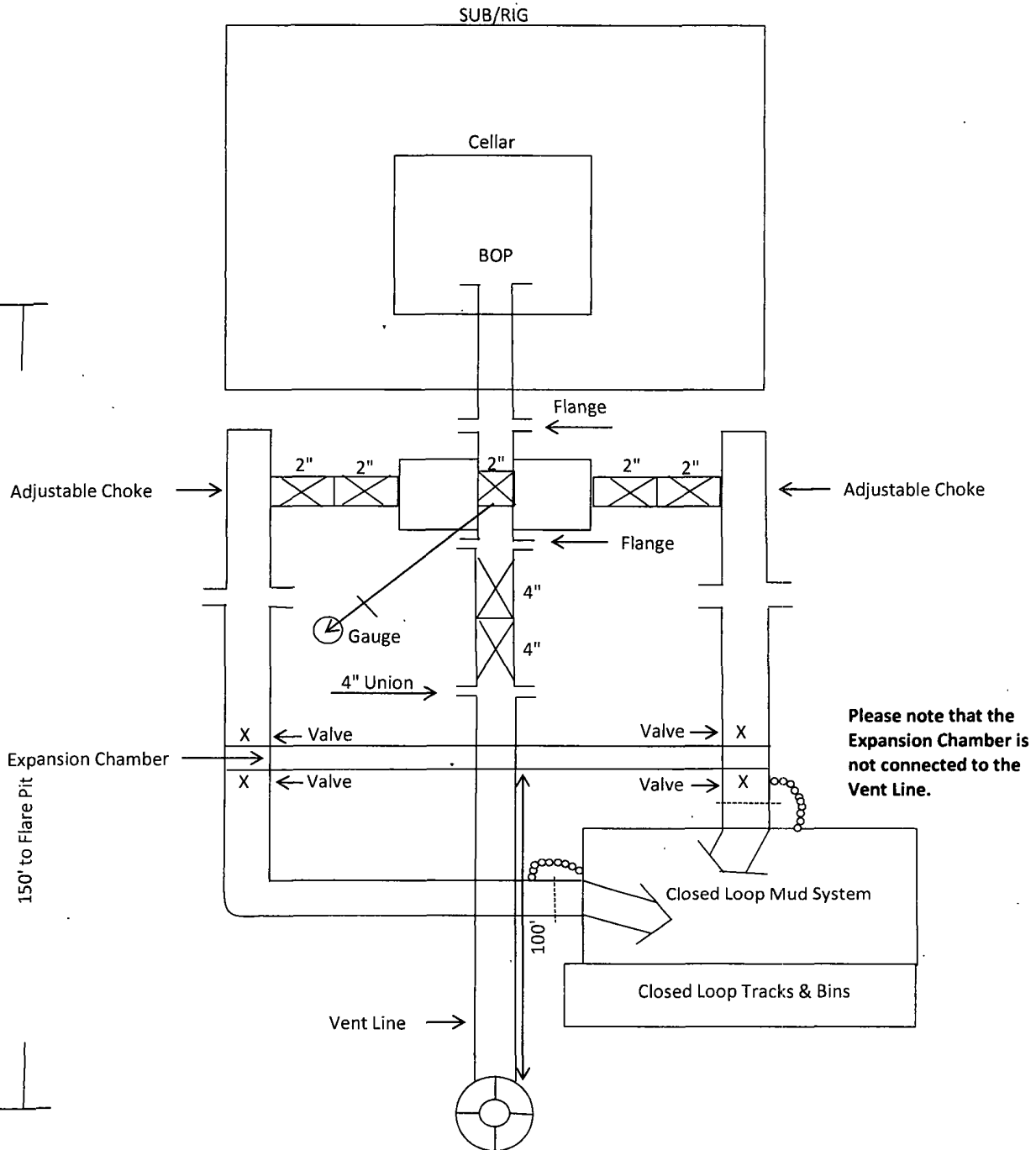
## 2,000 psi BOP Schematic



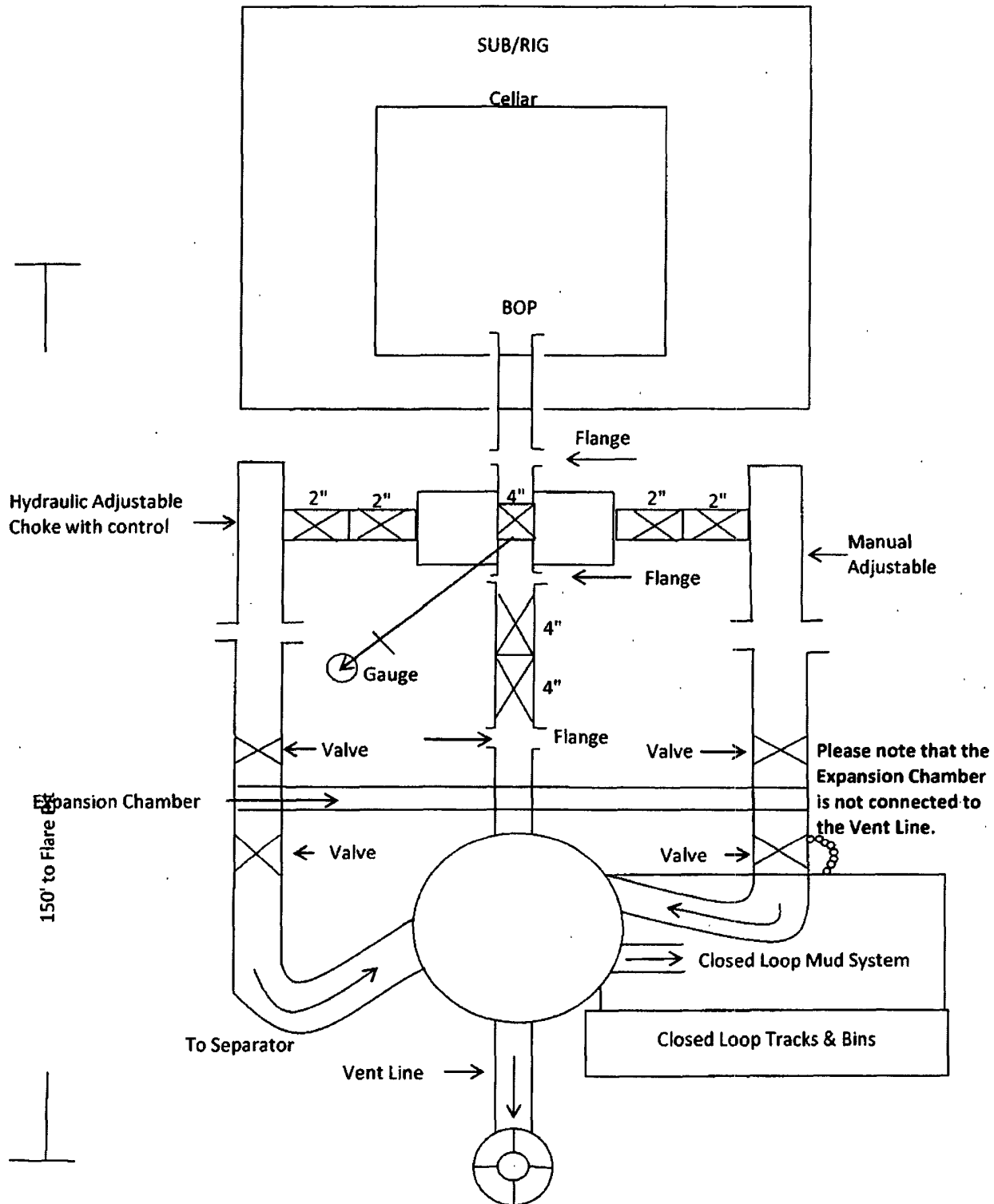
# 5,000 psi BOP Schematic



## 2M Choke Manifold Equipment



# 5M Choke Manifold Equipment



DISTRICT **2** -- CHECKLIST FOR INTENTS TO DRILL

96403

Operator

**COE-OP2**

OGRID #

**229134**

Well Name & #

**MADURA "8" Federal**

**4H**

Surface Type ☒ (F) ☐ (S) ☐ (P)

Location: UL **N**, Sect **8**, Township **26** s, RNG **26** e,

Sub-surface Type ☒ (F) ☐ (S) ☐ (P)

A. Date C101 rec'd **10/3/2011** C101 reviewed **10/5/2011**

B. 1. Check mark, Information is OK on Forms:

OGRID ☒ BONDING ☒ PROP CODE ☒ WELL # **4H** SIGNATURE ☒

2. Inactive Well list as of: **10/5/2011** # wells **3016** # Inactive wells **11**

a. District Grant APD but see number of inactive wells:

No letter required ☒; Sent Letter to Operator \_\_\_\_\_, to Santa Fe \_\_\_\_\_

3. Additional Bonding as of: **10/5/2011**

a. District Denial because operator needs addition bonding:

No Letter required ☒; Sent Letter to Operator \_\_\_\_\_, To Santa Fe \_\_\_\_\_

b. District Denial because of Inactive well list and Financial Assurance:

No Letter required ☒; Sent Letter to Operator \_\_\_\_\_, To Santa Fe \_\_\_\_\_

*Discuss w/ Donna  
w/ compliance*

C. C102 YES \_\_\_\_\_, NO \_\_\_\_\_, Signature \_\_\_\_\_

1. Pool **WILDCAT; LONG SPRING**, Code **38855**

a. Dedicated acreage \_\_\_\_\_ What Units **SA**

b. SUR. Location Standard ☒: Non-Standard Location \_\_\_\_\_

c. Well shares acres: Yes \_\_\_\_\_, No ☒, # of wells \_\_\_\_\_ plus this well # \_\_\_\_\_

2. 2<sup>nd</sup>. Operator in same acreage, Yes \_\_\_\_\_, No ☒

Agreement Letter \_\_\_\_\_, Disagreement letter \_\_\_\_\_

3. Intent to Directional Drill Yes ☒, No \_\_\_\_\_

a. Dedicated acreage **160**, What Units **C-F-K-N**

b. Bottomhole Location Standard \_\_\_\_\_, Non-Standard Bottomhole \_\_\_\_\_

4. Downhole Commingle: Yes \_\_\_\_\_, No \_\_\_\_\_

a. Pool #2 \_\_\_\_\_, Code \_\_\_\_\_, Acres \_\_\_\_\_

Pool #3 \_\_\_\_\_, Code \_\_\_\_\_, Acres \_\_\_\_\_

Pool #4 \_\_\_\_\_, Code \_\_\_\_\_, Acres \_\_\_\_\_

5. POTASH Area Yes \_\_\_\_\_, No ☒

D. Blowout Preventer Yes ☒, No \_\_\_\_\_

E. H2S Yes ☒, No \_\_\_\_\_

F. C144 Pit Registration Yes \_\_\_\_\_, No \_\_\_\_\_

G. Does APD require Santa Fe Approval:

1. Non-Standard Location: Yes \_\_\_\_\_, No ☒, NSL # \_\_\_\_\_

2. Non-Standard Proration: Yes \_\_\_\_\_, No ☒, NSP # \_\_\_\_\_

3. Simultaneous Dedication: Yes \_\_\_\_\_, No \_\_\_\_\_, SD # \_\_\_\_\_

Number of wells \_\_\_\_\_ Plus # \_\_\_\_\_

4. Injection order Yes \_\_\_\_\_, No ☒; PMX # \_\_\_\_\_ or WFX # \_\_\_\_\_

5. SWD order Yes \_\_\_\_\_, NO ☒; SWD # \_\_\_\_\_

6. DHC from SF \_\_\_\_\_; DHC-HOB \_\_\_\_\_; Holding \_\_\_\_\_

7. OCD Approval Date **10/5/2011**

API #30-015- **39472**

8. Reviewers **JCS**