

Form 3160-3  
(June 2015)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

|                                                                                                                                                                                                                                                                |                                                     |                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER                                                                                                                                                                   |                                                     | 5. Lease Serial No.<br>NMNM139402                                                                                                          |
| 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other                                                                                                                                |                                                     | 6. If Indian, Allottee or Tribe Name                                                                                                       |
| 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone                                                                                                   |                                                     | 7. If Unit or CA Agreement, Name and No.                                                                                                   |
| 2. Name of Operator<br>EOG RESOURCES INCORPORATED                                                                                                                                                                                                              |                                                     | 8. Lease Name and Well No.<br>STARLINER 23 FED<br>609H                                                                                     |
| 3a. Address<br>1111 BAGBY ST., SKY LOBBY 2, Houston, TX 77002                                                                                                                                                                                                  | 3b. Phone No. (include area code)<br>(713) 651-7000 | 9. API Well No.<br>30-043-21378                                                                                                            |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface NENW / 624 FNL / 1446 FWL / LAT 36.04032 / LONG -107.336934<br>At proposed prod. zone SWSW / 659 FSL / 773 FWL / LAT 36.058246 / LONG -107.356878 |                                                     | 10. Field and Pool, or Exploratory<br>WILDCAT/OIL WC 21N4W6;GALLUP<br>11. Sec., T. R. M. or Blk. and Survey or Area<br>SEC 23/T21N/R5W/NMP |
| 14. Distance in miles and direction from nearest town or post office*<br>20 miles                                                                                                                                                                              |                                                     | 12. County or Parish<br>SANDOVAL                                                                                                           |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>15 feet                                                                                                                               |                                                     | 13. State<br>NM                                                                                                                            |
| 16. No of acres in lease<br>640.0                                                                                                                                                                                                                              |                                                     | 17. Spacing Unit dedicated to this well                                                                                                    |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 624 feet                                                                                                                                            |                                                     | 20. BLM/BIA Bond No. in file<br>FED: NM2308                                                                                                |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br>7201 feet                                                                                                                                                                                               |                                                     | 22. Approximate date work will start*<br>10/31/2020                                                                                        |
|                                                                                                                                                                                                                                                                |                                                     | 23. Estimated duration<br>60 days                                                                                                          |
| 24. Attachments                                                                                                                                                                                                                                                |                                                     |                                                                                                                                            |

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- |                                                                                                                                                |                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 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 requested by the BLM.            |

|                                                    |                                                             |                    |
|----------------------------------------------------|-------------------------------------------------------------|--------------------|
| 25. Signature<br>(Electronic Submission)           | Name (Printed/Typed)<br>LACEY GRANILLO / Ph: (713) 651-7000 | Date<br>09/22/2020 |
| Title<br>Contractor Regulatory Specialist          |                                                             |                    |
| Approved by (Signature)<br>(Electronic Submission) | Name (Printed/Typed)<br>RICHARD FIELDS / Ph: (505) 564-7612 | Date<br>01/08/2021 |
| Title<br>Field Manager                             |                                                             |                    |

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)



## WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                    |  |                                      |  |                                            |  |
|------------------------------------|--|--------------------------------------|--|--------------------------------------------|--|
| *API Number<br><b>30-043-21378</b> |  | *Pool Code<br><b>98350</b>           |  | *Pool Name<br>WILDCAT OIL WC 21N4W6;GALLUP |  |
| *Property Code<br><b>330005</b>    |  | *Property Name<br>STARLINER 23 FED   |  | *Well Number<br>609H                       |  |
| *GRID No.<br>7377                  |  | *Operator Name<br>EOG RESOURCES, INC |  | *Elevation<br>7201'                        |  |

## 10 Surface Location

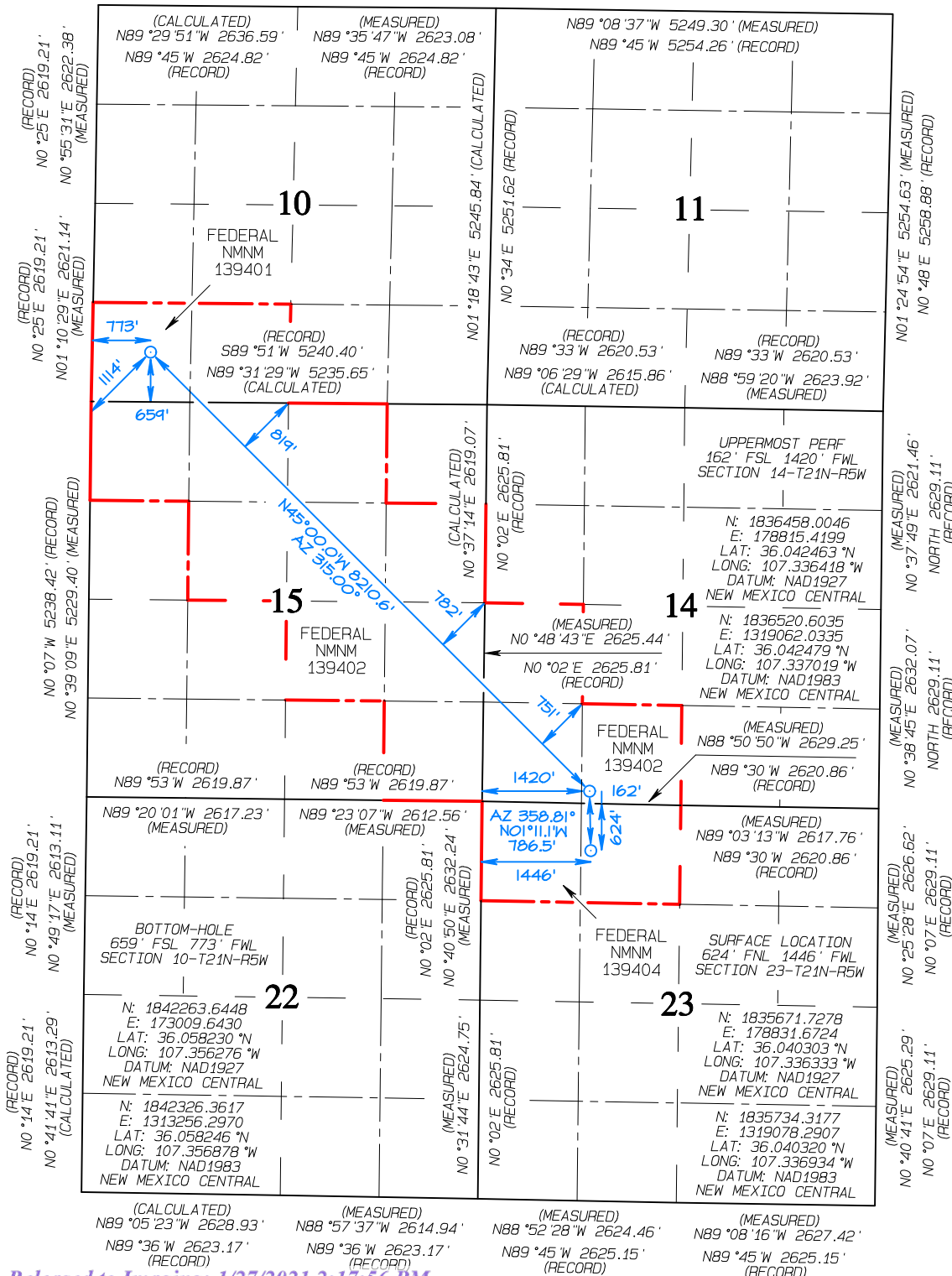
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| C             | 23      | 21N      | 5W    |         | 624           | NORTH            | 1446          | WEST           | SANDOVAL |

## 11 Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County   |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| M             | 10      | 21N      | 5W    |         | 659           | SOUTH            | 773           | WEST           | SANDOVAL |

|                              |                    |                       |              |
|------------------------------|--------------------|-----------------------|--------------|
| 12 Dedicated Acres<br>640.00 | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|------------------------------|--------------------|-----------------------|--------------|

16



Form C-102

Revised August 1, 2011

Submit one copy to  
Appropriate District Office☐ AMENDED REPORT

State of New Mexico  
Energy, Minerals & Natural  
Resources Department

OIL CONSERVATION  
DIVISION

1220 South  
St. Francis Drive  
Santa Fe, NM 87505

District I  
1625 N. French Drive  
Hobbs, NM 88240  
Phone: (575) 393-6161  
Fax: (575) 393-0720

District II  
811 S. First Street  
Artesia, NM 88210  
Phone: (575) 748-1283  
Fax: (575) 748-9720

District III  
1000 Rio Brazos Road  
Aztec, NM 87410  
Phone: (505) 334-6178  
Fax: (505) 334-6170

District IV  
1220 S. St. Francis Drive  
Santa Fe, NM 87505  
Phone: (505) 476-3460  
Fax: (505) 476-3462

NO ALLOWABLE WILL BE ASSIGNED  
TO THIS COMPLETION UNTIL ALL  
INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS  
BEEN APPROVED BY THE DIVISION

## 17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unless mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Lacey Granillo

9/21/20

Signature

Date

Lacey Granillo

Printed Name

lacey\_granillo@eogresources.com

E-mail Address

## 18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Revised: SEPTEMBER 16, 2020

Survey Date: FEBRUARY 18, 2020

Signature and Seal of Professional Surveyor



JASON C. EDWARDS

Certificate Number 15269

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit Original  
to Appropriate  
District Office

## GAS CAPTURE PLAN

Date: 9/18/20

☒ Original Operator & OGRID No.: EOG Resources, Inc. 7377

☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

### Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

| Well Name             | API     | Well Location (ULSTR) | Footages           | Expected MCF/D | Flared or Vented | Comments |
|-----------------------|---------|-----------------------|--------------------|----------------|------------------|----------|
| STARLINER 23 Fed 601H | PENDING | C-23-21N-5W           | 667 FNL & 1404 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 602H | PENDING | C-23-21N-5W           | 1019 FSL & 577 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 603H | PENDING | C-23-21N-5W           | 656 FNL & 1415 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 604H | PENDING | C-23-21N-5W           | 673 FNL & 1433 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 605H | PENDING | C-23-21N-5W           | 645 FNL & 1425 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 606H | PENDING | C-23-21N-5W           | 662 FNL & 1443 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 607H | PENDING | C-23-21N-5W           | 634 FNL & 1436 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 608H | PENDING | C-23-21N-5W           | 652 FNL & 1454 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 609H | PENDING | C-23-21N-5W           | 624 FNL & 1446 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 610H | PENDING | C-23-21N-5W           | 641 FNL & 1464 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 611H | PENDING | C-23-21N-5W           | 613 FNL & 1457 FWL | 2000           | Flared           |          |
| STARLINER 23 Fed 612H | PENDING | C-23-21N-5W           | 630 FNL & 1475 FSL | 2000           | Flared           |          |

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are completed. Harvest Midstream or Enterprise Products Partner and other local midstream providers are being evaluated for potential connections. It will require >30,000' of pipeline to connect the facility to a gas gathering system. The actual flow of the gas will be based on compression operating parameters and gathering system pressure.

### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues at that time. Based on current information, it is EOG Resources Inc. belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

**EOG RESOURCES, INC.  
STARLINER 23 FED NO. 609H**

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                                              |               |                                                  |             |                                       |                      |                           |                       |                                  |                    |
|--------------------------------------------------------------|---------------|--------------------------------------------------|-------------|---------------------------------------|----------------------|---------------------------|-----------------------|----------------------------------|--------------------|
| <sup>1</sup> API Number                                      |               | <sup>2</sup> Pool Code                           |             | <sup>3</sup> Pool Name<br>WILDCAT OIL |                      |                           |                       |                                  |                    |
| <sup>4</sup> Property Code                                   |               | <sup>5</sup> Property Name<br>STARLINER 23 FED   |             |                                       |                      |                           |                       | <sup>6</sup> Well Number<br>609H |                    |
| <sup>7</sup> OGRID No.<br>7377                               |               | <sup>8</sup> Operator Name<br>EOG RESOURCES, INC |             |                                       |                      |                           |                       | <sup>9</sup> Elevation<br>7201'  |                    |
| <sup>10</sup> Surface Location                               |               |                                                  |             |                                       |                      |                           |                       |                                  |                    |
| UL or lot no.<br>C                                           | Section<br>23 | Township<br>21N                                  | Range<br>5W | Lot Idn                               | Feet from the<br>624 | North/South line<br>NORTH | Feet from the<br>1446 | East/West line<br>WEST           | County<br>SANDOVAL |
| <sup>11</sup> Bottom Hole Location If Different From Surface |               |                                                  |             |                                       |                      |                           |                       |                                  |                    |
| UL or lot no.<br>M                                           | Section<br>10 | Township<br>21N                                  | Range<br>5W | Lot Idn                               | Feet from the<br>659 | North/South line<br>SOUTH | Feet from the<br>773  | East/West line<br>WEST           | County<br>SANDOVAL |

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

Nacimient

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

|                      | <b>MD</b> | <b>TVD</b> |
|----------------------|-----------|------------|
| Pictured Cliffs      | 1,501'    | 1,493'     |
| Huerfanito Bentonite | 1,796'    | 1,784'     |
| Mesaverde            | 2,211'    | 2,194'     |
| Menefee              | 2,998'    | 2,972'     |
| Point Lookout        | 3,823'    | 3,787'     |
| Mancos Shale         | 3,951'    | 3,914'     |
| Gallup               | 4,500'    | 4,459'     |
| Horizontal TD        | 13,511'   | 4,987'     |

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

|                 | <b>TVD</b> |         |
|-----------------|------------|---------|
| Pictured Cliffs | 1,493'     | Gas     |
| Mesaverde       | 1,784'     | Gas     |
| Menefee         | 2,194'     | Gas/Oil |
| Point Lookout   | 3,787'     | Oil     |
| Mancos Shale    | 3,914'     | Oil     |
| Gallup          | 4,459'     | 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 300' and circulating cement back to surface.

**EOG RESOURCES, INC.  
STARLINER 23 FED NO. 609H**

#### 4. CASING PROGRAM - NEW

##### Hole & Casing String:

| Hole Size | Interval (MD)    | Interval (TVD) | Csg OD  | Weight | Grade | Conn | DF <sub>min</sub> Collapse | DF <sub>min</sub> Burst | DF <sub>min</sub> Joint Tension | DF <sub>min</sub> Body Tension |
|-----------|------------------|----------------|---------|--------|-------|------|----------------------------|-------------------------|---------------------------------|--------------------------------|
| 17.5"     | 0'-300'          | 300'           | 13 3/8" | 48#    | H-40  | STC  | 1.125                      | 1.25                    | 1.60                            | 1.80                           |
| 12.25"    | 0' - 3,127'      | 3,100'         | 9 5/8"  | 36#    | J-55  | LTC  | 1.125                      | 1.25                    | 1.60                            | 1.80                           |
| 8.75"     | 0' - 5,300'      | 4,987'         | 5 1/2"  | 17#    | P-110 | BTC  | 1.125                      | 1.25                    | 1.60                            | 1.80                           |
| 8.5"      | 5,300' - 13,511' | 4,987'         | 5 1/2"  | 17#    | P-110 | BTC  | 1.125                      | 1.25                    | 1.60                            | 1.80                           |

##### Cementing Program:

Note: Cement volumes based on bit size plus at least 100% excess on surface, 100% excess in intermediate and 35% excess in production string.

##### Cement Design:

| Depth   | No. Sacks | Wt. lb/gal | Yld Ft <sup>3</sup> /sk | Volume Ft <sup>3</sup> | Slurry Description                                                                                                                                                                                                                     |
|---------|-----------|------------|-------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 300'    | 315       | 14.8       | 1.34                    | 422                    | Tail: Class 'C' + 2%PF1(Calcium Chloride) (100% excess)                                                                                                                                                                                |
| 3,127'  | 945       | 12.8       | 1.79                    | 1692                   | Lead: 35:65 Poz C + .02 gal/sk Anti Foam + 1% Extender + .13 lb/sk Lost Circulation (TOC @ Surface) (100% excess)                                                                                                                      |
|         | 200       | 14.8       | 1.33                    | 266                    | Tail: Class C + 0.13% Anti Foam                                                                                                                                                                                                        |
| 13,511' | 375       | 11.9       | 2.47                    | 926                    | Lead: Class 50/50 PozC + 5%PF44(BWOW)(Salt) + 10% PF20(Bentonite Gel) +.2%PF153(Anti Settling Agent( + 3#/sk OF42(Kolseal) + 0.125#/sk PF29 (celloflake) + 0.4#/sk PF45 (Defoamer) (TOC @ 500' into previous casing string) 35% Excess |
|         | 1720      | 13         | 1.48                    | 2545                   | Tail: Class PVL + 1.3% PF44(BWOW)(Salt) + 5% PF174 (Expanding Cement) + 0.5% PF606 (Fluid Loss) + 0.1% PF153 (Anti Settling Agent) + 0.4#/sk PF45 (Defoamer)                                                                           |

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

A variance is requested to use a co-flex line between the BOP and choke manifold, dependent on rig selection (instead of using a steel line).  
Certification and specs are attached at the end of the drilling plan.

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double rams with blind rams & pipe rams preventer (3,000 psi WP)

**EOG RESOURCES, INC.**  
**STARLINER 23 FED NO. 609H**

and an annular preventer (3,000-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.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3,000/ 250 psig and the annular preventer to 1,500/ 250 psig. The surface casing will be tested to 1200 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 surface 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.

| <b>Depth</b>                      | <b>Type</b> | <b>Weight (ppg)</b> | <b>Viscosity</b> | <b>Water Loss</b> | <b>Comments</b>                      |
|-----------------------------------|-------------|---------------------|------------------|-------------------|--------------------------------------|
| 0 – 300'                          | Fresh Water | 8.6-8.8             | 28-32            | N/c               |                                      |
| 300' – 3,127'<br>Vertical         | WBM         | 8.8-9.4             | 30-34            | N/c               |                                      |
| 3,127' – 13,511'<br>Curve/Lateral | WBM         | 8.8-9.4             | 30-34            | <10               | OBM<br>Requested as<br>a contingency |

The highest mud weight needed to balance formation is expected to be 9.4 ppg. In order to maintain hole stability, mud weights up to 9.4 ppg may be utilized.

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.



**EOG RESOURCES, INC.  
STARLINER 23 FED NO. 609H**

**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.

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

GR–Directional surveys will be run in open hole during drilling phase of operations.

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

The estimated bottom-hole temperature (BHT) at TD is 140 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 2438 psig (based on 9.4 ppg MW). Hydrogen sulfide has been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from spud to surface casing point.

**10. ANTICIPATED 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. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both “A” and “B” sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). 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.

**EOG RESOURCES, INC.  
STARLINER 23 FED NO. 609H**

**11. WELLHEAD:**

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 3/8" BOP/BOPE system with a minimum working pressure of 3,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 3,000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s).

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

**12. COMPLETION AND PRODUCTION PLAN:**

Frac: Lateral will be fracture stimulated with approximately 180,000 bbls slick water fluid.

Flowback: Well will be flowed back through production tubing. An ESP may be used to assist in load water recovery.

Production: Well will produce up production tubing into production and storage facilities.





## Midwest Hose & Specialty, Inc.

| <b>INTERNAL HYDROSTATIC TEST CERTIFICATE</b>                            |                                              |                                             |                                        |
|-------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------|----------------------------------------|
| <b>Customer:</b><br>GRAND JUNCTION                                      |                                              | <b>Customer P.O. Number:</b><br>178755      |                                        |
| <b>HOSE SPECIFICATIONS</b>                                              |                                              |                                             |                                        |
| <b>Type:</b> CHOKER HOSE<br>GRADE E / API 7K                            |                                              | <b>Hose Length:</b> 15 FEET                 |                                        |
| <b>I.D.</b> 4 INCHES                                                    |                                              | <b>O.D.</b> 6.11 INCHES                     |                                        |
| <b>WORKING PRESSURE</b><br>10,000 PSI                                   | <b>TEST PRESSURE</b><br>15,000 PSI           | <b>BURST PRESSURE</b><br>N/A PSI            |                                        |
| <b>COUPLINGS</b>                                                        |                                              |                                             |                                        |
| <b>Part Number</b><br>E4.0X64WB<br>E4.0X64WB                            | <b>Stem Lot Number</b><br>8099764<br>8099764 | <b>Ferrule Lot Number</b><br>N4406<br>N4406 |                                        |
| <b>Type of Coupling:</b><br>SWAGE-IT                                    |                                              | <b>Die Size:</b><br>6.62 INCHES             |                                        |
| <b>PROCEDURE</b>                                                        |                                              |                                             |                                        |
| <u>Hose assembly pressure tested with water at ambient temperature.</u> |                                              |                                             |                                        |
| <b>TIME HELD AT TEST PRESSURE</b><br>9 3/4 MIN.                         |                                              | <b>ACTUAL BURST PRESSURE:</b><br>N/A PSI    |                                        |
| <b>Hose Assembly Serial Number:</b><br>197000                           |                                              | <b>Hose Serial Number:</b><br>10088         |                                        |
| <b>Comments:</b>                                                        |                                              |                                             |                                        |
| <b>Date:</b><br>4/10/2013                                               | <b>Tested:</b><br><i>Belle Belek</i>         |                                             | <b>Approved:</b><br><i>John Miller</i> |

April 10, 2013

## Internal Hydrostatic Test Graph

Midwest Hose  
& Specialty, Inc.

Customer: Grand J

Pick Ticket #: 197000

Hose Specifications

Hose Type E  
I.D. 4"  
Working Pressure 10000 PSI

Length 15'  
O.D. 6.11"

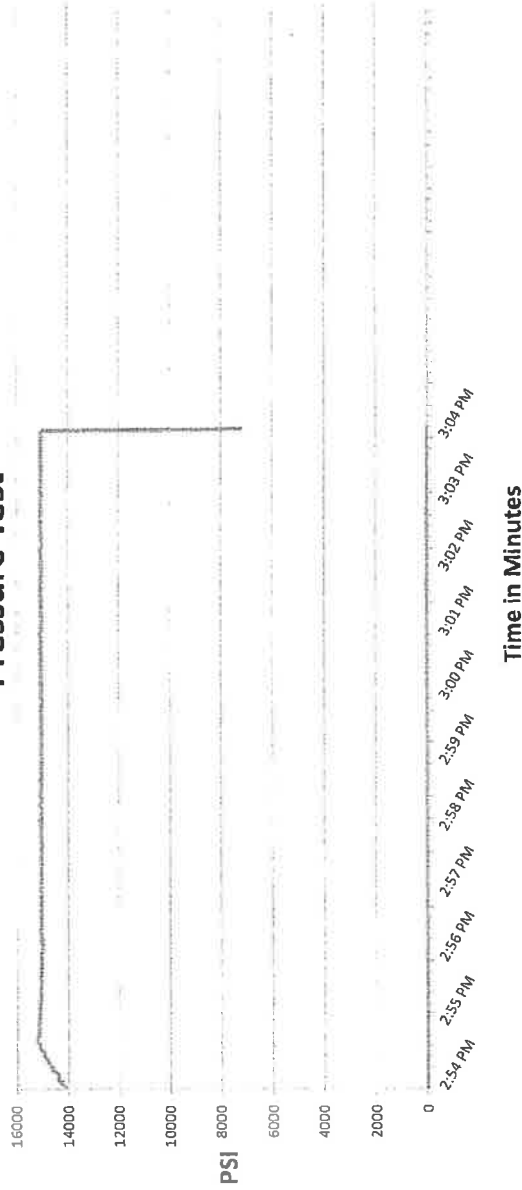
Verification

Type of Fitting 4 1/16 10K  
Die Size 6.62  
Hose Serial # 10088

Coupling Method Swage  
Final O.D. 6.65"  
Hose Assembly Serial # 197000

Standard Safety Multiplier Applies

## Pressure Test



Test Pressure  
15000 PSI

Time Held at Test Pressure  
9 3/4 Minutes

Actual Burst Pressure

Peak Pressure  
15263 PSI

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

**Tested By:** Billy Balak

**Approved By:** Joshua Dahlem

*[Signature: Billy Balak]*

*[Signature: Joshua Dahlem]*



## **EOG Resources - Artesia**

**Sandoval County (NAD83)**

**Starliner**

**Starliner 23 Fed #609H**

**Lateral**

**Plan: Plan #1**

## **Standard Planning Report**

**21 September, 2020**



## EOG Resources

## Planning Report

|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Sandoval County (NAD83)   |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Central Zone   |                      |                |

| Site                  | Starliner |           |                   |            |                   |       |
|-----------------------|-----------|-----------|-------------------|------------|-------------------|-------|
| Site Position:        |           | Northing: | 1,835,702.50 usft | Latitude:  | 36° 2' 24.833 N   |       |
| From:                 | Map       | Easting:  | 1,319,046.47 usft | Longitude: | 107° 20' 13.347 W |       |
| Position Uncertainty: |           | 0.0 usft  | Slot Radius:      | 13-3/16 "  | Grid Convergence: | -0.64 |

| Well                 | Starliner 23 Fed #609H |           |                     |                   |               |                   |
|----------------------|------------------------|-----------|---------------------|-------------------|---------------|-------------------|
| Well Position        | +N/-S                  | 31.8 usft | Northing:           | 1,835,734.32 usft | Latitude:     | 36° 2' 25.151 N   |
|                      | +E/-W                  | 31.8 usft | Easting:            | 1,319,078.29 usft | Longitude:    | 107° 20' 12.964 W |
| Position Uncertainty |                        | 0.0 usft  | Wellhead Elevation: |                   | Ground Level: | 7,201.0 usft      |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Lateral           |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | IGRF2020          | 8/25/2020          | 8.70                   | 62.69                | 49,333.08855629            |

|                          |                                |                     |                      |                      |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| <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) (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b>  | <b>Direction (°)</b> |
|                          | 0.0                            | 0.0                 | 0.0                  | 318.55               |

|                                 |                        |                            |                     |                |
|---------------------------------|------------------------|----------------------------|---------------------|----------------|
| <b>Plan Survey Tool Program</b> | <b>Date</b>            | 9/21/2020                  |                     |                |
| <b>Depth From (usft)</b>        | <b>Depth To (usft)</b> | <b>Survey (Wellbore)</b>   | <b>Tool Name</b>    | <b>Remarks</b> |
| 1                               | 0.0                    | 13,510.8 Plan #1 (Lateral) | MWD                 |                |
|                                 |                        |                            | OWSG MWD - Standard |                |

|                              |                        |                    |                              |                     |                     |                                |                               |                              |                |                 |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|-------------------------------|------------------------------|----------------|-----------------|
| <b>Plan Sections</b>         |                        |                    |                              |                     |                     |                                |                               |                              |                |                 |
| <b>Measured Depth (usft)</b> | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (usft)</b> | <b>+N/-S (usft)</b> | <b>+E/-W (usft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> | <b>TFO (°)</b> | <b>Target</b>   |
| 0.0                          | 0.00                   | 0.00               | 0.0                          | 0.0                 | 0.0                 | 0.00                           | 0.00                          | 0.00                         | 0.00           |                 |
| 500.0                        | 0.00                   | 0.00               | 500.0                        | 0.0                 | 0.0                 | 0.00                           | 0.00                          | 0.00                         | 0.00           |                 |
| 939.5                        | 8.79                   | 35.61              | 937.8                        | 27.4                | 19.6                | 2.00                           | 2.00                          | 0.00                         | 35.61          |                 |
| 4,110.7                      | 8.79                   | 35.61              | 4,071.7                      | 421.3               | 301.8               | 0.00                           | 0.00                          | 0.00                         | 0.00           |                 |
| 4,550.2                      | 0.00                   | 360.00             | 4,509.5                      | 448.6               | 321.4               | 2.00                           | -2.00                         | 0.00                         | 180.00         |                 |
| 5,300.2                      | 90.00                  | 315.00             | 4,987.0                      | 786.3               | -16.2               | 12.00                          | 12.00                         | -6.00                        | 315.00         |                 |
| 13,510.8                     | 90.00                  | 315.00             | 4,987.0                      | 6,592.0             | -5,822.0            | 0.00                           | 0.00                          | 0.00                         | 0.00           | [F23F#609H]PBHL |



## EOG Resources

## Planning Report

|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

| 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                  |
| <b>BEGIN 2*/100' NUDGE</b> |                 |             |                       |             |             |                         |                         |                        |                       |
| 600.0                      | 2.00            | 35.61       | 600.0                 | 1.4         | 1.0         | 0.4                     | 2.00                    | 2.00                   | 0.00                  |
| 700.0                      | 4.00            | 35.61       | 699.8                 | 5.7         | 4.1         | 1.6                     | 2.00                    | 2.00                   | 0.00                  |
| 800.0                      | 6.00            | 35.61       | 799.5                 | 12.8        | 9.1         | 3.5                     | 2.00                    | 2.00                   | 0.00                  |
| 900.0                      | 8.00            | 35.61       | 898.7                 | 22.7        | 16.2        | 6.2                     | 2.00                    | 2.00                   | 0.00                  |
| 939.5                      | 8.79            | 35.61       | 937.8                 | 27.4        | 19.6        | 7.5                     | 2.00                    | 2.00                   | 0.00                  |
| 1,000.0                    | 8.79            | 35.61       | 997.6                 | 34.9        | 25.0        | 9.6                     | 0.00                    | 0.00                   | 0.00                  |
| 1,100.0                    | 8.79            | 35.61       | 1,096.4               | 47.3        | 33.9        | 13.0                    | 0.00                    | 0.00                   | 0.00                  |
| 1,200.0                    | 8.79            | 35.61       | 1,195.2               | 59.7        | 42.8        | 16.4                    | 0.00                    | 0.00                   | 0.00                  |
| 1,300.0                    | 8.79            | 35.61       | 1,294.0               | 72.1        | 51.7        | 19.9                    | 0.00                    | 0.00                   | 0.00                  |
| 1,400.0                    | 8.79            | 35.61       | 1,392.9               | 84.6        | 60.6        | 23.3                    | 0.00                    | 0.00                   | 0.00                  |
| 1,500.0                    | 8.79            | 35.61       | 1,491.7               | 97.0        | 69.5        | 26.7                    | 0.00                    | 0.00                   | 0.00                  |
| 1,501.3                    | 8.79            | 35.61       | 1,493.0               | 97.1        | 69.6        | 26.7                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Pictured Cliffs</b>     |                 |             |                       |             |             |                         |                         |                        |                       |
| 1,600.0                    | 8.79            | 35.61       | 1,590.5               | 109.4       | 78.4        | 30.1                    | 0.00                    | 0.00                   | 0.00                  |
| 1,700.0                    | 8.79            | 35.61       | 1,689.3               | 121.8       | 87.3        | 33.5                    | 0.00                    | 0.00                   | 0.00                  |
| 1,795.8                    | 8.79            | 35.61       | 1,784.0               | 133.7       | 95.8        | 36.8                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Huerfano Bentonite</b>  |                 |             |                       |             |             |                         |                         |                        |                       |
| 1,800.0                    | 8.79            | 35.61       | 1,788.2               | 134.2       | 96.2        | 37.0                    | 0.00                    | 0.00                   | 0.00                  |
| 1,900.0                    | 8.79            | 35.61       | 1,887.0               | 146.7       | 105.1       | 40.4                    | 0.00                    | 0.00                   | 0.00                  |
| 2,000.0                    | 8.79            | 35.61       | 1,985.8               | 159.1       | 114.0       | 43.8                    | 0.00                    | 0.00                   | 0.00                  |
| 2,100.0                    | 8.79            | 35.61       | 2,084.6               | 171.5       | 122.9       | 47.2                    | 0.00                    | 0.00                   | 0.00                  |
| 2,200.0                    | 8.79            | 35.61       | 2,183.5               | 183.9       | 131.8       | 50.6                    | 0.00                    | 0.00                   | 0.00                  |
| 2,210.7                    | 8.79            | 35.61       | 2,194.0               | 185.3       | 132.7       | 51.0                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Mesaverde</b>           |                 |             |                       |             |             |                         |                         |                        |                       |
| 2,300.0                    | 8.79            | 35.61       | 2,282.3               | 196.4       | 140.7       | 54.1                    | 0.00                    | 0.00                   | 0.00                  |
| 2,400.0                    | 8.79            | 35.61       | 2,381.1               | 208.8       | 149.6       | 57.5                    | 0.00                    | 0.00                   | 0.00                  |
| 2,500.0                    | 8.79            | 35.61       | 2,480.0               | 221.2       | 158.5       | 60.9                    | 0.00                    | 0.00                   | 0.00                  |
| 2,600.0                    | 8.79            | 35.61       | 2,578.8               | 233.6       | 167.4       | 64.3                    | 0.00                    | 0.00                   | 0.00                  |
| 2,700.0                    | 8.79            | 35.61       | 2,677.6               | 246.1       | 176.2       | 67.8                    | 0.00                    | 0.00                   | 0.00                  |
| 2,800.0                    | 8.79            | 35.61       | 2,776.4               | 258.5       | 185.1       | 71.2                    | 0.00                    | 0.00                   | 0.00                  |
| 2,900.0                    | 8.79            | 35.61       | 2,875.3               | 270.9       | 194.0       | 74.6                    | 0.00                    | 0.00                   | 0.00                  |
| 2,997.9                    | 8.79            | 35.61       | 2,972.0               | 283.1       | 202.8       | 77.9                    | 0.00                    | 0.00                   | 0.00                  |
| <b>Menefee</b>             |                 |             |                       |             |             |                         |                         |                        |                       |
| 3,000.0                    | 8.79            | 35.61       | 2,974.1               | 283.3       | 202.9       | 78.0                    | 0.00                    | 0.00                   | 0.00                  |
| 3,100.0                    | 8.79            | 35.61       | 3,072.9               | 295.7       | 211.8       | 81.4                    | 0.00                    | 0.00                   | 0.00                  |
| 3,200.0                    | 8.79            | 35.61       | 3,171.7               | 308.2       | 220.7       | 84.9                    | 0.00                    | 0.00                   | 0.00                  |
| 3,300.0                    | 8.79            | 35.61       | 3,270.6               | 320.6       | 229.6       | 88.3                    | 0.00                    | 0.00                   | 0.00                  |
| 3,400.0                    | 8.79            | 35.61       | 3,369.4               | 333.0       | 238.5       | 91.7                    | 0.00                    | 0.00                   | 0.00                  |
| 3,500.0                    | 8.79            | 35.61       | 3,468.2               | 345.4       | 247.4       | 95.1                    | 0.00                    | 0.00                   | 0.00                  |
| 3,600.0                    | 8.79            | 35.61       | 3,567.0               | 357.9       | 256.3       | 98.5                    | 0.00                    | 0.00                   | 0.00                  |
| 3,700.0                    | 8.79            | 35.61       | 3,665.9               | 370.3       | 265.2       | 102.0                   | 0.00                    | 0.00                   | 0.00                  |
| 3,800.0                    | 8.79            | 35.61       | 3,764.7               | 382.7       | 274.1       | 105.4                   | 0.00                    | 0.00                   | 0.00                  |
| 3,822.6                    | 8.79            | 35.61       | 3,787.0               | 385.5       | 276.1       | 106.2                   | 0.00                    | 0.00                   | 0.00                  |
| <b>Point Lookout</b>       |                 |             |                       |             |             |                         |                         |                        |                       |
| 3,900.0                    | 8.79            | 35.61       | 3,863.5               | 395.1       | 283.0       | 108.8                   | 0.00                    | 0.00                   | 0.00                  |
| 3,951.1                    | 8.79            | 35.61       | 3,914.0               | 401.5       | 287.6       | 110.5                   | 0.00                    | 0.00                   | 0.00                  |

## EOG Resources

## Planning Report



|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

| 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) |
| <b>Mancos</b>                              |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,000.0                                    | 8.79            | 35.61       | 3,962.3               | 407.5        | 291.9        | 112.2                   | 0.00                    | 0.00                   | 0.00                  |
| 4,100.0                                    | 8.79            | 35.61       | 4,061.2               | 420.0        | 300.8        | 115.6                   | 0.00                    | 0.00                   | 0.00                  |
| 4,110.7                                    | 8.79            | 35.61       | 4,071.7               | 421.3        | 301.8        | 116.0                   | 0.00                    | 0.00                   | 0.00                  |
| 4,200.0                                    | 7.00            | 35.61       | 4,160.2               | 431.3        | 308.9        | 118.8                   | 2.00                    | -2.00                  | 0.00                  |
| 4,300.0                                    | 5.00            | 35.61       | 4,259.6               | 439.8        | 315.0        | 121.1                   | 2.00                    | -2.00                  | 0.00                  |
| 4,400.0                                    | 3.00            | 35.61       | 4,359.4               | 445.5        | 319.1        | 122.7                   | 2.00                    | -2.00                  | 0.00                  |
| 4,499.7                                    | 1.01            | 35.61       | 4,459.0               | 448.3        | 321.1        | 123.4                   | 2.00                    | -2.00                  | 0.00                  |
| <b>Gallup</b>                              |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,500.0                                    | 1.00            | 35.61       | 4,459.3               | 448.3        | 321.1        | 123.4                   | 2.00                    | -2.00                  | 0.00                  |
| 4,550.2                                    | 0.00            | 360.00      | 4,509.5               | 448.6        | 321.4        | 123.5                   | 2.00                    | -2.00                  | 0.00                  |
| <b>KOP 12°/100'</b>                        |                 |             |                       |              |              |                         |                         |                        |                       |
| 4,575.0                                    | 2.98            | 315.00      | 4,534.3               | 449.1        | 320.9        | 124.2                   | 12.01                   | 12.01                  | 0.00                  |
| 4,600.0                                    | 5.98            | 315.00      | 4,559.2               | 450.5        | 319.5        | 126.1                   | 12.00                   | 12.00                  | 0.00                  |
| 4,625.0                                    | 8.98            | 315.00      | 4,584.0               | 452.8        | 317.2        | 129.4                   | 12.00                   | 12.00                  | 0.00                  |
| 4,650.0                                    | 11.98           | 315.00      | 4,608.6               | 456.0        | 314.0        | 133.9                   | 12.00                   | 12.00                  | 0.00                  |
| 4,675.0                                    | 14.98           | 315.00      | 4,632.9               | 460.1        | 309.9        | 139.7                   | 12.00                   | 12.00                  | 0.00                  |
| 4,700.0                                    | 17.98           | 315.00      | 4,656.9               | 465.1        | 304.9        | 146.8                   | 12.00                   | 12.00                  | 0.00                  |
| 4,725.0                                    | 20.98           | 315.00      | 4,680.4               | 471.0        | 299.0        | 155.1                   | 12.00                   | 12.00                  | 0.00                  |
| 4,750.0                                    | 23.98           | 315.00      | 4,703.5               | 477.8        | 292.2        | 164.7                   | 12.00                   | 12.00                  | 0.00                  |
| 4,775.0                                    | 26.98           | 315.00      | 4,726.1               | 485.4        | 284.6        | 175.4                   | 12.00                   | 12.00                  | 0.00                  |
| 4,800.0                                    | 29.98           | 315.00      | 4,748.1               | 493.8        | 276.2        | 187.3                   | 12.00                   | 12.00                  | 0.00                  |
| 4,825.0                                    | 32.98           | 315.00      | 4,769.4               | 503.0        | 267.0        | 200.3                   | 12.00                   | 12.00                  | 0.00                  |
| 4,850.0                                    | 35.98           | 315.00      | 4,790.0               | 513.1        | 257.0        | 214.4                   | 12.00                   | 12.00                  | 0.00                  |
| 4,875.0                                    | 38.98           | 315.00      | 4,809.8               | 523.8        | 246.2        | 229.6                   | 12.00                   | 12.00                  | 0.00                  |
| 4,900.0                                    | 41.98           | 315.00      | 4,828.8               | 535.3        | 234.7        | 245.8                   | 12.00                   | 12.00                  | 0.00                  |
| 4,925.0                                    | 44.98           | 315.00      | 4,847.0               | 547.4        | 222.6        | 263.0                   | 12.00                   | 12.00                  | 0.00                  |
| 4,950.0                                    | 47.98           | 315.00      | 4,864.2               | 560.3        | 209.8        | 281.1                   | 12.00                   | 12.00                  | 0.00                  |
| 4,975.0                                    | 50.98           | 315.00      | 4,880.4               | 573.7        | 196.3        | 300.0                   | 12.00                   | 12.00                  | 0.00                  |
| 5,000.0                                    | 53.98           | 315.00      | 4,895.7               | 587.7        | 182.3        | 319.8                   | 12.00                   | 12.00                  | 0.00                  |
| 5,025.0                                    | 56.98           | 315.00      | 4,909.8               | 602.3        | 167.7        | 340.4                   | 12.00                   | 12.00                  | 0.00                  |
| 5,050.0                                    | 59.98           | 315.00      | 4,922.9               | 617.3        | 152.7        | 361.7                   | 12.00                   | 12.00                  | 0.00                  |
| 5,075.0                                    | 62.98           | 315.00      | 4,934.8               | 632.9        | 137.1        | 383.6                   | 12.00                   | 12.00                  | 0.00                  |
| 5,100.0                                    | 65.98           | 315.00      | 4,945.6               | 648.8        | 121.2        | 406.1                   | 12.00                   | 12.00                  | 0.00                  |
| 5,125.0                                    | 68.98           | 315.00      | 4,955.2               | 665.2        | 104.9        | 429.1                   | 12.00                   | 12.00                  | 0.00                  |
| 5,150.0                                    | 71.98           | 315.00      | 4,963.5               | 681.8        | 88.2         | 452.6                   | 12.00                   | 12.00                  | 0.00                  |
| 5,175.0                                    | 74.98           | 315.00      | 4,970.6               | 698.8        | 71.3         | 476.6                   | 12.00                   | 12.00                  | 0.00                  |
| 5,200.0                                    | 77.98           | 315.00      | 4,976.5               | 715.9        | 54.1         | 500.8                   | 12.00                   | 12.00                  | 0.00                  |
| 5,225.0                                    | 80.98           | 315.00      | 4,981.1               | 733.3        | 36.7         | 525.4                   | 12.00                   | 12.00                  | 0.00                  |
| 5,250.0                                    | 83.98           | 315.00      | 4,984.3               | 750.8        | 19.2         | 550.1                   | 12.00                   | 12.00                  | 0.00                  |
| 5,275.0                                    | 86.98           | 315.00      | 4,986.3               | 768.5        | 1.6          | 575.0                   | 12.00                   | 12.00                  | 0.00                  |
| 5,300.2                                    | 90.00           | 315.00      | 4,987.0               | 786.3        | -16.3        | 600.1                   | 11.99                   | 11.99                  | 0.00                  |
| <b>[S23F#609H]EOC 5300' MD (4987' TVD)</b> |                 |             |                       |              |              |                         |                         |                        |                       |
| 5,400.0                                    | 90.00           | 315.00      | 4,987.0               | 856.8        | -86.8        | 699.7                   | 0.00                    | 0.00                   | 0.00                  |
| 5,500.0                                    | 90.00           | 315.00      | 4,987.0               | 927.6        | -157.5       | 799.5                   | 0.00                    | 0.00                   | 0.00                  |
| 5,600.0                                    | 90.00           | 315.00      | 4,987.0               | 998.3        | -228.2       | 899.3                   | 0.00                    | 0.00                   | 0.00                  |
| 5,700.0                                    | 90.00           | 315.00      | 4,987.0               | 1,069.0      | -299.0       | 999.1                   | 0.00                    | 0.00                   | 0.00                  |
| 5,800.0                                    | 90.00           | 315.00      | 4,987.0               | 1,139.7      | -369.7       | 1,098.9                 | 0.00                    | 0.00                   | 0.00                  |
| 5,900.0                                    | 90.00           | 315.00      | 4,987.0               | 1,210.4      | -440.4       | 1,198.7                 | 0.00                    | 0.00                   | 0.00                  |
| 6,000.0                                    | 90.00           | 315.00      | 4,987.0               | 1,281.1      | -511.1       | 1,298.6                 | 0.00                    | 0.00                   | 0.00                  |
| 6,100.0                                    | 90.00           | 315.00      | 4,987.0               | 1,351.8      | -581.8       | 1,398.4                 | 0.00                    | 0.00                   | 0.00                  |
| 6,200.0                                    | 90.00           | 315.00      | 4,987.0               | 1,422.5      | -652.5       | 1,498.2                 | 0.00                    | 0.00                   | 0.00                  |
| 6,300.0                                    | 90.00           | 315.00      | 4,987.0               | 1,493.2      | -723.2       | 1,598.0                 | 0.00                    | 0.00                   | 0.00                  |





## EOG Resources

## Planning Report

|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

| 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) |
| 6,400.0               | 90.00           | 315.00      | 4,987.0               | 1,564.0      | -793.9       | 1,697.8                 | 0.00                    | 0.00                   | 0.00                  |
| 6,500.0               | 90.00           | 315.00      | 4,987.0               | 1,634.7      | -864.6       | 1,797.6                 | 0.00                    | 0.00                   | 0.00                  |
| 6,600.0               | 90.00           | 315.00      | 4,987.0               | 1,705.4      | -935.4       | 1,897.4                 | 0.00                    | 0.00                   | 0.00                  |
| 6,700.0               | 90.00           | 315.00      | 4,987.0               | 1,776.1      | -1,006.1     | 1,997.2                 | 0.00                    | 0.00                   | 0.00                  |
| 6,800.0               | 90.00           | 315.00      | 4,987.0               | 1,846.8      | -1,076.8     | 2,097.0                 | 0.00                    | 0.00                   | 0.00                  |
| 6,900.0               | 90.00           | 315.00      | 4,987.0               | 1,917.5      | -1,147.5     | 2,196.8                 | 0.00                    | 0.00                   | 0.00                  |
| 7,000.0               | 90.00           | 315.00      | 4,987.0               | 1,988.2      | -1,218.2     | 2,296.6                 | 0.00                    | 0.00                   | 0.00                  |
| 7,100.0               | 90.00           | 315.00      | 4,987.0               | 2,058.9      | -1,288.9     | 2,396.4                 | 0.00                    | 0.00                   | 0.00                  |
| 7,200.0               | 90.00           | 315.00      | 4,987.0               | 2,129.6      | -1,359.6     | 2,496.3                 | 0.00                    | 0.00                   | 0.00                  |
| 7,300.0               | 90.00           | 315.00      | 4,987.0               | 2,200.4      | -1,430.3     | 2,596.1                 | 0.00                    | 0.00                   | 0.00                  |
| 7,400.0               | 90.00           | 315.00      | 4,987.0               | 2,271.1      | -1,501.0     | 2,695.9                 | 0.00                    | 0.00                   | 0.00                  |
| 7,500.0               | 90.00           | 315.00      | 4,987.0               | 2,341.8      | -1,571.7     | 2,795.7                 | 0.00                    | 0.00                   | 0.00                  |
| 7,600.0               | 90.00           | 315.00      | 4,987.0               | 2,412.5      | -1,642.5     | 2,895.5                 | 0.00                    | 0.00                   | 0.00                  |
| 7,700.0               | 90.00           | 315.00      | 4,987.0               | 2,483.2      | -1,713.2     | 2,995.3                 | 0.00                    | 0.00                   | 0.00                  |
| 7,800.0               | 90.00           | 315.00      | 4,987.0               | 2,553.9      | -1,783.9     | 3,095.1                 | 0.00                    | 0.00                   | 0.00                  |
| 7,900.0               | 90.00           | 315.00      | 4,987.0               | 2,624.6      | -1,854.6     | 3,194.9                 | 0.00                    | 0.00                   | 0.00                  |
| 8,000.0               | 90.00           | 315.00      | 4,987.0               | 2,695.3      | -1,925.3     | 3,294.7                 | 0.00                    | 0.00                   | 0.00                  |
| 8,100.0               | 90.00           | 315.00      | 4,987.0               | 2,766.0      | -1,996.0     | 3,394.5                 | 0.00                    | 0.00                   | 0.00                  |
| 8,200.0               | 90.00           | 315.00      | 4,987.0               | 2,836.8      | -2,066.7     | 3,494.3                 | 0.00                    | 0.00                   | 0.00                  |
| 8,300.0               | 90.00           | 315.00      | 4,987.0               | 2,907.5      | -2,137.4     | 3,594.1                 | 0.00                    | 0.00                   | 0.00                  |
| 8,400.0               | 90.00           | 315.00      | 4,987.0               | 2,978.2      | -2,208.1     | 3,694.0                 | 0.00                    | 0.00                   | 0.00                  |
| 8,500.0               | 90.00           | 315.00      | 4,987.0               | 3,048.9      | -2,278.9     | 3,793.8                 | 0.00                    | 0.00                   | 0.00                  |
| 8,600.0               | 90.00           | 315.00      | 4,987.0               | 3,119.6      | -2,349.6     | 3,893.6                 | 0.00                    | 0.00                   | 0.00                  |
| 8,700.0               | 90.00           | 315.00      | 4,987.0               | 3,190.3      | -2,420.3     | 3,993.4                 | 0.00                    | 0.00                   | 0.00                  |
| 8,800.0               | 90.00           | 315.00      | 4,987.0               | 3,261.0      | -2,491.0     | 4,093.2                 | 0.00                    | 0.00                   | 0.00                  |
| 8,900.0               | 90.00           | 315.00      | 4,987.0               | 3,331.7      | -2,561.7     | 4,193.0                 | 0.00                    | 0.00                   | 0.00                  |
| 9,000.0               | 90.00           | 315.00      | 4,987.0               | 3,402.4      | -2,632.4     | 4,292.8                 | 0.00                    | 0.00                   | 0.00                  |
| 9,100.0               | 90.00           | 315.00      | 4,987.0               | 3,473.1      | -2,703.1     | 4,392.6                 | 0.00                    | 0.00                   | 0.00                  |
| 9,200.0               | 90.00           | 315.00      | 4,987.0               | 3,543.9      | -2,773.8     | 4,492.4                 | 0.00                    | 0.00                   | 0.00                  |
| 9,300.0               | 90.00           | 315.00      | 4,987.0               | 3,614.6      | -2,844.5     | 4,592.2                 | 0.00                    | 0.00                   | 0.00                  |
| 9,400.0               | 90.00           | 315.00      | 4,987.0               | 3,685.3      | -2,915.2     | 4,692.0                 | 0.00                    | 0.00                   | 0.00                  |
| 9,500.0               | 90.00           | 315.00      | 4,987.0               | 3,756.0      | -2,986.0     | 4,791.8                 | 0.00                    | 0.00                   | 0.00                  |
| 9,600.0               | 90.00           | 315.00      | 4,987.0               | 3,826.7      | -3,056.7     | 4,891.7                 | 0.00                    | 0.00                   | 0.00                  |
| 9,700.0               | 90.00           | 315.00      | 4,987.0               | 3,897.4      | -3,127.4     | 4,991.5                 | 0.00                    | 0.00                   | 0.00                  |
| 9,800.0               | 90.00           | 315.00      | 4,987.0               | 3,968.1      | -3,198.1     | 5,091.3                 | 0.00                    | 0.00                   | 0.00                  |
| 9,900.0               | 90.00           | 315.00      | 4,987.0               | 4,038.8      | -3,268.8     | 5,191.1                 | 0.00                    | 0.00                   | 0.00                  |
| 10,000.0              | 90.00           | 315.00      | 4,987.0               | 4,109.5      | -3,339.5     | 5,290.9                 | 0.00                    | 0.00                   | 0.00                  |
| 10,100.0              | 90.00           | 315.00      | 4,987.0               | 4,180.3      | -3,410.2     | 5,390.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,200.0              | 90.00           | 315.00      | 4,987.0               | 4,251.0      | -3,480.9     | 5,490.5                 | 0.00                    | 0.00                   | 0.00                  |
| 10,300.0              | 90.00           | 315.00      | 4,987.0               | 4,321.7      | -3,551.6     | 5,590.3                 | 0.00                    | 0.00                   | 0.00                  |
| 10,400.0              | 90.00           | 315.00      | 4,987.0               | 4,392.4      | -3,622.4     | 5,690.1                 | 0.00                    | 0.00                   | 0.00                  |
| 10,500.0              | 90.00           | 315.00      | 4,987.0               | 4,463.1      | -3,693.1     | 5,789.9                 | 0.00                    | 0.00                   | 0.00                  |
| 10,600.0              | 90.00           | 315.00      | 4,987.0               | 4,533.8      | -3,763.8     | 5,889.7                 | 0.00                    | 0.00                   | 0.00                  |
| 10,700.0              | 90.00           | 315.00      | 4,987.0               | 4,604.5      | -3,834.5     | 5,989.5                 | 0.00                    | 0.00                   | 0.00                  |
| 10,800.0              | 90.00           | 315.00      | 4,987.0               | 4,675.2      | -3,905.2     | 6,089.4                 | 0.00                    | 0.00                   | 0.00                  |
| 10,900.0              | 90.00           | 315.00      | 4,987.0               | 4,745.9      | -3,975.9     | 6,189.2                 | 0.00                    | 0.00                   | 0.00                  |
| 11,000.0              | 90.00           | 315.00      | 4,987.0               | 4,816.7      | -4,046.6     | 6,289.0                 | 0.00                    | 0.00                   | 0.00                  |
| 11,100.0              | 90.00           | 315.00      | 4,987.0               | 4,887.4      | -4,117.3     | 6,388.8                 | 0.00                    | 0.00                   | 0.00                  |
| 11,200.0              | 90.00           | 315.00      | 4,987.0               | 4,958.1      | -4,188.0     | 6,488.6                 | 0.00                    | 0.00                   | 0.00                  |
| 11,300.0              | 90.00           | 315.00      | 4,987.0               | 5,028.8      | -4,258.7     | 6,588.4                 | 0.00                    | 0.00                   | 0.00                  |
| 11,400.0              | 90.00           | 315.00      | 4,987.0               | 5,099.5      | -4,329.5     | 6,688.2                 | 0.00                    | 0.00                   | 0.00                  |
| 11,500.0              | 90.00           | 315.00      | 4,987.0               | 5,170.2      | -4,400.2     | 6,788.0                 | 0.00                    | 0.00                   | 0.00                  |
| 11,600.0              | 90.00           | 315.00      | 4,987.0               | 5,240.9      | -4,470.9     | 6,887.8                 | 0.00                    | 0.00                   | 0.00                  |
| 11,700.0              | 90.00           | 315.00      | 4,987.0               | 5,311.6      | -4,541.6     | 6,987.6                 | 0.00                    | 0.00                   | 0.00                  |



## EOG Resources

## Planning Report

|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

| 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) |  |
| 11,800.0                             | 90.00           | 315.00      | 4,987.0               | 5,382.3      | -4,612.3     | 7,087.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 11,900.0                             | 90.00           | 315.00      | 4,987.0               | 5,453.1      | -4,683.0     | 7,187.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,000.0                             | 90.00           | 315.00      | 4,987.0               | 5,523.8      | -4,753.7     | 7,287.0                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,100.0                             | 90.00           | 315.00      | 4,987.0               | 5,594.5      | -4,824.4     | 7,386.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,200.0                             | 90.00           | 315.00      | 4,987.0               | 5,665.2      | -4,895.1     | 7,486.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,300.0                             | 90.00           | 315.00      | 4,987.0               | 5,735.9      | -4,965.9     | 7,586.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,400.0                             | 90.00           | 315.00      | 4,987.0               | 5,806.6      | -5,036.6     | 7,686.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,500.0                             | 90.00           | 315.00      | 4,987.0               | 5,877.3      | -5,107.3     | 7,786.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,600.0                             | 90.00           | 315.00      | 4,987.0               | 5,948.0      | -5,178.0     | 7,885.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,700.0                             | 90.00           | 315.00      | 4,987.0               | 6,018.7      | -5,248.7     | 7,985.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,800.0                             | 90.00           | 315.00      | 4,987.0               | 6,089.5      | -5,319.4     | 8,085.5                 | 0.00                    | 0.00                   | 0.00                  |  |
| 12,900.0                             | 90.00           | 315.00      | 4,987.0               | 6,160.2      | -5,390.1     | 8,185.3                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,000.0                             | 90.00           | 315.00      | 4,987.0               | 6,230.9      | -5,460.8     | 8,285.1                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,100.0                             | 90.00           | 315.00      | 4,987.0               | 6,301.6      | -5,531.5     | 8,384.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,200.0                             | 90.00           | 315.00      | 4,987.0               | 6,372.3      | -5,602.2     | 8,484.7                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,300.0                             | 90.00           | 315.00      | 4,987.0               | 6,443.0      | -5,673.0     | 8,584.6                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,400.0                             | 90.00           | 315.00      | 4,987.0               | 6,513.7      | -5,743.7     | 8,684.4                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,500.0                             | 90.00           | 315.00      | 4,987.0               | 6,584.4      | -5,814.4     | 8,784.2                 | 0.00                    | 0.00                   | 0.00                  |  |
| 13,510.8                             | 90.00           | 315.00      | 4,987.0               | 6,592.0      | -5,822.0     | 8,794.9                 | 0.00                    | 0.00                   | 0.00                  |  |
| [S23F#609H]EOL 13511" MD (4987' TVD) |                 |             |                       |              |              |                         |                         |                        |                       |  |

| 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                   |               |              |            |              |              |                 |                |                 |                   |  |
| [F23F#609H]FTP            | 0.00          | 360.00       | 4,987.0    | 786.3        | -16.3        | 1,836,520.60    | 1,319,062.03   | 36° 2' 32.924 N | 107° 20' 13.269 W |  |
| - plan hits target center |               |              |            |              |              |                 |                |                 |                   |  |
| - Point                   |               |              |            |              |              |                 |                |                 |                   |  |
| [F23F#609H]PBHL           | 0.00          | 0.00         | 4,987.0    | 6,592.0      | -5,822.0     | 1,842,326.36    | 1,313,256.30   | 36° 3' 29.686 N | 107° 21' 24.760 W |  |
| - plan hits target center |               |              |            |              |              |                 |                |                 |                   |  |
| - Point                   |               |              |            |              |              |                 |                |                 |                   |  |

| Formations            |                       |                    |           |         |                   |  |
|-----------------------|-----------------------|--------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name               | Lithology | Dip (°) | Dip Direction (°) |  |
| 1,501.3               | 1,493.0               | Pictured Cliffs    |           |         |                   |  |
| 1,795.8               | 1,784.0               | Huerfano Bentonite |           |         |                   |  |
| 2,210.7               | 2,194.0               | Mesaverde          |           |         |                   |  |
| 2,997.9               | 2,972.0               | Menefee            |           |         |                   |  |
| 3,822.6               | 3,787.0               | Point Lookout      |           |         |                   |  |
| 3,951.1               | 3,914.0               | Mancos             |           |         |                   |  |
| 4,499.7               | 4,459.0               | Gallup             |           |         |                   |  |

## EOG Resources

## Planning Report



|                  |                         |                                     |                                |
|------------------|-------------------------|-------------------------------------|--------------------------------|
| <b>Database:</b> | EDM                     | <b>Local Co-ordinate Reference:</b> | Well Starliner 23 Fed #609H    |
| <b>Company:</b>  | EOG Resources - Artesia | <b>TVD Reference:</b>               | KB @ 7219.0usft (Planning Rig) |
| <b>Project:</b>  | Sandoval County (NAD83) | <b>MD Reference:</b>                | KB @ 7219.0usft (Planning Rig) |
| <b>Site:</b>     | Starliner               | <b>North Reference:</b>             | Grid                           |
| <b>Well:</b>     | Starliner 23 Fed #609H  | <b>Survey Calculation Method:</b>   | Minimum Curvature              |
| <b>Wellbore:</b> | Lateral                 |                                     |                                |
| <b>Design:</b>   | Plan #1                 |                                     |                                |

| Plan Annotations            |                             |                   |                 |                                      |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------------------|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                              |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                                      |
| 500.0                       | 500.0                       | 0.0               | 0.0             | BEGIN 2*/100' NUDGE                  |
| 4,550.2                     | 4,509.5                     | 27.4              | 19.6            | KOP 12*/100'                         |
| 5,300.2                     | 4,987.0                     | 421.3             | 301.8           | [S23F#609H]EOC 5300' MD (4987' TVD)  |
| 13,510.8                    | 4,987.0                     | 448.6             | 321.4           | [S23F#609H]EOL 13511" MD (4987' TVD) |



DESIGN TARGET DETAILS

|                           |        |        |         |            |            |
|---------------------------|--------|--------|---------|------------|------------|
| Name                      | TVD    | +N/-S  | +E/-W   | Northing   | Easting    |
| [F23F#609H]FTP            | 4987.0 | 786.3  | -16.3   | 1836520.60 | 1319062.03 |
| - plan hits target center |        |        |         |            |            |
| [F23F#609H]PBHL           | 4987.0 | 6592.0 | -5822.0 | 1842326.36 | 1313256.30 |
| - plan hits target center |        |        |         |            |            |



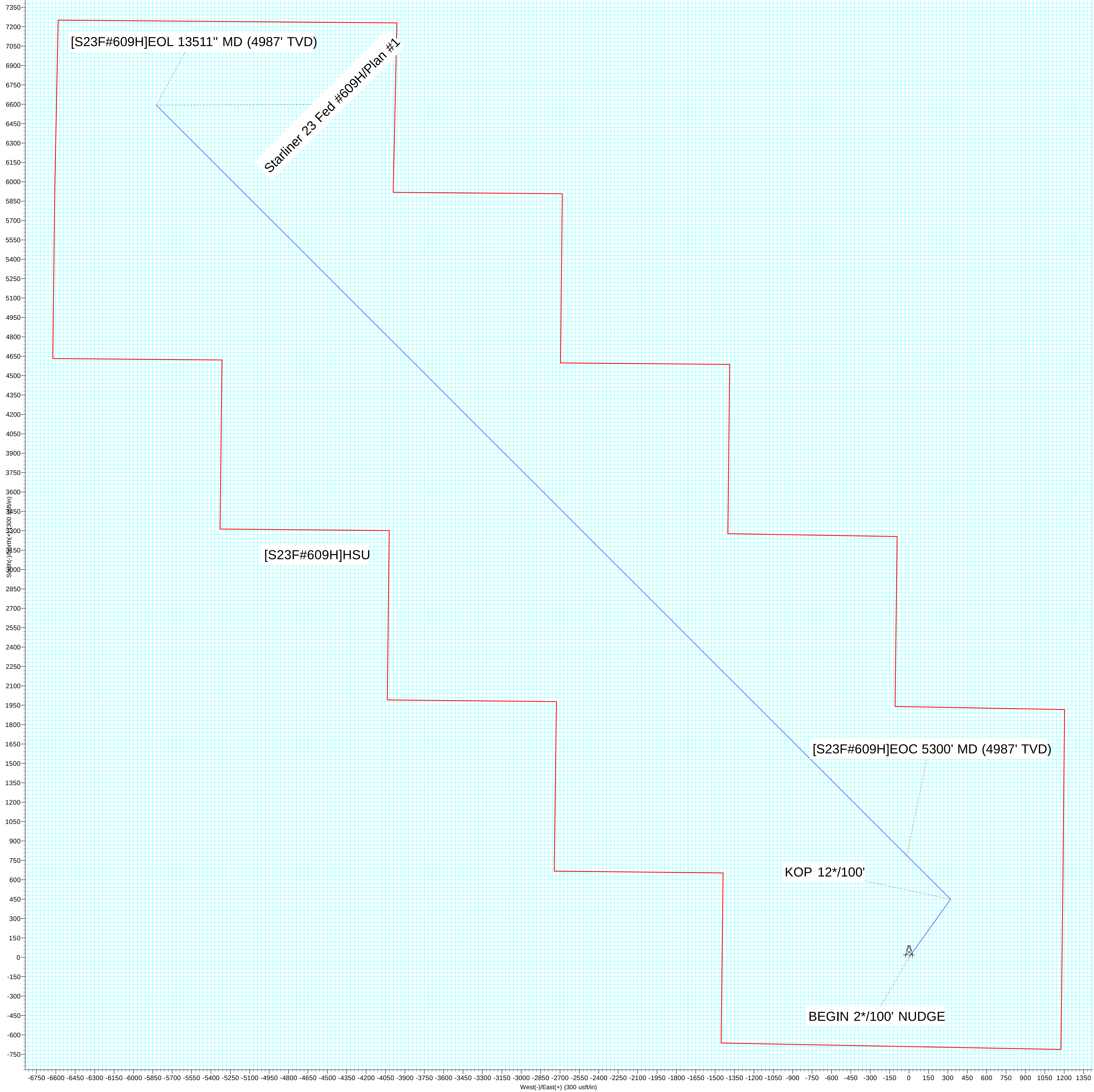
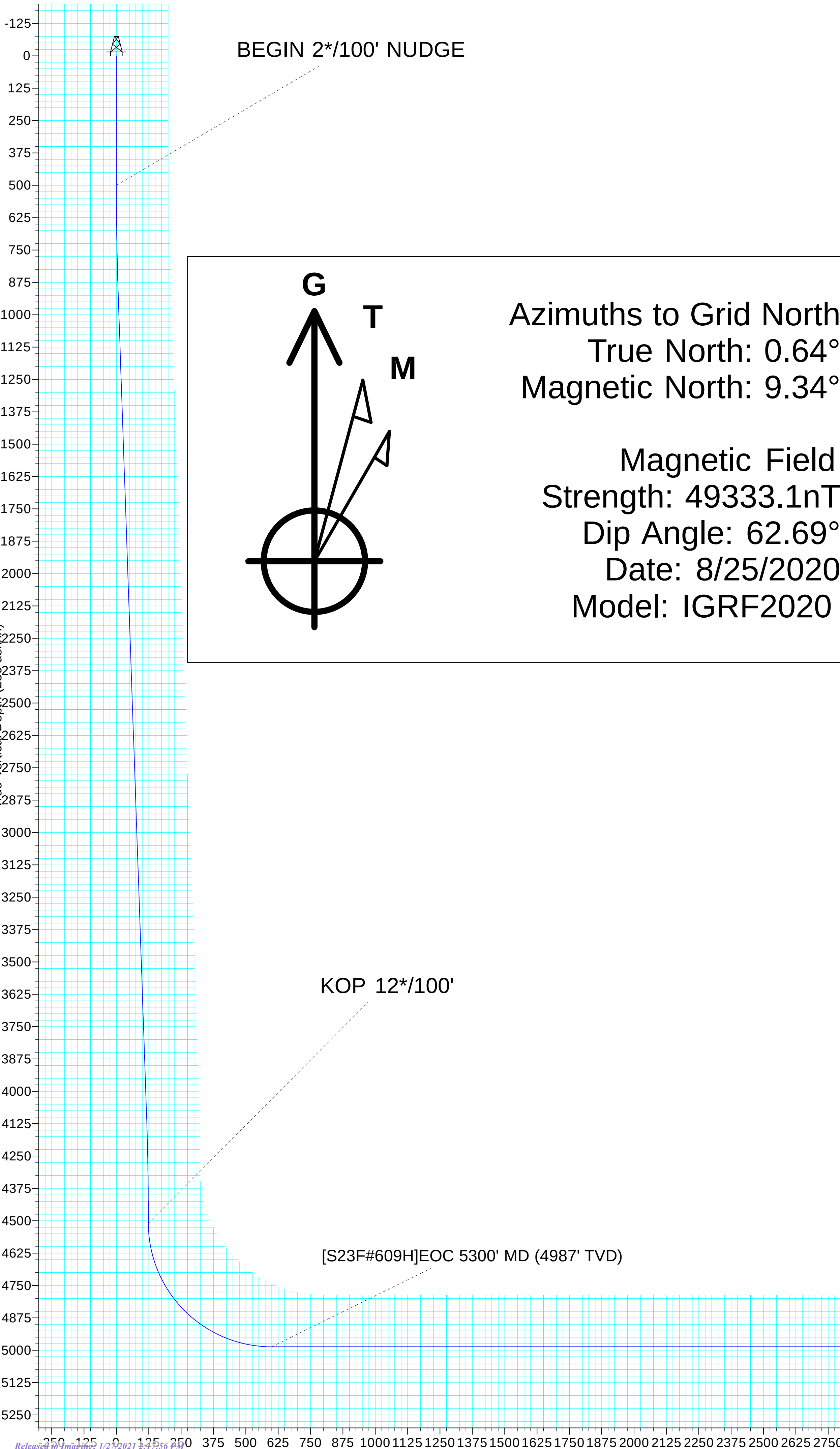
SECTION DETAILS

| Sec | MD      | Inc   | Azi    | TVD    | +N/-S  | +E/-W   | Dleg  | TFace  | VSect  |
|-----|---------|-------|--------|--------|--------|---------|-------|--------|--------|
| 1   | 0.0     | 0.00  | 0.00   | 0.0    | 0.0    | 0.0     | 0.00  | 0.00   | 0.0    |
| 2   | 500.0   | 0.00  | 0.00   | 500.0  | 0.0    | 0.0     | 0.00  | 0.00   | 0.0    |
| 3   | 939.5   | 8.79  | 35.61  | 937.8  | 27.4   | 19.6    | 2.00  | 35.61  | 7.5    |
| 4   | 4110.7  | 8.79  | 35.61  | 4071.7 | 421.3  | 301.8   | 0.00  | 0.00   | 116.0  |
| 5   | 4550.2  | 0.00  | 360.00 | 4509.5 | 448.6  | 321.4   | 2.00  | 180.00 | 123.5  |
| 6   | 5300.2  | 90.00 | 315.00 | 4987.0 | 786.3  | -16.2   | 12.00 | 315.00 | 600.1  |
| 7   | 13510.8 | 90.00 | 315.00 | 4987.0 | 6592.0 | -5822.0 | 0.00  | 0.00   | 8794.9 |

Project:Sandoval County (NAD83)  
Site: Starliner  
Well: Starliner 23 Fed #609H  
Wellbore: Lateral  
Design: Plan #1  
Ground Elevation 7201.0  
Northing 1835734.32  
Easting 1319078.29  
KB @ 7219.0usft (Planning Rig)

PROJECT DETAILS: Sandoval County (NAD83)

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Central Zone  
  
System Datum: Mean Sea Level







## United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Farmington District Office  
6251 College Blvd, Suite A  
Farmington, New Mexico 87402



In Reply Refer To:  
3162.3-1(NMF0110)

EOG Resources Incorporated  
#609H Starliner 23 Fed  
Lease: NMNM139404 Unit:  
SH: NE $\frac{1}{4}$ NW $\frac{1}{4}$  Section 23, T.21 N., R.5 W.  
BH: SW $\frac{1}{4}$ SW $\frac{1}{4}$  Section 10, T.21 N., R.5 W.  
Sandoval County, New Mexico

**\*Above Data Required on Well Sign**

### **GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES**

The following special requirements apply and are effective when **checked**:

- A. ☐ Note all surface/drilling conditions of approval attached.
- B. ☐ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☐ Test the surface casing to a minimum of \_\_\_\_ psi for 30 minutes.
- D. ☐ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.
- E. ☐ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, Farmington District Office, Branch of Reservoir Management, 6251 College Blvd. Suite A, Farmington, New Mexico 87402. The effective date of the agreement must be **prior** to any sales.

INTERIOR REGION 7 - UPPER COLORADO BASIN  
COLORADO, NEW MEXICO, UTAH, WYOMING



- F. ☐ The use of co-flex hose is authorized contingent upon the following:
1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
  2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
  3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

## **I. GENERAL**

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to at Virgil Lucero at 505-793-1836.**
- G. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**

- H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.
- I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.
- J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

## **II. REPORTING REQUIREMENTS**

- A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.
- B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.
  - 1. Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.
    - a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
    - b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
    - c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
  - 2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.
    - a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
  - 3. Submit a cement evaluation log, if cement is not circulated to surface.



### **III. DRILLER'S LOG**

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results. 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

### **IV. GAS FLARING**

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of \* Days or 50 MMCF following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

\*30 days, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the first gas to surface.

### **V. SAFETY**

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

### **VI. CHANGE OF PLANS OR ABANDONMENT**

- A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.
- C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

### **VII. PHONE NUMBERS**

- A. For BOPE tests, cementing, and plugging operations the phone number is 505-564-7750 and must be called 24 hours in advance in order that a BLM representative may witness the operations.
- B. Emergency program changes after hours contact:

**Virgil Lucero (505) 793-1836**

EXIBIT 1a  
EOG Resources, Inc.  
3M Choke Manifold Equipment

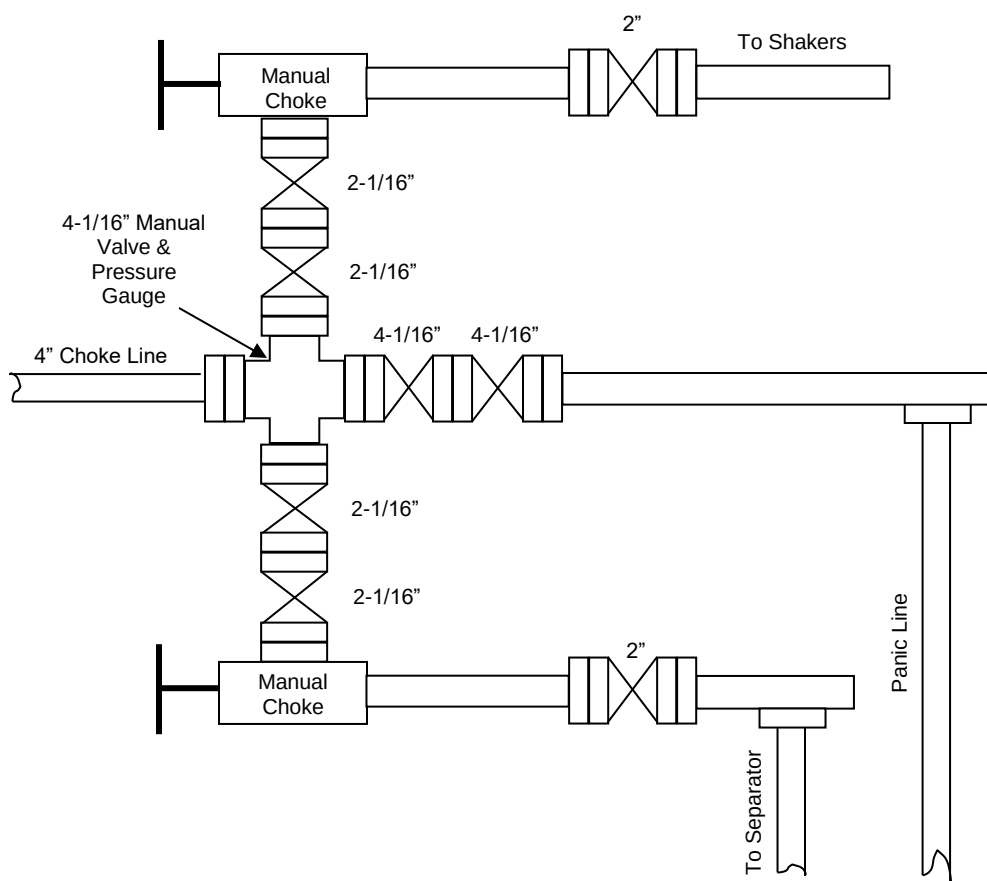
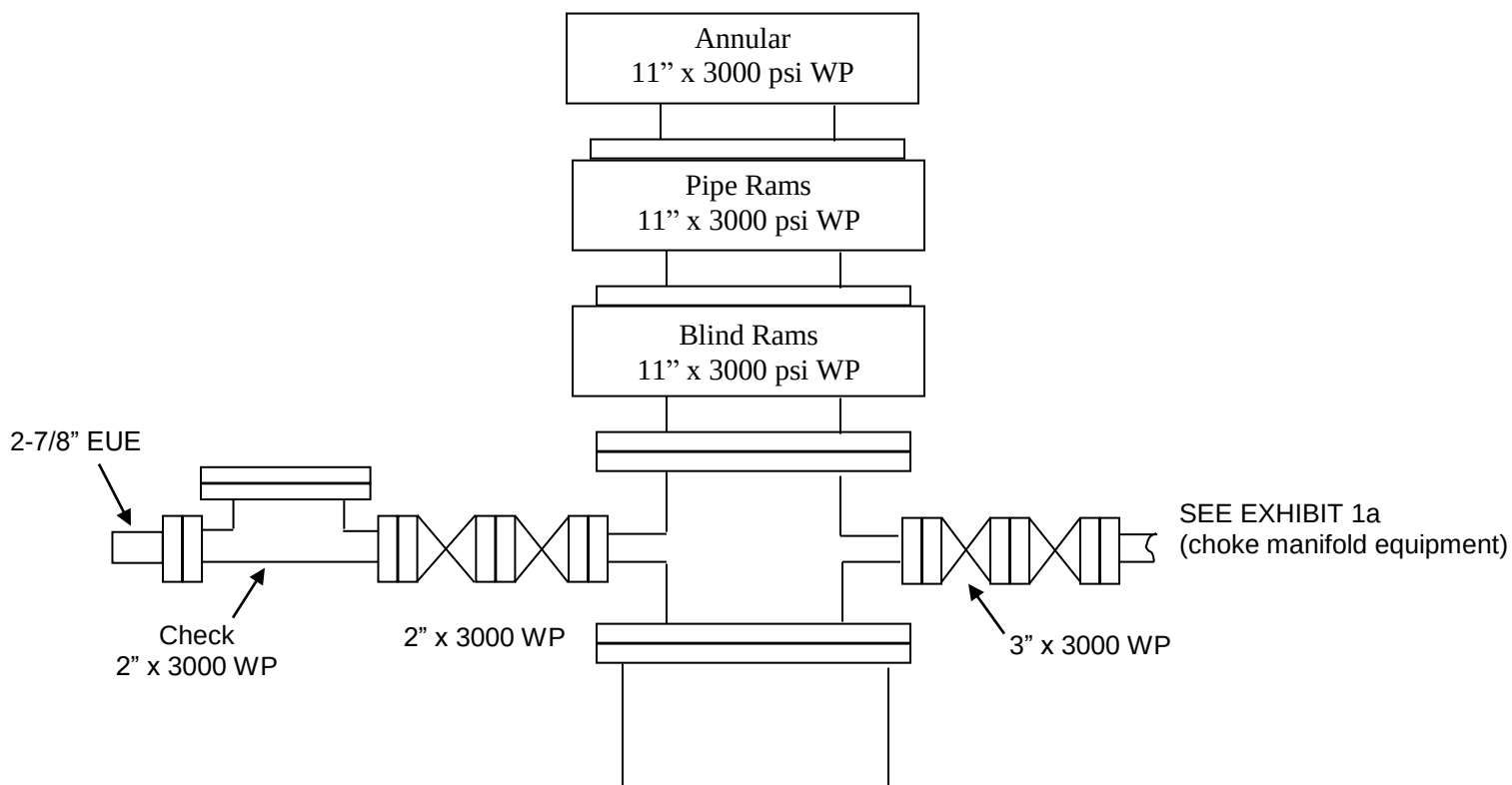


EXHIBIT 1

EOG Resources  
3000 PSI BOPE



**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

COMMENTS

Action 14696

**COMMENTS**

|            |                         |               |                  |        |      |                |       |              |             |
|------------|-------------------------|---------------|------------------|--------|------|----------------|-------|--------------|-------------|
| Operator:  | EOG RESOURCES INC       | P.O. Box 2267 | Midland, TX79702 | OGRID: | 7377 | Action Number: | 14696 | Action Type: | FORM 3160-3 |
| Created By | Comment                 |               |                  |        |      | Comment Date   |       |              |             |
| kpickford  | KP GEO Review 1/14/2020 |               |                  |        |      | 01/14/2021     |       |              |             |

**District I**

1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 14696

**CONDITIONS OF APPROVAL**

|           |                   |               |                  |        |      |                |       |              |             |
|-----------|-------------------|---------------|------------------|--------|------|----------------|-------|--------------|-------------|
| Operator: | EOG RESOURCES INC | P.O. Box 2267 | Midland, TX79702 | OGRID: | 7377 | Action Number: | 14696 | Action Type: | FORM 3160-3 |
|-----------|-------------------|---------------|------------------|--------|------|----------------|-------|--------------|-------------|

|              |                                                                                                                                                                                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCD Reviewer | Condition                                                                                                                                                                                                                                                            |
| kpickford    | Surface Casing is required go to 320'                                                                                                                                                                                                                                |
| kpickford    | Notify OCD 24 hours prior to casing & cement                                                                                                                                                                                                                         |
| kpickford    | Will require a File As Drilled C-102 and a Directional Survey with the C-104                                                                                                                                                                                         |
| kpickford    | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |
| kpickford    | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system                  |