

**OCD Hobbs**

HOBBS OCT

OCT 19 2015

ATS-15-361

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

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

|                                                                                                                                                                                                                              |                                                     |                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                 |                                                     | 5. Lease Serial No.<br>NMNM124212 FTP NMNM108503 BHL                            |
| 1b. 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                                            |
| 2. Name of Operator EOG Resources, Inc. <i>7377</i>                                                                                                                                                                          |                                                     | 7. If Unit or CA Agreement, Name and No.                                        |
| 3a. Address P.O. Box 2267 Midland, TX 79702                                                                                                                                                                                  |                                                     | 8. Lease Name and Well No. <i>398177</i><br>Vaca 11 Fed Com 406H                |
| 3b. Phone No. (include area code)<br>432-686-3689                                                                                                                                                                            |                                                     | 9. API Well No.<br>30-025- <i>42890</i>                                         |
| 4. Location of Well (Report location clearly and in accordance with any State requirements.)<br>At surface 170' FSL & 1170' FWL, SWSW (M), Sec 11, 25S, 33E<br>At proposed prod. zone 230' FSL & 1220' FWL, SWSW (M), Sec 14 |                                                     | 10. Field and Pool, or Exploratory <i>51020</i><br>Red Hills; Lower Bone Spring |
| 14. Distance in miles and direction from nearest town or post office*<br>Approximately +/- 30 miles Southwest from Jal, NM                                                                                                   |                                                     | 11. Sec., T. R. M. or Blk. and Survey or Area<br>Section 11, T25S, R33E         |
| 15. Distance from proposed* location to nearest property or lease line, ft.<br>(Also to nearest drig. unit line, if any) 170' SL, 330' PP                                                                                    | 16. No. of acres in lease<br>1520.00                | 17. Spacing Unit dedicated to this well<br>160 ac.                              |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 630' frm 405H                                                                                                     | 19. Proposed Depth<br>15284' MD, 10500' TVD         | 20. BLM/BIA Bond No. on file<br>NM 2308                                         |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>3369' GL                                                                                                                                                              | 22. Approximate date work will start*<br>07/01/2015 | 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:

- |                                                                                                                                                |                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Well plat certified by a registered surveyor.                                                                                               | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.                                                                                                                            | 5. Operator certification                                                                       |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

|                                             |                                     |                     |
|---------------------------------------------|-------------------------------------|---------------------|
| 25. Signature <i>Stan Wagner</i>            | Name (Printed/Typed)<br>Stan Wagner | Date<br>01/21/2015  |
| Title<br>Regulatory Specialist              |                                     |                     |
| Approved by (Signature) <i>Steve Caffey</i> | Name (Printed/Typed)                | Date<br>OCT 13 2015 |
| Title<br>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**

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)

*KZ*  
*10/19/15*

Carlsbad Controlled Water Basin

Approval Subject to General Requirements  
& Special Stipulations Attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

OCT 20 2015

**EOG RESOURCES, INC.**  
**VACA 11 FED COM NO. 406H**

**HOBBS OCD**

**OCT 19 2015**

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

Permian

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

|                                   |         |
|-----------------------------------|---------|
| Rustler                           | 1,121'  |
| Top of Salt                       | 1,462'  |
| Base of Salt / Top Anhydrite      | 4,810'  |
| Base Anhydrite                    | 5,054'  |
| Lamar                             | 5,054'  |
| Bell Canyon                       | 5,082'  |
| Cherry Canyon                     | 6,149'  |
| Brushy Canyon                     | 7,768'  |
| Bone Spring Lime                  | 9,236'  |
| 1 <sup>st</sup> Bone Spring Sand  | 10,179' |
| 2 <sup>nd</sup> Bone Spring Shale | 10,400' |
| TD                                | 10,500' |

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

|                                   |         |             |
|-----------------------------------|---------|-------------|
| Upper Permian Sands               | 0- 400' | Fresh Water |
| Cherry Canyon                     | 6,149'  | Oil         |
| Brushy Canyon                     | 7,768'  | Oil         |
| Bone Spring Lime                  | 9,236'  | Oil         |
| 1 <sup>st</sup> Bone Spring Sand  | 10,179' | Oil         |
| 2 <sup>nd</sup> Bone Spring Shale | 10,400' | 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 1,145' and circulating cement back to surface.

**4. CASING PROGRAM - NEW**

See COA

| 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>1,145'</del><br>1,145' | 13.375" | 54.5#  | J55            | STC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 0-4,000'                        | 9.625"  | 40#    | J55            | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 12.25"    | 4,000' - 4,900'                 | 9.625"  | 40#    | HCK55          | LTC  | 1.125                      | 1.25                    | 1.60                      |
| 8.75"     | 0'-15,254'                      | 5.500"  | 17#    | P110 or HCP110 | LTC  | 1.125                      | 1.25                    | 1.60                      |



**EOG RESOURCES, INC.**  
**VACA 11 FED COM NO. 406H**

**Cementing Program:**

| Depth                                | No. Sacks | Wt. lb/gal | Yld Ft <sup>3</sup> /ft | Mix Water Gal/sk | Slurry Description                                                                                                                                                                        |
|--------------------------------------|-----------|------------|-------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13-3/8"<br><del>1,145'</del><br>1260 | 600       | 13.5       | 1.73                    | 9.13             | Lead: 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             | Tail: Class C + 0.005 pps Static Free + 2% CaCl <sub>2</sub> + 0.25 pps CelloFlake + 0.005 gps FP-6L                                                                                      |
| 9-5/8"<br>4,900'                     | 900       | 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)                                                      |
|                                      | 450       | 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>15,254'                    | 400       | 10.8       | 3.67                    | 21.7             | Lead: 60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free (TOC @ 4400') |
|                                      | 400       | 11.8       | 2.38                    | 13.25            | Middle: 50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free                      |
|                                      | 1600      | 14.2       | 1.28                    | 5.75             | Tail: 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free                                                                        |

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 COA*  
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 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.

*See COA*  
3000 psi BOPE is adequate for this application. Due to the 3000 psi BOPE requirement no FIT tests are planned.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 2000/ 250 psig and the annular preventer to 2000/ 250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

**EOG RESOURCES, INC.**  
**VACA 11 FED COM NO. 406H**

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 3000/ 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 – 1,145' <del>1,200</del> | Fresh Water Gel | 8.6-8.8      | 28-34     | N/c        |
| 1,145' – 4,900'             | Saturated Brine | 10.0-10.2    | 28-34     | N/c        |
| 4,900' – 9,959'             | Fresh Water     | 8.4-8.6      | 28-34     | N/c        |
| 9,959' – 15,254'<br>Lateral | Cut Brine Water | 9.0-9.5      | 28-34     | N/c        |

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.  
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*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 163 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4546 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.

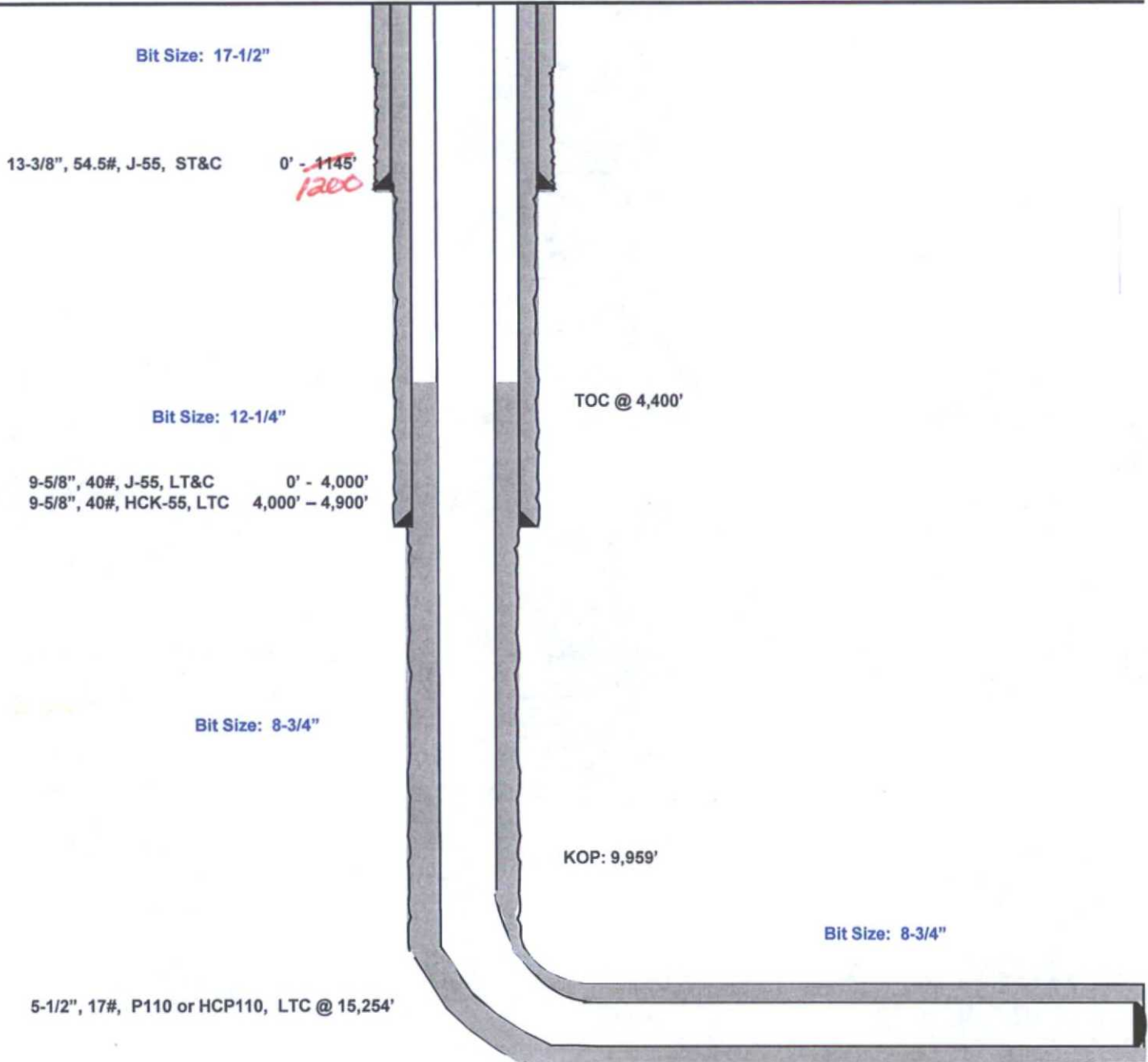


Vaca 11 Fed Com #406H  
Lea County, New Mexico  
Proposed Wellbore

170' FSL  
1170' FWL  
Section 11  
T-25-S, R-33-E

API: 30-025-\*\*\*\*\*

KB: 3,399'  
GL: 3,369'



Lateral:  
15,254' MD, 10,500' TVD  
Upper Most Perf:  
330' FNL & 1220' FWL  
Lower Most Perf:  
330' FSL & 1220' FWL  
BH Location: 230' FSL & 1220' FWL  
Section 14  
T-25-S, R-33-E



Lea County, NM (NAD 27 NME)

Vaca 11 Fed Com #406H

### 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: -0.42°  
 Magnetic North: 6.71°  
 Magnetic Field  
 Strength: 48210.9nT  
 Dip Angle: 60.02°  
 Date: 1/7/2015  
 Model: IGRF201014

To convert a Magnetic Direction to a Grid Direction, Add 8.71°  
To convert a Magnetic Direction to a True Direction, Add 7.13° E  
To convert a True Direction to a Grid Direction, Subtract 0.42°

WELL DETAILS: #405H

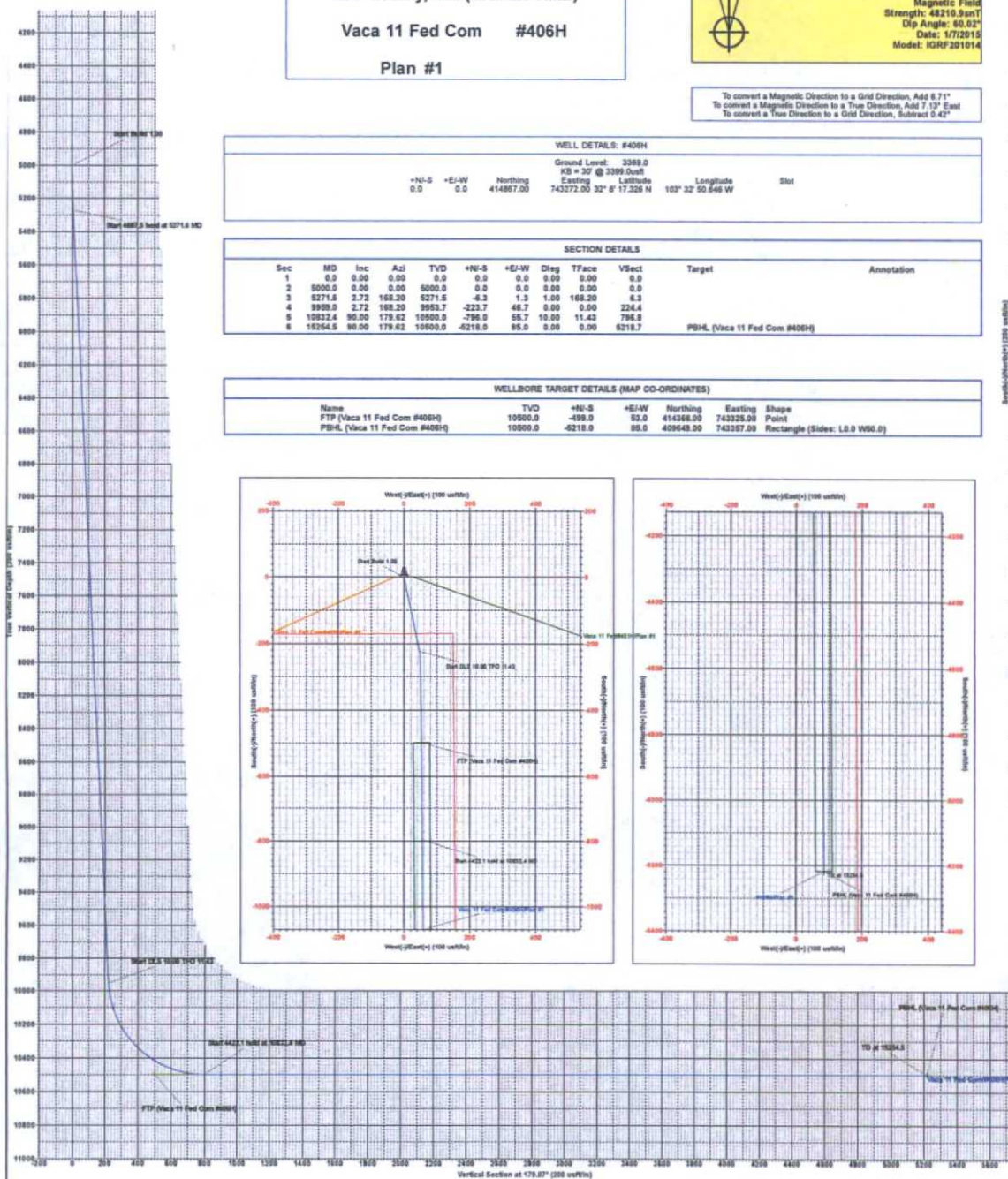
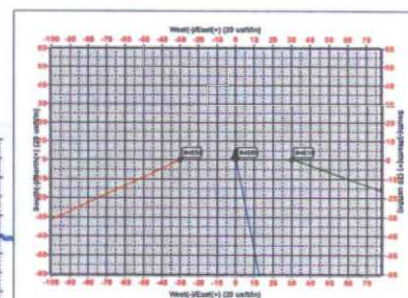
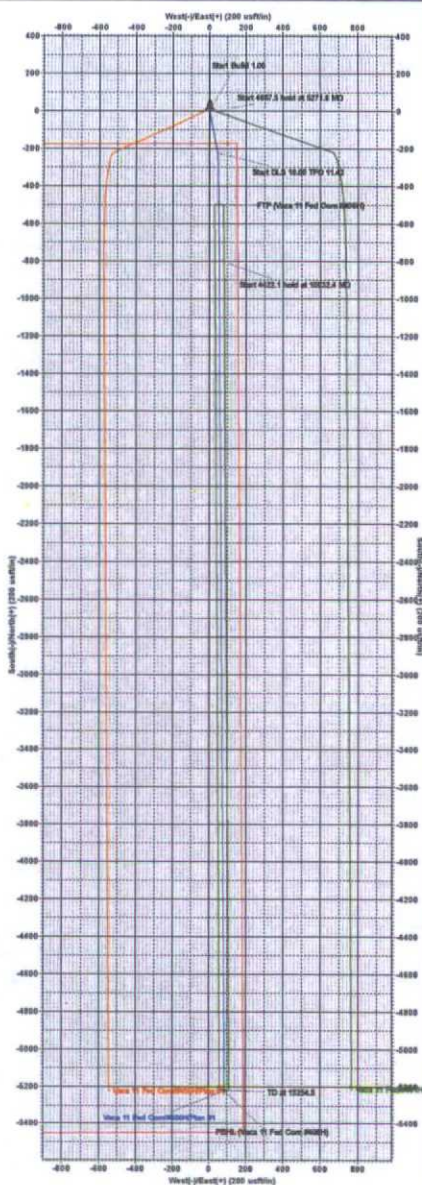
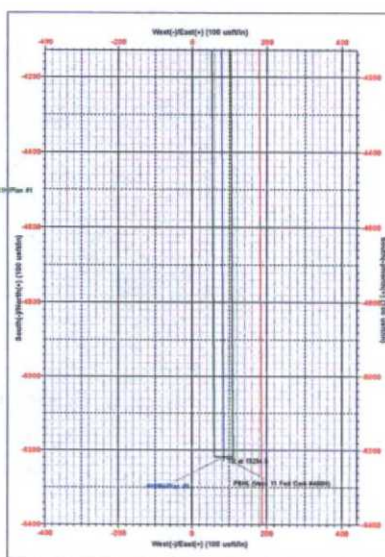
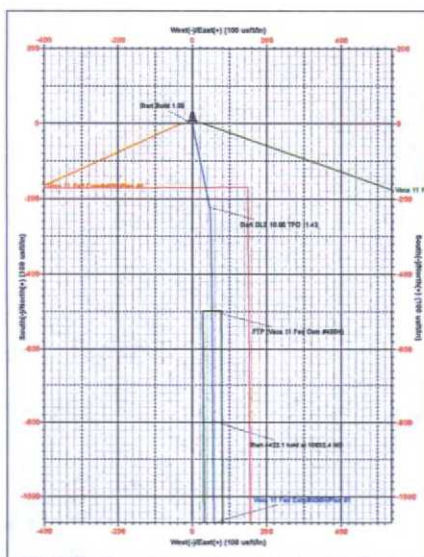
|      |      |           |           |                 |                   |      |
|------|------|-----------|-----------|-----------------|-------------------|------|
| +N-S | +E-W | Northings | Eastings  | Latitude        | Longitude         | Slot |
| 0.0  | 0.0  | 414867.00 | 743372.00 | 32° 8' 17.326 N | 103° 32' 50.646 W |      |

## SECTION DETAILS

| Sec | MO      | Inc   | Az     | TVD     | +N-E    | +E-W | Dif   | TFace  | Vsect | Target                      | Annotation |
|-----|---------|-------|--------|---------|---------|------|-------|--------|-------|-----------------------------|------------|
| 1   | 0.0     | 0.00  | 0.00   | 0.0     | 0.0     | 0.0  | 0.00  | 0.00   | 0.0   |                             |            |
| 2   | 5000.0  | 0.00  | 0.00   | 5000.0  | 0.0     | 0.0  | 0.00  | 0.00   | 0.0   |                             |            |
| 3   | 5271.6  | 2.72  | 168.20 | 5271.6  | -4.3    | 1.3  | 1.00  | 168.20 | 6.3   |                             |            |
| 4   | 9989.9  | 2.72  | 168.20 | 9993.7  | -223.7  | 48.7 | 0.00  | 224.6  | 0.0   |                             |            |
| 5   | 10812.4 | 90.00 | 179.82 | 10500.0 | -0.00   | 0.00 | 11.42 | 42.1   | 796.5 |                             |            |
| 6   | 12524.6 | 90.00 | 179.82 | 10500.0 | -0218.0 | 85.0 | 0.00  | 6218.7 |       | PH4 (Vaca 11 Fed Com 58070) |            |

## WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name                         | TVD     | +N-S    | +E-W | Northing  | Easting   | Shape                          |
|------------------------------|---------|---------|------|-----------|-----------|--------------------------------|
| FTP (Vaca 11 Fed Com #406H)  | 10500.0 | -499.0  | 53.0 | 414366.00 | 743325.00 | Point                          |
| PBHL (Vaca 11 Fed Com #406H) | 10500.0 | -5218.0 | 95.0 | 409648.00 | 743357.00 | Rectangle (Sides: 1.0 0 W60.0) |





## **EOG Resources - Midland**

Lea County, NM (NAD 27 NME)

Vaca 11 Fed Com

#406H

OH

Plan: Plan #1

## **Standard Survey Report**

07 January, 2015





**EOG Resources, Inc.**  
Survey Report

|                  |                             |                                     |                           |
|------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>Company:</b>  | EOG Resources - Midland     | <b>Local Co-ordinate Reference:</b> | Well #406H                |
| <b>Project:</b>  | Lea County, NM (NAD 27 NME) | <b>TVD Reference:</b>               | KB = 30' @ 3399.0usft     |
| <b>Site:</b>     | Vaca 11 Fed Com             | <b>MD Reference:</b>                | KB = 30' @ 3399.0usft     |
| <b>Well:</b>     | #406H                       | <b>North Reference:</b>             | Grid                      |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature         |
| <b>Design:</b>   | Plan #1                     | <b>Database:</b>                    | EDM 5000.1 Single User Db |

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

|                              |                 |                          |                   |
|------------------------------|-----------------|--------------------------|-------------------|
| <b>Site</b>                  | Vaca 11 Fed Com |                          |                   |
| <b>Site Position:</b>        |                 | <b>Northing:</b>         | 414,867.00 usft   |
| <b>From:</b>                 | Map             | <b>Easting:</b>          | 743,272.00 usft   |
| <b>Position Uncertainty:</b> | 0.0 usft        | <b>Slot Radius:</b>      | 13-3/16 "         |
|                              |                 | <b>Latitude:</b>         | 32° 8' 17.326 N   |
|                              |                 | <b>Longitude:</b>        | 103° 32' 50.646 W |
|                              |                 | <b>Grid Convergence:</b> | 0.42 °            |

|                             |          |                            |                                  |
|-----------------------------|----------|----------------------------|----------------------------------|
| <b>Well</b>                 | #406H    |                            |                                  |
| <b>Well Position</b>        | +N/-S    | 0.0 usft                   | <b>Northing:</b> 414,867.00 usft |
|                             | +E/-W    | 0.0 usft                   | <b>Easting:</b> 743,272.00 usft  |
| <b>Position Uncertainty</b> | 0.0 usft | <b>Wellhead Elevation:</b> | 0.0 usft                         |
|                             |          | <b>Latitude:</b>           | 32° 8' 17.326 N                  |
|                             |          | <b>Longitude:</b>          | 103° 32' 50.646 W                |
|                             |          | <b>Ground Level:</b>       | 3,369.0 usft                     |

|                  |                   |                    |                       |
|------------------|-------------------|--------------------|-----------------------|
| <b>Wellbore</b>  | OH                |                    |                       |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination</b>    |
|                  |                   |                    | (°)                   |
|                  | IGRF201014        | 1/7/2015           | 7.13                  |
|                  |                   |                    | <b>Dip Angle</b>      |
|                  |                   |                    | (°)                   |
|                  |                   |                    | 60.02                 |
|                  |                   |                    | <b>Field Strength</b> |
|                  |                   |                    | (nT)                  |
|                  |                   |                    | 48,211                |

|                          |                         |              |                          |
|--------------------------|-------------------------|--------------|--------------------------|
| <b>Design</b>            | Plan #1                 |              |                          |
| <b>Audit Notes:</b>      |                         |              |                          |
| <b>Version:</b>          | <b>Phase:</b>           | PLAN         | <b>Tie On Depth:</b> 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD)</b> | <b>+N/-S</b> | <b>+E/-W</b>             |
|                          | (usft)                  | (usft)       | (usft)                   |
|                          | 10,500.0                | 0.0          | 0.0                      |
|                          |                         |              | <b>Direction</b>         |
|                          |                         |              | (°)                      |
|                          |                         |              | 179.07                   |

|                            |               |                          |                    |
|----------------------------|---------------|--------------------------|--------------------|
| <b>Survey Tool Program</b> | Date 1/7/2015 |                          |                    |
| <b>From</b>                | <b>To</b>     | <b>Survey (Wellbore)</b> | <b>Tool Name</b>   |
| (usft)                     | (usft)        |                          |                    |
| 0.0                        | 15,254.5      | Plan #1 (OH)             | MWD                |
|                            |               |                          | <b>Description</b> |
|                            |               |                          | MWD - Standard     |

|                       |                    |                |                       |              |              |                         |                    |                   |                  |  |
|-----------------------|--------------------|----------------|-----------------------|--------------|--------------|-------------------------|--------------------|-------------------|------------------|--|
| <b>Planned Survey</b> |                    |                |                       |              |              |                         |                    |                   |                  |  |
| <b>Measured Depth</b> | <b>Inclination</b> | <b>Azimuth</b> | <b>Vertical Depth</b> | <b>+N/-S</b> | <b>+E/-W</b> | <b>Vertical Section</b> | <b>Dogleg Rate</b> | <b>Build Rate</b> | <b>Turn Rate</b> |  |
| (usft)                | (°)                | (°)            | (usft)                | (usft)       | (usft)       | (usft)                  | (°/100usft)        | (°/100usft)       | (°/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             |  |



# EOG Resources, Inc.

## Survey Report

|           |                             |                              |                           |
|-----------|-----------------------------|------------------------------|---------------------------|
| Company:  | EOG Resources - Midland     | Local Co-ordinate Reference: | Well #406H                |
| Project:  | Lea County, NM (NAD 27 NME) | TVD Reference:               | KB = 30' @ 3399.0usft     |
| Site:     | Vaca 11 Fed Com             | MD Reference:                | KB = 30' @ 3399.0usft     |
| Well:     | #406H                       | North Reference:             | Grid                      |
| Wellbore: | OH                          | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | Plan #1                     | Database:                    | EDM 5000.1 Single User Db |

| 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) |  |
| 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               | 0.00            | 0.00        | 4,600.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 4,700.0               | 0.00            | 0.00        | 4,700.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 4,800.0               | 0.00            | 0.00        | 4,800.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 4,900.0               | 0.00            | 0.00        | 4,900.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,000.0               | 0.00            | 0.00        | 5,000.0               | 0.0          | 0.0          | 0.0                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,100.0               | 1.00            | 168.20      | 5,100.0               | -0.9         | 0.2          | 0.9                     | 1.00                    | 1.00                   | 0.00                  |  |
| 5,200.0               | 2.00            | 168.20      | 5,200.0               | -3.4         | 0.7          | 3.4                     | 1.00                    | 1.00                   | 0.00                  |  |
| 5,271.6               | 2.72            | 168.20      | 5,271.5               | -6.3         | 1.3          | 6.3                     | 1.00                    | 1.00                   | 0.00                  |  |





# EOG Resources, Inc.

## Survey Report

|           |                             |                              |                           |
|-----------|-----------------------------|------------------------------|---------------------------|
| Company:  | EOG Resources - Midland     | Local Co-ordinate Reference: | Well #406H                |
| Project:  | Lea County, NM (NAD 27 NME) | TVD Reference:               | KB = 30' @ 3399.0usft     |
| Site:     | Vaca 11 Fed Com             | MD Reference:                | KB = 30' @ 3399.0usft     |
| Well:     | #406H                       | North Reference:             | Grid                      |
| Wellbore: | OH                          | Survey Calculation Method:   | Minimum Curvature         |
| Design:   | Plan #1                     | Database:                    | EDM 5000.1 Single User Db |

| 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) |  |
| 5,300.0               | 2.72            | 168.20      | 5,299.9               | -7.6         | 1.6          | 7.6                     | 0.00                    | 0.00                   | 0.00                  |  |
| 5,400.0               | 2.72            | 168.20      | 5,399.8               | -12.3        | 2.6          | 12.3                    | 0.00                    | 0.00                   | 0.00                  |  |
| 5,500.0               | 2.72            | 168.20      | 5,499.6               | -16.9        | 3.5          | 16.9                    | 0.00                    | 0.00                   | 0.00                  |  |
| 5,600.0               | 2.72            | 168.20      | 5,599.5               | -21.5        | 4.5          | 21.6                    | 0.00                    | 0.00                   | 0.00                  |  |
| 5,700.0               | 2.72            | 168.20      | 5,699.4               | -26.2        | 5.5          | 26.3                    | 0.00                    | 0.00                   | 0.00                  |  |
| 5,800.0               | 2.72            | 168.20      | 5,799.3               | -30.8        | 6.4          | 30.9                    | 0.00                    | 0.00                   | 0.00                  |  |
| 5,900.0               | 2.72            | 168.20      | 5,899.2               | -35.4        | 7.4          | 35.6                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,000.0               | 2.72            | 168.20      | 5,999.1               | -40.1        | 8.4          | 40.2                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,100.0               | 2.72            | 168.20      | 6,099.0               | -44.7        | 9.3          | 44.9                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,200.0               | 2.72            | 168.20      | 6,198.9               | -49.4        | 10.3         | 49.5                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,300.0               | 2.72            | 168.20      | 6,298.7               | -54.0        | 11.3         | 54.2                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,400.0               | 2.72            | 168.20      | 6,398.6               | -58.6        | 12.3         | 58.8                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,500.0               | 2.72            | 168.20      | 6,498.5               | -63.3        | 13.2         | 63.5                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,600.0               | 2.72            | 168.20      | 6,598.4               | -67.9        | 14.2         | 68.1                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,700.0               | 2.72            | 168.20      | 6,698.3               | -72.5        | 15.2         | 72.8                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,800.0               | 2.72            | 168.20      | 6,798.2               | -77.2        | 16.1         | 77.4                    | 0.00                    | 0.00                   | 0.00                  |  |
| 6,900.0               | 2.72            | 168.20      | 6,898.1               | -81.8        | 17.1         | 82.1                    | 0.00                    | 0.00                   | 0.00                  |  |
| 7,000.0               | 2.72            | 168.20      | 6,998.0               | -86.5        | 18.1         | 86.7                    | 0.00                    | 0.00                   | 0.00                  |  |
| 7,100.0               | 2.72            | 168.20      | 7,097.8               | -91.1        | 19.0         | 91.4                    | 0.00                    | 0.00                   | 0.00                  |  |
| 7,200.0               | 2.72            | 168.20      | 7,197.7               | -95.7        | 20.0         | 96.1                    | 0.00                    | 0.00                   | 0.00                  |  |
| 7,300.0               | 2.72            | 168.20      | 7,297.6               | -100.4       | 21.0         | 100.7                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,400.0               | 2.72            | 168.20      | 7,397.5               | -105.0       | 21.9         | 105.4                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,500.0               | 2.72            | 168.20      | 7,497.4               | -109.7       | 22.9         | 110.0                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,600.0               | 2.72            | 168.20      | 7,597.3               | -114.3       | 23.9         | 114.7                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,700.0               | 2.72            | 168.20      | 7,697.2               | -118.9       | 24.9         | 119.3                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,800.0               | 2.72            | 168.20      | 7,797.1               | -123.6       | 25.8         | 124.0                   | 0.00                    | 0.00                   | 0.00                  |  |
| 7,900.0               | 2.72            | 168.20      | 7,896.9               | -128.2       | 26.8         | 128.6                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,000.0               | 2.72            | 168.20      | 7,996.8               | -132.8       | 27.8         | 133.3                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,100.0               | 2.72            | 168.20      | 8,096.7               | -137.5       | 28.7         | 137.9                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,200.0               | 2.72            | 168.20      | 8,196.6               | -142.1       | 29.7         | 142.6                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,300.0               | 2.72            | 168.20      | 8,296.5               | -146.8       | 30.7         | 147.2                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,400.0               | 2.72            | 168.20      | 8,396.4               | -151.4       | 31.6         | 151.9                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,500.0               | 2.72            | 168.20      | 8,496.3               | -156.0       | 32.6         | 156.5                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,600.0               | 2.72            | 168.20      | 8,596.2               | -160.7       | 33.6         | 161.2                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,700.0               | 2.72            | 168.20      | 8,696.0               | -165.3       | 34.5         | 165.9                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,800.0               | 2.72            | 168.20      | 8,795.9               | -169.9       | 35.5         | 170.5                   | 0.00                    | 0.00                   | 0.00                  |  |
| 8,900.0               | 2.72            | 168.20      | 8,895.8               | -174.6       | 36.5         | 175.2                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,000.0               | 2.72            | 168.20      | 8,995.7               | -179.2       | 37.4         | 179.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,100.0               | 2.72            | 168.20      | 9,095.6               | -183.9       | 38.4         | 184.5                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,200.0               | 2.72            | 168.20      | 9,195.5               | -188.5       | 39.4         | 189.1                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,300.0               | 2.72            | 168.20      | 9,295.4               | -193.1       | 40.4         | 193.8                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,400.0               | 2.72            | 168.20      | 9,395.3               | -197.8       | 41.3         | 198.4                   | 0.00                    | 0.00                   | 0.00                  |  |
| 9,500.0               | 2.72            | 168.20      | 9,495.1               | -202.4       | 42.3         | 203.1                   | 0.00                    | 0.00                   | 0.00                  |  |



**EOG Resources, Inc.**  
Survey Report

|                  |                             |                                     |                           |
|------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>Company:</b>  | EOG Resources - Midland     | <b>Local Co-ordinate Reference:</b> | Well #406H                |
| <b>Project:</b>  | Lea County, NM (NAD 27 NME) | <b>TVD Reference:</b>               | KB = 30' @ 3399.0usft     |
| <b>Site:</b>     | Vaca 11 Fed Com             | <b>MD Reference:</b>                | KB = 30' @ 3399.0usft     |
| <b>Well:</b>     | #406H                       | <b>North Reference:</b>             | Grid                      |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature         |
| <b>Design:</b>   | Plan #1                     | <b>Database:</b>                    | EDM 5000.1 Single User Db |

| 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) |
| 9,600.0               | 2.72            | 168.20      | 9,595.0               | -207.1       | 43.3         | 207.7                   | 0.00                    | 0.00                   | 0.00                  |
| 9,700.0               | 2.72            | 168.20      | 9,694.9               | -211.7       | 44.2         | 212.4                   | 0.00                    | 0.00                   | 0.00                  |
| 9,800.0               | 2.72            | 168.20      | 9,794.8               | -216.3       | 45.2         | 217.0                   | 0.00                    | 0.00                   | 0.00                  |
| 9,900.0               | 2.72            | 168.20      | 9,894.7               | -221.0       | 46.2         | 221.7                   | 0.00                    | 0.00                   | 0.00                  |
| 9,959.0               | 2.72            | 168.20      | 9,953.7               | -223.7       | 46.7         | 224.4                   | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0              | 6.78            | 175.09      | 9,994.5               | -227.1       | 47.1         | 227.8                   | 10.00                   | 9.92                   | 16.82                 |
| 10,050.0              | 11.77           | 177.04      | 10,043.8              | -235.1       | 47.7         | 235.8                   | 10.00                   | 9.98                   | 3.90                  |
| 10,100.0              | 16.77           | 177.83      | 10,092.3              | -247.4       | 48.2         | 248.2                   | 10.00                   | 9.99                   | 1.59                  |
| 10,150.0              | 21.76           | 178.27      | 10,139.4              | -263.9       | 48.8         | 264.7                   | 10.00                   | 10.00                  | 0.88                  |
| 10,200.0              | 26.76           | 178.55      | 10,185.0              | -284.4       | 49.3         | 285.2                   | 10.00                   | 10.00                  | 0.56                  |
| 10,250.0              | 31.76           | 178.75      | 10,228.6              | -308.8       | 49.9         | 309.6                   | 10.00                   | 10.00                  | 0.40                  |
| 10,300.0              | 36.76           | 178.90      | 10,269.9              | -337.0       | 50.5         | 337.8                   | 10.00                   | 10.00                  | 0.30                  |
| 10,350.0              | 41.76           | 179.02      | 10,308.6              | -368.6       | 51.0         | 369.4                   | 10.00                   | 10.00                  | 0.24                  |
| 10,400.0              | 46.76           | 179.11      | 10,344.4              | -403.5       | 51.6         | 404.3                   | 10.00                   | 10.00                  | 0.19                  |
| 10,450.0              | 51.76           | 179.20      | 10,377.0              | -441.4       | 52.2         | 442.1                   | 10.00                   | 10.00                  | 0.16                  |
| 10,500.0              | 56.76           | 179.27      | 10,406.2              | -481.9       | 52.7         | 482.7                   | 10.00                   | 10.00                  | 0.14                  |
| 10,550.0              | 61.76           | 179.33      | 10,431.8              | -524.9       | 53.2         | 525.7                   | 10.00                   | 10.00                  | 0.13                  |
| 10,600.0              | 66.76           | 179.39      | 10,453.5              | -569.9       | 53.7         | 570.7                   | 10.00                   | 10.00                  | 0.12                  |
| 10,650.0              | 71.76           | 179.44      | 10,471.2              | -616.6       | 54.2         | 617.4                   | 10.00                   | 10.00                  | 0.11                  |
| 10,700.0              | 76.76           | 179.49      | 10,484.8              | -664.8       | 54.7         | 665.6                   | 10.00                   | 10.00                  | 0.10                  |
| 10,750.0              | 81.76           | 179.54      | 10,494.1              | -713.9       | 55.1         | 714.7                   | 10.00                   | 10.00                  | 0.10                  |
| 10,800.0              | 86.76           | 179.59      | 10,499.1              | -763.6       | 55.4         | 764.4                   | 10.00                   | 10.00                  | 0.09                  |
| 10,832.4              | 90.00           | 179.62      | 10,500.0              | -796.0       | 55.7         | 796.8                   | 10.00                   | 10.00                  | 0.09                  |
| 10,900.0              | 90.00           | 179.62      | 10,500.0              | -863.6       | 56.1         | 864.4                   | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0              | 90.00           | 179.62      | 10,500.0              | -963.6       | 56.8         | 964.4                   | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0              | 90.00           | 179.62      | 10,500.0              | -1,063.6     | 57.4         | 1,064.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0              | 90.00           | 179.62      | 10,500.0              | -1,163.6     | 58.1         | 1,164.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0              | 90.00           | 179.62      | 10,500.0              | -1,263.6     | 58.8         | 1,264.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0              | 90.00           | 179.62      | 10,500.0              | -1,363.6     | 59.4         | 1,364.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0              | 90.00           | 179.62      | 10,500.0              | -1,463.6     | 60.1         | 1,464.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0              | 90.00           | 179.62      | 10,500.0              | -1,563.6     | 60.8         | 1,564.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0              | 90.00           | 179.62      | 10,500.0              | -1,663.6     | 61.4         | 1,664.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,800.0              | 90.00           | 179.62      | 10,500.0              | -1,763.6     | 62.1         | 1,764.3                 | 0.00                    | 0.00                   | 0.00                  |
| 11,900.0              | 90.00           | 179.62      | 10,500.0              | -1,863.6     | 62.8         | 1,864.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,000.0              | 90.00           | 179.62      | 10,500.0              | -1,963.5     | 63.4         | 1,964.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,100.0              | 90.00           | 179.62      | 10,500.0              | -2,063.5     | 64.1         | 2,064.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,200.0              | 90.00           | 179.62      | 10,500.0              | -2,163.5     | 64.7         | 2,164.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,300.0              | 90.00           | 179.62      | 10,500.0              | -2,263.5     | 65.4         | 2,264.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,400.0              | 90.00           | 179.62      | 10,500.0              | -2,363.5     | 66.1         | 2,364.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,500.0              | 90.00           | 179.62      | 10,500.0              | -2,463.5     | 66.7         | 2,464.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,600.0              | 90.00           | 179.62      | 10,500.0              | -2,563.5     | 67.4         | 2,564.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,700.0              | 90.00           | 179.62      | 10,500.0              | -2,663.5     | 68.1         | 2,664.3                 | 0.00                    | 0.00                   | 0.00                  |
| 12,800.0              | 90.00           | 179.62      | 10,500.0              | -2,763.5     | 68.7         | 2,764.3                 | 0.00                    | 0.00                   | 0.00                  |





# EOG Resources, Inc.

## Survey Report

|                  |                             |                                     |                           |
|------------------|-----------------------------|-------------------------------------|---------------------------|
| <b>Company:</b>  | EOG Resources - Midland     | <b>Local Co-ordinate Reference:</b> | Well #406H                |
| <b>Project:</b>  | Lea County, NM (NAD 27 NME) | <b>TVD Reference:</b>               | KB = 30' @ 3399.0usft     |
| <b>Site:</b>     | Vaca 11 Fed Com             | <b>MD Reference:</b>                | KB = 30' @ 3399.0usft     |
| <b>Well:</b>     | #406H                       | <b>North Reference:</b>             | Grid                      |
| <b>Wellbore:</b> | OH                          | <b>Survey Calculation Method:</b>   | Minimum Curvature         |
| <b>Design:</b>   | Plan #1                     | <b>Database:</b>                    | EDM 5000.1 Single User Db |

| 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) |  |
| 12,900.0              | 90.00           | 179.62      | 10,500.0              | -2,863.5     | 69.4         | 2,864.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,000.0              | 90.00           | 179.62      | 10,500.0              | -2,963.5     | 70.0         | 2,964.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,100.0              | 90.00           | 179.62      | 10,500.0              | -3,063.5     | 70.7         | 3,064.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,200.0              | 90.00           | 179.62      | 10,500.0              | -3,163.5     | 71.4         | 3,164.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,300.0              | 90.00           | 179.62      | 10,500.0              | -3,263.5     | 72.0         | 3,264.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,400.0              | 90.00           | 179.62      | 10,500.0              | -3,363.5     | 72.7         | 3,364.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,500.0              | 90.00           | 179.62      | 10,500.0              | -3,463.5     | 73.4         | 3,464.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,600.0              | 90.00           | 179.62      | 10,500.0              | -3,563.5     | 74.0         | 3,564.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,700.0              | 90.00           | 179.62      | 10,500.0              | -3,663.5     | 74.7         | 3,664.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,800.0              | 90.00           | 179.62      | 10,500.0              | -3,763.5     | 75.4         | 3,764.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,900.0              | 90.00           | 179.62      | 10,500.0              | -3,863.5     | 76.0         | 3,864.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,000.0              | 90.00           | 179.62      | 10,500.0              | -3,963.5     | 76.7         | 3,964.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,100.0              | 90.00           | 179.62      | 10,500.0              | -4,063.5     | 77.3         | 4,064.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,200.0              | 90.00           | 179.62      | 10,500.0              | -4,163.5     | 78.0         | 4,164.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,300.0              | 90.00           | 179.62      | 10,500.0              | -4,263.5     | 78.7         | 4,264.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,400.0              | 90.00           | 179.62      | 10,500.0              | -4,363.5     | 79.3         | 4,364.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,500.0              | 90.00           | 179.62      | 10,500.0              | -4,463.5     | 80.0         | 4,464.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,600.0              | 90.00           | 179.62      | 10,500.0              | -4,563.5     | 80.7         | 4,564.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,700.0              | 90.00           | 179.62      | 10,500.0              | -4,663.5     | 81.3         | 4,664.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,800.0              | 90.00           | 179.62      | 10,500.0              | -4,763.5     | 82.0         | 4,764.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 14,900.0              | 90.00           | 179.62      | 10,500.0              | -4,863.5     | 82.6         | 4,864.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,000.0              | 90.00           | 179.62      | 10,500.0              | -4,963.5     | 83.3         | 4,964.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,100.0              | 90.00           | 179.62      | 10,500.0              | -5,063.5     | 84.0         | 5,064.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,200.0              | 90.00           | 179.62      | 10,500.0              | -5,163.5     | 84.6         | 5,164.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 15,254.5              | 90.00           | 179.62      | 10,500.0              | -5,218.0     | 85.0         | 5,218.7                 | 0.00                    | 0.00                   | 0.00                  |  |

| Design Targets                                                                            |               |              |            |              |              |                 |                |                 |                   |
|-------------------------------------------------------------------------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-----------------|-------------------|
| Target Name                                                                               | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude        | Longitude         |
| - hit/miss target                                                                         |               |              |            |              |              |                 |                |                 |                   |
| - Shape                                                                                   |               |              |            |              |              |                 |                |                 |                   |
| FTP (Vaca 11 Fed Com)                                                                     | 90.00         | 179.62       | 10,500.0   | -499.0       | 53.0         | 414,368.00      | 743,325.00     | 32° 8' 12.384 N | 103° 32' 50.072 W |
| - plan misses target center by 72.4usft at 10556.3usft MD (10434.7 TVD, -530.5 N, 53.3 E) |               |              |            |              |              |                 |                |                 |                   |
| - Point                                                                                   |               |              |            |              |              |                 |                |                 |                   |
| PBHL (Vaca 11 Fed Con)                                                                    | 90.00         | 179.62       | 10,500.0   | -5,218.0     | 85.0         | 409,649.00      | 743,357.00     | 32° 7' 25.684 N | 103° 32' 50.100 W |
| - plan hits target center                                                                 |               |              |            |              |              |                 |                |                 |                   |
| - Rectangle (sides W50.0 H0.0 D4,719.2)                                                   |               |              |            |              |              |                 |                |                 |                   |

|                   |                    |             |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|

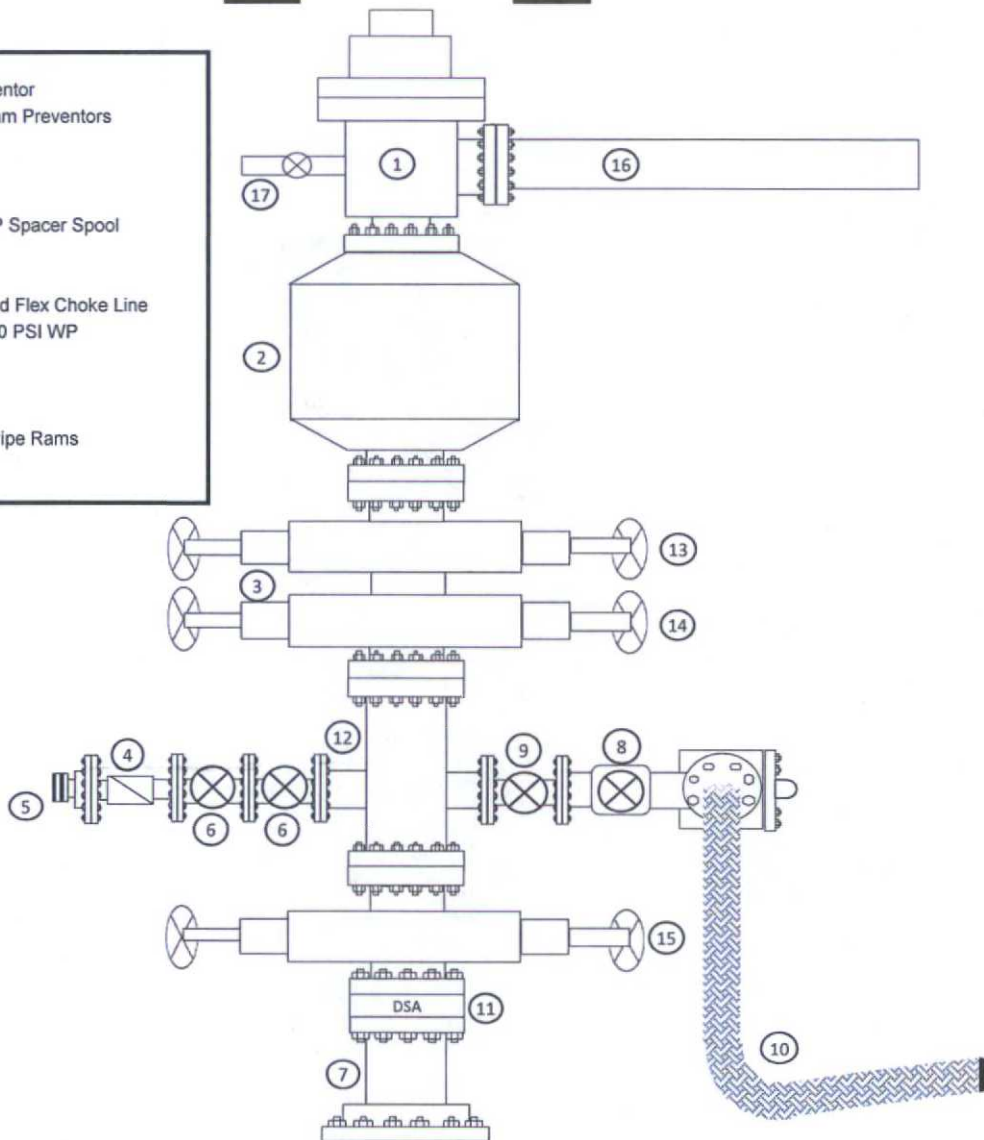
# Exhibit 1

## EOG Resources

### 5M 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

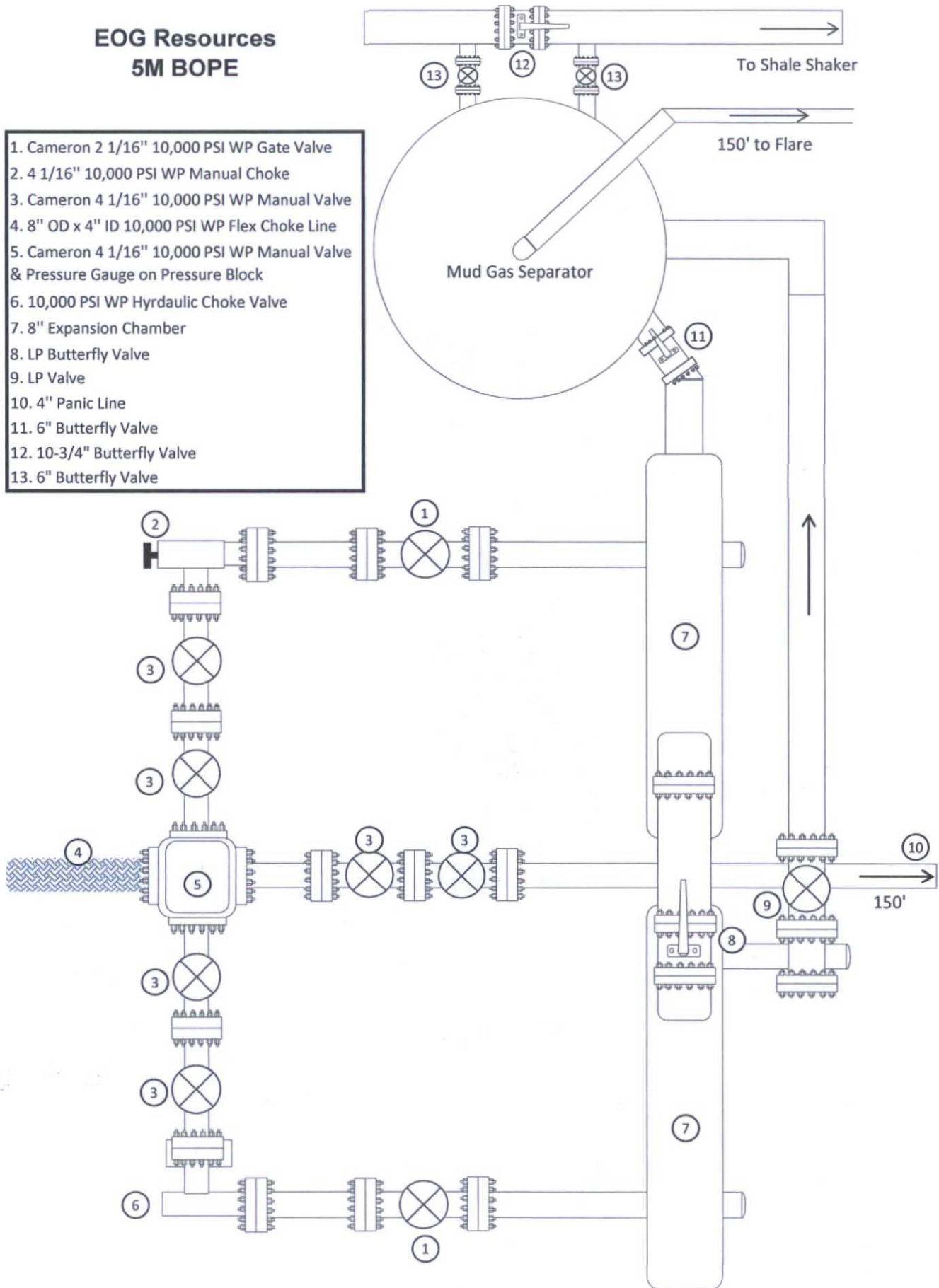




# Exhibit 1a

## EOG Resources 5M 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**



**MIDWEST**  
**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><br>10,000 PSI                                                                                                                                                                           | <b>TEST PRESSURE</b><br><br>15,000 PSI |                                                    | <b>BURST PRESSURE</b><br><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><br>1 MIN.                                                                                                                                                                     |                                        | <b>ACTUAL BURST PRESSURE:</b><br><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"

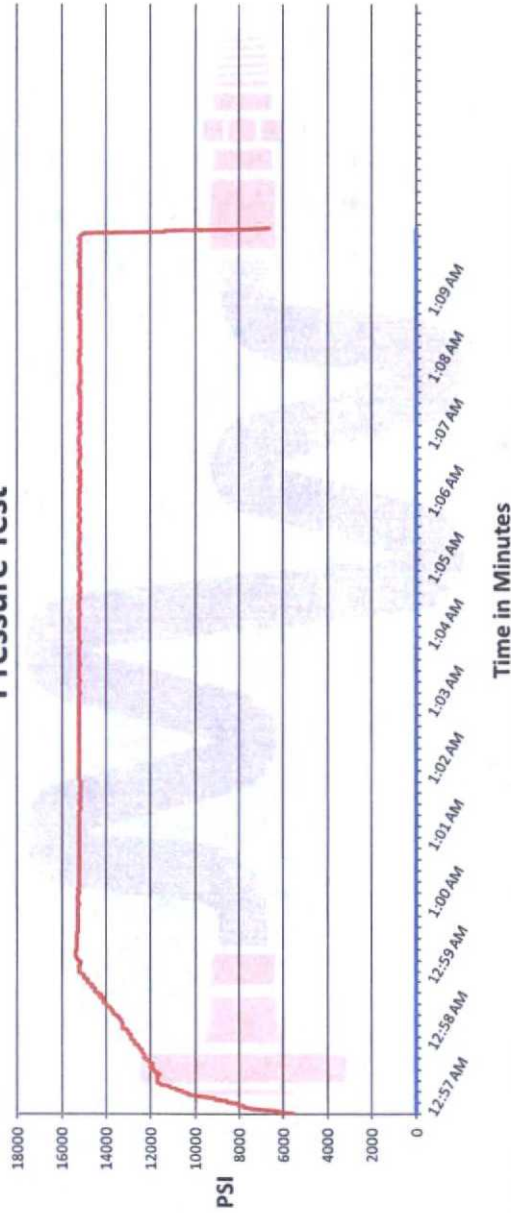
Final O.D.  
6.68"

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

*Mendi Jackson*



January 8, 2015

*EOG Resources, Inc.  
4000 North Big Spring, Suite 500  
Midland, TX 79705  
(915) 686-3600*

Bureau of Land Management  
Carlsbad Field Office  
620 E. Greene  
Carlsbad, New Mexico 88220

**Vaca 11 Fed Com 406H**

This application is being submitted with the understanding that the location is Non-Standard and will require an NSL order from the New Mexico Oil Conservation Division before being allowed to produce hydrocarbons.

EOG Resources will apply for the necessary order concurrently with this application.

If additional information is needed, please contact me at 432-686-3689.

Sincerely,

EOG RESOURCES, INC.

Stan Wagner  
Regulatory Specialist