### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

OCD - HOBBS 04/30/2020 RECEIVED

FORM APPROVED

I OIGH THE I IGO VED	
OMB No. 1004-0137	
Expires: January 31, 2018	

5. Lease Serial No. NMNM123533

APPLICATION FOR			DEENITED
AFFLICATION FOR	1 FEDIVILI 10 6	INILL ON	

APPLICATION FOR PERMIT TO DRI	6. If Indian, Allotee or Tribe Name				
				- 1011	
1a. Type of work:	NTER			7. If Unit or CA Agreen	nent, Name and No.
1b. Type of Well: Oil Well Gas Well Othe		8. Lease Name and Wel	1 No		
1c. Type of Completion: Hydraulic Fracturing Single	KESTREL 26 FED CC 303H [3261]	OM_			
2. Name of Operator EOG RESOURCES INCORPORATED [7377]				9. API Well No. 30-02	25-47161
	b. Phone No 713)651-70	o. (include area code 100	e)	10. Field and Pool, or E PERMIAN / RED HILI	
<ol> <li>Location of Well (Report location clearly and in accordance with At surface SESW / 595 FSL / 1617 FWL / LAT 32.182897</li> <li>At proposed prod. zone NENW / 100 FNL / 2305 FWL / LAT</li> </ol>	77 / LONG	-103.4440512	1418324	11. Sec., T. R. M. or BI SEC 26 / T24S / R34B	
14. Distance in miles and direction from nearest town or post office		100.	10021	12. County or Parish LEA	13. State
location to nearest 595 feet	6. No of acr	res in lease	17. Spacii 320	ng Unit dedicated to this	well
to nearest well, drilling, completed.	9. Proposed 0541 feet /	Depth 15528 feet	20. BLM/ FED: NW	BIA Bond No. in file	
	2. Approxin 1/31/2020	nate date work will	start*	23. Estimated duration 25 days	
	24. Attach	nments		1	
The following, completed in accordance with the requirements of O (as applicable)	nshore Oil a	and Gas Order No. 1	, and the H	Hydraulic Fracturing rule	per 43 CFR 3162.3-3
Well plat certified by a registered surveyor.     A Drilling Plan.		4. Bond to cover th Item 20 above).	e operation	s unless covered by an ex	isting bond on file (see
3. A Surface Use Plan (if the location is on National Forest System I SUPO must be filed with the appropriate Forest Service Office).	Lands, the	<ul><li>5. Operator certific</li><li>6. Such other site sp BLM.</li></ul>		mation and/or plans as ma	y be requested by the
25. Signature (Electronic Submission)	,	Name (Printed/Typed) Yolanda Maese / Ph: (575)748-4329			ite 5/20/2019
Title SR OPERATIONS ASSISTANT					
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed)         Date           Christopher Walls / Ph: (575)234-2234         04/30/2020				
Title Petroleum Engineer	Office CARLS				
Application approval does not warrant or certify that the applicant h applicant to conduct operations thereon.  Conditions of approval, if any, are attached.	olds legal o	r equitable title to th	nose rights	in the subject lease which	n would entitle the
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, mak	e it a crime	for any person know	wingly and	willfully to make to any	department or agency

GCP Rec 04/30/2020

APPROVED WITH CONDITIONS **Approval Date: 04/30/2020** 

of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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\*(Instructions on page 2)

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: | EOG RESOURCES

**LEASE NO.:** | NMNM123533

WELL NAME & NO.: | KESTREL 26 FED COM 303H

SURFACE HOLE FOOTAGE: 595'/S & 1617'/W BOTTOM HOLE FOOTAGE 100'/N & 2305'/W

LOCATION: | Section 26, T.24 S., R.34 E., NMPM

**COUNTY:** Lea County, New Mexico

COA

H2S	© 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 1,130 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.

### 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.

JJP04102020

### **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)
  - ⊠ Eddy County
    Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
  - ✓ Lea CountyCall 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.

### 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

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

Rustler	999'
Tamarisk	1,090'
Top of Salt	1,259'
Base of Salt	5,036'
Lamar	5,311'
Bell Canyon	5,353'
Cherry Canyon	6,216'
Brushy Canyon	7,912'
Bone Spring Lime	9,241'
Leonard	9,262'
1 <sup>st</sup> Bone Spring Sand	10,417'
TD	10,541'

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

Upper Permian Sands	0-400'	Fresh Water
Cherry Canyon	6,216'	Oil
Brushy Canyon	7,915'	Oil
1 <sup>st</sup> Bone Spring Sand	10,417'	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 1,130' and circulating cement back to surface.

### 4. CASING PROGRAM - NEW

Hole		Csg				DF <sub>min</sub>	$\mathbf{DF}_{\mathbf{min}}$	$\mathbf{DF}_{\mathbf{min}}$
Size	Interval	OD	Weight	Grade	Conn	Collapse	Burst	Tension
17.5"	0'-1,130'	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' – 5,150'	9.625"	40#	HCL-80	LTC	1.125	1.25	1.60
8.75"	0'- 15,528'	5.5"	17#	HCP-110	LTC	1.125	1.25	1.60

Variance is requested to waive the centralizer requirements for the 9-5/8" FJ 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" FJ 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:**

	No.	Wt.	Yld	
Depth	Sacks	ppg	Ft <sup>3</sup> /sk	Slurry Description
1,130'	700	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.5% CaCl <sub>2</sub> + 0.25 lb/sk
(13.375")				Cello-Flake (TOC @ Surface)
	200	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2%
				Sodium Metasilicate (TOC @ 930')
5,150'	600	9.0	3.5	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx
(9.625")				(TOC @ Surface)
	400	14.4	1.20	Tail: Class C + 10% NaCl + 3% MagOx (TOC @ 4,120')
15,528'	600	11.0	3.21	Lead: Class C + 3% CaCl2 + 3% Microbond (TOC @ 4,650')
(5.5")				
	1,500	14.4	1.2	Tail: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3%
				Microbond (TOC @ 10,121')

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

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.

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 – 1,130'	Fresh - Gel	8.6-8.8	28-34	N/c
1,130' - 5,150'	Brine	8.6-8.8	28-34	N/c
5,150' – 15,528'	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 175 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,207 psig and a maximum anticipated surface pressure of 2,888 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 7,912' to Intermediate casing point.

### 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 Stream Flo FBD100 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.

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.

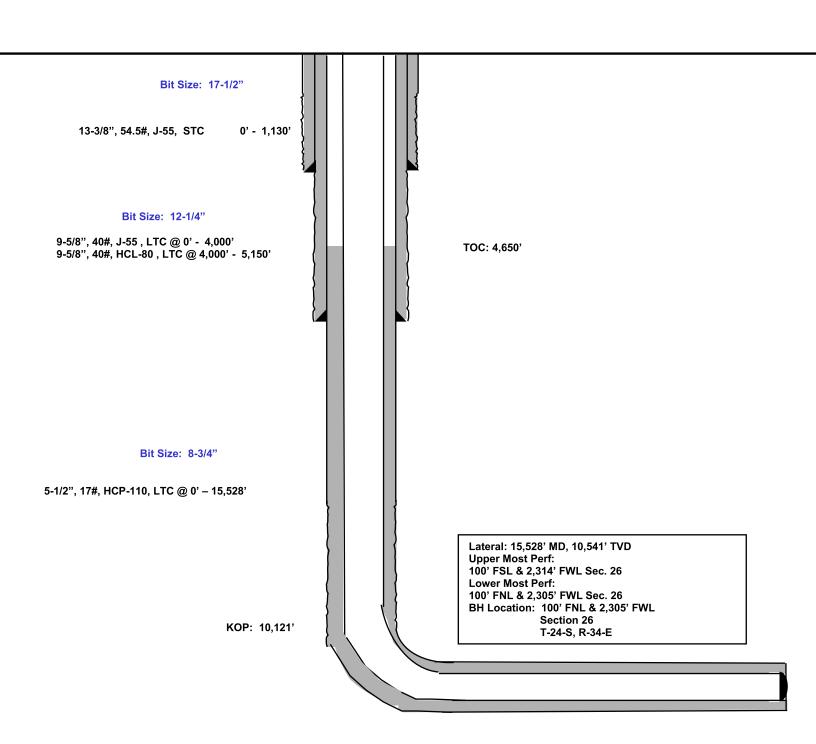
Casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

595' FSL 1,617' FWL Section 26 T-24-S, R-34-E

**Proposed Wellbore** 

KB: 3,452' GL: 3,427'

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





## **EOG Resources - Midland**

Lea County, NM (NAD 83 NME) Kestrel 26 Fed Com #303H

OH

Plan: Plan #0.1

## **Standard Planning Report**

19 December, 2018



Database: EDM 5000.14

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)

Site: Kestrel 26 Fed Com

 Well:
 #303H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #303H

KB = 25' @ 3452.0usft KB = 25' @ 3452.0usft

Grid

Minimum Curvature

60.03

47.772.03344413

0.00 PBHL(Kestrel 26 Fed

Project Lea County, NM (NAD 83 NME)

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

Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site Kestrel 26 Fed Com

 Site Position:
 Northing:
 431,263.00 usft
 Latitude:
 32° 10' 57.030 N

 From:
 Map
 Easting:
 815,801.00 usft
 Longitude:
 103° 26' 46.272 W

Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.47 °

Well #303H

 Well Position
 +N/-S
 147.0 usft
 Northing:
 431,410.00 usft
 Latitude:
 32° 10' 58.431 N

 +E/-W
 660.0 usft
 Easting:
 816,461.00 usft
 Longitude:
 103° 26' 38.579 W

Position Uncertainty 0.0 usft Wellhead Elevation: Ground Level: 3,427.0 usft

Wellbore OH

Magnetics Model Name Sample Date Declination Dip Angle Field Strength

(°) (°) (nT)

6.73

Plan #0.1 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 8.03

Plan Survey Tool Program Date 12/19/2018

IGRF2015

Depth From Depth To

15,527.6

90.00

359.41

(usft) (usft) Survey (Wellbore) Tool Name Remarks

12/19/2018

1 0.0 15,527.6 Plan #0.1 (OH) MWD

OWSG MWD - Standard

10,541.0

4,593.0

**Plan Sections** Vertical Dogleg Build Measured Turn Depth Inclination Azimuth Depth +N/-S +E/-W Rate Rate Rate **TFO** (usft) (usft) (usft) (°/100usft) (°/100usft) (°/100usft) (°) (°) (usft) (°) **Target** 0.00 0.00 0.0 0.00 0.0 0.0 0.0 0.00 0.00 0.00 3,000.0 0.00 0.00 3,000.0 0.0 0.0 0.00 0.00 0.00 0.00 127.66 3,377.2 7.54 127.66 3,376.1 -15.2 19.6 2.00 2.00 0.00 9.743.6 7.54 127.66 9.687.4 -525.8 681.4 0.00 0.00 0.00 0.00 -541.0 180.00 KOP(Kestrel 26 Fed ( 701.0 0.00 10,120.8 0.00 0.00 10,063.5 2 00 -2 00 10,870.8 90.00 359.41 10,541.0 -63.6 696.1 12.00 12.00 -0.08 359.41

648.0

0.00

0.00

0.00



Database: EDM 5000.14

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)

Site: Kestrel 26 Fed Com

 Well:
 #303H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well #303H

KB = 25' @ 3452.0usft KB = 25' @ 3452.0usft

Grid

anned 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
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
	0.00			0.0			0.00		
1,200.0		0.00	1,200.0		0.0	0.0		0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
			,						
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
,			,						
3,100.0	2.00	127.66	3,100.0	-1.1	1.4	-0.9	2.00	2.00	0.00
3,200.0	4.00	127.66	3,199.8	-4.3	5.5	-3.5	2.00	2.00	0.00
3,300.0	6.00	127.66	3,299.5	-9.6	12.4	-7.8	2.00	2.00	0.00
3,377.2	7.54	127.66	3,376.1	-15.2	19.6	-12.3	2.00	2.00	0.00
0.400.5		407.00	0.000 =	47.0	20.5	40 =	2.22	2.25	2.22
3,400.0	7.54	127.66	3,398.7	-17.0	22.0	-13.7	0.00	0.00	0.00
3,500.0	7.54	127.66	3,497.8	-25.0	32.4	-20.2	0.00	0.00	0.00
3,600.0	7.54	127.66	3,597.0	-33.0	42.8	-26.7	0.00	0.00	0.00
3,700.0	7.54	127.66	3,696.1	-41.0	53.2	-33.2	0.00	0.00	0.00
3,800.0	7.54	127.66	3,795.3	-49.1	63.6	-39.7	0.00	0.00	0.00
3,900.0	7.54	127.66	3,894.4	-57.1	74.0	-46.2	0.00	0.00	0.00
4,000.0	7.54	127.66	3,993.5	-65.1	84.4	-52.7	0.00	0.00	0.00
4,100.0	7.54	127.66	4,092.7	-73.1	94.8	-59.2	0.00	0.00	0.00
4,200.0	7.54	127.66	4,191.8	-81.2	105.2	-65.7	0.00	0.00	0.00
4,300.0	7.54	127.66	4,290.9	-89.2	115.5	-72.2	0.00	0.00	0.00
4,400.0	7.54	127.66	4,390.1	-97.2	125.9	-78.6	0.00	0.00	0.00
4,500.0	7.54	127.66	4,489.2	-105.2	136.3	-85.1	0.00	0.00	0.00
4,600.0	7.54	127.66	4,588.3	-113.2	146.7	-91.6	0.00	0.00	0.00
4,700.0	7.54	127.66	4,687.5	-121.3	157.1	-98.1	0.00	0.00	0.00
4,800.0	7.54	127.66	4,786.6	-129.3	167.5	-104.6	0.00	0.00	0.00
4 000 0	7 5 4	107.66	4 00F 7	127.2	477.0	444.4	0.00	0.00	0.00
4,900.0	7.54	127.66	4,885.7	-137.3	177.9	-111.1	0.00	0.00	0.00
5,000.0	7.54	127.66	4,984.9	-145.3	188.3	-117.6	0.00	0.00	0.00
5,100.0	7.54	127.66	5,084.0	-153.3	198.7	-124.1	0.00	0.00	0.00
5,200.0	7.54	127.66	5,183.1	-161.4	209.1	-130.6	0.00	0.00	0.00



Database: EDM 5000.14

Company: EOG Resources - Midland
Project: Lea County, NM (NAD 83 NME)

Site: Kestrel 26 Fed Com

 Well:
 #303H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference:

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North Reference:

Survey Calculation Method:

Well #303H

KB = 25' @ 3452.0usft KB = 25' @ 3452.0usft

Grid

esign:		Fiaii #0. i								
lanned S	urvey									
М	easured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	5,300.0	7.54	127.66	5,282.3	-169.4	219.5	-137.1	0.00	0.00	0.00
	5,400.0	7.54	127.66	5,381.4	-177.4	229.9	-143.6	0.00	0.00	0.00
	5,500.0	7.54	127.66	5,480.5	-185.4	240.3	-150.1	0.00	0.00	0.00
	5,600.0	7.54	127.66	5,579.7	-193.5	250.7	-156.5	0.00	0.00	0.00
	5,700.0	7.54	127.66	5,678.8	-201.5	261.1	-163.0	0.00	0.00	0.00
	5,800.0	7.54	127.66	5,777.9	-209.5	271.5	-169.5	0.00	0.00	0.00
	5,900.0	7.54	127.66	5,877.1	-217.5	281.9	-176.0	0.00	0.00	0.00
	6,000.0	7.54	127.66	5,976.2	-225.5	292.3	-182.5	0.00	0.00	0.00
	6,100.0	7.54	127.66	6,075.3	-233.6	302.6	-189.0	0.00	0.00	0.00
	6,200.0	7.54	127.66	6,174.5	-241.6	313.0	-195.5	0.00	0.00	0.00
	6,300.0	7.54	127.66	6,273.6	-249.6	323.4	-202.0	0.00	0.00	0.00
	6,400.0	7.54	127.66	6,372.7	-257.6	333.8	-208.5	0.00	0.00	0.00
	6,500.0	7.54	127.66	6,471.9	-265.7	344.2	-215.0	0.00	0.00	0.00
	6,600.0	7.54 7.54	127.66	6,571.0	-203.7	354.6	-213.0	0.00	0.00	0.00
	6,700.0	7.54 7.54	127.66	6,670.1	-273.7 -281.7	365.0	-221.5 -227.9	0.00	0.00	0.00
	6,800.0	7.54	127.66	6,769.3	-289.7	375.4	-234.4	0.00	0.00	0.00
	0,000.0	7.54	127.00	0,709.5		373.4		0.00		
	6,900.0	7.54	127.66	6,868.4	-297.7	385.8	-240.9	0.00	0.00	0.00
	7,000.0	7.54	127.66	6,967.5	-305.8	396.2	-247.4	0.00	0.00	0.00
	7,100.0	7.54	127.66	7,066.7	-313.8	406.6	-253.9	0.00	0.00	0.00
	7,200.0	7.54	127.66	7,165.8	-321.8	417.0	-260.4	0.00	0.00	0.00
	7,300.0	7.54	127.66	7,265.0	-329.8	427.4	-266.9	0.00	0.00	0.00
	7,400.0	7.54	127.66	7,364.1	-337.9	437.8	-273.4	0.00	0.00	0.00
	7,400.0	7.54 7.54	127.66	7,463.2	-345.9	448.2	-273.4	0.00	0.00	0.00
		7.54 7.54							0.00	0.00
	7,600.0		127.66	7,562.4	-353.9	458.6	-286.4	0.00		
	7,700.0	7.54	127.66	7,661.5	-361.9	469.0	-292.9	0.00	0.00	0.00
	7,800.0	7.54	127.66	7,760.6	-369.9	479.3	-299.3	0.00	0.00	0.00
	7,900.0	7.54	127.66	7,859.8	-378.0	489.7	-305.8	0.00	0.00	0.00
	8,000.0	7.54	127.66	7,958.9	-386.0	500.1	-312.3	0.00	0.00	0.00
	8,100.0	7.54	127.66	8,058.0	-394.0	510.5	-318.8	0.00	0.00	0.00
	8,200.0	7.54	127.66	8,157.2	-402.0	520.9	-325.3	0.00	0.00	0.00
	8,300.0	7.54	127.66	8,256.3	-410.0	531.3	-331.8	0.00	0.00	0.00
	0.400.0	7.54	407.00	0.055.4	440.4	544. <b>7</b>	220.2	0.00	0.00	0.00
	8,400.0	7.54	127.66	8,355.4	-418.1	541.7	-338.3	0.00	0.00	0.00
	8,500.0	7.54	127.66	8,454.6	-426.1	552.1	-344.8	0.00	0.00	0.00
	8,600.0	7.54	127.66	8,553.7	-434.1	562.5	-351.3	0.00	0.00	0.00
	8,700.0	7.54	127.66	8,652.8	-442.1	572.9	-357.8	0.00	0.00	0.00
	8,800.0	7.54	127.66	8,752.0	-450.2	583.3	-364.3	0.00	0.00	0.00
	8,900.0	7.54	127.66	8,851.1	-458.2	593.7	-370.7	0.00	0.00	0.00
	9,000.0	7.54	127.66	8,950.2	-466.2	604.1	-377.2	0.00	0.00	0.00
	9,100.0	7.54	127.66	9,049.4	-474.2	614.5	-383.7	0.00	0.00	0.00
	9,200.0	7.54	127.66	9,148.5	-482.2	624.9	-390.2	0.00	0.00	0.00
	9,300.0	7.54	127.66	9,247.6	-490.3	635.3	-396.7	0.00	0.00	0.00
	9,400.0	7.54	127.66	9,346.8	-498.3	645.7	-403.2	0.00	0.00	0.00
	9,500.0	7.54	127.66	9,445.9	-506.3	656.0	-409.7	0.00	0.00	0.00
	9,600.0	7.54	127.66	9,545.0	-514.3	666.4	-416.2	0.00	0.00	0.00
	9,700.0	7.54	127.66	9,644.2	-522.4	676.8	-422.7	0.00	0.00	0.00
	9,743.6	7.54	127.66	9,687.4	-525.8	681.4	-425.5	0.00	0.00	0.00
	9,800.0	6.42	127.66	9,743.4	-530.0	686.8	-428.9	2.00	-2.00	0.00
	9,900.0	4.42	127.66	9,842.9	-535.8	694.3	-433.6	2.00	-2.00	0.00
	10,000.0	2.42	127.66	9,942.7	-539.4	699.0	-436.5	2.00	-2.00	0.00
	10,000.0	0.42	127.66	10,042.7	-541.0	700.9	-437.7	2.00	-2.00	0.00
	10,120.8	0.00	0.00	10,063.5	-541.0	701.0	-437.8	2.00	-2.00	0.00
	10,125.0	0.51	359.41	10,067.7	-541.0	701.0	-437.7	12.00	12.00	0.00
	10,150.0	3.51	359.41	10,092.7	-540.1	701.0	-436.9	12.00	12.00	0.00
	10,175.0	6.51	359.41	10,117.6	-537.9	701.0	-434.7	12.00	12.00	0.00



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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)
10,200.0		359.41	10,142.3	-534.4	700.9	-431.3	12.00	12.00	0.00
10,225.0	) 12.51	359.41	10,166.9	-529.7	700.9	-426.6	12.00	12.00	0.00
10,250.0		359.41	10,191.1	-523.6	700.8	-420.6	12.00	12.00	0.00
10,275.0		359.41	10,215.0	-516.3	700.7	-413.4	12.00	12.00	0.00
10,300.0		359.41	10,238.5	-507.8	700.7	-404.9	12.00	12.00	0.00
10,325.0		359.41	10,261.5	-498.0	700.6	-395.2	12.00	12.00	0.00
10,350.0	27.51	359.41	10,284.0	-487.0	700.4	-384.4	12.00	12.00	0.00
10,375.0		359.41	10,305.9	-474.9	700.3	-372.4	12.00	12.00	0.00
10,400.0		359.41	10,327.1	-461.7	700.2	-359.3	12.00	12.00	0.00
10,425.0		359.41	10,347.5	-447.3	700.0	-345.1	12.00	12.00	0.00
10,450.0		359.41	10,367.2	-431.9	699.9	-329.9	12.00	12.00	0.00
10,475.0		359.41	10,386.1	-415.5	699.7	-313.7	12.00	12.00	0.00
10,500.0		359.41	10,404.1	-398.2	699.5	-296.5	12.00	12.00	0.00
10,525.0		359.41	10,421.1	-379.9	699.3	-278.5	12.00	12.00	0.00
10,550.0		359.41	10,437.2	-360.7	699.1	-259.5	12.00	12.00	0.00
10,575.0		359.41	10,452.2	-340.8	698.9	-239.8	12.00	12.00	0.00
10,600.0	57.51	359.41	10,466.2	-320.1	698.7	-219.3	12.00	12.00	0.00
10,625.0		359.41	10,479.1	-298.6	698.5	-198.1	12.00	12.00	0.00
10,650.0		359.41	10,490.8	-276.6	698.3	-176.3	12.00	12.00	0.00
10,675.0		359.41	10,501.4	-253.9	698.0	-153.9	12.00	12.00	0.00
10,700.0		359.41	10,510.7	-230.7	697.8	-131.0	12.00	12.00	0.00
10,725.0	72.51	359.41	10,518.9	-207.1	697.6	-107.6	12.00	12.00	0.00
10,750.0	75.51	359.41	10,525.8	-183.1	697.3	-83.9	12.00	12.00	0.00
10,775.0	78.51	359.41	10,531.4	-158.7	697.1	-59.8	12.00	12.00	0.00
10,800.0		359.41	10,535.7	-134.1	696.8	-35.4	12.00	12.00	0.00
10,825.0		359.41	10,538.8	-109.3	696.5	-10.9	12.00	12.00	0.00
10,850.0	87.51	359.41	10,540.5	-84.3	696.3	13.8	12.00	12.00	0.00
10,870.8	90.00	359.41	10,541.0	-63.6	696.1	34.3	12.00	12.00	0.00
10,900.0		359.41	10,541.0	-34.4	695.8	63.2	0.00	0.00	0.00
11,000.0		359.41	10,541.0	65.6	694.7	162.1	0.00	0.00	0.00
11,100.0		359.41	10,541.0	165.6	693.7	260.9	0.00	0.00	0.00
11,200.0	90.00	359.41	10,541.0	265.6	692.7	359.8	0.00	0.00	0.00
11,300.0	90.00	359.41	10,541.0	365.6	691.6	458.7	0.00	0.00	0.00
11,400.0		359.41	10,541.0	465.6	690.6	557.5	0.00	0.00	0.00
11,500.0		359.41	10,541.0	565.6	689.6	656.4	0.00	0.00	0.00
11,600.0		359.41	10,541.0	665.6	688.5	755.3	0.00	0.00	0.00
11,700.0	90.00	359.41	10,541.0	765.6	687.5	854.1	0.00	0.00	0.00
11,800.0	90.00	359.41	10,541.0	865.6	686.5	953.0	0.00	0.00	0.00
11,900.0		359.41	10,541.0	965.6	685.4	1,051.9	0.00	0.00	0.00
12,000.0		359.41	10,541.0	1,065.6	684.4	1,150.8	0.00	0.00	0.00
12,100.0		359.41	10,541.0	1,165.6	683.4	1,249.6	0.00	0.00	0.00
12,200.0	90.00	359.41	10,541.0	1,265.6	682.4	1,348.5	0.00	0.00	0.00
12,300.0		359.41	10,541.0	1,365.6	681.3	1,447.4	0.00	0.00	0.00
12,400.0		359.41	10,541.0	1,465.6	680.3	1,546.2	0.00	0.00	0.00
12,500.0		359.41	10,541.0	1,565.6	679.3	1,645.1	0.00	0.00	0.00
12,600.0		359.41	10,541.0	1,665.6	678.2	1,744.0	0.00	0.00	0.00
12,700.0	90.00	359.41	10,541.0	1,765.6	677.2	1,842.8	0.00	0.00	0.00
12,800.0		359.41	10,541.0	1,865.5	676.2	1,941.7	0.00	0.00	0.00
12,900.0		359.41	10,541.0	1,965.5	675.1	2,040.6	0.00	0.00	0.00
13,000.0		359.41	10,541.0	2,065.5	674.1	2,139.5	0.00	0.00	0.00
13,100.0		359.41	10,541.0	2,165.5	673.1	2,238.3	0.00	0.00	0.00
13,200.0	90.00	359.41	10,541.0	2,265.5	672.0	2,337.2	0.00	0.00	0.00
13,300.0	90.00	359.41	10,541.0	2,365.5	671.0	2,436.1	0.00	0.00	0.00
13,400.0	90.00	359.41	10,541.0	2,465.5	670.0	2,534.9	0.00	0.00	0.00



Database: El Company: El

Project:

EDM 5000.14

EOG Resources - Midland Lea County, NM (NAD 83 NME)

Site: Kestrel 26 Fed Com

 Well:
 #303H

 Wellbore:
 OH

 Design:
 Plan #0.1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #303H

KB = 25' @ 3452.0usft KB = 25' @ 3452.0usft

Grid

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)
13,500.0	90.00	359.41	10,541.0	2,565.5	668.9	2,633.8	0.00	0.00	0.00
13,600.0	90.00	359.41	10,541.0	2,665.5	667.9	2,732.7	0.00	0.00	0.00
13,700.0	90.00	359.41	10,541.0	2,765.5	666.9	2,831.5	0.00	0.00	0.00
13,800.0	90.00	359.41	10,541.0	2,865.5	665.8	2,930.4	0.00	0.00	0.00
13,900.0	90.00	359.41	10,541.0	2,965.5	664.8	3,029.3	0.00	0.00	0.00
14,000.0	90.00	359.41	10,541.0	3,065.5	663.8	3,128.1	0.00	0.00	0.00
14,100.0	90.00	359.41	10,541.0	3,165.5	662.7	3,227.0	0.00	0.00	0.00
14,200.0	90.00	359.41	10,541.0	3,265.5	661.7	3,325.9	0.00	0.00	0.00
14,300.0	90.00	359.41	10,541.0	3,365.5	660.7	3,424.8	0.00	0.00	0.00
14,400.0	90.00	359.41	10,541.0	3,465.5	659.6	3,523.6	0.00	0.00	0.00
14,500.0	90.00	359.41	10,541.0	3,565.5	658.6	3,622.5	0.00	0.00	0.00
14,600.0	90.00	359.41	10,541.0	3,665.4	657.6	3,721.4	0.00	0.00	0.00
14,700.0	90.00	359.41	10,541.0	3,765.4	656.5	3,820.2	0.00	0.00	0.00
14,800.0	90.00	359.41	10,541.0	3,865.4	655.5	3,919.1	0.00	0.00	0.00
14,900.0	90.00	359.41	10,541.0	3,965.4	654.5	4,018.0	0.00	0.00	0.00
15,000.0	90.00	359.41	10,541.0	4,065.4	653.4	4,116.8	0.00	0.00	0.00
15,100.0	90.00	359.41	10,541.0	4,165.4	652.4	4,215.7	0.00	0.00	0.00
15,200.0	90.00	359.41	10,541.0	4,265.4	651.4	4,314.6	0.00	0.00	0.00
15,300.0	90.00	359.41	10,541.0	4,365.4	650.3	4,413.5	0.00	0.00	0.00
15,400.0	90.00	359.41	10,541.0	4,465.4	649.3	4,512.3	0.00	0.00	0.00
15,500.0	90.00	359.41	10,541.0	4,565.4	648.3	4,611.2	0.00	0.00	0.00
15,527.6	90.00	359.41	10,541.0	4,593.0	648.0	4,638.5	0.00	0.00	0.00

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
KOP(Kestrel 26 Fed Cor - plan hits target cen - Point		0.00	10,063.5	-541.0	701.0	430,869.00	817,162.00	32° 10' 53.020 N	103° 26' 30.475 W
FTP(Kestrel 26 Fed Con - plan misses target - Point		0.00 .5usft at 105	10,541.0 25.0usft MD	-491.0 (10421.1 TVD	701.0 , -379.9 N, 69	430,919.00 99.3 E)	817,162.00	32° 10' 53.515 N	103° 26' 30.470 W
PBHL(Kestrel 26 Fed Co - plan hits target cen - Point		0.00	10,541.0	4,593.0	648.0	436,003.00	817,109.00	32° 11' 43.825 N	103° 26' 30.596 W

### EOG RESOURCES, INC. Kestrel 26 FED COM #303H

### **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 th 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.

### EOG RESOURCES, INC. Kestrel 26 FED COM #303H

### ■ 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.

## EOG RESOURCES, INC. Kestrel 26 FED COM #303H

## **Emergency Assistance Telephone List**

PUBLIC SAFETY:		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:		
Jett Dueitt	Cell	(432) 230-4840
Blake Burney		
D. W. E.		
Drilling Engineer	O.C.	(122) 606 2600
Steve Munsell		(432) 686-3609
D.:!!! M	Cell	(432) 894-1256
Drilling Manager	Occ.	(422) (96 2751
Aj Dach		(432) 686-3751
D. III. a. C. a. C. da alla d	Cell	(817) 480-1167
Drilling Superintendent	Occ.	(422) (96 2702
Domingo Lopez		(432) 686-3702
11 0 D D.: 11:	Cell	(432) 215-9452
H&P Drilling	Office	(422) 562 5757
H&P Drilling		(432) 563-5757
H&P 415 Drilling Rig	Rig	(432) 230-4840
Tool Pusher:		
	Cell	(817) 760-6374
Johnathan Craig Brad Garrett	Cell	(017) 700-0374
Diau Gaireii		
Safety		
Brian Chandler (HSE Manager)	Office	(432) 686-3695
Ditail Chalater (115D Manager)	Cell	(817) 239-0251
	Cen	(011) 433-0431