Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM139404

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.: STARLINER 23 FED 603H

2. Name of Operator: EOG RESOURCES INCORPORATED

9. API Well No.: 30-043-21356

3a. Address: , ,

3b. Phone No. *(include area code)*: (432) 686-3600

10. Field and Pool, or Exploratory: WILDCAT/OIL WC 21N4W6;GALLUP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NENW / 656 FNL / 1415 FWL / LAT 36.040231 / LONG -107.337041

At proposed prod. zone: SWNW / 1321 FNL / 231 FWL / LAT 36.052804 / LONG -107.358732

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 23/T21N/R5W/NMP

14. Distance in miles and direction from nearest town or post office*: 20 miles

12. County or Parish: SANDOVAL

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 15 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 560.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 656 feet

19. Proposed Depth: 4647 feet / 12388 feet

20. BLM/BIA Bond No. in file: FED:

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 7201 feet

22. Approximate date work will start*: 10/31/2020

23. Estimated duration: 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.
2. A Drilling Plan.
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	LACEY GRANILLO / Ph: (713) 651-7000	09/21/2020

Title: Contractor Regulatory Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	DAVE J MANKIEWICZ / Ph: (505) 564-7761	03/30/2021

Title	Office
AFM-Minerals	Farmington Field Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 03/30/2021

Entered KMS - NMOCD

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

State of New Mexico
Energy, Minerals & Natural Resources Department

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

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-043-21356	98350	WILDCAT OIL WC 21N4W6;GALLUP

[4] Property Code	[5] Property Name	[6] Well Number
330005	STARLINER 23 FED	603H

[7] OGRID No.	[8] Operator Name	[9] Elevation
7377	EOG RESOURCES, INC	7201'

[10] Surface Location

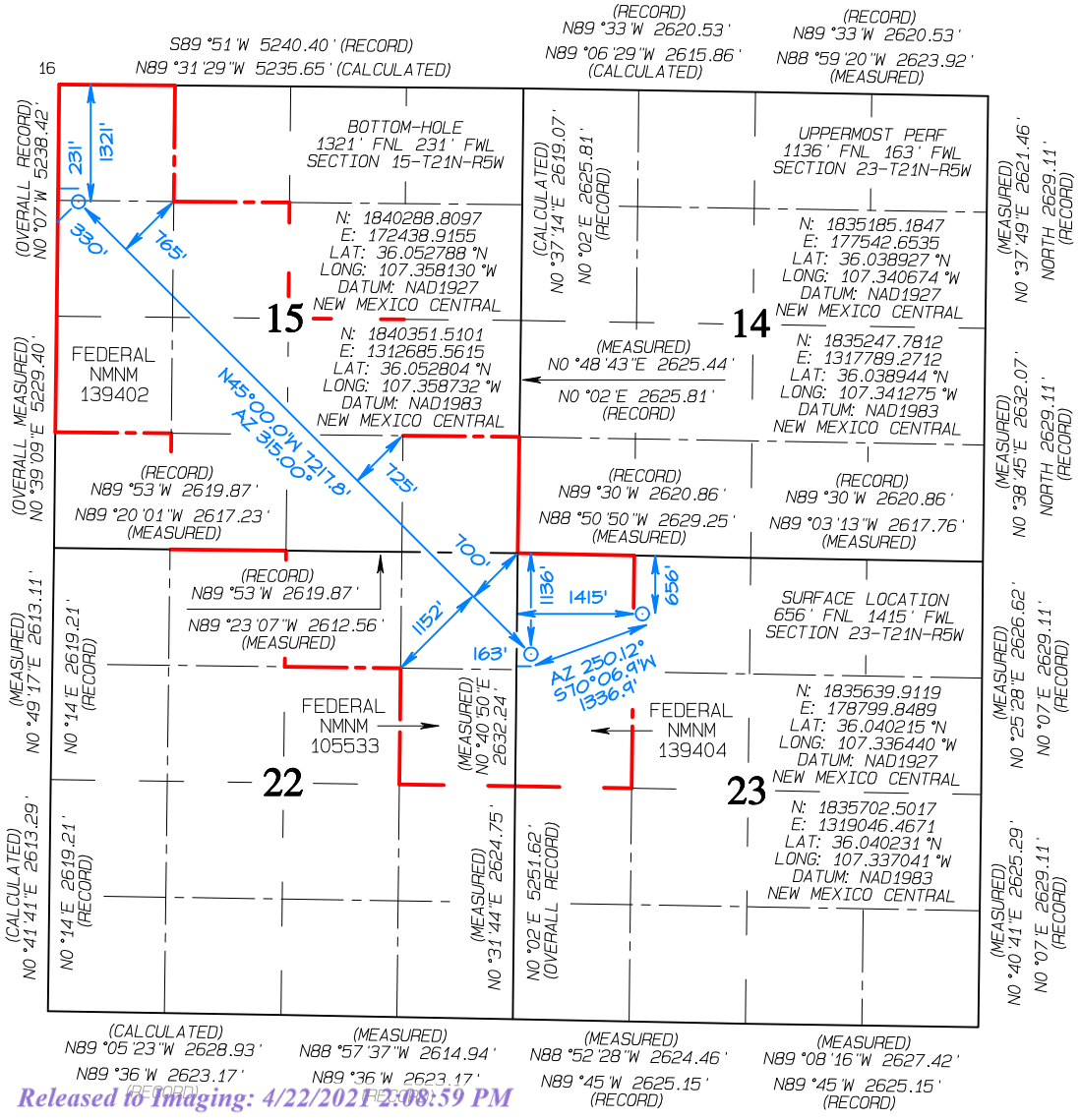
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	23	21N	5W		656	NORTH	1415	WEST	SANDOVAL

[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
E	15	21N	5W		1321	NORTH	231	WEST	SANDOVAL

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
560.00			

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 unleased 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 — Signature
9/18/20 — 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
NEW MEXICO
15269
REGISTERED 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, recomplete 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. 603H

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
		WILDCAT OIL

4 Property Code	5 Property Name	6 Well Number
	STARLINER 23 FED	603H

7 OGRID No.	8 Operator Name	9 Elevation
7377	EOG RESOURCES, INC	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		656	NORTH	1415	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
E	15	21N	5W		1321	NORTH	231	WEST	SANDOVAL

1. GEOLOGIC NAME OF SURFACE FORMATION:

Nacimiento

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

	MD	TVD
Pictured Cliffs	1,514’	1,493’
Huerfanito Bentonite	1,831’	1,784’
Mesaverde	2,299’	2,194’
Menefee	3,185’	2,972’
Point Lookout	4,037’	3,787’
Mancos Shale	4,164’	3,914’
Gallup	4,731’	4,459’
Horizontal TD	12,388’	4,647’

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

	TVD	
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. 603H

4. CASING PROGRAM - NEW

Hole & Casing String:

Hole Size	Interval (MD)	Interval (TVD)	Csg OD	Weight	Grade	Conn	DF_{min} Collapse	DF_{min} Burst	DF_{min} Joint Tension	DF_{min} 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’ – 3,324’	3,100’	9 5/8”	36#	J-55	LTC	1.125	1.25	1.60	1.80
8.75”	0’- 5,170’	4,647’	5 ½”	17#	P-110	BTC	1.125	1.25	1.60	1.80
8.5”	5,170’-12,388’	4,647’	5 ½”	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^3/sk	Volume Ft^3	Slurry Description
300’	315	14.8	1.34	422	Tail: Class 'C' + 2%PF1(Calcium Chloride) (100% excess)
3,324’	1015	12.8	1.79	1817	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
12,388’	320	11.9	2.47	790	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
	1510	13	1.48	2235	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) 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.

Depth	Type	Weight (ppg)	Viscosity	Water Loss	Comments
0 – 300’	Fresh Water	8.6-8.8	28-32	N/c	
300’ – 3,324’ Vertical	WBM	8.8-9.4	30-34	N/c	
3,324’ – 12,388’ Curve/Lateral	WBM	8.8-9.4	30-34	<10	OBM Requested as 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. 603H

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_2S 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 2271 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. 603H

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.

INTERNAL HYDROSTATIC TEST CERTIFICATE

Customer:	Customer P.O. Number:
GRAND JUNCTION	178755

HOSE SPECIFICATIONS

Type: CHOKE HOSE GRADE E / API 7K	Hose Length: 15 FEET
I.D. 4 INCHES	O.D. 6.11 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 PSI	15,000 PSI	N/A PSI

COUPLINGS

Part Number	Stem Lot Number	Ferrule Lot Number
E4.0X64WB	8099764	N4406
E4.0X64WB	8099764	N4406

Type of Coupling:	Die Size:
SWAGE-IT	6.62 INCHES

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
9 3/4 MIN.	N/A PSI

Hose Assembly Serial Number:	Hose Serial Number:
197000	10088

Comments:

Date:	Tested:	Approved:
4/10/2013	Bobby Bolek	

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

April 10, 2013

Customer: Grand J

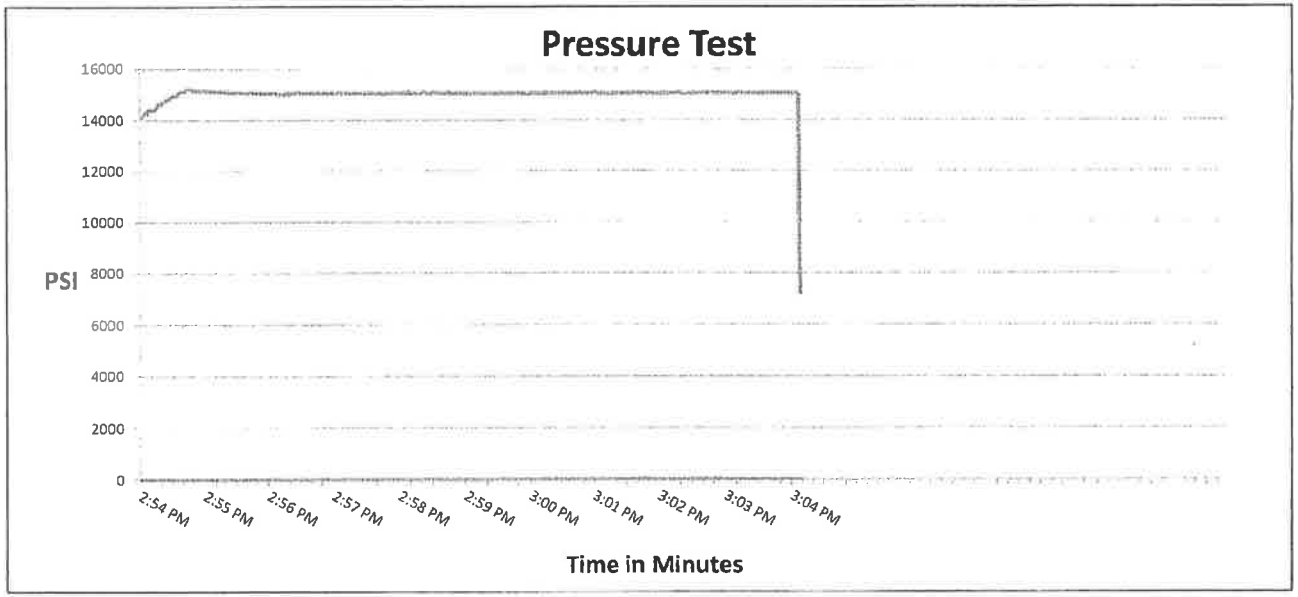
Pick Ticket #: 197000

Hose Specifications

Hose Type	Length
E	15'
I.D.	**O.D.**
4""	6.11"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	**Final O.D.**
6.62	6.65"
Hose Serial #	**Hose Assembly Serial #**
10088	197000



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	9 3/4 Minutes		15263 PSI

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

Tested By: *Billy Balak*

Approved By: *Joshua Dahlem*

EOG Resources - Artesia

Sandoval County (NAD83)
Starliner
Starliner 23 Fed #603H

Lateral

Plan: Plan #1

Standard Planning Report

16 September, 2020

EOG Resources
Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Starliner 23 Fed #603H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 7219.0usft (Planning Rig)
Project:	Sandoval County (NAD83)	**MD Reference:**	KB @ 7219.0usft (Planning Rig)
Site:	Starliner	**North Reference:**	Grid
Well:	Starliner 23 Fed #603H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project Sandoval County (NAD83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	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 #603H

Well Position	**+N/-S**	0.0 usft	**Northing:**	1,835,702.50 usft	**Latitude:**	36° 2' 24.833 N
	+E/-W	0.0 usft	**Easting:**	1,319,046.47 usft	**Longitude:**	107° 20' 13.347 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	7,201.0 usft

Wellbore Lateral

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/24/2020	8.70	62.69	49,333.28285920

Design Plan #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	306.16

Plan Survey Tool Program **Date** 9/16/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	12,387.9	Plan #1 (Lateral)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
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	
1,952.9	29.06	229.25	1,891.4	-235.4	-273.2	2.00	2.00	0.00	229.25	
2,967.3	29.06	229.25	2,778.1	-556.9	-646.4	0.00	0.00	0.00	0.00	
4,420.1	0.00	0.00	4,169.5	-792.3	-919.6	2.00	-2.00	0.00	180.00	
5,170.1	90.00	315.00	4,647.0	-454.7	-1,257.2	12.00	12.00	-6.00	315.00	
12,387.9	90.00	315.00	4,647.0	4,649.0	-6,360.9	0.00	0.00	0.00	0.00	[F23F#603H]PBHL

eog resources

EOG Resources

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Starliner 23 Fed #603H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 7219.0usft (Planning Rig)
Project:	Sandoval County (NAD83)	**MD Reference:**	KB @ 7219.0usft (Planning Rig)
Site:	Starliner	**North Reference:**	Grid
Well:	Starliner 23 Fed #603H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	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
BEGIN 2°/100' NUDGE									
600.0	2.00	229.25	600.0	-1.1	-1.3	0.4	2.00	2.00	0.00
700.0	4.00	229.25	699.8	-4.6	-5.3	1.6	2.00	2.00	0.00
800.0	6.00	229.25	799.5	-10.2	-11.9	3.6	2.00	2.00	0.00
900.0	8.00	229.25	898.7	-18.2	-21.1	6.3	2.00	2.00	0.00
1,000.0	10.00	229.25	997.5	-28.4	-33.0	9.9	2.00	2.00	0.00
1,100.0	12.00	229.25	1,095.6	-40.9	-47.4	14.2	2.00	2.00	0.00
1,200.0	14.00	229.25	1,193.1	-55.5	-64.5	19.3	2.00	2.00	0.00
1,300.0	16.00	229.25	1,289.6	-72.4	-84.1	25.1	2.00	2.00	0.00
1,400.0	18.00	229.25	1,385.3	-91.5	-106.2	31.8	2.00	2.00	0.00
1,500.0	20.00	229.25	1,479.8	-112.8	-130.9	39.1	2.00	2.00	0.00
1,514.0	20.28	229.25	1,493.0	-115.9	-134.6	40.2	2.00	2.00	0.00
Pictured Cliffs									
1,600.0	22.00	229.25	1,573.2	-136.2	-158.0	47.2	2.00	2.00	0.00
1,700.0	24.00	229.25	1,665.2	-161.7	-187.6	56.1	2.00	2.00	0.00
1,800.0	26.00	229.25	1,755.8	-189.2	-219.7	65.7	2.00	2.00	0.00
1,831.4	26.63	229.25	1,784.0	-198.3	-230.2	68.8	2.00	2.00	0.00
Huerfanito Bentonite									
1,900.0	28.00	229.25	1,844.9	-218.9	-254.0	76.0	2.00	2.00	0.00
1,952.9	29.06	229.25	1,891.4	-235.4	-273.2	81.7	2.00	2.00	0.00
2,000.0	29.06	229.25	1,932.6	-250.3	-290.5	86.9	0.00	0.00	0.00
2,100.0	29.06	229.25	2,020.0	-282.0	-327.3	97.9	0.00	0.00	0.00
2,200.0	29.06	229.25	2,107.4	-313.7	-364.1	108.9	0.00	0.00	0.00
2,299.1	29.06	229.25	2,194.0	-345.1	-400.6	119.8	0.00	0.00	0.00
Mesaverde									
2,300.0	29.06	229.25	2,194.8	-345.4	-400.9	119.9	0.00	0.00	0.00
2,400.0	29.06	229.25	2,282.2	-377.1	-437.7	130.9	0.00	0.00	0.00
2,500.0	29.06	229.25	2,369.7	-408.8	-474.5	141.9	0.00	0.00	0.00
2,600.0	29.06	229.25	2,457.1	-440.5	-511.3	152.9	0.00	0.00	0.00
2,700.0	29.06	229.25	2,544.5	-472.2	-548.1	163.9	0.00	0.00	0.00
2,800.0	29.06	229.25	2,631.9	-503.9	-584.9	174.9	0.00	0.00	0.00
2,900.0	29.06	229.25	2,719.3	-535.6	-621.7	185.9	0.00	0.00	0.00
2,967.3	29.06	229.25	2,778.1	-556.9	-646.4	193.3	0.00	0.00	0.00
3,000.0	28.40	229.25	2,806.8	-567.2	-658.3	196.8	2.00	-2.00	0.00
3,100.0	26.40	229.25	2,895.6	-597.2	-693.2	207.2	2.00	-2.00	0.00
3,184.7	24.71	229.25	2,972.0	-621.1	-720.9	215.5	2.00	-2.00	0.00
Menefee									
3,200.0	24.40	229.25	2,985.9	-625.2	-725.7	217.0	2.00	-2.00	0.00
3,300.0	22.40	229.25	3,077.7	-651.2	-755.8	226.0	2.00	-2.00	0.00
3,400.0	20.40	229.25	3,170.8	-675.0	-783.4	234.2	2.00	-2.00	0.00
3,500.0	18.40	229.25	3,265.1	-696.7	-808.6	241.7	2.00	-2.00	0.00
3,600.0	16.40	229.25	3,360.5	-716.2	-831.3	248.5	2.00	-2.00	0.00
3,700.0	14.40	229.25	3,456.9	-733.5	-851.4	254.5	2.00	-2.00	0.00
3,800.0	12.40	229.25	3,554.2	-748.7	-868.9	259.8	2.00	-2.00	0.00
3,900.0	10.40	229.25	3,652.2	-761.6	-883.9	264.3	2.00	-2.00	0.00
4,000.0	8.40	229.25	3,750.9	-772.2	-896.3	268.0	2.00	-2.00	0.00
4,036.5	7.67	229.25	3,787.0	-775.6	-900.2	269.1	2.00	-2.00	0.00

EOG Resources

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Starliner 23 Fed #603H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 7219.0usft (Planning Rig)
Project:	Sandoval County (NAD83)	**MD Reference:**	KB @ 7219.0usft (Planning Rig)
Site:	Starliner	**North Reference:**	Grid
Well:	Starliner 23 Fed #603H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	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)
Point Lookout									
4,100.0	6.40	229.25	3,850.0	-780.6	-906.1	270.9	2.00	-2.00	0.00
4,164.3	5.12	229.25	3,914.0	-784.8	-911.0	272.3	2.00	-2.00	0.00
Mancos									
4,200.0	4.40	229.25	3,949.6	-786.8	-913.2	273.0	2.00	-2.00	0.00
4,300.0	2.40	229.25	4,049.4	-790.7	-917.7	274.4	2.00	-2.00	0.00
4,400.0	0.40	229.25	4,149.4	-792.3	-919.5	274.9	2.00	-2.00	0.00
4,420.1	0.00	229.25	4,169.5	-792.3	-919.6	274.9	2.00	-2.00	0.00
KOP 12°/100'									
4,425.0	0.58	315.00	4,174.4	-792.3	-919.6	275.0	11.89	11.88	1,749.94
4,450.0	3.58	315.00	4,199.3	-791.6	-920.3	275.8	12.00	12.00	0.00
4,475.0	6.58	315.00	4,224.2	-790.1	-921.8	278.0	12.00	12.00	0.00
4,500.0	9.58	315.00	4,249.0	-787.6	-924.3	281.5	12.00	12.00	0.00
4,525.0	12.58	315.00	4,273.5	-784.2	-927.7	286.3	12.00	12.00	0.00
4,550.0	15.58	315.00	4,297.8	-779.9	-932.0	292.3	12.00	12.00	0.00
4,575.0	18.58	315.00	4,321.7	-774.7	-937.2	299.5	12.00	12.00	0.00
4,600.0	21.58	315.00	4,345.1	-768.6	-943.3	308.0	12.00	12.00	0.00
4,625.0	24.58	315.00	4,368.1	-761.7	-950.2	317.7	12.00	12.00	0.00
4,650.0	27.58	315.00	4,390.6	-753.9	-958.0	328.6	12.00	12.00	0.00
4,675.0	30.58	315.00	4,412.4	-745.3	-966.6	340.6	12.00	12.00	0.00
4,700.0	33.58	315.00	4,433.6	-735.9	-976.0	353.7	12.00	12.00	0.00
4,725.0	36.58	315.00	4,454.1	-725.8	-986.1	367.9	12.00	12.00	0.00
4,731.2	37.32	315.00	4,459.0	-723.2	-988.7	371.5	12.00	12.00	0.00
Gallup									
4,750.0	39.58	315.00	4,473.7	-714.9	-997.0	383.1	12.00	12.00	0.00
4,775.0	42.58	315.00	4,492.6	-703.3	-1,008.6	399.3	12.00	12.00	0.00
4,800.0	45.58	315.00	4,510.5	-691.0	-1,020.9	416.5	12.00	12.00	0.00
4,825.0	48.58	315.00	4,527.6	-678.0	-1,033.9	434.6	12.00	12.00	0.00
4,850.0	51.58	315.00	4,543.6	-664.5	-1,047.4	453.6	12.00	12.00	0.00
4,875.0	54.58	315.00	4,558.6	-650.3	-1,061.6	473.3	12.00	12.00	0.00
4,900.0	57.58	315.00	4,572.6	-635.7	-1,076.2	493.8	12.00	12.00	0.00
4,925.0	60.58	315.00	4,585.4	-620.5	-1,091.4	515.0	12.00	12.00	0.00
4,950.0	63.58	315.00	4,597.1	-604.9	-1,107.0	536.8	12.00	12.00	0.00
4,975.0	66.58	315.00	4,607.6	-588.9	-1,123.0	559.2	12.00	12.00	0.00
5,000.0	69.58	315.00	4,617.0	-572.5	-1,139.4	582.1	12.00	12.00	0.00
5,025.0	72.58	315.00	4,625.1	-555.7	-1,156.2	605.5	12.00	12.00	0.00
5,050.0	75.58	315.00	4,631.9	-538.7	-1,173.2	629.3	12.00	12.00	0.00
5,075.0	78.58	315.00	4,637.5	-521.5	-1,190.4	653.3	12.00	12.00	0.00
5,100.0	81.58	315.00	4,641.8	-504.1	-1,207.8	677.7	12.00	12.00	0.00
5,125.0	84.58	315.00	4,644.8	-486.6	-1,225.3	702.2	12.00	12.00	0.00
5,150.0	87.58	315.00	4,646.5	-468.9	-1,243.0	726.8	12.00	12.00	0.00
5,170.1	89.99	315.00	4,647.0	-454.7	-1,257.2	746.7	12.00	12.00	0.00
[S23F#603H]EOC 5170' MD (4647' TVD)									
5,200.0	90.00	315.00	4,647.0	-433.6	-1,278.3	776.2	0.02	0.02	0.00
5,300.0	90.00	315.00	4,647.0	-362.9	-1,349.0	875.0	0.00	0.00	0.00
5,400.0	90.00	315.00	4,647.0	-292.1	-1,419.8	973.9	0.00	0.00	0.00
5,500.0	90.00	315.00	4,647.0	-221.4	-1,490.5	1,072.7	0.00	0.00	0.00
5,600.0	90.00	315.00	4,647.0	-150.7	-1,561.2	1,171.5	0.00	0.00	0.00
5,700.0	90.00	315.00	4,647.0	-80.0	-1,631.9	1,270.3	0.00	0.00	0.00
5,800.0	90.00	315.00	4,647.0	-9.3	-1,702.6	1,369.1	0.00	0.00	0.00
5,900.0	90.00	315.00	4,647.0	61.4	-1,773.3	1,467.9	0.00	0.00	0.00
6,000.0	90.00	315.00	4,647.0	132.1	-1,844.0	1,566.7	0.00	0.00	0.00
6,100.0	90.00	315.00	4,647.0	202.8	-1,914.7	1,665.5	0.00	0.00	0.00

EOG Resources

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Starliner 23 Fed #603H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 7219.0usft (Planning Rig)
Project:	Sandoval County (NAD83)	**MD Reference:**	KB @ 7219.0usft (Planning Rig)
Site:	Starliner	**North Reference:**	Grid
Well:	Starliner 23 Fed #603H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	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)
6,200.0	90.00	315.00	4,647.0	273.5	-1,985.4	1,764.4	0.00	0.00	0.00
6,300.0	90.00	315.00	4,647.0	344.2	-2,056.1	1,863.2	0.00	0.00	0.00
6,400.0	90.00	315.00	4,647.0	415.0	-2,126.9	1,962.0	0.00	0.00	0.00
6,500.0	90.00	315.00	4,647.0	485.7	-2,197.6	2,060.8	0.00	0.00	0.00
6,600.0	90.00	315.00	4,647.0	556.4	-2,268.3	2,159.6	0.00	0.00	0.00
6,700.0	90.00	315.00	4,647.0	627.1	-2,339.0	2,258.4	0.00	0.00	0.00
6,800.0	90.00	315.00	4,647.0	697.8	-2,409.7	2,357.2	0.00	0.00	0.00
6,900.0	90.00	315.00	4,647.0	768.5	-2,480.4	2,456.0	0.00	0.00	0.00
7,000.0	90.00	315.00	4,647.0	839.2	-2,551.1	2,554.9	0.00	0.00	0.00
7,100.0	90.00	315.00	4,647.0	909.9	-2,621.8	2,653.7	0.00	0.00	0.00
7,200.0	90.00	315.00	4,647.0	980.6	-2,692.5	2,752.5	0.00	0.00	0.00
7,300.0	90.00	315.00	4,647.0	1,051.4	-2,763.3	2,851.3	0.00	0.00	0.00
7,400.0	90.00	315.00	4,647.0	1,122.1	-2,834.0	2,950.1	0.00	0.00	0.00
7,500.0	90.00	315.00	4,647.0	1,192.8	-2,904.7	3,048.9	0.00	0.00	0.00
7,600.0	90.00	315.00	4,647.0	1,263.5	-2,975.4	3,147.7	0.00	0.00	0.00
7,700.0	90.00	315.00	4,647.0	1,334.2	-3,046.1	3,246.5	0.00	0.00	0.00
7,800.0	90.00	315.00	4,647.0	1,404.9	-3,116.8	3,345.4	0.00	0.00	0.00
7,900.0	90.00	315.00	4,647.0	1,475.6	-3,187.5	3,444.2	0.00	0.00	0.00
8,000.0	90.00	315.00	4,647.0	1,546.3	-3,258.2	3,543.0	0.00	0.00	0.00
8,100.0	90.00	315.00	4,647.0	1,617.0	-3,328.9	3,641.8	0.00	0.00	0.00
8,200.0	90.00	315.00	4,647.0	1,687.8	-3,399.7	3,740.6	0.00	0.00	0.00
8,300.0	90.00	315.00	4,647.0	1,758.5	-3,470.4	3,839.4	0.00	0.00	0.00
8,400.0	90.00	315.00	4,647.0	1,829.2	-3,541.1	3,938.2	0.00	0.00	0.00
8,500.0	90.00	315.00	4,647.0	1,899.9	-3,611.8	4,037.0	0.00	0.00	0.00
8,600.0	90.00	315.00	4,647.0	1,970.6	-3,682.5	4,135.9	0.00	0.00	0.00
8,700.0	90.00	315.00	4,647.0	2,041.3	-3,753.2	4,234.7	0.00	0.00	0.00
8,800.0	90.00	315.00	4,647.0	2,112.0	-3,823.9	4,333.5	0.00	0.00	0.00
8,900.0	90.00	315.00	4,647.0	2,182.7	-3,894.6	4,432.3	0.00	0.00	0.00
9,000.0	90.00	315.00	4,647.0	2,253.4	-3,965.3	4,531.1	0.00	0.00	0.00
9,100.0	90.00	315.00	4,647.0	2,324.1	-4,036.0	4,629.9	0.00	0.00	0.00
9,200.0	90.00	315.00	4,647.0	2,394.9	-4,106.8	4,728.7	0.00	0.00	0.00
9,300.0	90.00	315.00	4,647.0	2,465.6	-4,177.5	4,827.5	0.00	0.00	0.00
9,400.0	90.00	315.00	4,647.0	2,536.3	-4,248.2	4,926.4	0.00	0.00	0.00
9,500.0	90.00	315.00	4,647.0	2,607.0	-4,318.9	5,025.2	0.00	0.00	0.00
9,600.0	90.00	315.00	4,647.0	2,677.7	-4,389.6	5,124.0	0.00	0.00	0.00
9,700.0	90.00	315.00	4,647.0	2,748.4	-4,460.3	5,222.8	0.00	0.00	0.00
9,800.0	90.00	315.00	4,647.0	2,819.1	-4,531.0	5,321.6	0.00	0.00	0.00
9,900.0	90.00	315.00	4,647.0	2,889.8	-4,601.7	5,420.4	0.00	0.00	0.00
10,000.0	90.00	315.00	4,647.0	2,960.5	-4,672.4	5,519.2	0.00	0.00	0.00
10,100.0	90.00	315.00	4,647.0	3,031.3	-4,743.2	5,618.0	0.00	0.00	0.00
10,200.0	90.00	315.00	4,647.0	3,102.0	-4,813.9	5,716.9	0.00	0.00	0.00
10,300.0	90.00	315.00	4,647.0	3,172.7	-4,884.6	5,815.7	0.00	0.00	0.00
10,400.0	90.00	315.00	4,647.0	3,243.4	-4,955.3	5,914.5	0.00	0.00	0.00
10,500.0	90.00	315.00	4,647.0	3,314.1	-5,026.0	6,013.3	0.00	0.00	0.00
10,600.0	90.00	315.00	4,647.0	3,384.8	-5,096.7	6,112.1	0.00	0.00	0.00
10,700.0	90.00	315.00	4,647.0	3,455.5	-5,167.4	6,210.9	0.00	0.00	0.00
10,800.0	90.00	315.00	4,647.0	3,526.2	-5,238.1	6,309.7	0.00	0.00	0.00
10,900.0	90.00	315.00	4,647.0	3,596.9	-5,308.8	6,408.5	0.00	0.00	0.00
11,000.0	90.00	315.00	4,647.0	3,667.7	-5,379.5	6,507.4	0.00	0.00	0.00
11,100.0	90.00	315.00	4,647.0	3,738.4	-5,450.3	6,606.2	0.00	0.00	0.00
11,200.0	90.00	315.00	4,647.0	3,809.1	-5,521.0	6,705.0	0.00	0.00	0.00
11,300.0	90.00	315.00	4,647.0	3,879.8	-5,591.7	6,803.8	0.00	0.00	0.00
11,400.0	90.00	315.00	4,647.0	3,950.5	-5,662.4	6,902.6	0.00	0.00	0.00
11,500.0	90.00	315.00	4,647.0	4,021.2	-5,733.1	7,001.4	0.00	0.00	0.00

eog resources

EOG Resources

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Starliner 23 Fed #603H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 7219.0usft (Planning Rig)
Project:	Sandoval County (NAD83)	**MD Reference:**	KB @ 7219.0usft (Planning Rig)
Site:	Starliner	**North Reference:**	Grid
Well:	Starliner 23 Fed #603H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	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)
11,600.0	90.00	315.00	4,647.0	4,091.9	-5,803.8	7,100.2	0.00	0.00	0.00
11,700.0	90.00	315.00	4,647.0	4,162.6	-5,874.5	7,199.0	0.00	0.00	0.00
11,800.0	90.00	315.00	4,647.0	4,233.3	-5,945.2	7,297.9	0.00	0.00	0.00
11,900.0	90.00	315.00	4,647.0	4,304.0	-6,015.9	7,396.7	0.00	0.00	0.00
12,000.0	90.00	315.00	4,647.0	4,374.8	-6,086.7	7,495.5	0.00	0.00	0.00
12,100.0	90.00	315.00	4,647.0	4,445.5	-6,157.4	7,594.3	0.00	0.00	0.00
12,200.0	90.00	315.00	4,647.0	4,516.2	-6,228.1	7,693.1	0.00	0.00	0.00
12,300.0	90.00	315.00	4,647.0	4,586.9	-6,298.8	7,791.9	0.00	0.00	0.00
12,387.9	90.00	315.00	4,647.0	4,649.0	-6,360.9	7,878.7	0.00	0.00	0.00
[S23F#603H]EOL 12388' MD (4647' TVD)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[F23F#603H]FTP - plan hits target center - Point	0.00	0.00	4,647.0	-454.7	-1,257.2	1,835,247.79	1,317,789.28	36° 2' 20.198 N	107° 20' 28.591 W
[F23F#603H]PBHL - plan hits target center - Point	0.00	360.00	4,647.0	4,649.0	-6,360.9	1,840,351.51	1,312,685.56	36° 3' 10.094 N	107° 21' 31.436 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,514.0	1,493.0	Pictured Cliffs			
1,831.4	1,784.0	Huerfanito Bentonite			
2,299.1	2,194.0	Mesaverde			
3,184.7	2,972.0	Menefee			
4,036.5	3,787.0	Point Lookout			
4,164.3	3,914.0	Mancos			
4,731.2	4,459.0	Gallup			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
500.0	500.0	0.0	0.0	BEGIN 2°/100' NUDGE
4,420.1	4,169.5	-792.3	-919.6	KOP 12°/100'
5,170.1	4,647.0	-454.7	-1,257.2	[S23F#603H]EOC 5170' MD (4647' TVD)
12,387.9	4,647.0	4,649.0	-6,360.9	[S23F#603H]EOL 12388' MD (4647' TVD)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[F23F#603H]FTP	4647.0	-454.7	-1257.2	1835247.79	1317789.28
- plan hits target center					
[F23F#603H]PBHL	4647.0	4649.0	-6360.9	1840351.51	1312685.56
- plan hits target center					

Project: Sandoval County (NAD83)
Site: Starliner
Well: Starliner 23 Fed #603H
Wellbore: Lateral
Design: Plan #1
Ground Elevation 7201.0
Northing 1835702.50
Easting 1319046.47
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

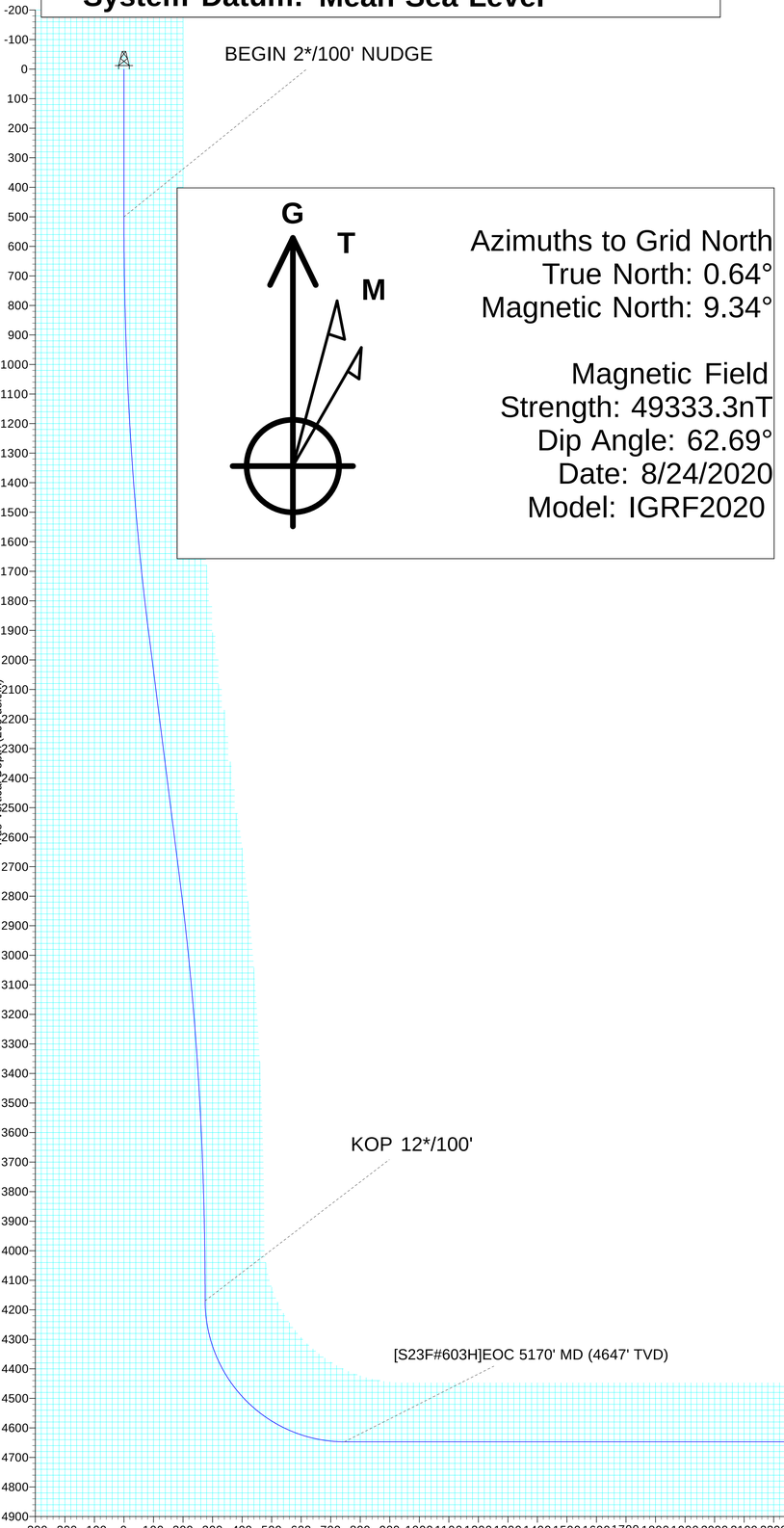
System Datum: Mean Sea Level

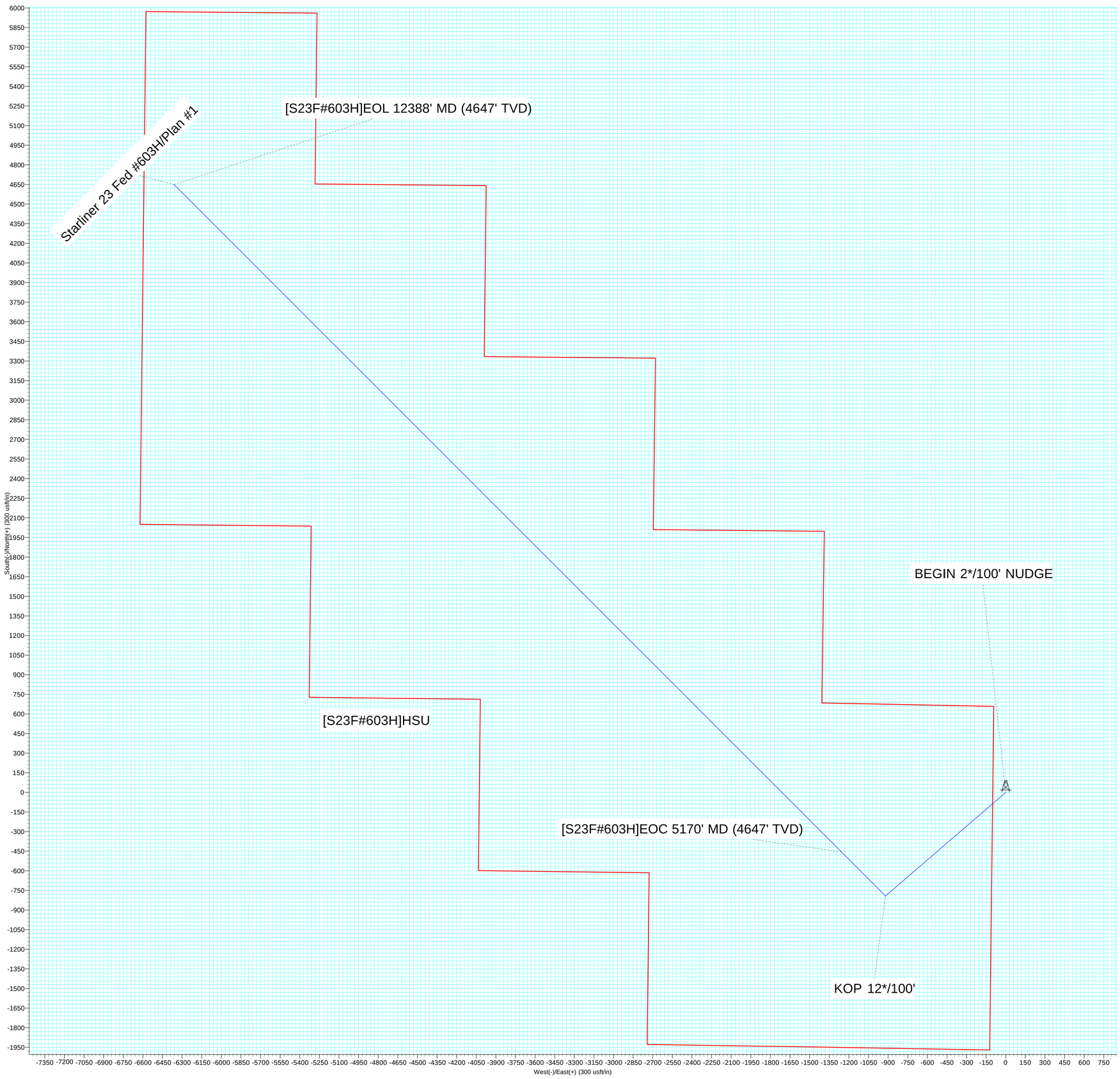
Azimuths to Grid North
True North: 0.64°
Magnetic North: 9.34°

Magnetic Field
Strength: 49333.3nT
Dip Angle: 62.69°
Date: 8/24/2020
Model: IGRF2020

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	1952.9	29.06	229.25	1891.4	-235.4	-273.2	2.00	229.25	81.7
4	2967.3	29.06	229.25	2778.1	-556.9	-646.4	0.00	0.00	193.3
5	4420.1	0.00	0.00	4169.5	-792.3	-919.6	2.00	180.00	274.9
6	5170.1	90.00	315.00	4647.0	-454.7	-1257.2	12.00	315.00	746.7
7	12387.9	90.00	315.00	4647.0	4649.0	-6360.9	0.00	0.00	7878.7





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

#603H Starliner 23 Fed

Lease: NMNM139404
SH: NE¼NW¼ Section 23, T.21 N., R.5 W.
Sandoval County, New Mexico
BH: SW¼NW¼ Section 15, 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.

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
Joe Killins (505) 564-7736
John Hoffman (505) 564-7742

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

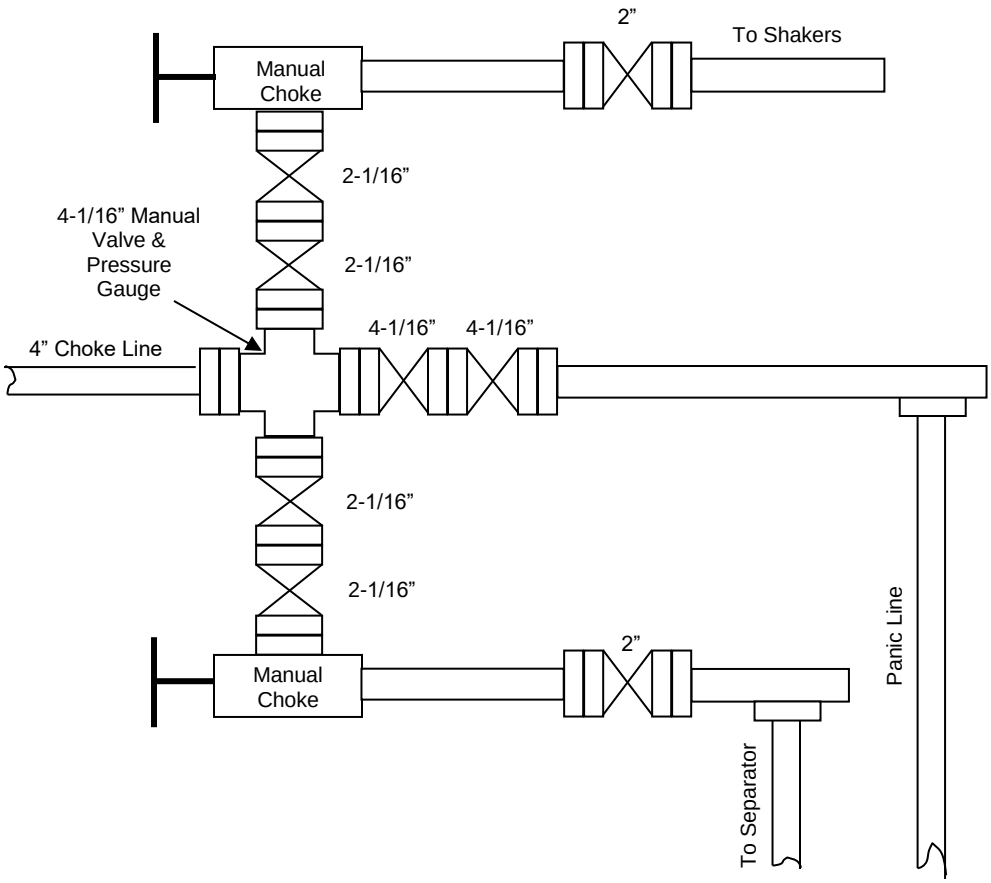
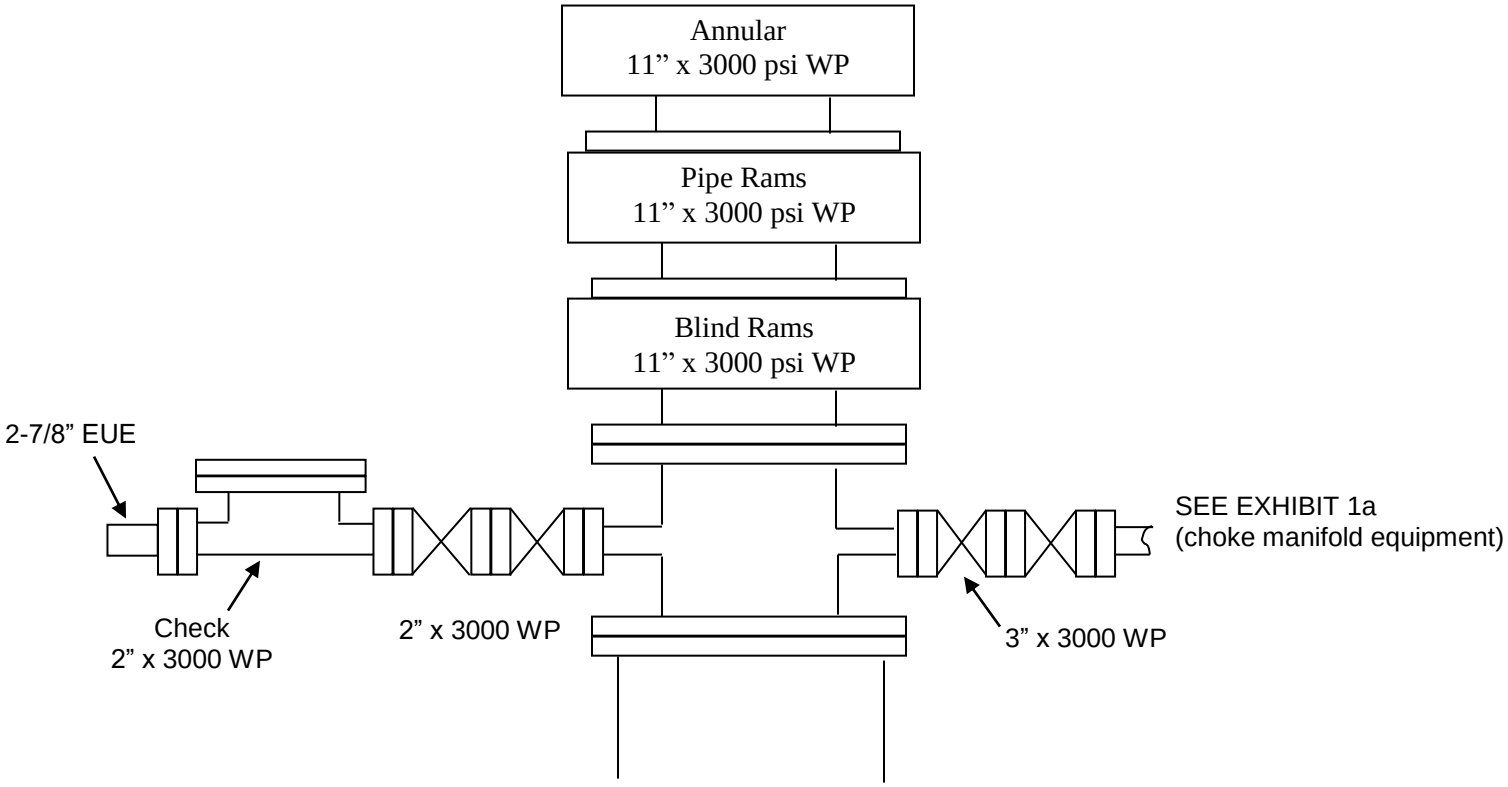


EXHIBIT 1

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 24940

COMMENTS

Operator:			OGRID:	Action Number:	Action Type:
EOG RESOURCES INC	P.O. Box 2267	Midland, TX79702	7377	24940	FORM 3160-3

Created By	Comment	Comment Date
kpickford	KP GEO Review 4/22/2021	04/22/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 24940

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
EOG RESOURCES INC P.O. Box 2267 Midland, TX79702	7377	24940	FORM 3160-3

OCD Reviewer	Condition
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	Cement is required to circulate on both surface and intermediate1 strings of casing
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