

# NM OIL CONSERVATION

ARTESIA DISTRICT

OCD Artesia  
OCT 05 2015

15-828

Form 3160-3  
(March 2012)

HOBBS OCD

FORM APPROVED  
OMB No. 1004-0137  
Expires October 31, 2014

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

OCT 15 2015

## APPLICATION FOR PERMIT TO DRILL OR REENTER

RECEIVED

|                                                                                                                                                                                                                                             |                                                   |                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                                |                                                   | 7. If Unit or CA Agreement, Name and No.                                                  |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone                                 |                                                   | 8. Lease Name and Well No. <b>(315317)</b><br>Rattlesnake 28 Fed Com #704H                |
| 2. Name of Operator EOG Resources, Inc. <b>(7377)</b>                                                                                                                                                                                       |                                                   | 9. API Well No.<br>30-025- <b>42876</b>                                                   |
| 3a. Address P. O. Box 2267<br>Midland, Texas 79702                                                                                                                                                                                          | 3b. Phone No. (include area code)<br>432-686-3684 | 10. Field and Pool, or Exploratory <b>(98097)</b><br>WC-025 G-09 S263327G; Upper Wolfcamp |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)*<br>At surface 730' FNL & 2100' FEL, NWNE (B), Sec 28, T26S, R33E<br>At proposed prod. zone 230' FSL & 2404' FEL, SWNE (G), Sec 33, T26S, R33E |                                                   | 11. Sec., T. R. M. or Blk. and Survey or Area<br>Sec 28, T26S, R33E                       |
| 14. Distance in miles and direction from nearest town or post office*<br>Approximately 35 +/- miles SW from Jal, NM                                                                                                                         |                                                   | 12. County or Parish<br>Lea                                                               |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>230', 330' PP                                                                                                      |                                                   | 13. State<br>NM                                                                           |
| 16. No. of acres in lease<br>4653.44                                                                                                                                                                                                        |                                                   | 17. Spacing Unit dedicated to this well<br>236.03                                         |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.<br>30' from 703H                                                                                                                 |                                                   | 20. BLM/BIA Bond No. on file<br>NM 2308                                                   |
| 19. Proposed Depth<br>19,729' MD, 12,400' TVD                                                                                                                                                                                               |                                                   | 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3245' GL                           |
| 22. Approximate date work will start*<br>01/01/2016                                                                                                                                                                                         |                                                   | 23. Estimated duration<br>25 days                                                         |

### 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must 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 must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the BLM.

|                                       |                                        |                    |
|---------------------------------------|----------------------------------------|--------------------|
| 25. Signature<br><i>Renee Jarratt</i> | Name (Printed/Typed)<br>Renee' Jarratt | Date<br>06/25/2015 |
|---------------------------------------|----------------------------------------|--------------------|

Title  
Regulatory Analyst

|                                                |                      |                            |
|------------------------------------------------|----------------------|----------------------------|
| Approved by (Signature)<br><b>Steve Caffey</b> | Name (Printed/Typed) | Date<br><b>SEP 30 2015</b> |
|------------------------------------------------|----------------------|----------------------------|

Title  
FIELD MANAGER

Office  
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.

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.

(Continued on page 2)

\*(Instructions on page 2)

Carlsbad Controlled Water Basin

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

Approval Subject to General Requirements  
& Special Stipulations Attached

OCT 16 2015

**EOG RESOURCES, INC.**  
**RATTLESNAKE 28 FED COM NO. 703H**

HOBBS OGD

**1. GEOLOGIC NAME OF SURFACE FORMATION:**

OCT 15 2015

Permian

**2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:**

RECEIVED

|                                  |         |
|----------------------------------|---------|
| Rustler                          | 790'    |
| Top of Salt                      | 1,140'  |
| Base of Salt / Top Anhydrite     | 4,690'  |
| Base Anhydrite                   | 4,928'  |
| Lamar                            | 4,928'  |
| Bell Canyon                      | 4,953'  |
| Cherry Canyon                    | 6,050'  |
| Brushy Canyon                    | 7,580'  |
| Bone Spring Lime                 | 9,120'  |
| 1 <sup>st</sup> Bone Spring Sand | 10,060' |
| 2 <sup>nd</sup> Bone Spring Lime | 10,490' |
| 2 <sup>nd</sup> Bone Spring Sand | 10,675' |
| 3 <sup>rd</sup> Bone Spring Carb | 11,000' |
| 3 <sup>rd</sup> Bone Spring Sand | 11,750' |
| Wolfcamp                         | 12,173' |
| TD                               | 12,400' |

**3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:**

|                                  |         |             |
|----------------------------------|---------|-------------|
| Upper Permian Sands              | 0- 400' | Fresh Water |
| Cherry Canyon                    | 6,050'  | Oil         |
| Brushy Canyon                    | 7,580'  | Oil         |
| 1 <sup>st</sup> Bone Spring Sand | 10,060' | Oil         |
| 2 <sup>nd</sup> Bone Spring Lime | 10,490' | Oil         |
| 2 <sup>nd</sup> Bone Spring Sand | 11,675' | Oil         |
| 3 <sup>rd</sup> Bone Spring Carb | 11,000' | Oil         |
| 3 <sup>rd</sup> Bone Spring Sand | 11,750' | Oil         |
| Wolfcamp                         | 12,173' | Oil         |

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 815' and circulating cement back to surface.

**EOG RESOURCES, INC.**  
**RATTLESNAKE 28 FED COM NO. 704H**

**4. CASING PROGRAM - NEW**

*See CWA*

| Hole Size | Interval                                  | Csg OD  | Weight | Grade   | Conn | DF <sub>min</sub> Collapse | DF <sub>min</sub> Burst | DF <sub>min</sub> Tension |
|-----------|-------------------------------------------|---------|--------|---------|------|----------------------------|-------------------------|---------------------------|
| 17.5"     | 0 - <del>815</del> <sup>890</sup>         | 13.375" | 54.5#  | J55     | STC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 0-4,000' <sup>4940</sup>                  | 9.625"  | 40#    | J55     | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 4,000' - <del>5,100</del> <sup>4940</sup> | 9.625"  | 40#    | HCK55   | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 8.75"     | 0'-19,729'                                | 5.5"    | 17#    | HCP-110 | BTC  | 1.125                      | 1.25                    | 1.60                      |

**Cementing Program:**

| Depth                                      | No. Sacks | Wt. ppg | Yld Ft <sup>3</sup> /ft | Mix Water Gal/sk | Slurry Description                                                                                                                            |
|--------------------------------------------|-----------|---------|-------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 13-3/8"<br><del>815</del> <sup>890</sup>   | 400       | 13.5    | 1.73                    | 9.13             | Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk Cello-Flake (TOC @ Surface)                                       |
|                                            | 300       | 14.8    | 1.34                    | 6.34             | Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate                                                                      |
| 9-5/8"<br><del>5,100</del> <sup>4940</sup> | 1000      | 12.7    | 2.22                    | 12.38            | Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ surface)          |
|                                            | 200       | 14.8    | 1.32                    | 6.33             | Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free                                                                            |
| 5-1/2"<br>19,729'                          | 775       | 9.0     | 2.79                    | 10.12            | Lead: LiteCRETE + 0.10% D-065 + 0.20% D-046 + 0.40% D-167 + 0.20% D-198 + 0.04% D-208 + 2.0% D-174 (TOC @ <del>4,600'</del> <sup>4940</sup> ) |
|                                            | 2100      | 14.4    | 1.28                    | 5.69             | Tail: Class H + 47.01 pps D-909 + 37.01 pps + 5.0% D-020 + 0.30% D-013 + 0.20% D-046 + 0.10% D-065 + 0.50% D-167 + 2.0% D-174                 |

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

**5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:**

*See CWA*

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

**EOG RESOURCES, INC.**  
**RATTLESNAKE 28 FED COM NO. 704H**

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 5000/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 5000/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

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 hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

**6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:**

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

| Depth                                    | Type        | Weight (ppg) | Viscosity | Water Loss |
|------------------------------------------|-------------|--------------|-----------|------------|
| 0 - <del>815'</del> <sup>890</sup>       | Fresh - Gel | 8.6-8.8      | 28-34     | N/c        |
| <del>815' - 5,100'</del> <sup>4940</sup> | Oil Base    | 8.7-9.4      | 58-68     | N/c - 6    |
| <del>5,100' - 11,810'</del>              | Oil Base    | 8.7-9.4      | 58-68     | N/c - 6    |
| 11,810' - 19,729'<br>Lateral             | Oil Base    | 10.0-10.5    | 58-68     | N/c - 6    |

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

**7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:**

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H<sub>2</sub>S monitoring and detection equipment will be utilized from surface casing point to TD.

**EOG RESOURCES, INC.**  
**RATTLESNAKE 28 FED COM NO. 703H**

*See COA* **8. LOGGING, TESTING AND CORING PROGRAM:**

Open-hole logs are not planned for this well.

GR-CCL Will be run in cased hole during completions phase of operations.

*See COA* **9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:**

The estimated bottom-hole temperature (BHT) at TD is 180 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5369 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

**10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:**

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

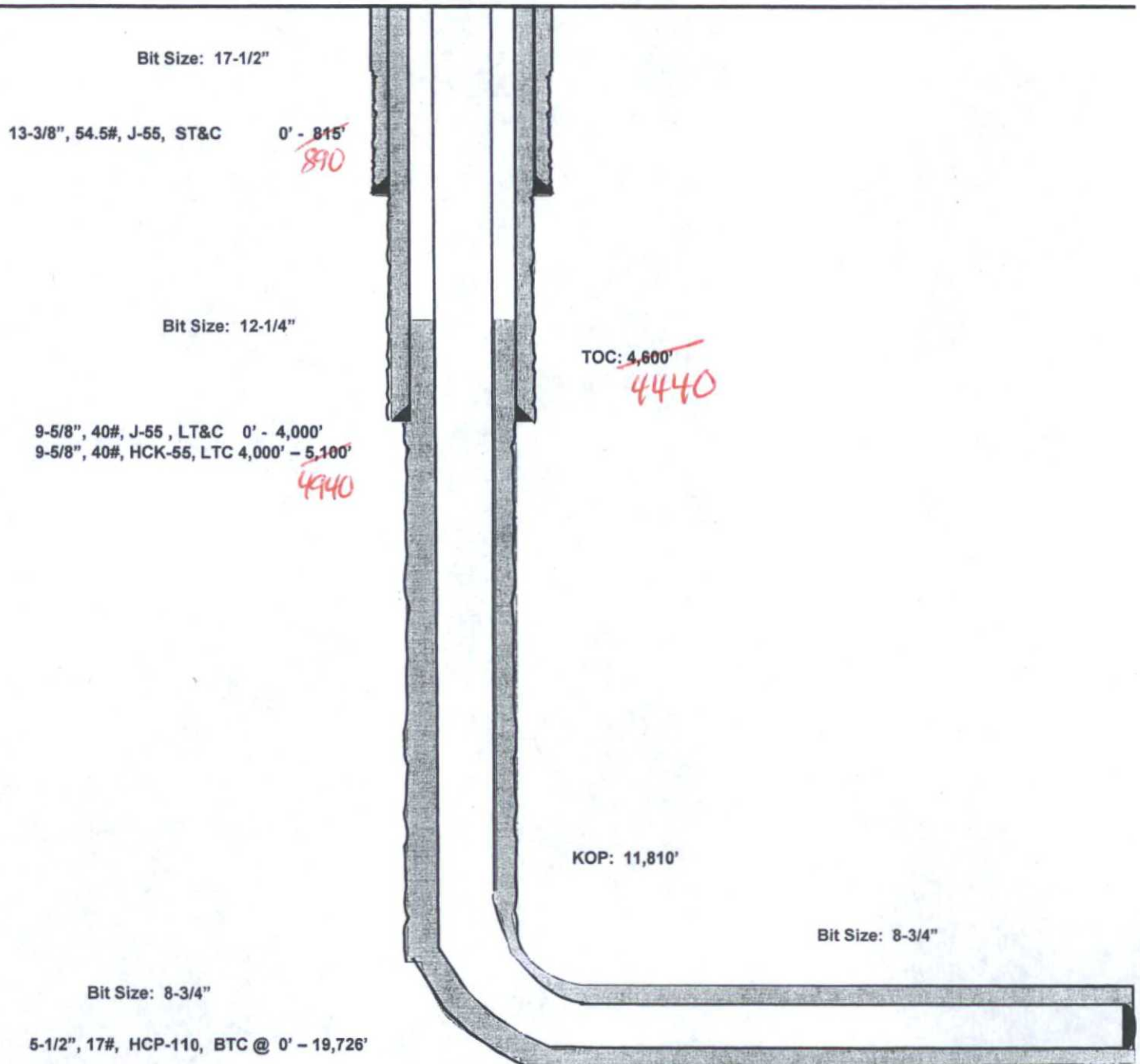
- (A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

Rattlesnake 28 Fed Com #703H

730' FNL  
2070' FEL  
Section 28  
T-26-S, R-33-E

Lea County, New Mexico  
Proposed Wellbore  
Revised 9/25/15  
API: 30-025-

KB: 3,276'  
GL: 3,246'



Lateral: 19,726' MD, 12,400' TVD  
Upper Most Perf:  
330' FNL & 1766' FEL Sec. 28  
Lower Most Perf:  
330' FSL & 1766' FEL Sec. 33  
BH Location: 230' FSL & 1766' FEL  
Section 33  
T-26-S, R-33-E



Lea County, NM (NAD 27 NME)  
Rattlesnake 28 Fed Com #704H  
Plan #1

PROJECT DETAILS: Lea County, NM (NAD 27 NME)

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level



Azimuths to Grid North  
True North: -0.40°  
Magnetic North: 6.75°

Magnetic Field  
Strength: 48022.1snT  
Dip Angle: 58.90°  
Date: 6/18/2015  
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 8.75°  
To convert a Magnetic Direction to a True Direction, Add 7.15° East  
To convert a True Direction to a Grid Direction, Subtract 0.40°

WELL DETAILS: #704H

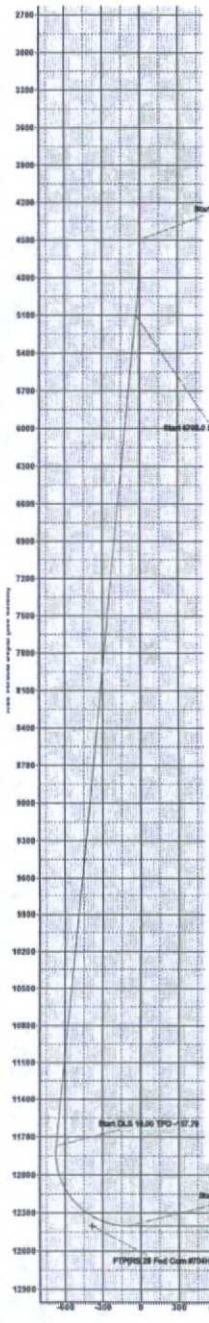
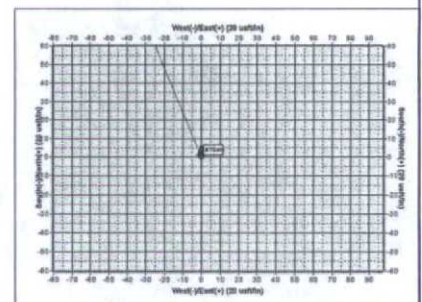
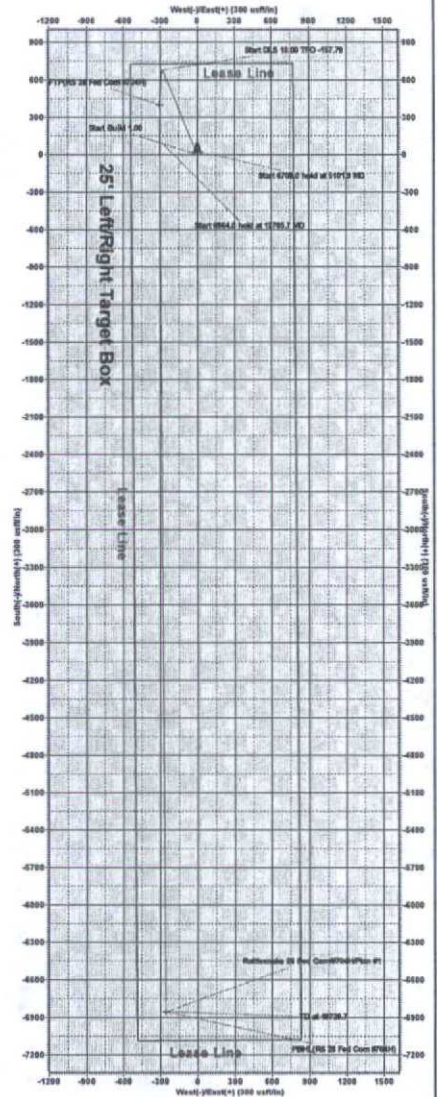
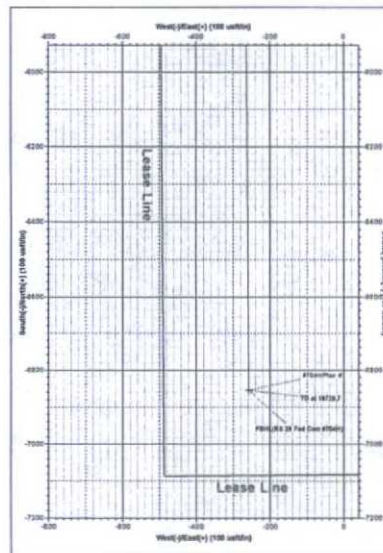
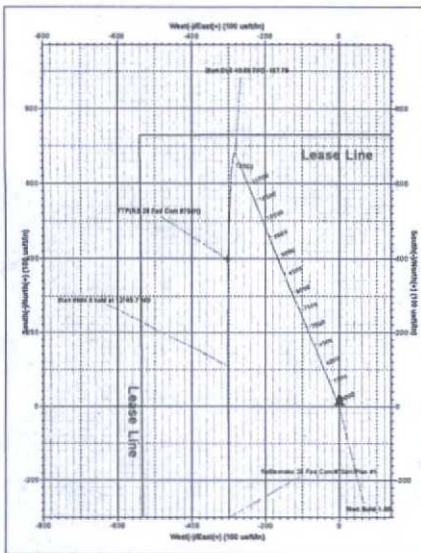
Ground Level: 3245.9  
KB = 25 @ 3270.0m  
Easting: 736524.00 32° T 10.534 N 103° 34' 30.587 W  
Northing: 371479.00  
Site

SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD     | +N-S    | +E-W   | Dleg  | TFace   | Vsect  | Target                    |
|-----|---------|-------|--------|---------|---------|--------|-------|---------|--------|---------------------------|
| 1   | 0.0     | 0.00  | 0.00   | 0.0     | 0.0     | 0.0    | 0.00  | 0.00    | 0.0    |                           |
| 2   | 4500.0  | 0.00  | 0.00   | 4500.0  | 0.0     | 0.0    | 0.00  | 0.00    | 0.0    |                           |
| 3   | 5101.9  | 6.02  | 337.54 | 5100.8  | 29.2    | -12.1  | 1.00  | 337.54  | -28.7  |                           |
| 4   | 11810.0 | 6.02  | 337.54 | 11771.9 | 679.3   | -280.9 | 0.00  | 0.00    | -668.2 |                           |
| 5   | 12765.7 | 90.00 | 179.64 | 12400.0 | 108.9   | -302.2 | 10.00 | -157.79 | -97.4  |                           |
| 6   | 19729.7 | 90.00 | 179.64 | 12400.0 | -6855.0 | -258.0 | 0.00  | 0.00    | 6859.9 | PBHL(RS 28 Fed Com #704H) |

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name                      | TVD     | +N-S    | +E-W   | Northing  | Easting   | Shape |
|---------------------------|---------|---------|--------|-----------|-----------|-------|
| FTPRS 28 Fed Com #704H    | 12400.0 | 399.9   | -304.0 | 372078.00 | 734720.00 | Point |
| PBHL(RS 28 Fed Com #704H) | 12400.0 | -6855.0 | -258.0 | 364824.00 | 734706.00 | Point |



Printed: 6/18/2015 10:10 AM  
User: J. H. HARRIS  
Scale: 1" = 100'



## **EOG Resources - Midland**

**Lea County, NM (NAD 27 NME)**

**Rattlesnake 28 Fed Com**

**#704H**

**OH**

**Plan: Plan #1**

## **Standard Planning Report**

**19 June, 2015**



**EOG Resources, Inc.**  
Planning Report

Database: EDM 5000.1 Single User Db  
Company: EOG Resources - Midland  
Project: Lea County, NM (NAD 27 NME)  
Site: Rattlesnake 28 Fed Com  
Well: #704H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #704H  
TVD Reference: KB = 25 @ 3270.0usft  
MD Reference: KB = 25 @ 3270.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

|             |                                      |               |                |
|-------------|--------------------------------------|---------------|----------------|
| Project     | Lea County, NM (NAD 27 NME)          |               |                |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum:  | NAD 1927 (NADCON CONUS)              |               |                |
| Map Zone:   | New Mexico East 3001                 |               |                |

|                       |          |                        |                 |                   |                   |
|-----------------------|----------|------------------------|-----------------|-------------------|-------------------|
| Site                  |          | Rattlesnake 28 Fed Com |                 |                   |                   |
| Site Position:        |          | Northing:              | 371,679.00 usft | Latitude:         | 32° 1' 10.534 N   |
| From:                 | Map      | Easting:               | 735,024.00 usft | Longitude:        | 103° 34' 30.097 W |
| Position Uncertainty: | 0.0 usft | Slot Radius:           | 13-3/16 "       | Grid Convergence: | 0.40 °            |

|                      |          |                     |           |                 |              |                   |
|----------------------|----------|---------------------|-----------|-----------------|--------------|-------------------|
| Well                 | #704H    |                     |           |                 |              |                   |
| Well Position        | +N/-S    | 0.0 usft            | Northing: | 371,679.00 usft | Latitude:    | 32° 1' 10.534 N   |
|                      | +E/-W    | 0.0 usft            | Easting:  | 735,024.00 usft | Longitude:   | 103° 34' 30.097 W |
| Position Uncertainty | 0.0 usft | Wellhead Elevation: | 0.0 usft  | Ground Level:   | 3,245.0 usft |                   |

|           |            |             |                 |               |                     |
|-----------|------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | OH         |             |                 |               |                     |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2015   | 6/19/2015   | 7.16            | 59.90         | 48,022              |

|                   |                            |                 |                 |                  |
|-------------------|----------------------------|-----------------|-----------------|------------------|
| Design            | Plan #1                    |                 |                 |                  |
| Audit Notes:      |                            |                 |                 |                  |
| Version:          | Phase:                     | PLAN            | Tie On Depth:   | 0.0              |
| Vertical Section: | Depth From (TVD)<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Direction<br>(°) |
|                   | 0.0                        | 0.0             | 0.0             | 182.16           |

| Plan Sections            |                    |                |                          |                 |                 |                            |                           |                          |            |                    |
|--------------------------|--------------------|----------------|--------------------------|-----------------|-----------------|----------------------------|---------------------------|--------------------------|------------|--------------------|
| Measured Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg Rate<br>(°/100usft) | Build Rate<br>(°/100usft) | Turn Rate<br>(°/100usft) | TFO<br>(°) | Target             |
| 0.0                      | 0.00               | 0.00           | 0.0                      | 0.0             | 0.0             | 0.00                       | 0.00                      | 0.00                     | 0.00       |                    |
| 4,500.0                  | 0.00               | 0.00           | 4,500.0                  | 0.0             | 0.0             | 0.00                       | 0.00                      | 0.00                     | 0.00       |                    |
| 5,101.9                  | 6.02               | 337.54         | 5,100.8                  | 29.2            | -12.1           | 1.00                       | 1.00                      | 0.00                     | 337.54     |                    |
| 11,810.0                 | 6.02               | 337.54         | 11,771.9                 | 679.3           | -280.9          | 0.00                       | 0.00                      | 0.00                     | 0.00       |                    |
| 12,765.7                 | 90.00              | 179.64         | 12,400.0                 | 108.9           | -302.2          | 10.00                      | 8.79                      | -16.52                   | -157.79    |                    |
| 19,729.7                 | 90.00              | 179.64         | 12,400.0                 | -6,855.0        | -258.0          | 0.00                       | 0.00                      | 0.00                     | 0.00       | PBHL(RS 28 Fed Cor |



# EOG Resources, Inc.

## Planning Report

Database: EDM 5000.1 Single User Db  
 Company: EOG Resources - Midland  
 Project: Lea County, NM (NAD 27 NME)  
 Site: Rattlesnake 28 Fed Com  
 Well: #704H  
 Wellbore: OH  
 Design: Plan #1

Local Co-ordinate Reference: Well #704H  
 TVD Reference: KB = 25 @ 3270.0usft  
 MD Reference: KB = 25 @ 3270.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 0.0                   | 0.00            | 0.00        | 0.0                   | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 100.0                 | 0.00            | 0.00        | 100.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 200.0                 | 0.00            | 0.00        | 200.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 300.0                 | 0.00            | 0.00        | 300.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 400.0                 | 0.00            | 0.00        | 400.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 500.0                 | 0.00            | 0.00        | 500.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 600.0                 | 0.00            | 0.00        | 600.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 700.0                 | 0.00            | 0.00        | 700.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 800.0                 | 0.00            | 0.00        | 800.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 900.0                 | 0.00            | 0.00        | 900.0                 | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,000.0               | 0.00            | 0.00        | 1,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0               | 0.00            | 0.00        | 1,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0               | 0.00            | 0.00        | 1,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0               | 0.00            | 0.00        | 1,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0               | 0.00            | 0.00        | 1,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0               | 0.00            | 0.00        | 1,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,600.0               | 0.00            | 0.00        | 1,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0               | 0.00            | 0.00        | 1,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,800.0               | 0.00            | 0.00        | 1,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0               | 0.00            | 0.00        | 1,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0               | 0.00            | 0.00        | 2,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0               | 0.00            | 0.00        | 2,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0               | 0.00            | 0.00        | 2,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,300.0               | 0.00            | 0.00        | 2,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0               | 0.00            | 0.00        | 2,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0               | 0.00            | 0.00        | 2,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0               | 0.00            | 0.00        | 2,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0               | 0.00            | 0.00        | 2,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0               | 0.00            | 0.00        | 2,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0               | 0.00            | 0.00        | 2,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,000.0               | 0.00            | 0.00        | 3,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0               | 0.00            | 0.00        | 3,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0               | 0.00            | 0.00        | 3,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0               | 0.00            | 0.00        | 3,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0               | 0.00            | 0.00        | 3,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0               | 0.00            | 0.00        | 3,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0               | 0.00            | 0.00        | 3,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0               | 0.00            | 0.00        | 3,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0               | 0.00            | 0.00        | 3,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 3,900.0               | 0.00            | 0.00        | 3,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,000.0               | 0.00            | 0.00        | 4,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0               | 0.00            | 0.00        | 4,100.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0               | 0.00            | 0.00        | 4,200.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,300.0               | 0.00            | 0.00        | 4,300.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,400.0               | 0.00            | 0.00        | 4,400.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,500.0               | 0.00            | 0.00        | 4,500.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |
| 4,600.0               | 1.00            | 337.54      | 4,600.0               | 0.8          | -0.3         | -0.8                    | 1.00                    | 1.00                   | 0.00                  |
| 4,700.0               | 2.00            | 337.54      | 4,700.0               | 3.2          | -1.3         | -3.2                    | 1.00                    | 1.00                   | 0.00                  |
| 4,800.0               | 3.00            | 337.54      | 4,799.9               | 7.3          | -3.0         | -7.1                    | 1.00                    | 1.00                   | 0.00                  |
| 4,900.0               | 4.00            | 337.54      | 4,899.7               | 12.9         | -5.3         | -12.7                   | 1.00                    | 1.00                   | 0.00                  |
| 5,000.0               | 5.00            | 337.54      | 4,999.4               | 20.1         | -8.3         | -19.8                   | 1.00                    | 1.00                   | 0.00                  |
| 5,101.9               | 6.02            | 337.54      | 5,100.8               | 29.2         | -12.1        | -28.7                   | 1.00                    | 1.00                   | 0.00                  |
| 5,200.0               | 6.02            | 337.54      | 5,198.4               | 38.7         | -16.0        | -38.1                   | 0.00                    | 0.00                   | 0.00                  |
| 5,300.0               | 6.02            | 337.54      | 5,297.8               | 48.4         | -20.0        | -47.6                   | 0.00                    | 0.00                   | 0.00                  |



# EOG Resources, Inc.

## Planning Report

Database: EDM 5000.1 Single User Db  
Company: EOG Resources - Midland  
Project: Lea County, NM (NAD 27 NME)  
Site: Rattlesnake 28 Fed Com  
Well: #704H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #704H  
TVD Reference: KB = 25 @ 3270.0usft  
MD Reference: KB = 25 @ 3270.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 5,400.0               | 6.02            | 337.54      | 5,397.2               | 58.1         | -24.0        | -57.1                   | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0               | 6.02            | 337.54      | 5,496.7               | 67.8         | -28.0        | -66.7                   | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0               | 6.02            | 337.54      | 5,596.1               | 77.5         | -32.0        | -76.2                   | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0               | 6.02            | 337.54      | 5,695.6               | 87.2         | -36.0        | -85.7                   | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0               | 6.02            | 337.54      | 5,795.0               | 96.8         | -40.0        | -95.3                   | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0               | 6.02            | 337.54      | 5,894.5               | 106.5        | -44.0        | -104.8                  | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0               | 6.02            | 337.54      | 5,993.9               | 116.2        | -48.1        | -114.3                  | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0               | 6.02            | 337.54      | 6,093.4               | 125.9        | -52.1        | -123.9                  | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0               | 6.02            | 337.54      | 6,192.8               | 135.6        | -56.1        | -133.4                  | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0               | 6.02            | 337.54      | 6,292.3               | 145.3        | -60.1        | -142.9                  | 0.00                    | 0.00                   | 0.00                  |
| 6,400.0               | 6.02            | 337.54      | 6,391.7               | 155.0        | -64.1        | -152.5                  | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0               | 6.02            | 337.54      | 6,491.2               | 164.7        | -68.1        | -162.0                  | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0               | 6.02            | 337.54      | 6,590.6               | 174.4        | -72.1        | -171.5                  | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0               | 6.02            | 337.54      | 6,690.1               | 184.1        | -76.1        | -181.1                  | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0               | 6.02            | 337.54      | 6,789.5               | 193.7        | -80.1        | -190.6                  | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0               | 6.02            | 337.54      | 6,889.0               | 203.4        | -84.1        | -200.1                  | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0               | 6.02            | 337.54      | 6,988.4               | 213.1        | -88.1        | -209.7                  | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0               | 6.02            | 337.54      | 7,087.9               | 222.8        | -92.1        | -219.2                  | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0               | 6.02            | 337.54      | 7,187.3               | 232.5        | -96.1        | -228.7                  | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0               | 6.02            | 337.54      | 7,286.8               | 242.2        | -100.1       | -238.3                  | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0               | 6.02            | 337.54      | 7,386.2               | 251.9        | -104.2       | -247.8                  | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0               | 6.02            | 337.54      | 7,485.7               | 261.6        | -108.2       | -257.3                  | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0               | 6.02            | 337.54      | 7,585.1               | 271.3        | -112.2       | -266.9                  | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0               | 6.02            | 337.54      | 7,684.6               | 281.0        | -116.2       | -276.4                  | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0               | 6.02            | 337.54      | 7,784.0               | 290.7        | -120.2       | -285.9                  | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0               | 6.02            | 337.54      | 7,883.5               | 300.3        | -124.2       | -295.5                  | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0               | 6.02            | 337.54      | 7,982.9               | 310.0        | -128.2       | -305.0                  | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0               | 6.02            | 337.54      | 8,082.4               | 319.7        | -132.2       | -314.5                  | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0               | 6.02            | 337.54      | 8,181.8               | 329.4        | -136.2       | -324.1                  | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0               | 6.02            | 337.54      | 8,281.3               | 339.1        | -140.2       | -333.6                  | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0               | 6.02            | 337.54      | 8,380.7               | 348.8        | -144.2       | -343.1                  | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0               | 6.02            | 337.54      | 8,480.2               | 358.5        | -148.2       | -352.7                  | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0               | 6.02            | 337.54      | 8,579.6               | 368.2        | -152.2       | -362.2                  | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0               | 6.02            | 337.54      | 8,679.1               | 377.9        | -156.2       | -371.7                  | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0               | 6.02            | 337.54      | 8,778.5               | 387.6        | -160.2       | -381.3                  | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0               | 6.02            | 337.54      | 8,878.0               | 397.3        | -164.3       | -390.8                  | 0.00                    | 0.00                   | 0.00                  |
| 9,000.0               | 6.02            | 337.54      | 8,977.4               | 406.9        | -168.3       | -400.3                  | 0.00                    | 0.00                   | 0.00                  |
| 9,100.0               | 6.02            | 337.54      | 9,076.8               | 416.6        | -172.3       | -409.9                  | 0.00                    | 0.00                   | 0.00                  |
| 9,200.0               | 6.02            | 337.54      | 9,176.3               | 426.3        | -176.3       | -419.4                  | 0.00                    | 0.00                   | 0.00                  |
| 9,300.0               | 6.02            | 337.54      | 9,275.7               | 436.0        | -180.3       | -428.9                  | 0.00                    | 0.00                   | 0.00                  |
| 9,400.0               | 6.02            | 337.54      | 9,375.2               | 445.7        | -184.3       | -438.5                  | 0.00                    | 0.00                   | 0.00                  |
| 9,500.0               | 6.02            | 337.54      | 9,474.6               | 455.4        | -188.3       | -448.0                  | 0.00                    | 0.00                   | 0.00                  |
| 9,600.0               | 6.02            | 337.54      | 9,574.1               | 465.1        | -192.3       | -457.5                  | 0.00                    | 0.00                   | 0.00                  |
| 9,700.0               | 6.02            | 337.54      | 9,673.5               | 474.8        | -196.3       | -467.1                  | 0.00                    | 0.00                   | 0.00                  |
| 9,800.0               | 6.02            | 337.54      | 9,773.0               | 484.5        | -200.3       | -476.6                  | 0.00                    | 0.00                   | 0.00                  |
| 9,900.0               | 6.02            | 337.54      | 9,872.4               | 494.2        | -204.3       | -486.1                  | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0              | 6.02            | 337.54      | 9,971.9               | 503.9        | -208.3       | -495.7                  | 0.00                    | 0.00                   | 0.00                  |
| 10,100.0              | 6.02            | 337.54      | 10,071.3              | 513.5        | -212.3       | -505.2                  | 0.00                    | 0.00                   | 0.00                  |
| 10,200.0              | 6.02            | 337.54      | 10,170.8              | 523.2        | -216.3       | -514.7                  | 0.00                    | 0.00                   | 0.00                  |
| 10,300.0              | 6.02            | 337.54      | 10,270.2              | 532.9        | -220.4       | -524.3                  | 0.00                    | 0.00                   | 0.00                  |
| 10,400.0              | 6.02            | 337.54      | 10,369.7              | 542.6        | -224.4       | -533.8                  | 0.00                    | 0.00                   | 0.00                  |
| 10,500.0              | 6.02            | 337.54      | 10,469.1              | 552.3        | -228.4       | -543.3                  | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0              | 6.02            | 337.54      | 10,568.6              | 562.0        | -232.4       | -552.9                  | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0              | 6.02            | 337.54      | 10,668.0              | 571.7        | -236.4       | -562.4                  | 0.00                    | 0.00                   | 0.00                  |



# EOG Resources, Inc.

## Planning Report

Database: EDM 5000.1 Single User Db  
Company: EOG Resources - Midland  
Project: Lea County, NM (NAD 27 NME)  
Site: Rattlesnake 28 Fed Com  
Well: #704H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #704H  
TVD Reference: KB = 25 @ 3270.0usft  
MD Reference: KB = 25 @ 3270.0usft  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

### Planned Survey

| Measured Depth (usft)    | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 10,800.0                 | 6.02            | 337.54      | 10,767.5              | 581.4        | -240.4       | -571.9                  | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0                 | 6.02            | 337.54      | 10,866.9              | 591.1        | -244.4       | -581.5                  | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0                 | 6.02            | 337.54      | 10,966.4              | 600.8        | -248.4       | -591.0                  | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0                 | 6.02            | 337.54      | 11,065.8              | 610.5        | -252.4       | -600.5                  | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0                 | 6.02            | 337.54      | 11,165.3              | 620.1        | -256.4       | -610.1                  | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0                 | 6.02            | 337.54      | 11,264.7              | 629.8        | -260.4       | -619.6                  | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0                 | 6.02            | 337.54      | 11,364.2              | 639.5        | -264.4       | -629.1                  | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0                 | 6.02            | 337.54      | 11,463.6              | 649.2        | -268.4       | -638.7                  | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0                 | 6.02            | 337.54      | 11,563.1              | 658.9        | -272.4       | -648.2                  | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0                 | 6.02            | 337.54      | 11,662.5              | 668.6        | -276.5       | -657.7                  | 0.00                    | 0.00                   | 0.00                  |
| 11,810.0                 | 6.02            | 337.54      | 11,771.9              | 679.3        | -280.9       | -668.2                  | 0.00                    | 0.00                   | 0.00                  |
| 11,850.0                 | 2.76            | 304.33      | 11,811.8              | 681.7        | -282.5       | -670.6                  | 10.00                   | -8.13                  | -82.94                |
| 11,900.0                 | 4.11            | 213.13      | 11,861.7              | 680.9        | -284.4       | -669.7                  | 10.00                   | 2.70                   | -182.39               |
| 11,950.0                 | 8.73            | 194.61      | 11,911.4              | 675.7        | -286.4       | -664.5                  | 10.00                   | 9.23                   | -37.03                |
| 12,000.0                 | 13.62           | 189.06      | 11,960.4              | 666.3        | -288.3       | -654.9                  | 10.00                   | 9.78                   | -11.10                |
| 12,050.0                 | 18.56           | 186.42      | 12,008.5              | 652.5        | -290.1       | -641.2                  | 10.00                   | 9.89                   | -5.28                 |
| 12,100.0                 | 23.53           | 184.86      | 12,055.1              | 634.7        | -291.8       | -623.2                  | 10.00                   | 9.94                   | -3.12                 |
| 12,150.0                 | 28.51           | 183.82      | 12,100.0              | 612.8        | -293.5       | -601.3                  | 10.00                   | 9.96                   | -2.08                 |
| 12,200.0                 | 33.50           | 183.07      | 12,142.9              | 587.1        | -295.0       | -575.6                  | 10.00                   | 9.97                   | -1.50                 |
| 12,250.0                 | 38.49           | 182.50      | 12,183.3              | 557.8        | -296.4       | -546.2                  | 10.00                   | 9.98                   | -1.15                 |
| 12,300.0                 | 43.48           | 182.03      | 12,221.1              | 525.0        | -297.7       | -513.4                  | 10.00                   | 9.98                   | -0.92                 |
| 12,350.0                 | 48.47           | 181.65      | 12,255.8              | 489.1        | -298.9       | -477.5                  | 10.00                   | 9.98                   | -0.77                 |
| 12,400.0                 | 53.46           | 181.32      | 12,287.3              | 450.3        | -299.9       | -438.7                  | 10.00                   | 9.99                   | -0.66                 |
| 12,450.0                 | 58.46           | 181.03      | 12,315.3              | 408.9        | -300.7       | -397.3                  | 10.00                   | 9.99                   | -0.58                 |
| 12,499.8                 | 63.43           | 180.77      | 12,339.4              | 365.3        | -301.4       | -353.7                  | 10.00                   | 9.99                   | -0.52                 |
| FTP(RS 28 Fed Com #704H) |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,500.0                 | 63.45           | 180.77      | 12,339.5              | 365.2        | -301.4       | -353.6                  | 10.00                   | 9.99                   | -0.50                 |
| 12,550.0                 | 68.45           | 180.53      | 12,359.9              | 319.5        | -301.9       | -307.9                  | 10.00                   | 9.99                   | -0.48                 |
| 12,600.0                 | 73.44           | 180.31      | 12,376.2              | 272.3        | -302.3       | -260.7                  | 10.00                   | 9.99                   | -0.44                 |
| 12,650.0                 | 78.44           | 180.10      | 12,388.4              | 223.8        | -302.4       | -212.3                  | 10.00                   | 9.99                   | -0.42                 |
| 12,700.0                 | 83.43           | 179.90      | 12,396.2              | 174.4        | -302.4       | -162.9                  | 10.00                   | 9.99                   | -0.41                 |
| 12,750.0                 | 88.43           | 179.70      | 12,399.8              | 124.6        | -302.3       | -113.1                  | 10.00                   | 9.99                   | -0.40                 |
| 12,765.7                 | 90.00           | 179.64      | 12,400.0              | 108.9        | -302.2       | -97.4                   | 10.00                   | 9.99                   | -0.40                 |
| 12,800.0                 | 90.00           | 179.64      | 12,400.0              | 74.6         | -301.9       | -63.2                   | 0.00                    | 0.00                   | 0.00                  |
| 12,900.0                 | 90.00           | 179.64      | 12,400.0              | -25.4        | -301.3       | 36.7                    | 0.00                    | 0.00                   | 0.00                  |
| 13,000.0                 | 90.00           | 179.64      | 12,400.0              | -125.4       | -300.7       | 136.6                   | 0.00                    | 0.00                   | 0.00                  |
| 13,100.0                 | 90.00           | 179.64      | 12,400.0              | -225.4       | -300.0       | 236.5                   | 0.00                    | 0.00                   | 0.00                  |
| 13,200.0                 | 90.00           | 179.64      | 12,400.0              | -325.4       | -299.4       | 336.4                   | 0.00                    | 0.00                   | 0.00                  |
| 13,300.0                 | 90.00           | 179.64      | 12,400.0              | -425.4       | -298.8       | 436.3                   | 0.00                    | 0.00                   | 0.00                  |
| 13,400.0                 | 90.00           | 179.64      | 12,400.0              | -525.4       | -298.1       | 536.2                   | 0.00                    | 0.00                   | 0.00                  |
| 13,500.0                 | 90.00           | 179.64      | 12,400.0              | -625.4       | -297.5       | 636.2                   | 0.00                    | 0.00                   | 0.00                  |
| 13,600.0                 | 90.00           | 179.64      | 12,400.0              | -725.4       | -296.9       | 736.1                   | 0.00                    | 0.00                   | 0.00                  |
| 13,700.0                 | 90.00           | 179.64      | 12,400.0              | -825.4       | -296.2       | 836.0                   | 0.00                    | 0.00                   | 0.00                  |
| 13,800.0                 | 90.00           | 179.64      | 12,400.0              | -925.4       | -295.6       | 935.9                   | 0.00                    | 0.00                   | 0.00                  |
| 13,900.0                 | 90.00           | 179.64      | 12,400.0              | -1,025.4     | -295.0       | 1,035.8                 | 0.00                    | 0.00                   | 0.00                  |
| 14,000.0                 | 90.00           | 179.64      | 12,400.0              | -1,125.4     | -294.3       | 1,135.7                 | 0.00                    | 0.00                   | 0.00                  |
| 14,100.0                 | 90.00           | 179.64      | 12,400.0              | -1,225.4     | -293.7       | 1,235.6                 | 0.00                    | 0.00                   | 0.00                  |
| 14,200.0                 | 90.00           | 179.64      | 12,400.0              | -1,325.4     | -293.1       | 1,335.5                 | 0.00                    | 0.00                   | 0.00                  |
| 14,300.0                 | 90.00           | 179.64      | 12,400.0              | -1,425.4     | -292.4       | 1,435.4                 | 0.00                    | 0.00                   | 0.00                  |
| 14,400.0                 | 90.00           | 179.64      | 12,400.0              | -1,525.4     | -291.8       | 1,535.3                 | 0.00                    | 0.00                   | 0.00                  |
| 14,500.0                 | 90.00           | 179.64      | 12,400.0              | -1,625.4     | -291.2       | 1,635.2                 | 0.00                    | 0.00                   | 0.00                  |
| 14,600.0                 | 90.00           | 179.64      | 12,400.0              | -1,725.4     | -290.5       | 1,735.1                 | 0.00                    | 0.00                   | 0.00                  |
| 14,700.0                 | 90.00           | 179.64      | 12,400.0              | -1,825.4     | -289.9       | 1,835.0                 | 0.00                    | 0.00                   | 0.00                  |



# EOG Resources, Inc.

## Planning Report

Database: EDM 5000.1 Single User Db  
 Company: EOG Resources - Midland  
 Project: Lea County, NM (NAD 27 NME)  
 Site: Rattlesnake 28 Fed Com  
 Well: #704H  
 Wellbore: OH  
 Design: Plan #1

Local Co-ordinate Reference:  
 TVD Reference:  
 MD Reference:  
 North Reference:  
 Survey Calculation Method:

Well #704H  
 KB = 25 @ 3270.0usft  
 KB = 25 @ 3270.0usft  
 Grid  
 Minimum Curvature

### Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 14,800.0              | 90.00           | 179.64      | 12,400.0              | -1,925.4     | -289.3       | 1,934.9                 | 0.00                    | 0.00                   | 0.00                  |
| 14,900.0              | 90.00           | 179.64      | 12,400.0              | -2,025.4     | -288.6       | 2,034.8                 | 0.00                    | 0.00                   | 0.00                  |
| 15,000.0              | 90.00           | 179.64      | 12,400.0              | -2,125.4     | -288.0       | 2,134.7                 | 0.00                    | 0.00                   | 0.00                  |
| 15,100.0              | 90.00           | 179.64      | 12,400.0              | -2,225.4     | -287.4       | 2,234.6                 | 0.00                    | 0.00                   | 0.00                  |
| 15,200.0              | 90.00           | 179.64      | 12,400.0              | -2,325.4     | -286.7       | 2,334.5                 | 0.00                    | 0.00                   | 0.00                  |
| 15,300.0              | 90.00           | 179.64      | 12,400.0              | -2,425.4     | -286.1       | 2,434.4                 | 0.00                    | 0.00                   | 0.00                  |
| 15,400.0              | 90.00           | 179.64      | 12,400.0              | -2,525.4     | -285.5       | 2,534.3                 | 0.00                    | 0.00                   | 0.00                  |
| 15,500.0              | 90.00           | 179.64      | 12,400.0              | -2,625.4     | -284.8       | 2,634.2                 | 0.00                    | 0.00                   | 0.00                  |
| 15,600.0              | 90.00           | 179.64      | 12,400.0              | -2,725.4     | -284.2       | 2,734.1                 | 0.00                    | 0.00                   | 0.00                  |
| 15,700.0              | 90.00           | 179.64      | 12,400.0              | -2,825.4     | -283.6       | 2,834.0                 | 0.00                    | 0.00                   | 0.00                  |
| 15,800.0              | 90.00           | 179.64      | 12,400.0              | -2,925.4     | -282.9       | 2,933.9                 | 0.00                    | 0.00                   | 0.00                  |
| 15,900.0              | 90.00           | 179.64      | 12,400.0              | -3,025.4     | -282.3       | 3,033.8                 | 0.00                    | 0.00                   | 0.00                  |
| 16,000.0              | 90.00           | 179.64      | 12,400.0              | -3,125.4     | -281.7       | 3,133.7                 | 0.00                    | 0.00                   | 0.00                  |
| 16,100.0              | 90.00           | 179.64      | 12,400.0              | -3,225.4     | -281.0       | 3,233.6                 | 0.00                    | 0.00                   | 0.00                  |
| 16,200.0              | 90.00           | 179.64      | 12,400.0              | -3,325.4     | -280.4       | 3,333.5                 | 0.00                    | 0.00                   | 0.00                  |
| 16,300.0              | 90.00           | 179.64      | 12,400.0              | -3,425.3     | -279.7       | 3,433.4                 | 0.00                    | 0.00                   | 0.00                  |
| 16,400.0              | 90.00           | 179.64      | 12,400.0              | -3,525.3     | -279.1       | 3,533.3                 | 0.00                    | 0.00                   | 0.00                  |
| 16,500.0              | 90.00           | 179.64      | 12,400.0              | -3,625.3     | -278.5       | 3,633.3                 | 0.00                    | 0.00                   | 0.00                  |
| 16,600.0              | 90.00           | 179.64      | 12,400.0              | -3,725.3     | -277.8       | 3,733.2                 | 0.00                    | 0.00                   | 0.00                  |
| 16,700.0              | 90.00           | 179.64      | 12,400.0              | -3,825.3     | -277.2       | 3,833.1                 | 0.00                    | 0.00                   | 0.00                  |
| 16,800.0              | 90.00           | 179.64      | 12,400.0              | -3,925.3     | -276.6       | 3,933.0                 | 0.00                    | 0.00                   | 0.00                  |
| 16,900.0              | 90.00           | 179.64      | 12,400.0              | -4,025.3     | -275.9       | 4,032.9                 | 0.00                    | 0.00                   | 0.00                  |
| 17,000.0              | 90.00           | 179.64      | 12,400.0              | -4,125.3     | -275.3       | 4,132.8                 | 0.00                    | 0.00                   | 0.00                  |
| 17,100.0              | 90.00           | 179.64      | 12,400.0              | -4,225.3     | -274.7       | 4,232.7                 | 0.00                    | 0.00                   | 0.00                  |
| 17,200.0              | 90.00           | 179.64      | 12,400.0              | -4,325.3     | -274.0       | 4,332.6                 | 0.00                    | 0.00                   | 0.00                  |
| 17,300.0              | 90.00           | 179.64      | 12,400.0              | -4,425.3     | -273.4       | 4,432.5                 | 0.00                    | 0.00                   | 0.00                  |
| 17,400.0              | 90.00           | 179.64      | 12,400.0              | -4,525.3     | -272.8       | 4,532.4                 | 0.00                    | 0.00                   | 0.00                  |
| 17,500.0              | 90.00           | 179.64      | 12,400.0              | -4,625.3     | -272.1       | 4,632.3                 | 0.00                    | 0.00                   | 0.00                  |
| 17,600.0              | 90.00           | 179.64      | 12,400.0              | -4,725.3     | -271.5       | 4,732.2                 | 0.00                    | 0.00                   | 0.00                  |
| 17,700.0              | 90.00           | 179.64      | 12,400.0              | -4,825.3     | -270.9       | 4,832.1                 | 0.00                    | 0.00                   | 0.00                  |
| 17,800.0              | 90.00           | 179.64      | 12,400.0              | -4,925.3     | -270.2       | 4,932.0                 | 0.00                    | 0.00                   | 0.00                  |
| 17,900.0              | 90.00           | 179.64      | 12,400.0              | -5,025.3     | -269.6       | 5,031.9                 | 0.00                    | 0.00                   | 0.00                  |
| 18,000.0              | 90.00           | 179.64      | 12,400.0              | -5,125.3     | -269.0       | 5,131.8                 | 0.00                    | 0.00                   | 0.00                  |
| 18,100.0              | 90.00           | 179.64      | 12,400.0              | -5,225.3     | -268.3       | 5,231.7                 | 0.00                    | 0.00                   | 0.00                  |
| 18,200.0              | 90.00           | 179.64      | 12,400.0              | -5,325.3     | -267.7       | 5,331.6                 | 0.00                    | 0.00                   | 0.00                  |
| 18,300.0              | 90.00           | 179.64      | 12,400.0              | -5,425.3     | -267.1       | 5,431.5                 | 0.00                    | 0.00                   | 0.00                  |
| 18,400.0              | 90.00           | 179.64      | 12,400.0              | -5,525.3     | -266.4       | 5,531.4                 | 0.00                    | 0.00                   | 0.00                  |
| 18,500.0              | 90.00           | 179.64      | 12,400.0              | -5,625.3     | -265.8       | 5,631.3                 | 0.00                    | 0.00                   | 0.00                  |
| 18,600.0              | 90.00           | 179.64      | 12,400.0              | -5,725.3     | -265.2       | 5,731.2                 | 0.00                    | 0.00                   | 0.00                  |
| 18,700.0              | 90.00           | 179.64      | 12,400.0              | -5,825.3     | -264.5       | 5,831.1                 | 0.00                    | 0.00                   | 0.00                  |
| 18,800.0              | 90.00           | 179.64      | 12,400.0              | -5,925.3     | -263.9       | 5,931.0                 | 0.00                    | 0.00                   | 0.00                  |
| 18,900.0              | 90.00           | 179.64      | 12,400.0              | -6,025.3     | -263.3       | 6,030.9                 | 0.00                    | 0.00                   | 0.00                  |
| 19,000.0              | 90.00           | 179.64      | 12,400.0              | -6,125.3     | -262.6       | 6,130.8                 | 0.00                    | 0.00                   | 0.00                  |
| 19,100.0              | 90.00           | 179.64      | 12,400.0              | -6,225.3     | -262.0       | 6,230.7                 | 0.00                    | 0.00                   | 0.00                  |
| 19,200.0              | 90.00           | 179.64      | 12,400.0              | -6,325.3     | -261.4       | 6,330.6                 | 0.00                    | 0.00                   | 0.00                  |
| 19,300.0              | 90.00           | 179.64      | 12,400.0              | -6,425.3     | -260.7       | 6,430.5                 | 0.00                    | 0.00                   | 0.00                  |
| 19,400.0              | 90.00           | 179.64      | 12,400.0              | -6,525.3     | -260.1       | 6,530.5                 | 0.00                    | 0.00                   | 0.00                  |
| 19,500.0              | 90.00           | 179.64      | 12,400.0              | -6,625.3     | -259.5       | 6,630.4                 | 0.00                    | 0.00                   | 0.00                  |
| 19,600.0              | 90.00           | 179.64      | 12,400.0              | -6,725.3     | -258.8       | 6,730.3                 | 0.00                    | 0.00                   | 0.00                  |
| 19,700.0              | 90.00           | 179.64      | 12,400.0              | -6,825.3     | -258.2       | 6,830.2                 | 0.00                    | 0.00                   | 0.00                  |
| 19,729.7              | 90.00           | 179.64      | 12,400.0              | -6,855.0     | -258.0       | 6,859.9                 | 0.00                    | 0.00                   | 0.00                  |

PBHL(RS 28 Fed Com #704H)



# EOG Resources, Inc.

## Planning Report

**Database:** EDM 5000.1 Single User Db  
**Company:** EOG Resources - Midland  
**Project:** Lea County, NM (NAD 27 NME)  
**Site:** Rattlesnake 28 Fed Com  
**Well:** #704H  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well #704H  
**TVD Reference:** KB = 25 @ 3270.0usft  
**MD Reference:** KB = 25 @ 3270.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

### Design Targets

| Target Name<br>- hit/miss target<br>- Shape                                                                                   | Dip Angle<br>(°) | Dip Dir.<br>(°) | TVD<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Northing<br>(usft) | Easting<br>(usft) | Latitude        | Longitude         |
|-------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-----------------|-------------------|
| FTP(RS 28 Fed Com #7<br>- plan misses target center by 69.3usft at 12499.8usft MD (12339.4 TVD, 365.3 N, -301.4 E)<br>- Point | 0.00             | 0.00            | 12,400.0      | 399.0           | -304.0          | 372,078.00         | 734,720.00        | 32° 1' 14.503 N | 103° 34' 33.595 W |
| PBHL(RS 28 Fed Com #<br>- plan hits target center<br>- Point                                                                  | 0.00             | 0.00            | 12,400.0      | -6,855.0        | -258.0          | 364,824.00         | 734,766.00        | 32° 0' 2.716 N  | 103° 34' 33.651 W |

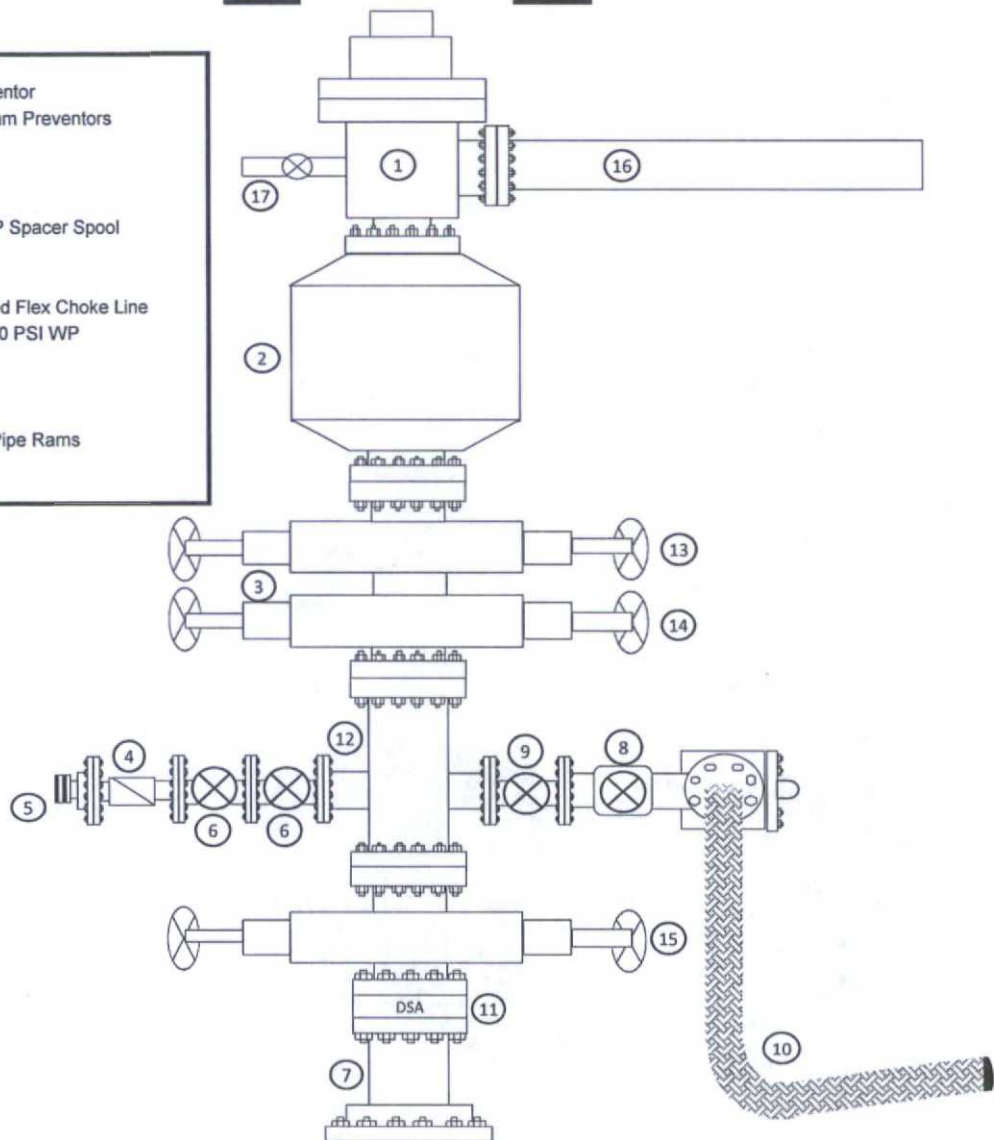
# Exhibit 1

## EOG Resources

### 10M BOPE

Rig Floor

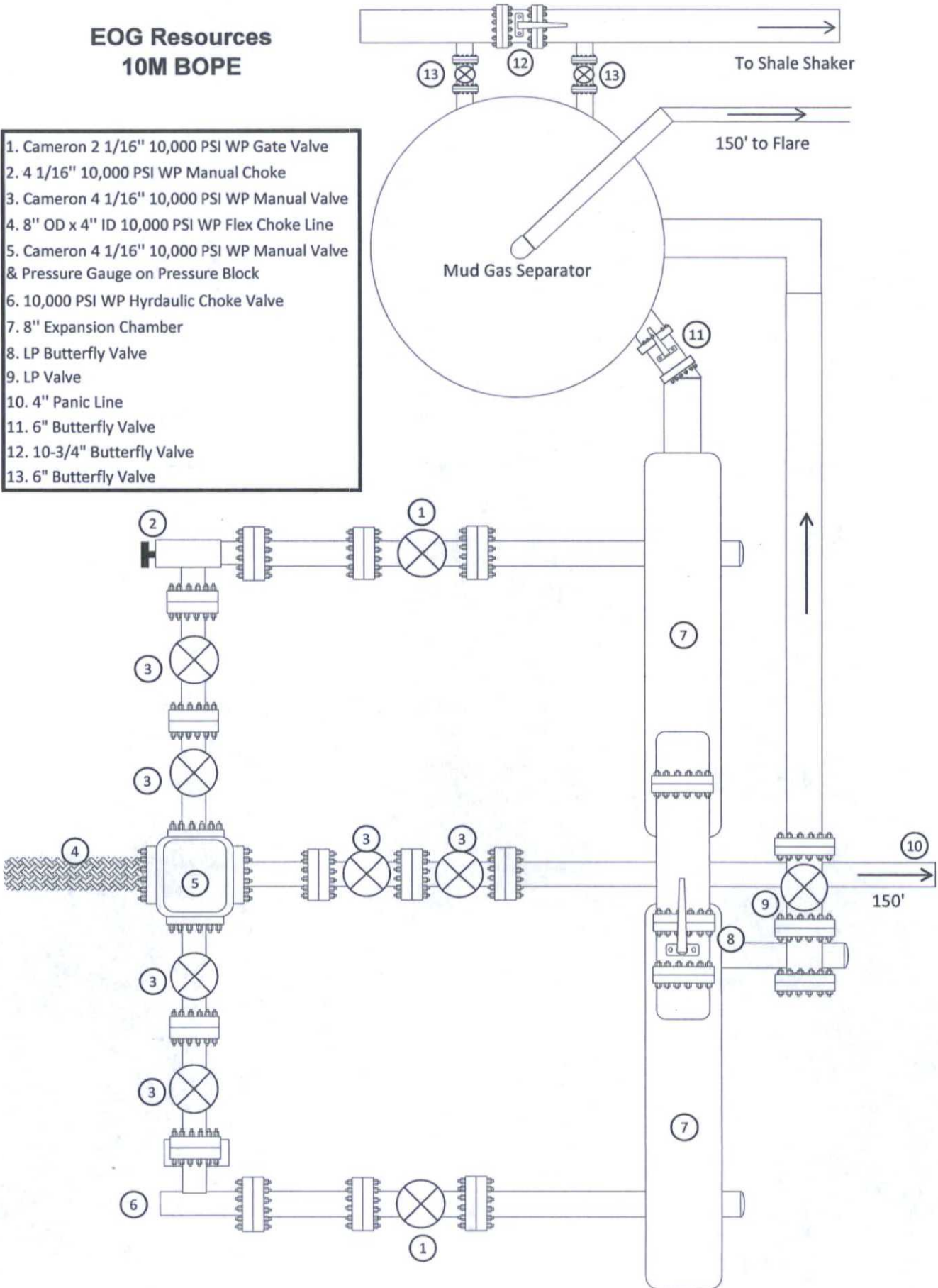
1. 13 5/8" Rotating Head
2. NOV 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 6" OD x 3" ID 10,000 PSI WP Steel Armoured Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" Cameron Type "U" 10,000 PSI WP Pipe Rams
16. Flow Line
17. 2" Fill Line



# Exhibit 1a

## EOG Resources 10M BOPE

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hydraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



**Manufacturer: Midwest Hose & Specialty**

**Serial Number: SN#90067**

**Length: 35'**

**Size: OD = 8" ID = 4"**

**Ends: Flanges Size: 4-1/16"**

**WP Rating: 10,000 psi    Anchors required by manufacturer: No**

**M I D W E S T**  
**HOSE AND SPECIALTY INC.**

| <b>INTERNAL HYDROSTATIC TEST REPORT</b>                                                                                                                                                                             |                                    |                                                    |                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------------------|-----------------------------------|
| <b>Customer:</b><br>CACTUS                                                                                                                                                                                          |                                    | <b>P.O. Number:</b><br>RIG #123<br>Asset # M10761  |                                   |
| <b>HOSE SPECIFICATIONS</b>                                                                                                                                                                                          |                                    |                                                    |                                   |
| <b>Type:</b> CHOKER LINE                                                                                                                                                                                            |                                    | <b>Length:</b> 35'                                 |                                   |
| <b>I.D.</b> 4" INCHES                                                                                                                                                                                               |                                    | <b>O.D.</b> 8" INCHES                              |                                   |
| <b>WORKING PRESSURE</b><br>10,000 PSI                                                                                                                                                                               | <b>TEST PRESSURE</b><br>15,000 PSI | <b>BURST PRESSURE</b><br>PSI                       |                                   |
| <b>COUPLINGS</b>                                                                                                                                                                                                    |                                    |                                                    |                                   |
| <b>Type of End Fitting</b><br>4 1/16 10K FLANGE                                                                                                                                                                     |                                    |                                                    |                                   |
| <b>Type of Coupling:</b><br>SWEDGED                                                                                                                                                                                 |                                    | <b>MANUFACTURED BY</b><br>MIDWEST HOSE & SPECIALTY |                                   |
| <b>PROCEDURE</b>                                                                                                                                                                                                    |                                    |                                                    |                                   |
| <i>Hose assembly pressure tested with water at ambient temperature.</i>                                                                                                                                             |                                    |                                                    |                                   |
| <b>TIME HELD AT TEST PRESSURE</b><br>1 MIN.                                                                                                                                                                         |                                    | <b>ACTUAL BURST PRESSURE:</b><br>0 PSI             |                                   |
| <b>COMMENTS:</b><br>SN#90067 M10761<br>Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes |                                    |                                                    |                                   |
| <b>Date:</b><br>6/6/2011                                                                                                                                                                                            | <b>Tested By:</b><br>BOBBY FINK    |                                                    | <b>Approved:</b><br>MENDI JACKSON |



Midwest Hose  
& Specialty, Inc.

## Internal Hydrostatic Test Graph

Customer: CACTUS

SALES ORDER# 90067

### Hose Specifications

Hose Type  
C & K

Length  
35'

I.D.  
4"

O.D.  
8"

Working Pressure  
10000 PSI

Burst Pressure  
Standard Safety Multiplier Applies

### Verification

Type of Fitting  
4 1/16 10K

Coupling Method  
Swage

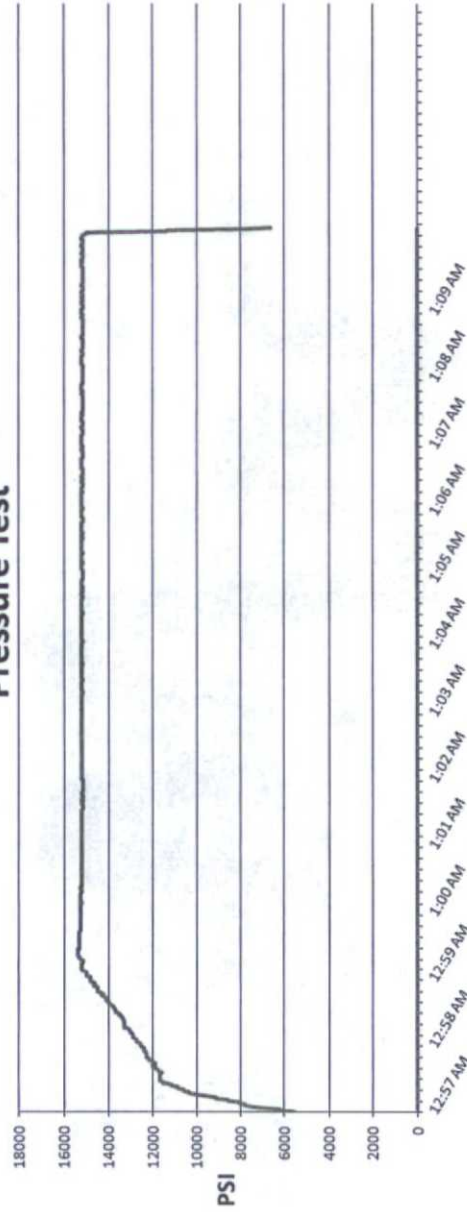
Die Size  
6.62"

Final O.D.  
6.68"

Hose Serial #

Hose Assembly Serial #  
90067

### Pressure Test



Test Pressure  
15000 PSI

Time Held at Test Pressure  
11 1/4 Minutes

Actual Burst Pressure

Peak Pressure  
15439 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: Bobby Fink

Approved By: Mendi Jackson

*Bobby Fink*

*Mendi Jackson*

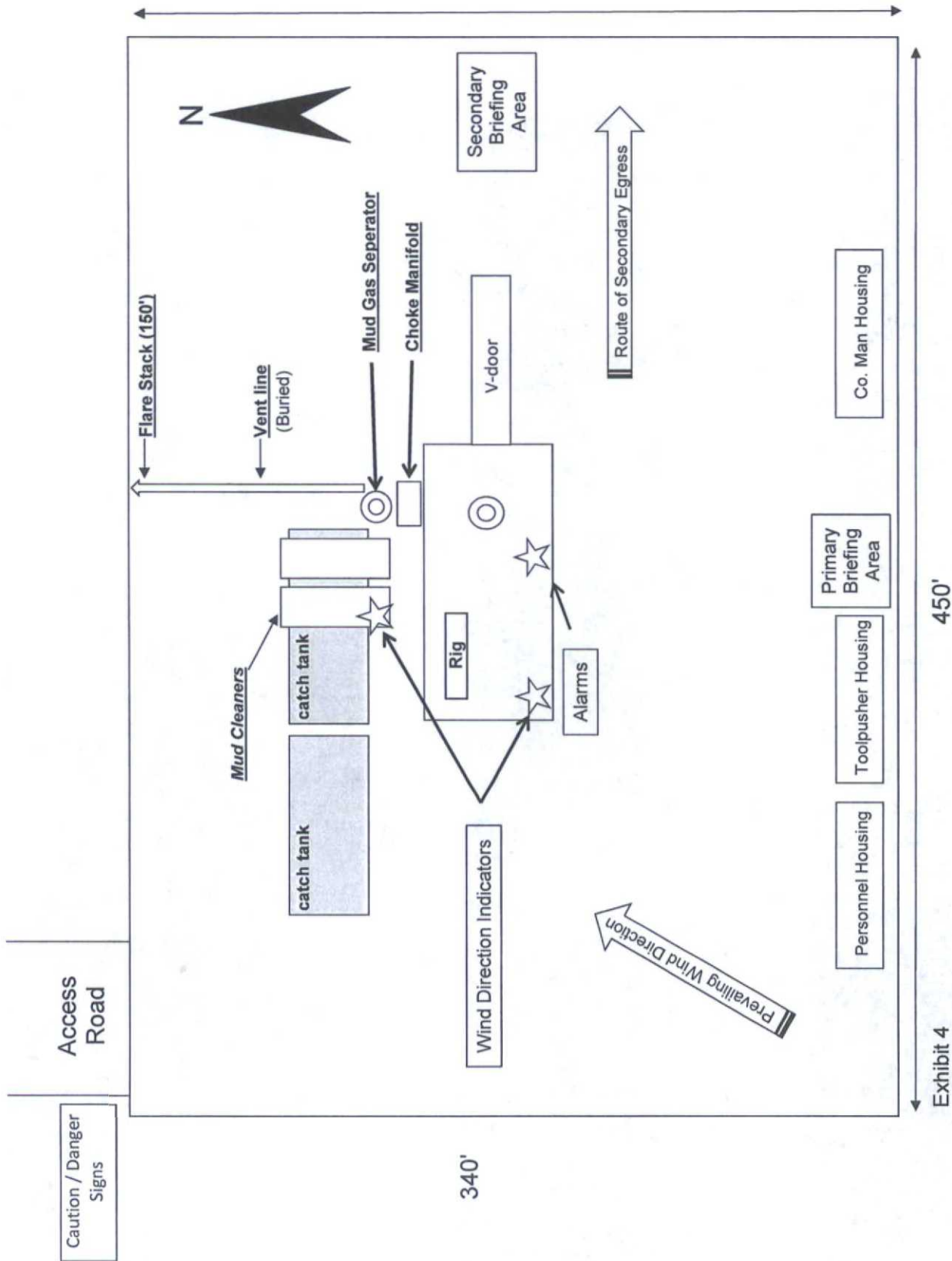


Exhibit 4  
EOG Resources  
Rattlesnake 28 Fed Com #704H

Well Site Diagram