Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5 Lease Serial No. NMNM139404 BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. **✓** DRILL REENTER 1a. Type of work: 1b. Type of Well: ✓ Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone ✓ Multiple Zone STARLINER 23 FED 612H 2. Name of Operator 9. API Well No. EOG RESOURCES INCORPORATED 30-043-21380 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory wildcat/OIL WC 21N4W6;GALLUP 1111 BAGBY ST., SKY LOBBY 2, Houston, TX 77002 (713) 651-7000 4. Location of Well (Report location clearly and in accordance with any State requirements.\*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 23/T21N/R5W/NMP At surface NENW / 630 FNL / 1475 FWL / LAT 36.040301 / LONG -107.336838 At proposed prod. zone SESW / 1227 FSL / 1347 FWL / LAT 36.030864 / LONG -107.319496 12. County or Parish 14. Distance in miles and direction from nearest town or post office\* 13 State SANDOVAL NM 20 miles 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well 15 feet location to nearest 480.0 property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 630 feet FED: NM2308 4647 feet / 10767 feet applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* 23. Estimated duration 7201 feet 10/31/2020 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 2. A Drilling Plan. Item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 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 25. Signature Name (Printed/Typed) Date LACEY GRANILLO / Ph: (713) 651-7000 (Electronic Submission) 09/23/2020 Title Contractor Regulatory Specialist Approved by (Signature) Name (Printed/Typed) Date (Electronic Submission) 01/08/2021 RICHARD FIELDS / Ph: (505) 564-7612 Title Office Field Manager 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



#### Received by tOCD: 1/12/2021 11:57:28 AM

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

Revised August 1, 2011 Submit one copy to Appropriate District Office

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

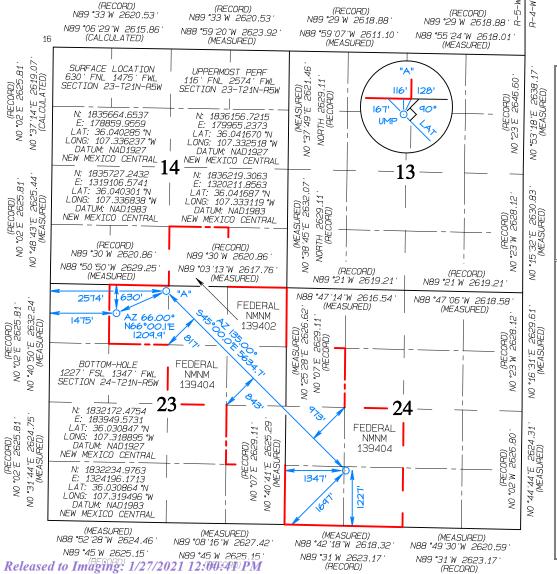
AMENDED REPORT

Form CPage 2 of 26

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

30-043-2												
⁴Property	Code				⁵Property Name					<sup>6</sup> Well Number		
330005					STARLINE	IER 23 FED				612H		
'OGRID N	√o.				°Operato	r Name			9 E	levation		
7377 EOG RESOURCES, INC								7201'				
					<sup>10</sup> Surface	Location			•			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County		
С	23	21N	5W		630	NORTH	1475	WE	ST	SANDOVAL		
		1	<sup>1</sup> Botto	m Hole	Location :	If Different F	rom Surfac	е				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County		
Ν	24	21N	5W		1227	SOUTH	1347	WE	ST	SANDOVAL		
Dedicated Acres 480.00			<sup>14</sup> Consolidatio	on Code	<sup>15</sup> Order No.				1			

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



OPERATOR CERTIFICATION "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

9/23/20

Date

Signature Lacey Granillo

lacey.granillo@eogresources.com

E-mail Address

#### <sup>18</sup> 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



**DWARDS** 15269

Certificate Number

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

Submit Original to Appropriate District Office

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

#### 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 new completion (new drill, recomplete to r	7 1	e well/production facility flaring/venting fo
Note: Form C-129 must be submitted and appro-	ved prior to exceeding 60 days allowed b	y 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  $\geq 30,000^{\circ}$  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
  - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

SANDOVAL

WEST

#### EOG RESOURCES, INC. STARLINER 23 FED NO. 612H

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 A	API Numbe	r		²Pool Cod	е		³Pool Nam	е			
							WILDCAT (	OIL			
⁴Property	Code				5Propert	<sup>5</sup> Property Name					
					612H						
OGRID N	No.		³Operator Name							°Elevation	
7377	7377 EOG RESOURCES, INC							7201'			
					<sup>10</sup> Surface	Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County	
С	23	21N	21N 5W 630 NORTH 1475 W							SANDOVAL	
		1	<sup>1</sup> Botto	m Hole	Location 1	[f Different F	rom Surfac	е			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/We	est line	County	

1227

SOUTH

1347

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

5W

21N

Nacimiento

24

Ν

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

	MD	TVD
Pictured Cliffs	1,514'	1,493'
Huerfanito Bentonite	1,831'	1,784'
Mesaverde	2,285'	2,194'
Menefee	3,147'	2,972'
Point Lookout	3,999'	3,787
Mancos Shale	4,126'	3,914'
Gallup	4,693'	4,459'
Horizontal TD	10,767	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.



#### 4. CASING PROGRAM - NEW

#### **Hole & Casing String:**

Hole			Csg				DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>	DF <sub>min</sub>
Size	Interval	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Joint	Body
	(MD)	(TVD)							Tension	Tension
17.5"	0'-300'	300'	13 3/8"	48#	H-40	STC	1.125	1.25	1.60	1.80
12.25"	0' - 3,286'	3,100'	9 5/8"	36#	J-55	LTC	1.125	1.25	1.60	1.80
8.75"	0'- 5,132'	4,647'	5 ½"	17#	P-110	BTC	1.125	1.25	1.60	1.80
8.5"	5,132'-	4,647'	5 ½"	17#	P-110	BTC	1.125	1.25	1.60	1.80
	10,767'									

#### **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:**

Cemen	t Desig	11.			
Depth	No. Sacks	Wt. lb/gal	Yld Ft <sup>3</sup> /sk	Volume Ft <sup>3</sup>	Slurry Description
		)			<b>,</b> 1
300'	315	14.8	1.34	422	Tail: Class 'C' + 2%PF1(Calcium Chloride) (100% excess)
3,286'	1000	12.8	1.79	1790	Lead: 35:65 Poz C + .02 gal/sk Anti Foam + 1% Extender
					+ .13 lb/sk Lost Circulation (TOC @ Surface) (100%
					excess)
	210	14.8	1.33	279	Tail: Class C + 0.13% Anti Foam
10,767	340	11.9	2.47	840	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
	1180	13	1.48	1746	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' - 3,286'	WBM	8.8-9.4	30-34	N/c	
Vertical					
3,286' – 10,767'	WBM	8.8-9.4	30-34	<10	OBM
Curve/Lateral					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.



#### 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 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.



#### 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.

INTER	NAL I	HYDROSTA	ATIC TEST	CERTIFICA	TE		
Customer:				Customer P.O	. Number:		
	GRAN	ID JUNCTION		17875	55		
		HOSE SPECI	FICATIONS				
Type: CHC	KE HO	DSE					
GRA	DE E	/ API 7K		Hose Length:	15 FEET		
I.D.	4	INCHES	O.D.	6.11	INCHES		
WORKING PRESS	URE	TEST PRESSU	RE	BURST PRESSU	RE		
10,000	PSI	15,000	PSI	N/A	PSI		
David No. 11			PLINGS	r			
Part Number E4.0X64W	·D	Stem Lot Nur		Ferrule Lot N			
E4.0X64W	_		9764 9764	N440 N440	_		
Type of Coupl		809	Die Size:	N440	0		
	WAGE-I	<b>-</b>					
	WAGE-I	•	6.62 INCHES				
		PROC	EDURE				
Hose	assembly	pressure tested w	rith water at ambier	nt temperature			
		TEST PRESSURE		BURST PRESSURE:			
	9 3/4	MIN.		N/A	PSI		
Hose Assemb	ly Seria	al Number:	Hose Serial N	lumber:			
	197000			10088			
Comments:							
Date:		Tested:		Approved:	17.		
4/10/2013		Bille	. Bolok	John L	Mr.		

April 10, 2013

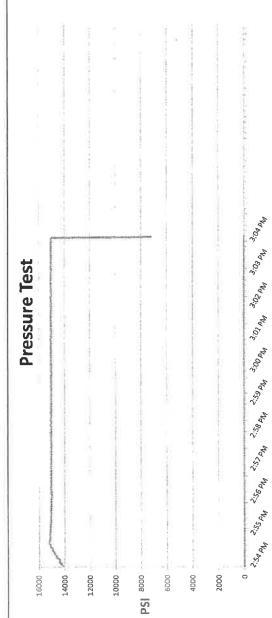
# Internal Hydrostatic Test Graph

Pick Ticket #: 197000

Customer: Grand J

Midwest Hose & Specialty, Inc.

Hose Assembly Serial # 197000 Coupling Method Final 0.D. 6.65" Verification Jie 2. 6.62 Hose Serial # 10088 Type of Fitting 4 1/16 10k Die Size Standard Safety Multiplier Applies **Burst Pressure** Length 15' 0.D. 6.11" Hose Specifications Working Pressure 10000 PSI I.D.



Time Held at Test Pressure 93/4 Minutes Test Pressure 15000 PSI

Actual Burst Pressure

3:03 PM

3.02 PM

3:01 PM

3:00 PM

M465:5

5.58 PM

4:56 PM

Siss PM

Time in Minutes

Approved By. Joshua Dahlem

Peak Pressure 15263 PSI

Tested By: Billy Balak

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

Released to Imaging: 1/27/2021 12:00:41 PM



## **EOG Resources - Artesia**

Sandoval County (NAD83) Starliner Starliner 23 Fed #612H

Lateral

Plan: Plan #1

## **Standard Planning Report**

22 September, 2020

# eog resources

#### **EOG Resources**

#### Planning Report

EDM Database: Company:

EOG Resources - Artesia

Sandoval County (NAD83)

Site: Starliner Starliner 23 Fed #612H

Well: Wellbore: Lateral Plan #1 Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well Starliner 23 Fed #612H KB @ 7219.0usft (Planning Rig) KB @ 7219.0usft (Planning Rig)

Minimum Curvature

Project Sandoval County (NAD83)

Map System: Geo Datum:

Map Zone:

Project:

US State Plane 1983 North American Datum 1983 New Mexico Central Zone

System Datum:

Mean Sea Level

Starliner Site

Northing: 1,835,702.50 usft Site Position: Latitude: 36° 2' 24.833 N From: Мар 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 #612H

**Well Position** +N/-S 24.7 usft Northing: 1,835,727.24 usft Latitude: 36° 2' 25.084 N +E/-W 60.1 usft Easting: 1,319,106.57 usft Longitude: 107° 20' 12.619 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) 8/25/2020 49,333.09014849 IGRF2020 8.70 62.69

Plan #1 Design Audit Notes: Version: Phase: PLAN Tie On Depth: 0.0 Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (usft) (usft) (usft) (°) 0.0 0.0 0.0 124.46

Plan Survey Tool Program 9/22/2020 Date

**Depth From** Depth To

(usft) (usft)

Survey (Wellbore) **Tool Name** Remarks

Plan #1 (Lateral) MWD 0.0 10,766.9

OWSG MWD - Standard

lan 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	
1,772.9	25.46	42.78	1,731.5	204.2	188.9	2.00	2.00	0.00	42.78	
3,109.3	25.46	42.78	2,938.0	625.8	579.1	0.00	0.00	0.00	0.00	
4,382.2	0.00	0.00	4,169.5	830.0	768.0	2.00	-2.00	0.00	180.00	
5,132.2	90.00	135.00	4,647.0	492.4	1,105.6	12.00	12.00	18.00	135.00	
10,766.9	90.00	135.00	4,647.0	-3,492.3	5,089.6	0.00	0.00	0.00	0.00 [	F23F#612H]PBHL

# EOG Resources Planning Report



Database: EDM

Company: EOG Resources - Artesia
Project: Sandoval County (NAD83)

Site: Starliner

Well: Starliner 23 Fed #612H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well Starliner 23 Fed #612H KB @ 7219.0usft (Planning Rig) KB @ 7219.0usft (Planning Rig)

Grid

ned 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*/10	0' NUDGE								
600.0	2.00	42.78	600.0	1.3	1.2	0.3	2.00	2.00	0.00
700.0	4.00	42.78	699.8	5.1	4.7	1.0	2.00	2.00	0.00
800.0	6.00	42.78	799.5	11.5	10.7	2.3	2.00	2.00	0.00
900.0	8.00	42.78	898.7	20.5	18.9	4.0	2.00	2.00	0.00
1,000.0	10.00	42.78	997.5	31.9	29.6	6.3	2.00	2.00	0.00
1,100.0	12.00	42.78	1,095.6	45.9	42.5	9.1	2.00	2.00	0.00
1,200.0	14.00	42.78	1,193.1	62.5	57.8	12.3	2.00	2.00	0.00
1,300.0									
	16.00	42.78	1,289.6	81.5	75.4	16.1	2.00	2.00	0.00
1,400.0	18.00	42.78	1,385.3	102.9	95.2	20.3	2.00	2.00	0.00
1,500.0	20.00	42.78	1,479.8	126.8	117.3	25.0	2.00	2.00	0.00
1,514.0	20.28	42.78	1,493.0	130.4	120.6	25.7	2.00	2.00	0.00
Pictured Clif		12.70	1,100.0	100.1	120.0	20.7	2.00	2.00	0.00
		40.70	4 570 0	450.4	444.7	20.0	2.00	0.00	0.00
1,600.0	22.00	42.78	1,573.2	153.1	141.7	30.2	2.00	2.00	0.00
1,700.0	24.00	42.78	1,665.2	181.8	168.2	35.8	2.00	2.00	0.00
1,772.9	25.46	42.78	1,731.5	204.2	188.9	40.3	2.00	2.00	0.00
1,800.0	25.46	42.78	1,755.9	212.7	196.8	41.9	0.00	0.00	0.00
1,831.1	25.46	42.78	1,784.0	222.5	205.9	43.9	0.00	0.00	0.00
		42.70	1,704.0	222.0	200.0	40.9	0.00	0.00	0.00
Huerfanito E									
1,900.0	25.46	42.78	1,846.2	244.3	226.0	48.2	0.00	0.00	0.00
2,000.0	25.46	42.78	1,936.5	275.8	255.2	54.4	0.00	0.00	0.00
2,100.0	25.46	42.78	2,026.8	307.4	284.4	60.6	0.00	0.00	0.00
2,200.0	25.46	42.78	2,117.1	338.9	313.6	66.8	0.00	0.00	0.00
2,285.2	25.46	42.78	2,117.1	365.8	338.5	72.1	0.00	0.00	0.00
	23.40	42.70	2,194.0	303.0	330.3	72.1	0.00	0.00	0.00
Mesaverde									
2,300.0	25.46	42.78	2,207.3	370.5	342.8	73.1	0.00	0.00	0.00
2,400.0	25.46	42.78	2,297.6	402.0	372.0	79.3	0.00	0.00	0.00
2,500.0	25.46	42.78	2,387.9	433.6	401.2	85.5	0.00	0.00	0.00
0.000.0	05.40	40.70	0.470.0	405.4	400.4	04.7	0.00	0.00	0.00
2,600.0	25.46	42.78	2,478.2	465.1	430.4	91.7	0.00	0.00	0.00
2,700.0	25.46	42.78	2,568.5	496.7	459.6	97.9	0.00	0.00	0.00
2,800.0	25.46	42.78	2,658.8	528.2	488.8	104.2	0.00	0.00	0.00
2,900.0	25.46	42.78	2,749.1	559.8	518.0	110.4	0.00	0.00	0.00
3,000.0	25.46	42.78	2,839.4	591.3	547.2	116.6	0.00	0.00	0.00
3,109.3	25 16	42.78	2 030 U	62E 0	570 1	100 /	0.00	0.00	0.00
	25.46		2,938.0	625.8	579.1	123.4	0.00		0.00
3,146.8	24.71	42.78	2,972.0	637.5	589.9	125.7	2.00	-2.00	0.00
Menefee									
3,200.0	23.64	42.78	3,020.6	653.5	604.7	128.9	2.00	-2.00	0.00
3,300.0	21.64	42.78	3,112.8	681.7	630.8	134.4	2.00	-2.00	0.00
3,400.0	19.64	42.78	3,206.4	707.6	654.8	139.5	2.00	-2.00	0.00
3,500.0	17.64	42.78	3,301.2	731.1	676.5	144.2	2.00	-2.00	0.00
3,600.0	15.64	42.78	3,397.0	752.1	695.9	148.3	2.00	-2.00	0.00
3,700.0	13.64	42.78	3,493.7	770.7	713.1	152.0	2.00	-2.00	0.00
3,800.0	11.64	42.78	3,591.3	786.7	728.0	155.1	2.00	-2.00	0.00
3,900.0	9.64	42.78	3,689.6	800.3	740.5	157.8	2.00	-2.00	0.00
3,998.6	7.67	42.78	3,787.0	811.2	750.6	160.0	2.00	-2.00	0.00
Point Looko	ut								

# EOG Resources Planning Report



Database: E

EDM

EOG Resources - Artesia Sandoval County (NAD83)

Project: Site:

Well:

Starliner

Starliner 23 Fed #612H

Wellbore: Design: Lateral Plan #1 Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well Starliner 23 Fed #612H

KB @ 7219.0usft (Planning Rig) KB @ 7219.0usft (Planning Rig)

Grid

esign:	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)
4,100.0 4,126.4 <b>Mancos</b>	5.64 5.12	42.78 42.78	3,887.7 3,914.0	819.8 821.6	758.6 760.2	161.7 162.0	2.00 2.00	-2.00 -2.00	0.00 0.00
4,200.0	3.64	42.78	3,987.4	825.7	764.1	162.8	2.00	-2.00	0.00
4,300.0	1.64	42.78	4,087.3	829.1	767.2	163.5	2.00	-2.00	0.00
4,382.2	0.00	42.78	4,169.5	830.0	768.0	163.7	2.00	-2.00	0.00
KOP 12*/100		.2 0	.,	000.0			2.00	2.00	0.00
4,400.0	2.13	135.00	4,187.3	829.8	768.2	164.0	11.99	11.99	518.13
4,425.0	5.13	135.00	4,212.2	828.6	769.4	165.5	12.00	12.00	0.00
4,450.0	8.13	135.00	4,237.1	826.6	771.4	168.4	12.00	12.00	0.00
4,475.0	11.13	135.00	4,261.7	823.6	774.4	172.5	12.00	12.00	0.00
4,500.0	14.13	135.00	4,286.1	819.8	778.2	177.9	12.00	12.00	0.00
4,525.0	17.13	135.00	4,310.2	815.0	783.0	184.5	12.00	12.00	0.00
4,550.0 4,575.0	20.13 23.13	135.00 135.00	4,333.9 4,357.1	809.4 802.8	788.6 795.1	192.4 201.4	12.00 12.00 12.00	12.00 12.00 12.00	0.00 0.00 0.00
4,600.0	26.13	135.00	4,379.8	795.5	802.5	211.7	12.00	12.00	0.00
4,625.0	29.13	135.00	4,402.0	787.3	810.7	223.1	12.00	12.00	0.00
4,650.0	32.13	135.00	4,423.5	778.3	819.7	235.6	12.00	12.00	0.00
4,675.0	35.13	135.00	4,444.3	768.5	829.5	249.2	12.00	12.00	0.00
4,693.3 <b>Gallup</b>	37.32	135.00	4,459.0	760.9	837.1	259.8	12.00	12.00	0.00
Gallup									
4,700.0	38.13	135.00	4,464.3	757.9	840.1	263.9	12.00	12.00	0.00
4,725.0	41.13	135.00	4,483.6	746.7	851.3	279.5	12.00	12.00	0.00
4,750.0	44.13	135.00	4,502.0	734.7	863.3	296.2	12.00	12.00	0.00
4,775.0	47.13	135.00	4,519.5	722.0	875.9	313.7	12.00	12.00	0.00
4,800.0	50.13	135.00	4,536.0	708.8	889.2	332.2	12.00	12.00	0.00
4,825.0	53.13	135.00	4,551.5	694.9	903.1	351.5	12.00	12.00	0.00
4,850.0	56.13	135.00	4,566.0	680.5	917.5	371.5	12.00	12.00	0.00
4,875.0	59.13	135.00	4,579.3	665.6	932.4	392.2	12.00	12.00	0.00
4,900.0	62.13	135.00	4,591.6	650.2	947.8	413.7	12.00	12.00	0.00
4,925.0	65.13	135.00	4,602.7	634.3	963.6	435.7	12.00	12.00	0.00
4,950.0	68.13	135.00	4,612.6	618.1	979.9	458.2	12.00	12.00	0.00
4,975.0	71.13	135.00	4,621.3	601.5	996.4	481.3	12.00	12.00	0.00
5,000.0	74.13	135.00	4,628.8	584.7	1,013.3	504.7	12.00	12.00	0.00
5,025.0	77.13	135.00	4,635.0	567.5	1,030.4	528.5	12.00	12.00	0.00
5,050.0	80.13	135.00	4,639.9	550.2	1,047.7	552.6	12.00	12.00	0.00
5,075.0	83.13	135.00	4,643.5	532.7	1,065.2	576.9	12.00	12.00	0.00
5,100.0	86.13	135.00	4,645.9	515.1	1,082.8	601.4	12.00	12.00	0.00
5,125.0	89.13	135.00	4,646.9	497.5	1,100.5	626.0	12.00	12.00	0.00
5,132.2	90.00	135.00	4,647.0	492.4	1,105.6	633.0	12.00	12.00	0.00
	EOC 5132' MD (	,							
5,200.0	90.00	135.00	4,647.0	444.4	1,153.5	699.7	0.00	0.00	0.00
5,300.0	90.00	135.00	4,647.0	373.7	1,224.2	798.0	0.00	0.00	0.00
5,400.0	90.00	135.00	4,647.0	303.0	1,294.9	896.3	0.00	0.00	0.00
5,500.0	90.00	135.00	4,647.0	232.3	1,365.6	994.6	0.00	0.00	0.00
5,600.0	90.00	135.00	4,647.0	161.6	1,436.3	1,092.9	0.00	0.00	0.00
5,700.0	90.00	135.00	4,647.0	90.8	1,507.0	1,191.3	0.00	0.00	0.00
5,800.0	90.00	135.00	4,647.0	20.1	1,577.8	1,289.6	0.00	0.00	0.00
5,900.0	90.00	135.00	4,647.0	-50.6	1,648.5	1,387.9	0.00	0.00	0.00
6,000.0	90.00	135.00	4,647.0	-121.3	1,719.2	1,486.2	0.00	0.00	0.00
6,100.0	90.00	135.00	4,647.0	-192.0	1,789.9	1,584.5	0.00	0.00	0.00
6,200.0	90.00	135.00	4,647.0	-262.7	1,860.6	1,682.8	0.00	0.00	0.00
6,300.0	90.00	135.00	4,647.0	-333.5	1,931.3	1,781.1	0.00	0.00	0.00

**EOG Resources**Planning Report

**b**eog resources

Database: EDM Company: EOG

Project:

EOG Resources - Artesia Sandoval County (NAD83)

Site: Starliner

Well: Starliner 23 Fed #612H

Wellbore: Lateral Design: Plan #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well Starliner 23 Fed #612H KB @ 7219.0usft (Planning Rig) KB @ 7219.0usft (Planning Rig)

Grid

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	135.00	4,647.0	-404.2	2.002.0	1,879.4	0.00	0.00	0.00
6,500.0	90.00	135.00	4,647.0	-474.9	2,002.0	1,977.7	0.00	0.00	0.00
6,600.0	90.00	135.00	4,647.0	-545.6	2,072.7	2,076.0	0.00	0.00	0.00
6,700.0	90.00	135.00	4,647.0	-616.3	2,143.4	2,070.0	0.00	0.00	0.00
6,800.0	90.00	135.00	4,647.0	-687.0	2,284.8	2,272.7	0.00	0.00	0.00
6,900.0	90.00	135.00	4,647.0	-757.8	2,355.5	2,371.0	0.00	0.00	0.00
7,000.0	90.00	135.00	4,647.0	-828.5	2,426.2	2,469.3	0.00	0.00	0.00
7,100.0	90.00	135.00	4,647.0	-899.2	2,496.9	2,567.6	0.00	0.00	0.00
7,200.0	90.00	135.00	4,647.0	-969.9	2,567.6	2,665.9	0.00	0.00	0.00
7,300.0	90.00	135.00	4,647.0	-1,040.6	2,638.3	2,764.2	0.00	0.00	0.00
7,400.0	90.00	135.00	4,647.0	-1,111.3	2,709.0	2,862.5	0.00	0.00	0.00
7,500.0	90.00	135.00	4,647.0	-1,182.1	2,779.7	2,960.8	0.00	0.00	0.00
7,600.0	90.00	135.00	4,647.0	-1,252.8	2,850.4	3,059.1	0.00	0.00	0.00
7,700.0	90.00	135.00	4,647.0	-1,323.5	2,921.1	3,157.5	0.00	0.00	0.00
7,800.0	90.00	135.00	4.647.0		2,991.9	3,255.8	0.00	0.00	0.00
7,800.0 7,900.0	90.00	135.00	4,647.0 4,647.0	-1,394.2 -1,464.9	3,062.6	3,255.8 3,354.1	0.00	0.00	0.00
7,900.0 8,000.0		135.00					0.00		0.00
,	90.00	135.00	4,647.0	-1,535.6 -1,606.3	3,133.3	3,452.4		0.00	
8,100.0 8,200.0	90.00 90.00	135.00	4,647.0 4,647.0	-1,606.3 -1,677.1	3,204.0 3,274.7	3,550.7 3,649.0	0.00 0.00	0.00 0.00	0.00 0.00
8,300.0	90.00	135.00	4,647.0	-1,747.8	3,345.4	3,747.3	0.00	0.00	0.00
8,400.0	90.00	135.00	4,647.0	-1,818.5	3,416.1	3,845.6	0.00	0.00	0.00
8,500.0	90.00	135.00	4,647.0	-1,889.2	3,486.8	3,943.9	0.00	0.00	0.00
8,600.0	90.00	135.00	4,647.0	-1,959.9	3,557.5	4,042.2	0.00	0.00	0.00
8,700.0	90.00	135.00	4,647.0	-2,030.6	3,628.2	4,140.6	0.00	0.00	0.00
8,800.0	90.00	135.00	4,647.0	-2,101.4	3,698.9	4,238.9	0.00	0.00	0.00
8,900.0	90.00	135.00	4,647.0	-2,172.1	3,769.6	4,337.2	0.00	0.00	0.00
9,000.0	90.00	135.00	4,647.0	-2,242.8	3,840.3	4,435.5	0.00	0.00	0.00
9,100.0	90.00	135.00	4,647.0	-2,313.5	3,911.0	4,533.8	0.00	0.00	0.00
9,200.0	90.00	135.00	4,647.0	-2,384.2	3,981.7	4,632.1	0.00	0.00	0.00
9,300.0	90.00	135.00	4,647.0	-2,454.9	4,052.4	4,730.4	0.00	0.00	0.00
9,400.0	90.00	135.00	4,647.0	-2,525.7	4,123.1	4,828.7	0.00	0.00	0.00
9,500.0	90.00	135.00	4,647.0	-2,596.4	4,193.8	4,927.0	0.00	0.00	0.00
9,600.0	90.00	135.00	4,647.0	-2,667.1	4,264.5	5,025.3	0.00	0.00	0.00
9,700.0	90.00	135.00	4,647.0	-2,737.8	4,335.3	5,123.7	0.00	0.00	0.00
9,800.0	90.00	135.00	4,647.0	-2,808.5	4,406.0	5,222.0	0.00	0.00	0.00
9,900.0	90.00	135.00	4,647.0	-2,879.2	4,476.7	5,320.3	0.00	0.00	0.00
10,000.0	90.00	135.00	4,647.0	-2,950.0	4,547.4	5,418.6	0.00	0.00	0.00
10,100.0	90.00	135.00	4,647.0	-3,020.7	4,618.1	5,516.9	0.00	0.00	0.00
10,200.0	90.00	135.00	4,647.0	-3,091.4	4,688.8	5,615.2	0.00	0.00	0.00
10,300.0	90.00	135.00	4,647.0	-3,162.1	4,759.5	5,713.5	0.00	0.00	0.00
10,400.0	90.00	135.00	4,647.0	-3,232.8	4,830.2	5,811.8	0.00	0.00	0.00
10,500.0	90.00	135.00	4,647.0	-3,303.5	4,900.9	5,910.1	0.00	0.00	0.00
10,600.0	90.00	135.00	4,647.0	-3,374.3	4,971.6	6,008.4	0.00	0.00	0.00
10,700.0	90.00	135.00	4,647.0	-3,445.0	5,042.3	6,106.8	0.00	0.00	0.00
10,766.9	90.00	135.00	4,647.0	-3,492.3	5,089.6	6,172.5	0.00	0.00	0.00
	EOL 10767" MD		1,047.0	0, 702.0	5,005.0	0,172.0	0.00	0.00	0.00

# eog resources

#### **EOG Resources**

#### **Planning Report**

EDM Database: Company:

EOG Resources - Artesia Project: Sandoval County (NAD83)

Site: Starliner Well: Starliner 23 Fed #612H

Wellbore: Lateral Design: Plan #1 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well Starliner 23 Fed #612H KB @ 7219.0usft (Planning Rig) KB @ 7219.0usft (Planning Rig)

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#612H]PBHL - plan hits target center - Point	0.00 er	360.00	4,647.0	-3,492.3	5,089.6	1,832,234.98	1,324,196.17	36° 1' 51.109 N	107° 19' 10.185 W
[F23F#612H]FTP - plan hits target center - Point	0.00 er	360.00	4,647.0	492.4	1,105.6	1,836,219.61	1,320,212.16	36° 2' 30.075 N	107° 19' 59.225 W

Formations							
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
	1,514.0	1,493.0	Pictured Cliffs				
	1,831.1	1,784.0	Huerfanito Bentonite				
	2,285.2	2,194.0	Mesaverde				
	3,146.8	2,972.0	Menefee				
	3,998.6	3,787.0	Point Lookout				
	4,126.4	3,914.0	Mancos				
	4,693.3	4,459.0	Gallup				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coord +N/-S (usft)	dinates +E/-W (usft)	Comment
500.0	500.0	0.0	0.0	BEGIN 2*/100' NUDGE
4,382.2	4,169.5	830.0	768.0	KOP 12*/100'
5,132.2	4,647.0	492.4	1,105.6	[S23F#612H]EOC 5132' MD (4647' TVD)
10,766.9	4,647.0	-3,492.3	5,089.6	[S23F#612H]EOL 10767" MD (4647' TVD)

Received by OCD: 1/12/2021 11:57:28 AM DESIGN TARGET DETAILS

[F23F#612H]FTP - plan hits target center

**Project:Sandoval County (NAD83)** 

Well: Starliner 23 Fed #612H

PROJECT DETAILS: Sandoval County (NAD83)

Datum: North American Datum 1983

**Zone: New Mexico Central Zone** 

4647.0

TVD

4647.0

+N/-S 492.4

-3492.3

BEGIN 2\*/100' NUDGE

+E/-W 1105.6

5089.6

Northing 1836219.61

Easting 1320212.16

1324196.17

Page 17 of 26

[F23F#612H]PBHL - plan hits target center

Site: Starliner

Wellbore: Lateral

**Ground Elevation 7201.0** 

Design: Plan #1

Northing 1835727.24

KB @ 7219.0usft (Planning Rig)

**Easting 1319106.57** 

Geodetic System: US State Plane 1983

Ellipsoid: GRS 1980

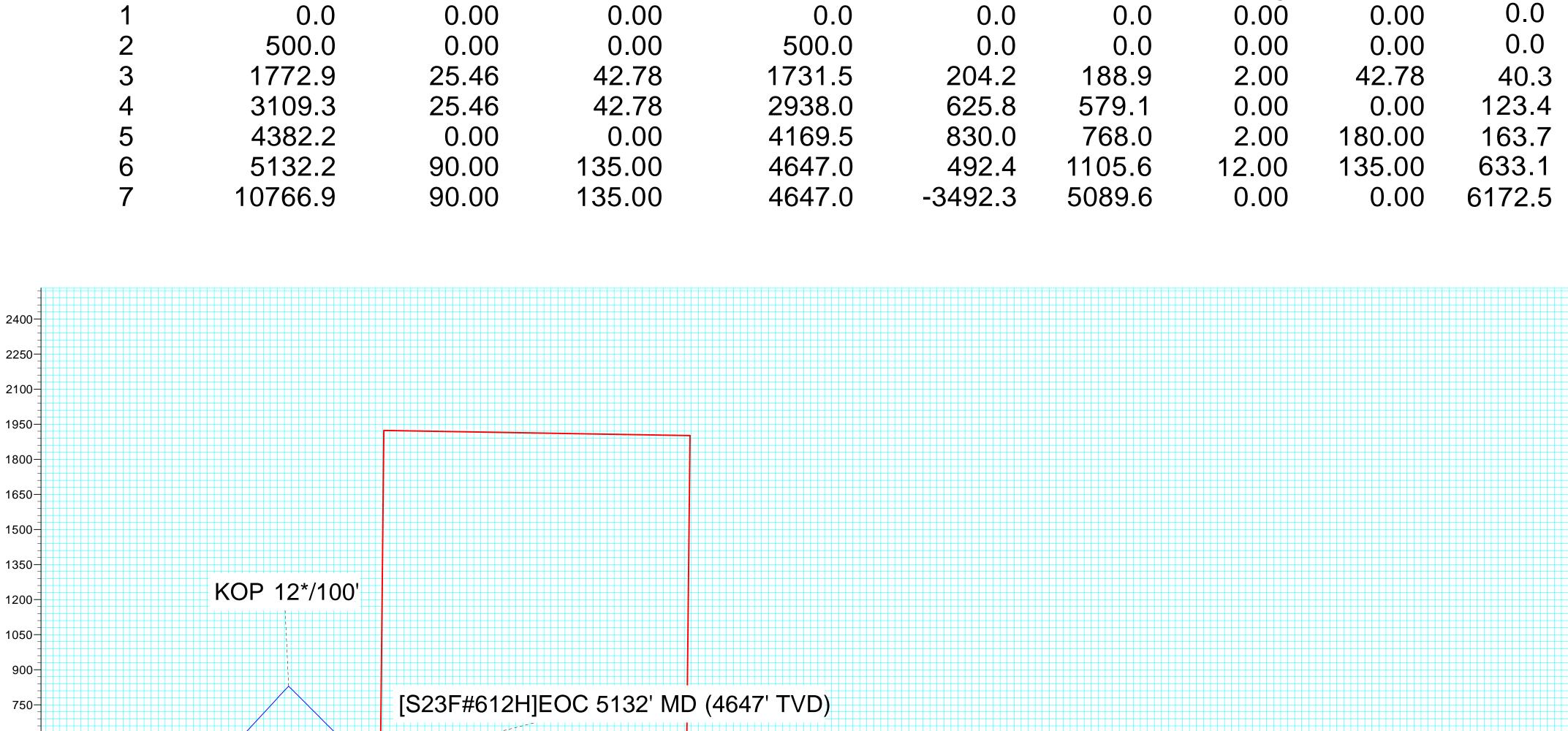
System Datum: Mean Sea Level

Name

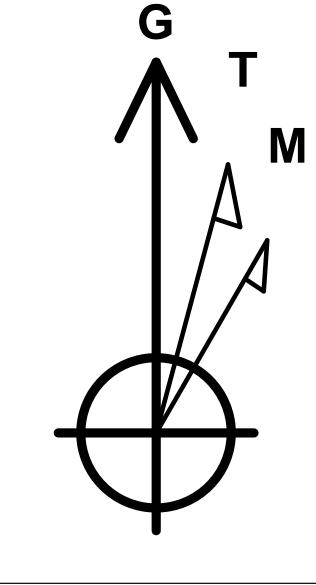
SECTION DETAILS

1832234.98

**VSect TFace** Sec +N/-S +E/-W TVD Dleg Azi Inc 0.00 0.00 0.00 500.0 500.0 0.00 204.2 1772.9 25.46 42.78 42.78 1731.5 188.9 579.1 3109.3 25.46 42.78 2938.0 625.8 0.00 4382.2 0.00 4169.5 768.0 180.00 0.00 830.0 5132.2 90.00 135.00 135.00 4647.0 492.4 1105.6 12.00



BEGIN 2\*/100' NUDGE



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

Magnetic Field Strength: 49333.1nT Dip Angle: 62.69° Date: 8/25/2020 Model: IGRF2020



[S23F#612H]EOC 5132' MD (4647' TVD)

KOP 12\*/100'

[S23F#612H]EOL 10767" MD (4647' TVD)

[S23F#612H]EOL 10767" MD (4647' TVD)

 $4800^{\frac{1}{1}}$ Rete 310 Pio Tangling: 120 Pio

[S23F#612H]HSU



## 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

#612H Starliner 23 Fed

Lease: NMNM139404 Unit:

SH: NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> Section 23, T.21 N., R.5 W.

BH: SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> Section 24, 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 <b>prior</b> 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. <u>SAFETY</u>

- 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

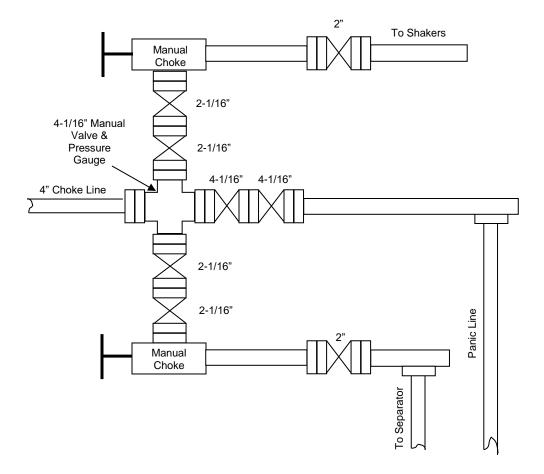
- A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required 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:

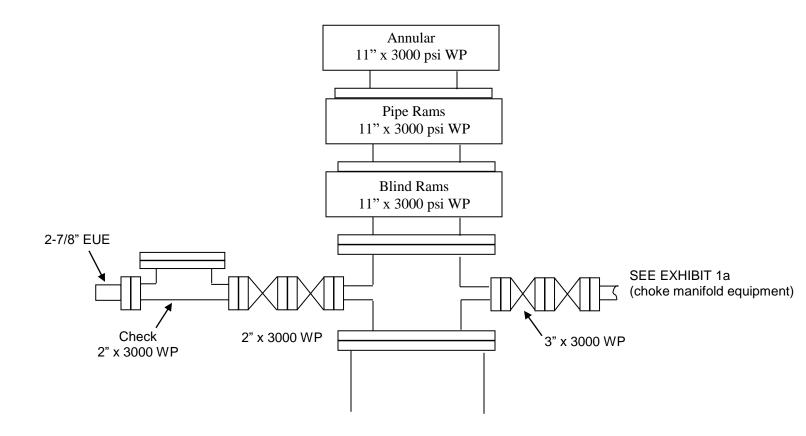
Virgil Lucero (505) 793-1836

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



**EXHIBIT 1** 

EOG Resources 3000 PSI BOPE



<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

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 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 14496

#### **COMMENTS**

Operator:			OGRID:	Action Number:	Action Type:
EOG RESOURCES INC	P.O. Box 2267	Midland, TX79702	7377	14496	FORM 3160-3

Created By	Comment	Comment Date
kpickford	KP GEO Review 1/13/2020	01/13/2021

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

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

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 14496

#### **CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
EOG RESOURCES INC	P.O. Box 2267	Midland, TX79702	7377	14496	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