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. NMNM112935 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 ALMOST EDDY 30 FED COM [330825] 503H 2. Name of Operator 9. API Well No. 30-025-49008 EOG RESOURCES INCORPORATED [7377] 10. Field and Pool, or Exploratory 3a. Address 3b. Phone No. (include area code) [979031 BRADLEY; BONE SPRING 1111 BAGBY 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 30/T25S/R32E/NMP At surface LOT 3 / 1870 FSL / 387 FWL / LAT 32.0991948 / LONG -103.7218061 At proposed prod. zone TR N / 100 FNL / 1479 FWL / LAT 32.0798271 / LONG -103.7182922 12. County or Parish 14. Distance in miles and direction from nearest town or post office\* 13 State LEA NM 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well 100 feet location to nearest 484.0 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, 33 feet FED: 10430 feet / 18153 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 3340 feet 03/15/2021 25 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. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date (Electronic Submission) STAR HARRELL / Ph: (713) 651-7000 09/14/2020 Title Regulatory Specialist Approved by (Signature) Date Name (Printed/Typed) (Electronic Submission) 05/06/2021 Cody Layton / Ph: (575) 234-5959 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. GCP Rec 05/07/2021

SL

(Continued on page 2)



\*(Instructions on page 2)

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 Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources
Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

FORM C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

AMENDED REPORT

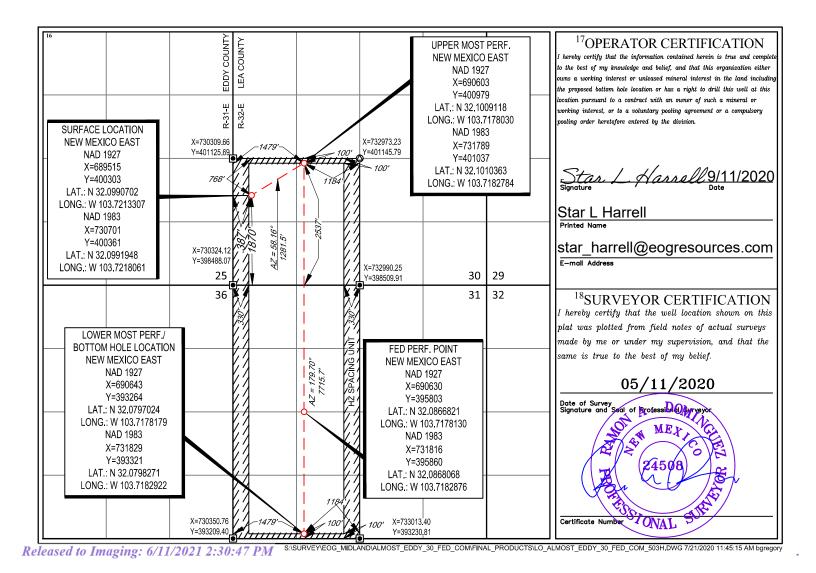
### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <sup>2</sup> Pool Code 97903		<sup>3</sup> Pool Name WC-025 G-08 S253235G;LOWER E	BONE SPRING				
330825			Property Name DDY 30 FED COM 503H				
<sup>7</sup> OGRID No. 7377		-1	perator Name SOURCES, INC.	<sup>9</sup> Elevation 3340'			

<sup>10</sup>Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
3	30	25-S	32-E	_	-   1870'   SOUTH   387		387'	WEST	LEA
			11	Bottom Ho	le Location If I	Different From Su	rface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	31	25-S	32-E	_	100'	SOUTH	1479'	WEST	LEA
12Dedicated Acres	<sup>13</sup> Joint or l	infill 14Co	nsolidation Co	de <sup>15</sup> Ord	er No.			•	
484.21									

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.



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: <u>5/7/2021</u>	Lea County, NM		
⊠ 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
Almost Eddy 30 Fed Com 501H	30-025- ****	L-30-25S-32E	1936' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 502H	30-025- ****	L-30-25S-32E	1903' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 503H <b>30-025-49008</b>	30-025- ****	L-30-25S-32E	1870' FSL & 387' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 504H	30-025- ****	K-30-25S-32E	1948' FSL & 2390' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 505H	30-025- ****	K-30-25S-32E	1974' FSL & 2410' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 506H	30-025- ****	K-30-25S-32E	2000' FSL & 2430' FWL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 507H	30-025- ****	I-30-25S-32E	2182' FSL & 758' FEL	±3500	None Planned	APD Submission
Almost Eddy 30 Fed Com 508H	30-025- ****	I-30-25S-32E	2182' FSL & 725' FEL	±3500	None Planned	APD Submission

### **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to <a href="Enlink">Enlink</a>, <a href="MarkWest">MarkWest</a>, <a href="Enlink">Enterprise</a>, <a href="Enlink">Energy Transfer Company & Lucid</a> and will be connected to <a href="EOG Resources">EOG Resources</a> provides (periodically) to <a href="Enlink">Enlink</a>, <a href="MarkWest">MarkWest</a>, <a href="Enlink">Enterprise</a>, <a href="Energy Transfer Company & Lucid">Enlink</a>, <a href="MarkWest">MarkWest</a>, <a href="Enlink">Enterprise</a>, <a href="Energy Transfer Company & Lucid">Enlink</a>, <a href="MarkWest">MarkWest</a>, <a href="Enlink">Enterprise</a>, <a href="Enlink">Energy Transfer Company & Lucid</a></a> have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at <a href="Enlink">Enlink</a>, <a href="MarkWest">MarkWest</a>, <a href="Enlink">Enterprise</a>, <a href="Enlink">Energy Transfer Company & Lucid</a></a> Processing Plant located in Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### 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 on **Enlink, MarkWest, Enterprise, Energy Transfer Company & Lucid** system at that time. Based on current information, it is **EOG Resources**' 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
  - o 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

### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

# 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	975'
Tamarisk Anhydrite	1,045'
Top of Salt	1,300'
Base of Salt	4,180'
Lamar	4,385'
Bell Canyon	4,410'
Cherry Canyon	5,360'
Brushy Canyon	6,865'
Bone Spring Lime	8,425'
Leonard A Shale	8,525'
Leonard B Shale	8,855'
1 <sup>st</sup> Bone Spring Sand	9,355'
2 <sup>nd</sup> Bone Spring Shale	9,665'
2 <sup>nd</sup> Bone Spring Sand	10,050'
TD	10,430'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	5,360'	Oil
Brushy Canyon	6,865'	Oil
Leonard A Shale	8,525'	Oil
Leonard B Shale	8,855'	Oil
1 <sup>st</sup> Bone Spring Sand	9,355'	Oil
2 <sup>nd</sup> Bone Spring Shale	9,665'	Oil
2 <sup>nd</sup> Bone Spring Sand	10,050'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 1,070' and circulating cement back to surface.

### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	DF <sub>min</sub>	$\mathbf{DF_{min}}$
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
17.5"	0' - 1,070'	13.375"	54.5#	J-55	STC	1.125	1.25	1.60
12.25"	0'-4,000'	9.625"	40#	J-55	LTC	1.125	1.25	1.60
12.25"	4,000' - 4,280'	9.625"	40#	HCK-55	LTC	1.125	1.25	1.60
8.75"	0'- 10,864'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60
8.5"	10,864'-	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60
	18,153'							

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 12-1/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 12-1/4" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4" hole interval to maximize cement bond and zonal isolation.

# **Cementing Program:**

Depth	No. Sacks	Wt.	Yld Ft <sup>3</sup> /sk	Slurry Description
_				·
1,070'	470	13.5	1.73	Lead: Class C + $4.0\%$ Bentonite + $0.5\%$ CaCl <sub>2</sub> + $0.25$ lb/sk
				Cello-Flake (TOC @ Surface)
	160	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2%
				Sodium Metasilicate (TOC @ 870')
4,280'	630	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx
				(TOC @ Surface)
	280	14.8	1.32	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 3,430')
18,153'	630	11.0	3.21	Lead: Class C + 3% CaCl2 + 3% Microbond (TOC @ 3,780')
	1,950	14.4	1.2	Tail: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3%
				Microbond (TOC @ 10,114')

Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Sodium Chloride	Accelerator
FL-62	Fluid loss control
Halad-344	Fluid loss control
Halad-9	Fluid loss control
HR-601	Retarder
Microbond	Expansive Agent

Cement integrity tests will be performed immediately following plug bump.

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

### 5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

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

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-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.

EOG will utilize wing unions on BOPE connections that can be isolated from wellbore pressure through means of a choke. All wing unions will be rated to a pressure that meets or exceeds the pressure rating of the BOPE system.

Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 10,000/250 psig and the annular preventer to 5,000/250 psig.

Pipe rams and blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

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

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

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

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0-1,070	Fresh - Gel	8.6-8.8	28-34	N/c
1,070' - 4,280'	Brine	8.6-8.8	28-34	N/c
4,280' – 18,153'	Oil Base	8.8-9.5	58-68	N/c - 6

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

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

# 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

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

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

Open-hole logs are not planned for this well.

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

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

The estimated bottom-hole temperature (BHT) at TD is 174 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,152 psig and a maximum anticipated surface pressure of 2,858 psig (based on 9.5 ppg MW). No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 6,865' to TD.

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

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

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. 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 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10,000 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 10,000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Cameron Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

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. EOG Resources reserves the option to conduct BOPE testing during wait on cement periods provided a test plug is utilized.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

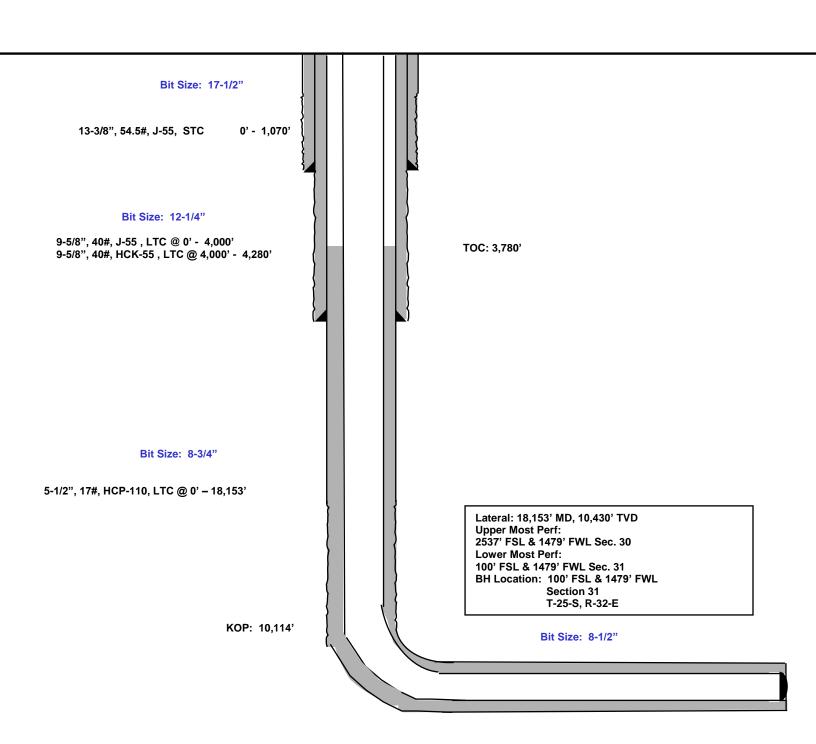
Casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

1870' FSL 387' FWL Section 30 T-25-S, R-32-E

**Proposed Wellbore** 

KB: 3,365' GL: 3,340'

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





# **EOG Resources - Midland**

Lea County, NM (NAD 83 NME) Almost Eddy 30 Fed Com #503H

OH

Plan: Plan #0.1 RT

# **Standard Planning Report**

17 July, 2020

# eog resources

### **EOG Resources**

#### Planning Report

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: OH

**Audit Notes:** 

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

 TVD Reference:
 kb = 25' @ 3365.007ft

 MD Reference:
 kb = 25' @ 3365.007ft

Well #503H

North Reference: Grid

Survey Calculation Method: Minimum Curvature

Project Lea County, NM (NAD 83 NME)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983

Geo Datum: North American Datum 198:
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Almost Eddy 30 Fed Com

400,427.80 ft Site Position: Northing: 32.099377 Latitude: Мар 730,702.46 ft Longitude: -103.721805 From: Easting: **Position Uncertainty:** 0.000 ft Slot Radius: 13.20 in **Grid Convergence:** 0.325°

Well #503H

 Well Position
 +N/-S
 -66.000 ft
 Northing:
 400,361.80 ft
 Latitude:
 32.099196

 +E/-W
 0.000 ft
 Easting:
 730,702.46 ft
 Longitude:
 -103.721806

Position Uncertainty 0.000 ft Wellhead Elevation: Ground Level: 3,340.007 ft

Wellbore OH

Magnetics Model Name Sample Date Declination Dip Angle Field Strength

(°) (°) (nT)

 IGRF2020
 7/16/2020
 6.713
 59.794
 47,500.20457402

 Design
 Plan #0.1 RT

Version: PLAN Tie On Depth: 0.000

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

 (ft)
 (ft)
 (ft)
 (°)

 0.000
 0.000
 0.000
 170.892

Plan Survey Tool Program Date 7/17/2020

Depth From Depth To
(ft) (ft) Survey (Wellbore) Tool Name Remarks

1 0.000 18,152.598 Plan #0.1 RT (OH) EOG MWD+IFR1

MWD + IFR1

# eog resources

### **EOG Resources**

### **Planning Report**

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: 0H

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.000	
1,170.002	0.00	0.000	1,170.002	0.000	0.000	0.00	0.00	0.00	0.000	
1,909.947	14.80	56.286	1,901.747	52.746	79.047	2.00	2.00	0.00	56.286	
6,286.651	14.80	56.286	6,133.269	673.255	1,008.955	0.00	0.00	0.00	0.000	
7,026.595	0.00	0.005	6,865.013	726.001	1,088.002	2.00	-2.00	0.00	180.000	
10,114.101	0.00	0.005	9,952.519	726.001	1,088.002	0.00	0.00	0.00	0.005	KOP(Almost Eddy 30
10,334.553	26.46	180.000	10,165.220	676.001	1,088.002	12.00	12.00	81.65	180.000	FTP(Almost Eddy 30
10,864.078	90.00	179.693	10,429.964	248.548	1,089.585	12.00	12.00	-0.06	-0.342	
15,613.702	90.00	179.693	10,430.020	-4,501.009	1,115.002	0.00	0.00	0.00	0.000	Fed Perf 1(Almost Ed
18,152.598	90.00	179.693	10,430.050	-7,039.868	1,128.589	0.00	0.00	0.00	0.000	PBHL(Almost Eddy 30

# **EOG Resources Planning Report**

eog resources

EDM Database:

EOG Resources - Midland Company: Lea County, NM (NAD 83 NME) Project: Almost Eddy 30 Fed Com Site:

#503H Well: ОН Wellbore:

Design: Plan #0.1 RT **Local Co-ordinate Reference** 

TVD Reference:

MD Reference: North Reference:

**Survey Calculation Method:** 

Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Planned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
100.000	0.00	0.000	100.000	0.000	0.000	0.000	0.00	0.00	0.00
200.000	0.00	0.000	200.000	0.000	0.000	0.000	0.00	0.00	0.00
300.001	0.00	0.000	300.001	0.000	0.000	0.000	0.00	0.00	0.00
400.001	0.00	0.000	400.001	0.000	0.000	0.000	0.00	0.00	0.00
			500.004						
500.001 600.001	0.00 0.00	0.000 0.000	500.001 600.001	0.000 0.000	0.000 0.000	0.000 0.000	0.00 0.00	0.00 0.00	0.00 0.00
700.001	0.00	0.000	700.001	0.000	0.000	0.000	0.00	0.00	0.00
800.002	0.00	0.000	800.002	0.000	0.000	0.000	0.00	0.00	0.00
900.002	0.00	0.000	900.002	0.000	0.000	0.000	0.00	0.00	0.00
1,000.002	0.00	0.000	1,000.002	0.000	0.000	0.000	0.00	0.00	0.00
1,100.002	0.00	0.000	1,100.002	0.000	0.000	0.000	0.00	0.00	0.00
1,170.002	0.00	0.000	1,170.002	0.000	0.000	0.000	0.00	0.00	0.00
1,200.002	0.60	56.286	1,200.002	0.087	0.131	-0.065	2.00	2.00	0.00
1,300.003	2.60	56.286	1,299.958	1.637	2.453	-1.228	2.00	2.00	0.00
1,400.003	4.60	56.286	1,399.756	5.122	7.676	-3.842	2.00	2.00	0.00
1,500.003	6.60	56.286	1,499.274	10.538	15.793	-7.905	2.00	2.00	0.00
1,600.003	8.60	56.286	1,598.390	17.879	26.793	-13.412	2.00	2.00	0.00
1,700.003	10.60	56.286	1,696.985	27.135	40.665	-20.356	2.00	2.00	0.00
1,800.004	12.60	56.286	1,794.938	38.295	57.390	-28.728	2.00	2.00	0.00
1,909.947	14.80	56.286	1,901.747	52.746	79.047	-39.569	2.00	2.00	0.00
2,000.004	14.80	56.286	1,988.817	65.514	98.181	-49.147	0.00	0.00	0.00
2,100.004	14.80	56.286	2,085.500	79.692	119.428	-59.783	0.00	0.00	0.00
2,200.004	14.80	56.286	2,182.183	93.869	140.675	-70.418	0.00	0.00	0.00
2,300.004	14.80	56.286	2,278.866	108.047	161.922	-81.054	0.00	0.00	0.00
2,400.005	14.80	56.286	2,375.549	122.225	183.169	-91.689	0.00	0.00	0.00
2,500.005	14.80	56.286	2,472.232	136.402	204.415	-102.325	0.00	0.00	0.00
2,600.005	14.80	56.286	2,568.915	150.580	225.662	-112.961	0.00	0.00	0.00
2,700.005	14.80	56.286	2,665.598	164.757	246.909	-123.596	0.00	0.00	0.00
2,800.005	14.80	56.286	2,762.281	178.935	268.156	-134.232	0.00	0.00	0.00
2,900.006	14.80	56.286	2,858.964	193.112	289.403	-144.867	0.00	0.00	0.00
3,000.006	14.80	56.286	2,955.647	207.290	310.649	-155.503	0.00	0.00	0.00
3,100.006	14.80	56.286	3,052.330	221.467	331.896	-166.139	0.00	0.00	0.00
3,200.006	14.80	56.286	3,149.013	235.645	353.143	-176.774	0.00	0.00	0.00
3,300.006	14.80	56.286	3,245.696	249.823	374.390	-187.410	0.00	0.00	0.00
3.400.007	14.80	56.286	3,342.379	264.000	395.637	-198.045	0.00	0.00	0.00
3,500.007	14.80	56.286	3.439.062	278.178	416.883	-208.681	0.00	0.00	0.00
3,600.007	14.80	56.286	3,535.745	292.355	438.130	-219.316	0.00	0.00	0.00
3,700.007	14.80	56.286	3,632.428	306.533	459.377	-229.952	0.00	0.00	0.00
3,800.007	14.80	56.286	3,729.111	320.710	480.624	-240.588	0.00	0.00	0.00
3,900.008	14.80	56.286	3,825.794	334.888	501.871	-251.223	0.00	0.00	0.00
4,000.008	14.80	56.286	3,922.477	349.065	523.117	-251.225 -261.859	0.00	0.00	0.00
4,100.008	14.80	56.286	4,019.160	363.243	544.364	-272.494	0.00	0.00	0.00
4,200.008	14.80	56.286	4,115.843	377.421	565.611	-283.130	0.00	0.00	0.00
4,300.008	14.80	56.286	4,212.526	391.598	586.858	-293.766	0.00	0.00	0.00
4,400.009	14.80	56.286 56.286	4,309.209	405.776	608.105	-304.401	0.00	0.00	0.00
4,500.009	14.80	56.286 56.286	4,405.893	419.953	629.351	-315.037	0.00	0.00	0.00
4,600.009 4,700.009	14.80 14.80	56.286 56.286	4,502.576 4,599.259	434.131 448.308	650.598 671.845	-325.672 -336.308	0.00 0.00	0.00 0.00	0.00 0.00
4,800.009	14.80	56.286	4,695.942	446.306 462.486	693.092	-336.306 -346.944	0.00	0.00	0.00
•									
4,900.010	14.80	56.286 56.286	4,792.625	476.663	714.339	-357.579	0.00	0.00	0.00
5,000.010	14.80	56.286	4,889.308	490.841	735.585	-368.215	0.00	0.00	0.00
5,100.010	14.80	56.286	4,985.991	505.019	756.832	-378.850	0.00	0.00	0.00

# eog resources

### **EOG Resources**

### **Planning Report**

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: OH

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Planned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
5,200.010 5,300.010	14.80 14.80	56.286 56.286	5,082.674 5,179.357	519.196 533.374	778.079 799.326	-389.486 -400.122	0.00 0.00	0.00 0.00	0.00 0.00
5,400.011	14.80	56.286	5,276.040	547.551	820.573	-410.757	0.00	0.00	0.00
5,500.011	14.80	56.286	5,372.723	561.729	841.819	-421.393	0.00	0.00	0.00
5,600.011	14.80	56.286	5,469.406	575.906	863.066	-432.028	0.00	0.00	0.00
5,700.011	14.80	56.286	5,566.089	590.084	884.313	-442.664	0.00	0.00	0.00
5,800.011	14.80	56.286	5,662.772	604.261	905.560	-453.300	0.00	0.00	0.00
5,900.012	14.80	56.286	5,759.455	618.439	926.807	-463.935	0.00	0.00	0.00
6,000.012	14.80	56.286	5,856.138	632.617	948.054	-474.571	0.00	0.00	0.00
6,100.012	14.80	56.286	5,952.821	646.794	969.300	-485.206	0.00	0.00	0.00
6,200.012	14.80	56.286	6,049.504	660.972	990.547	-495.842	0.00	0.00	0.00
6,286.651	14.80	56.286	6,133.269	673.255	1,008.955	-505.056	0.00	0.00	0.00
6,300.012	14.53	56.286	6,146.195	675.133	1,011.769	-506.465	2.00	-2.00	0.00
6,400.012 6,500.013	12.53 10.53	56.286 56.286	6,243.414 6,341.391	688.119 699.215	1,031.231 1,047.859	-516.207 -524.531	2.00 2.00	-2.00 -2.00	0.00 0.00
6,600.013	8.53	56.286	6,440.006	708.405	1,047.639	-524.551 -531.425	2.00	-2.00 -2.00	0.00
6,700.013	6.53	56.286	6,539.138	715.680	1,001.032	-536.883	2.00	-2.00	0.00
6,800.013	4.53	56.286	6,638.668	721.031	1,080.553	-540.896	2.00	-2.00	0.00
6,900.013	2.53	56.286	6,738.473	724.449	1,085.676	-543.461	2.00	-2.00	0.00
7,000.014	0.53	56.286	6,838.432	725.933	1,087.900	-544.574	2.00	-2.00	0.00
7,026.595	0.00	0.005	6,865.013	726.001	1,088.002	-544.625	2.00	-2.00	0.00
7,100.014	0.00	0.000	6,938.432	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,200.014	0.00	0.000	7,038.432	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,300.014	0.00	0.000	7,138.432	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,400.014	0.00	0.000	7,238.433	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,500.015 7,600.015	0.00 0.00	0.000 0.000	7,338.433 7,438.433	726.001 726.001	1,088.002 1,088.002	-544.625 -544.625	0.00 0.00	0.00 0.00	0.00 0.00
7,700.015	0.00	0.000	7,538.433	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,800.015	0.00	0.000	7,638.433	726.001	1,088.002	-544.625	0.00	0.00	0.00
7,900.015	0.00	0.000	7,738.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,000.016	0.00	0.000	7,838.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,100.016	0.00	0.000	7,938.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,200.016	0.00	0.000	8,038.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,300.016	0.00	0.000	8,138.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,400.016	0.00	0.000	8,238.434	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,500.017	0.00	0.000	8,338.435	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,600.017	0.00	0.000	8,438.435	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,700.017	0.00	0.000	8,538.435	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,800.017	0.00	0.000	8,638.435	726.001	1,088.002	-544.625	0.00	0.00	0.00
8,900.017 9,000.018	0.00 0.00	0.000 0.000	8,738.435 8,838.436	726.001 726.001	1,088.002 1,088.002	-544.625 -544.625	0.00 0.00	0.00 0.00	0.00 0.00
9,100.018	0.00	0.000	8,938.436	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,200.018	0.00	0.000	9,038.436	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,300.018	0.00	0.000	9,138.436	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,400.018	0.00	0.000	9,238.436	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,500.019	0.00	0.000	9,338.437	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,600.019	0.00	0.000	9,438.437	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,700.019	0.00	0.000	9,538.437	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,800.019	0.00	0.000	9,638.437	726.001	1,088.002	-544.625	0.00	0.00	0.00
9,900.019	0.00	0.000	9,738.437	726.001	1,088.002	-544.625	0.00	0.00	0.00
10,000.020	0.00	0.000	9,838.438	726.001	1,088.002	-544.625	0.00	0.00	0.00
10,100.020	0.00	0.000	9,938.438	726.001	1,088.002	-544.625	0.00	0.00	0.00
10,114.101	0.00	0.005	9,952.519	726.001	1,088.002	-544.625	0.00	0.00	0.00

# eog resources

### **EOG Resources**

### **Planning Report**

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: OH

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

TVD Reference:

North Reference:

Survey Calculation Method:

Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Planned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
			9,963.437	725.877		-544.502	12.00		0.00
10,125.020 10,150.020	1.31 4.31	180.000 180.000	9,963.437	725.877 724.651	1,088.002 1,088.002	-544.502 -543.292	12.00	12.00 12.00	0.00
10,175.020	7.31	180.000	10,013.273	722.120	1,088.002	-540.793	12.00	12.00	0.00
10,200.020	10.31	180.000	10,037.975	718.291	1,088.002	-537.012	12.00	12.00	0.00
10.225.020	13.31	180.000	10,062.443	713.174	1,088.002	-531.960	12.00	12.00	0.00
10,250.020	16.31	180.000	10,086.609	706.784	1,088.002	-525.650	12.00	12.00	0.00
10,275.020	19.31	180.000	10,110.408	699.137	1,088.002	-518.100	12.00	12.00	0.00
10,300.020	22.31	180.000	10,133.774	690.256	1,088.002	-509.330	12.00	12.00	0.00
10,325.020	25.31	180.000	10,156.644	680.163	1,088.002	-499.365	12.00	12.00	0.00
10,334.553	26.46	180.000	10,165.220	676.001	1,088.002	-495.256	12.00	12.00	0.00
10,350.020	28.31	179.977	10,178.953	668.887	1,088.004	-488.231	12.00	12.00	-0.15
10,375.020	31.31	179.944	10,200.642	656.459	1,088.012	-475.958	12.00	12.00	-0.13
10,400.020	34.31	179.917	10,221.651	642.913	1,088.029	-462.581	12.00	12.00	-0.11
10,425.020	37.31	179.894	10,241.922	628.286	1,088.053	-448.134	12.00	12.00	-0.09
10,450.020	40.31	179.873	10,261.400	612.619	1,088.085	-432.659	12.00	12.00	-0.08
10,475.020	43.31	179.855	10,280.031	595.953	1,088.125	-416.197	12.00	12.00	-0.07
10,500.021	46.31	179.839	10,297.764	578.335	1,088.172	-398.794	12.00	12.00	-0.06
10,525.021	49.31	179.825	10,314.551	559.814	1,088.226	-380.497	12.00	12.00	-0.06
10,550.022	52.31	179.811	10,330.346	540.439	1,088.288	-361.357	12.00	12.00	-0.05
10,575.022	55.31	179.799	10,345.104	520.264	1,088.357	-341.426	12.00	12.00	-0.05
10,600.022	58.31	179.788	10,358.787	499.344	1,088.432	-320.758	12.00	12.00	-0.05
10,625.022	61.31	179.777	10,371.357	477.737	1,088.514	-299.410	12.00	12.00	-0.04
10,650.022	64.31	179.767	10,382.778	455.502	1,088.603	-277.441	12.00	12.00	-0.04
10,675.022	67.31	179.757	10,393.020	432.699	1,088.698	-254.911	12.00	12.00	-0.04
10,700.022	70.31	179.748	10,402.054	409.392	1,088.798	-231.882	12.00	12.00	-0.04
10,725.022	73.31	179.739	10,409.856	385.644	1,088.904	-208.416	12.00	12.00	-0.04
10,750.022	76.31	179.731	10,416.405	361.520	1,089.016	-184.579	12.00	12.00	-0.03
10,775.022	79.31	179.722	10,421.682	337.086	1,089.133	-160.435	12.00	12.00	-0.03
10,800.022	82.31	179.714	10,425.673	312.410	1,089.254	-136.050	12.00	12.00	-0.03
10,825.022	85.31	179.706	10,428.367	287.559	1,089.380	-111.492	12.00	12.00	-0.03
10,850.022	88.31	179.698	10,429.757	262.601	1,089.510	-86.828	12.00	12.00	-0.03
10,864.078	90.00	179.693	10,429.964	248.548	1,089.585	-72.941	12.00	12.00	-0.03
10,900.022	90.00	179.693	10,429.965	212.603	1,089.777	-37.419	0.00	0.00	0.00
11,000.022	90.00	179.693	10,429.966	112.605	1,090.312	61.404	0.00	0.00	0.00
11,100.023	90.00	179.693	10,429.967	12.606	1,090.847	160.226	0.00	0.00	0.00
11,200.023	90.00	179.693	10,429.968	-87.393	1,091.382	259.049	0.00	0.00	0.00
11,300.023	90.00	179.693	10,429.969	-187.392	1,091.918	357.872	0.00	0.00	0.00
11,400.023	90.00	179.693	10,429.971	-287.390	1,092.453	456.694	0.00	0.00	0.00
11,500.023	90.00	179.693	10,429.972	-387.389	1,092.988	555.517	0.00	0.00	0.00
11,600.024	90.00	179.693	10,429.973	-487.388	1,093.523	654.340	0.00	0.00	0.00
11,700.024	90.00	179.693	10,429.974	-587.387	1,094.058	753.163	0.00	0.00	0.00
11,800.024	90.00	179.693	10,429.975	-687.385	1,094.593	851.985	0.00	0.00	0.00
11,900.024	90.00	179.693	10,429.976	-787.384	1,095.128	950.808	0.00	0.00	0.00
12,000.024	90.00	179.693	10,429.978	-887.383	1,095.664	1,049.631	0.00	0.00	0.00
12,100.025	90.00	179.693	10,429.979	-987.382	1,096.199	1,148.453	0.00	0.00	0.00
12,200.025	90.00	179.693	10,429.980	-1,087.381	1,096.734	1,247.276	0.00	0.00	0.00
12,300.025	90.00	179.693	10,429.981	-1,187.379	1,097.269	1,346.099	0.00	0.00	0.00
12,400.025	90.00	179.693	10,429.982	-1,287.378	1,097.804	1,444.922	0.00	0.00	0.00
12,500.025	90.00	179.693	10,429.984	-1,387.377	1,098.339	1,543.744	0.00	0.00	0.00
12,600.026	90.00	179.693	10,429.985	-1,487.376	1,098.875	1,642.567	0.00	0.00	0.00
12,700.026	90.00	179.693	10,429.986	-1,587.374	1,099.410	1,741.390	0.00	0.00	0.00
12,800.026	90.00	179.693	10,429.987	-1,687.373	1,099.945	1,840.212	0.00	0.00	0.00
12,900.026	90.00	179.693	10,429.988	-1,787.372	1,100.480	1,939.035	0.00	0.00	0.00

### **EOG Resources**



### **Planning Report**

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: 0H

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,000.026	90.00	179.693	10,429.989	-1,887.371	1,101.015	2,037.858	0.00	0.00	0.00
13,100.027	90.00	179.693	10,429.991	-1,987.369	1,101.550	2,136.681	0.00	0.00	0.00
13,200.027		179.693	10,429.992	-2,087.368	1,102.085	2,235.503	0.00	0.00	0.00
13,300.027		179.693	10,429.993	-2,187.367	1,102.621	2,334.326	0.00	0.00	0.00
13,400.027		179.693	10,429.994	-2,287.366	1,103.156	2,433.149	0.00	0.00	0.00
13,500.027		179.693	10,429.995	-2,387.364	1,103.691	2,531.971	0.00	0.00	0.00
13,600.028		179.693	10,429.997	-2,487.363	1,104.226	2,630.794	0.00	0.00	0.00
13,700.028		179.693	10,429.998	-2,587.362	1,104.761	2,729.617	0.00	0.00	0.00
13,800.028 13,900.028		179.693 179.693	10,429.999 10,430.000	-2,687.361 -2,787.360	1,105.296 1,105.831	2,828.440 2,927.262	0.00 0.00	0.00 0.00	0.00 0.00
14,000.028		179.693	10,430.000	-2,787.358	1,105.851	3,026.085	0.00	0.00	0.00
14,100.029		179.693	10,430.002	-2,987.357	1,106.902	3,124.908	0.00	0.00	0.00
14,200.029 14,300.029		179.693 179.693	10,430.004 10,430.005	-3,087.356 -3,187.355	1,107.437 1,107.972	3,223.730	0.00 0.00	0.00 0.00	0.00 0.00
14,300.029		179.693	10,430.005	-3,167.353 -3,287.353	1,107.972	3,322.553 3,421.376	0.00	0.00	0.00
14,500.029		179.693	10,430.000	-3,267.353	1,109.042	3,520.198	0.00	0.00	0.00
,			,						
14,600.030		179.693	10,430.008	-3,487.351	1,109.578 1.110.113	3,619.021	0.00	0.00	0.00
14,700.030 14,800.030		179.693 179.693	10,430.010 10.430.011	-3,587.350 -3,687.348	1,110.113	3,717.844 3,816.667	0.00 0.00	0.00 0.00	0.00 0.00
14,900.030		179.693	10,430.011	-3,787.347	1,110.046	3,915.489	0.00	0.00	0.00
15,000.030		179.693	10,430.012	-3,887.346	1,111.718	4,014.312	0.00	0.00	0.00
				*		,			
15,100.030		179.693	10,430.014	-3,987.345	1,112.253	4,113.135	0.00	0.00	0.00
15,200.031 15,300.031	90.00 90.00	179.693 179.693	10,430.015 10,430.017	-4,087.343 -4,187.342	1,112.788 1,113.324	4,211.957 4,310.780	0.00 0.00	0.00 0.00	0.00 0.00
15,400.031	90.00	179.693	10,430.017	-4,167.342 -4,287.341	1,113.859	4,409.603	0.00	0.00	0.00
15,500.031	90.00	179.693	10,430.019	-4,387.340	1,114.394	4,508.426	0.00	0.00	0.00
15,600.031 15,613.702		179.693 179.693	10,430.020 10,430.020	-4,487.338 -4,501.009	1,114.929 1,115.002	4,607.248 4,620.758	0.00 0.00	0.00 0.00	0.00 0.00
15,700.032		179.693	10,430.020	-4,587.337	1,115.464	4,706.071	0.00	0.00	0.00
15,800.032		179.693	10,430.023	-4,687.336	1,115.999	4,804.894	0.00	0.00	0.00
15,900.032		179.693	10,430.024	-4,787.335	1,116.534	4,903.716	0.00	0.00	0.00
16,000.032		179.693	10,430.025	-4,887.334	1,117.070	5,002.539	0.00	0.00	0.00
16,000.032		179.693	10,430.025	-4,067.334 -4,987.332	1,117.605	5,002.539	0.00	0.00	0.00
16,200.033		179.693	10,430.027	-5,087.331	1,118.140	5,200.185	0.00	0.00	0.00
16,300.033		179.693	10,430.028	-5,187.330	1,118.675	5,299.007	0.00	0.00	0.00
16,400.033		179.693	10,430.030	-5,287.329	1,119.210	5,397.830	0.00	0.00	0.00
16,500.033	90.00	179.693	10,430.031	-5,387.327	1,119.745	5,496.653	0.00	0.00	0.00
16,600.033		179.693	10,430.031	-5,367.327 -5,487.326	1,119.745	5,595.475	0.00	0.00	0.00
16,700.034	90.00	179.693	10,430.032	-5,587.325	1,120.816	5,694.298	0.00	0.00	0.00
16,800.034		179.693	10,430.034	-5,687.324	1,121.351	5,793.121	0.00	0.00	0.00
16,900.034		179.693	10,430.036	-5,787.322	1,121.886	5,891.944	0.00	0.00	0.00
17,000.034	90.00	179.693	10,430.037	-5,887.321	1,122.421	5,990.766	0.00	0.00	0.00
17,100.034		179.693	10,430.038	-5,987.320	1,122.956	6,089.589	0.00	0.00	0.00
17,200.035		179.693	10,430.039	-6,087.319	1,123.491	6,188.412	0.00	0.00	0.00
17,300.035		179.693	10,430.040	-6,187.317	1,124.027	6,287.234	0.00	0.00	0.00
17,400.035	90.00	179.693	10,430.042	-6,287.316	1,124.562	6,386.057	0.00	0.00	0.00
17,500.035	90.00	179.693	10,430.043	-6,387.315	1,125.097	6,484.880	0.00	0.00	0.00
17,600.035		179.693	10,430.044	-6,487.314	1,125.632	6,583.703	0.00	0.00	0.00
17,700.036		179.693	10,430.045	-6,587.313	1,126.167	6,682.525	0.00	0.00	0.00
17,800.036		179.693	10,430.046	-6,687.311	1,126.702	6,781.348	0.00	0.00	0.00
17,900.036	90.00	179.693	10,430.047	-6,787.310	1,127.237	6,880.171	0.00	0.00	0.00
18,000.036	90.00	179.693	10,430.049	-6,887.309	1,127.773	6,978.993	0.00	0.00	0.00
18,100.036	90.00	179.693	10,430.050	-6,987.308	1,128.308	7,077.816	0.00	0.00	0.00

# eog resources

### **EOG Resources**

### **Planning Report**

Database: EDM

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)
Site: Almost Eddy 30 Fed Com

Well: #503H Wellbore: 0H

Design: Plan #0.1 RT

**Local Co-ordinate Reference** 

TVD Reference:

North Reference:

Survey Calculation Method:

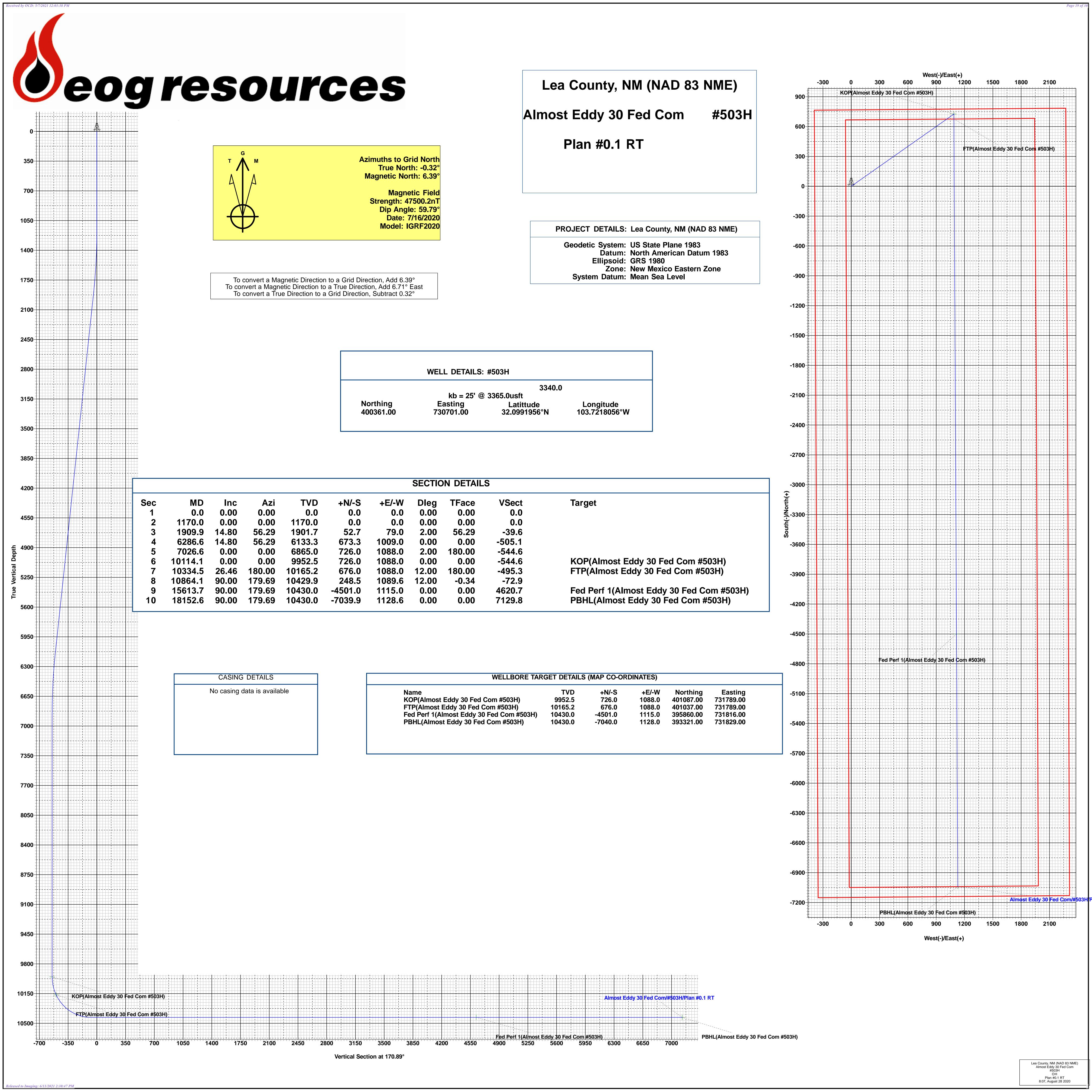
Well #503H

kb = 25' @ 3365.007ft kb = 25' @ 3365.007ft

Grid

Planned Survey									
Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)
18,152.598	90.00	179.693	10,430.050	-7,039.868	1,128.589	7,129.759	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
KOP(Almost Eddy 30 Fe - plan hits target ce - Point		0.000	9,952.519	726.001	1,088.002	401,087.80	731,790.46	32.101174	-103.718279
FTP(Almost Eddy 30 Fe - plan hits target ce - Point		0.000	10,165.220	676.001	1,088.002	401,037.80	731,790.46	32.101037	-103.718280
Fed Perf 1(Almost Eddy - plan hits target ce - Point		0.000	10,430.020	-4,501.009	1,115.002	395,860.79	731,817.46	32.086806	-103.718288
PBHL(Almost Eddy 30 F - plan misses target - Point			10,430.020 2.598ft MD (	-7,040.014 10430.051 TVI	1,128.002 D, -7039.869 N	393,321.79 I, 1128.589 E)	731,830.46	32.079826	-103.718293



# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: | EOG RESOURCES | LEASE NO.: | NMNM112935

WELL NAME & NO.: ALMOST EDDY 30 FED COM 501H – 509H

LOCATION: | Section 30, T.25 S., R.32 E., NMPM

**COUNTY:** Lea County, New Mexico

COA

H2S	O Yes	● No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	• Low	Medium	O High
Cave/Karst Potential	Critical		
Variance	O None	Flex Hose	Other
Wellhead	Conventional	• Multibowl	O Both
Other	☐4 String Area	☐ Capitan Reef	□WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	<b>☑</b> COM	□ Unit

### A. HYDROGEN SULFIDE

1. Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

### **B. CASING**

- 1. The 13-3/8 inch surface casing shall be set at approximately 1,070 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8** hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string.
     Operator shall provide method of verification. Excess cement calculates to 21%, additional cement may be required.

### C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

### D. SPECIAL REQUIREMENT (S)

### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

JJP03152021

# **GENERAL REQUIREMENTS**

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

  - Lea County
     Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
     393-3612
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig

- Notify the BLM when moving in and removing the Spudder Rig.
- Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

### A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- 2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

### B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
- e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall

- have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

### D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

# **Hydrogen Sulfide Plan Summary**

- A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
  - Well control equipment
    - a. Flare line 150' from wellhead to be ignited by flare gun.
    - b. Choke manifold with a remotely operated choke.
    - c. Mud/gas separator
  - Protective equipment for essential personnel.

### Breathing apparatus:

- a. Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escape packs —4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

### Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher
- H2S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.

### ■ Mud program:

The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

### ■ Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

### ■ Communication:

Communication will be via cell phones and land lines where available.

**Emergency Assistance Telephone List** 

PUBLIC SAFETY:	2150	911 or
Lea County Sheriff's Department		(575) 396-3611
Rod Coffman		
Fire Department:		
Carlsbad		(575) 885-3125
Artesia		(575) 746-5050
Hospitals:		
Carlsbad		(575) 887-4121
Artesia		(575) 748-3333
Hobbs		(575) 392-1979
Dept. of Public Safety/Carlsbad		(575) 748-9718
Highway Department		(575) 885-3281
New Mexico Oil Conservation		(575) 476-3440
U.S. Dept. of Labor		(575) 887-1174
-		
EOG Resources, Inc.		
EOG / Midland	Office	(432) 686-3600
Company Drilling Consultants:		
	Cell	(432) 230-4840
Blake Burney		
Drilling Engineer		
Steve Munsell	Office	(432) 686-3609
	Cell	(432) 894-1256
Drilling Manager		
Aj Dach	Office	(432) 686-3751
	Cell	(817) 480-1167
Drilling Superintendent		
Jason Townsend	Office	(432) 848-9209
	Cell	(210) 776-5131
H&P Drilling		
H&P Drilling	Office	(432) 563-5757
<u> </u>	Rig	(432) 230-4840
Tool Pusher:		
Johnathan Craig	Cell	(817) 760-6374
Brad Garrett		
Safety		
	Office	(432) 686-3695
, , , , , , , , , , , , , , , , , , ,	Cell	(817) 239-0251

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

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 27363

### **CONDITIONS**

Operator:	OGRID:
EOG RESOURCES INC	7377
P.O. Box 2267 Midland, TX 79702	Action Number: 27363
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Created	Condition	Condition
Ву		Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/11/2021
pkautz	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	6/11/2021
	zones and shall immediately set in cement the water protection string	