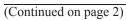
Form 3160-3 (June 2015)				OMB No.	PPROVED 1004-0137 uary 31, 2018		
UNITED STATES DEPARTMENT OF THE IN				5. Lease Serial No.	uary 51, 2018		
BUREAU OF LAND MANA		Γ		NMNM77063			
APPLICATION FOR PERMIT TO D	6. If Indian, Allotee o	r Tribe Name					
1a. Type of work:   Image: Constraint of the second seco	EENTER			7. If Unit or CA Agree	ement, Name an	d No.	
1b. Type of Well:	ther			8. Lease Name and W	ell No		
1c. Type of Completion: Hydraulic Fracturing Sin	ngle Zone	Multiple Zone					
				FRODERICK 33 FE			
				586H LS	34816]		
2. Name of Operator EOG RESOURCES INCORPORATED [7377]					)-025-5216	51	
3a. Address 1111 BAGBY SKY LOBBY 2, HOUSTON, TX 77002	3b. Phone N (713) 651-7	lo. (include area cod '000	e)	10. Field and Pool, or SAND DUNES/BON		53805 OUTH	
4. Location of Well ( <i>Report location clearly and in accordance w</i>	vith any State	requirements.*)		11. Sec., T. R. M. or I		or Area	
At surface TR E / 2316 FNL / 389 FWL / LAT 32.26191	62 / LONG ·	-103.6868809		SEC 33/T23S/R32E	/NMP		
At proposed prod. zone TR D / 100 FNL / 330 FWL / LAT	1 / LONG -103.687	0876					
14. Distance in miles and direction from nearest town or post offi	ce*			12. County or Parish LEA	13. Stat NM	te	
5. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		6. No of acres in lease 17. Spaci 480.0		ing Unit dedicated to this well			
18 Distance from proposed location*	19. Propose	19. Proposed Depth 20. BLM		BIA Bond No. in file			
to nearest well, drilling, completed, applied for, on this lease, ft. <b>15 feet</b>	11167 feet	/ 18743 feet	FED:				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3676 feet	22. Approxi 11/30/2022	mate date work will	start*	23. Estimated duration 25 days			
	24. Attac	hments					
The following, completed in accordance with the requirements of (as applicable)	Onshore Oil	and Gas Order No.	I, and the H	Iydraulic Fracturing rul	e per 43 CFR 31	162.3-3	
1. Well plat certified by a registered surveyor.		4. Bond to cover the Item 20 above).	e operation	s unless covered by an	existing bond on	file (see	
<ol> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syster SUPO must be filed with the appropriate Forest Service Office)</li> </ol>		5. Operator certific		mation and/or plans as n	aav be requested	by the	
	).	BLM.	Jeenie inioi	mation and/or plans as h	lay be requested	by the	
25. Signature (Electronic Submission)		(Printed/Typed) G RICHARDSON	/ Ph: (713)		Date 03/22/2022		
Title Regulatory Specialist							
Approved by (Signature) (Electronic Submission)		(Printed/Typed) 1 LAYTON / Ph: (5	75) 234-59		Date 10/26/2023		
Title Assistant Field Manager Lands & Minerals	Office Carlst	ad Field Office		·			
Application approval does not warrant or certify that the applicant applicant to conduct operations thereon. Conditions of approval, if any, are attached.	t holds legal	or equitable title to the	nose rights	in the subject lease whi	ch would entitle	the	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, m of the United States any false, fictitious or fraudulent statements of					y department or	agency	
NGMP Rec 10/27/2023							

SL



APPROVED WITH CONDITIONS



District I

District II

District III

District IV

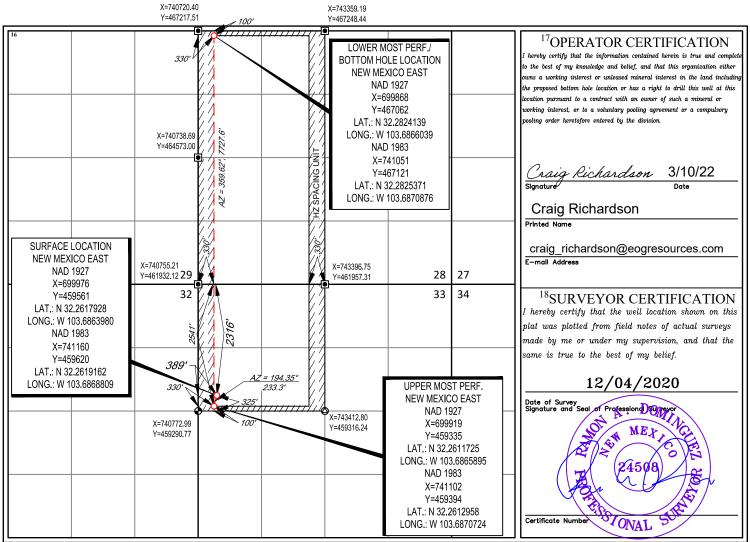
State of New Mexico 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 Energy, Minerals & Natural Resources 811 S. First St., Artesia, NM 88210 Department Phone: (575) 748-1283 Fax: (575) 748-9720 OIL CONSERVATION DIVISION 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 1220 South St. Francis Dr. 1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

## **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 30-025-52 <sup>2</sup>Pool Code <sup>3</sup>Pool Name 61 SAND DUNES, BONE SPRING, SOUTH 30 - 025 -53805 <sup>4</sup>Property Code Well Number <sup>5</sup>Property Name 334816 **FRODERICK 33 FED** 586H <sup>8</sup>Operator Name <sup>7</sup>OGRID No. <sup>9</sup>Elevation EOG RESOURCES, INC. 3676 7377 <sup>10</sup>Surface Location UL or lot no. Section Township Rang Lot Idn Feet from the North/South line Feet from the East/West line County NORTH 23-S 32 - E2316' 389' WEST LEA Ε 33 <sup>11</sup>Bottom Hole Location If Different From Surface UL or lot no. Township Lot Idn Feet from the North/South line Feet from the East/West line County Section Rang 100' NORTH 330' D 28 23-S 32-E WEST LEA <sup>2</sup>Dedicated Acres <sup>3</sup>Joint or Infill <sup>4</sup>Consolidation Code <sup>5</sup>Order No. 480.00

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



S:\SURVEY\EOG\_MIDLAND\FRODERICK\_33\_FED\_COM\FINAL\_PRODUCTS\LO\_FRODERICK\_33\_F\_586H\_REV\_1.DWG 11/19/2021 3:40:16 PM ad Released to Imaging: 10/27/2023 2:02:26 PM

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	E	Stat Energy, Minerals a	te of New Mez and Natural Res		ent		Subi Via I	nit Electronically E-permitting	
		1220 \$	onservation Di South St. Fran hta Fe, NM 87	cis Dr.					
	N	ATURAL G	AS MANA	GEMENT P	LAN				
This Natural Gas Manag	gement Plan n	nust be submitted w	ith each Applica	tion for Permit to I	Drill (A	PD) for a	new o	r recompleted well.	
			<u>1 – Plan D</u> ffective May 25						
I. Operator:EOG	Resources, In	cOGRI	D:7377		Da	ate: 10/24	/2023		
II. Type: 🛛 Origina	1 🗆 Amendn	the nent due to $\Box$ 19.15	5.27.9.D(6)(a) NI	MAC 🗆 19.15.27.9	9.D(6)(	b) NMAC	□ Ot	her.	
If Other, please describe	:								
<b>III. Well(s):</b> Provide the be recompleted from a s					wells p	roposed to	be dr	illed or proposed to	
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D		Gas MCF/D Proc		Anticipated roduced Water BBL/D	
FRODERICK 33 FED 586H		E-33-238-32E	2316' FNL & 389' FWL	+/- 1000	+/- 3:	500	+/- 3	000	
IV. Central Delivery P	oint Name: _	FRODERICK 3	3 FED CTB		[	See 19.15	.27.9(1	D)(1) NMAC]	
V. Anticipated Schedu or proposed to be recom						r set of we	lls pro	posed to be drilled	
Well Name	API	Spud Date	TD Reached Date	Completion Commencement		Initial F Back E		First Production Date	
FRODERICK 33 FED 586H		11/01/23	11/15/23	2/08/24		3/08/24		4/08/24	
VI. Separation Equipn	nent: 🛛 Attac	h a complete descr	iption of how Op	erator will size sep	aration	equipmer	it to op	otimize gas capture.	
VII. Operational Pract Subsection A through F		-	ription of the ac	tions Operator wil	l take t	to comply	with t	he requirements of	
VIII. Best Managemer during active and planne		-	ete description of	f Operator's best r	nanager	ment pract	tices to	o minimize venting	

## Section 2 – Enhanced Plan EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

## IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

## X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in		

**XI. Map.**  $\Box$  Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system  $\Box$  will  $\Box$  will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII.** Line Pressure. Operator  $\Box$  does  $\Box$  does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

 $\Box$  Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:**  $\Box$  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

## <u>Section 3 - Certifications</u> <u>Effective May 25, 2021</u>

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

 $\boxtimes$  Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

 $\Box$  Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. *If Operator checks this box, Operator will select one of the following:* 

**Well Shut-In.**  $\Box$  Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.**  $\Box$  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (**h**) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

## Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: Star L Harrell Printed Name: Star L Harrell Title: Sr Regulatory Specialist E-mail Address: Star\_Harrell@eogresources.com Date: 10/24/2023 Phone: (432) 848-9161 **OIL CONSERVATION DIVISION** (Only applicable when submitted as a standalone form) Approved By: Title: Approval Date: Conditions of Approval:

## Natural Gas Management Plan Items VI-VIII

# VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment will be sized to provide adequate separation for anticipated rates.
- Adequate separation relates to retention time for Liquid Liquid separation and velocity for Gas-Liquid separation.
- Collection systems are appropriately sized to handle facility production rates on all (3) phases.
- Ancillary equipment and metering is selected to be serviced without flow interruptions or the need to release gas from the well.

# VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

## **Drilling Operations**

- All flare stacks will be properly sized. The flare stacks will be located at a minimum 100' from the nearest surface hole location on the pad.
- All natural gas produced during drilling operations will be flared, unless there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety and the environment, at which point the gas will be vented.

## Completions/Recompletions Operations

- New wells will not be flowed back until they are connected to a properly sized gathering system.
- The facility will be built/sized for maximum anticipated flowrates and pressures to minimize waste.
- For flowback operations, multiple stages of separation will be used as well as excess VRU and blowers to make sure waste is minimized off the storage tanks and facility.
- During initial flowback, the well stream will be routed to separation equipment.
- At an existing facility, when necessary, post separation natural gas will be flared until it meets pipeline specifications, at which point it will be turned into a collection system.
- At a new facility, post separation natural gas will be vented until storage tanks can safely function, at which point it will be flared until it meets pipeline spec.

## Production Operations

- Weekly AVOs will be performed on all facilities.
- All flares will be equipped with auto-ignition systems and continuous pilot operations.
- After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- All plunger lift systems will be optimized to limit the amount of waste.
- All tanks will have automatic gauging equipment installed.
- Leaking thief hatches found during AVOs will be cleaned and properly re-sealed.

## Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- Weekly AVOs will be performed on all wells and facilities that produce more than 60 Mcfd.

## Measurement & Estimation

- All volume that is flared and vented that is not measured will be estimated.
- All measurement equipment for flared volumes will conform to API 14.10.
- No meter bypasses with be installed.

• When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated.

## <u>VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize</u> venting during active and planned maintenance.

- During downhole well maintenance, EOG will use best management practices to vent as minimally as possible.
- Prior to the commencement of any maintenance, the tank or vessel will be isolated from the rest of the facilities.
  All valves upstream of the equipment will be closed and isolated.
- After equipment has been isolated, the equipment will be blown down to as low a pressure as possible into the collection system.
- If the equipment being maintained cannot be relieved into the collection system, it shall be released to a tank where the vapor can either be captured or combusted if possible.
- After downhole well maintenance, natural gas will be flared until it reaches pipeline specification.

# **S**eog resources

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

Permian

## 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,225'
Tamarisk Anhydrite	1,297'
Top of Salt	1,518'
Base of Salt	4,708'
Lamar	4,880'
Bell Canyon	4,906'
Cherry Canyon	5,811'
Brushy Canyon	7,104'
Bone Spring Lime	8,801'
Leonard (Avalon) Shale	8,906'
1st Bone Spring Sand	9,900'
2nd Bone Spring Shale	10,194'
2nd Bone Spring Sand	10,440'
TD	11,167'

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

Upper Permian Sands	0-400'	Fresh Water
Bell Canyon	4,906'	Oil
Cherry Canyon	5,811'	Oil
Brushy Canyon	7,104'	Oil
Leonard (Avalon) Shale	8,906'	Oil
1st Bone Spring Sand	9,900'	Oil
2nd Bone Spring Shale	10,194'	Oil
2nd Bone Spring Sand	10,440'	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 13-3/8" casing at 1,320' and circulating cement back to surface.

## 4. CASING PROGRAM

Hole	Interval MD		Interva	Interval TVD				
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
16"	0	1,320	0	1,320	13-3/8"	54.5#	J-55	STC
11"	0	4,812	0	4,810	9-5/8"	40#	J-55	LTC
6-3/4"	0	18,743	0	11,167	5-1/2"	17#	HCP-110	LTC

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" 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 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

		Wt.	Yld	Slurry Description
Depth	No. Sacks	ppg	Ft3/sk	Sidiry Description
1,320'	350	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-
13-3/8''				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 @ 1120')
4,810'	480	12.7	2.22	Lead: Class C + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @
9-5/8''				Surface)
	100	14.8	1.32	Tail: Class C + 10% NaCL + 3% MagOx (TOC @ 3848')
18,743'	320	10.5	3.21	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond
5-1/2''				(TOC @ 4310')
	570	13.2	1.52	Tail: Class H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 10700')

## **Cementing Program:**

Additive	Purpose
Bentonite Gel	Lightweight/Lost circulation prevention
Calcium Chloride	Accelerator
Cello-flake	Lost circulation prevention
Sodium Metasilicate	Accelerator
MagOx	Expansive agent
Pre-Mag-M	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	Туре	Weight (ppg)	Viscosity	Water Loss
0 – 1,320'	Fresh - Gel	8.6-8.8	28-34	N/c
1,320' – 4,810'	Brine	8.6-8.8	28-34	N/c
4,610' – 18,743' Lateral	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) H2S monitoring and detection equipment will be utilized from surface casing point to TD.

## 8. LOGGING, TESTING AND CORING PROGRAM:

- (A) Open-hole logs are not planned for this well.
- (B) 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 182 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,226 psig and a maximum anticipated surface pressure of 2,769 psig (based on 9.0 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 7,104' 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.

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 1,500 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 & Offline Cementing:

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 Cactus 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 Jpacker 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 1,500 psi, whichever is greater.



EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 20 days per Onshore Order No. 2.
- Function test BOP elements per Onshore Order No. 2.
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "EOG BLM Variance 3a -Offline Cement Intermediate Operational Procedure"



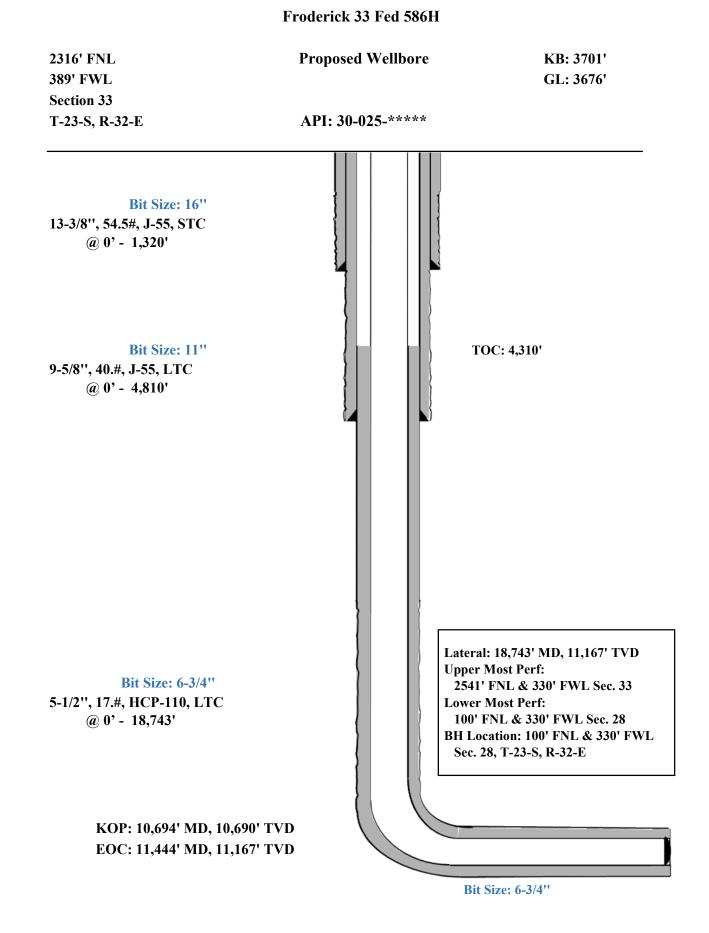
## **12. TUBING REQUIREMENTS**

EOG respectively requests an exception to the following NMOCD rule:

• 19.15.16.10 Casing AND TUBING RQUIREMENTS: J (3): "The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone."

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.

# **S**eog resources





# Midland

Lea County, NM (NAD 83 NME) Froderick 33 Fed #586H

OH

Plan: Plan #0.1 RT

# **Standard Planning Report**

09 March, 2022



Database:

PEDM

**Planning Report** 

Local Co-ordinate Reference:

Well #586H

Database: Company: Project: Site: Well: Wellbore: Design:	PEDM Midland Lea County, NM (NAD 83 NME) Froderick 33 Fed #586H OH Plan #0.1 RT			TVD Refer MD Refer North Ref	ence:		Well #586H kb = 26' @ 37/ kb = 26' @ 37/ Grid Minimum Curv	02.0usft		
Project	Lea Cour	nty, NM (NAC	0 83 NME)							
Map System: Geo Datum: Map Zone:		Plane 1983 rican Datum co Eastern Zc			System Da	tum:	Ν	lean Sea Level		
Site	Froderick	33 Fed								
Site Position: From: Position Uncertainty	Мар <b>/:</b>	0.0 เ	North Easti usft Slot I	-	742,	631.00 usft 250.00 usft 3-3/16 "	Latitude: Longitude:			32.2619284°N 103.6833550°W
Well	#586H									
Well Position	+N/-S	0	.0 usft N	orthing:		459,620.00	) usft La	titude:		32.2619162°N
	+E/-W			asting:		741,160.00		ongitude:		103.6868813°W
Position Uncertainty Grid Convergence:	/		.0 usft <b>N</b> 35 °	/ellhead Eleva	tion:		usft <b>G</b>	round Level:		3,676.0 usf
Wellbore	OH									
Magnetics		el Name	Samp	le Date	Declina	ition	Dip	Angle	Field	Strength
		10050000		011110001	(°)			(°)		nT)
		IGRF2020		9/14/2021		6.57		59.91	47,4	177.07084098
Design	Plan #0.1	RT								
Audit Notes:										
Version:			Phas		PLAN		e On Depth:		0.0	
Vertical Section:		D	0epth From (T (usft)	VD)	+N/-S (usft)		E/-W ⊧sft)	D	irection (°)	
			0.0		0.0		0.0	:	359.17	
Plan Survey Tool Pr Depth From (usft) 1 0.0	Depth (usft)		(Wellbore) 9.1 RT (OH)		Tool Name EOG MWD+IF MWD + IFR1	-R1	Remarks			
Plan Sections			Vertical		+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	
Measured Depth Incl (usft)	ination /	Azimuth (°)	Depth (usft)	+N/-S (usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	Target
Depth Incl (usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)				Target
Depth Incl			-				(°/ <b>100usft)</b> 0.0 0.0	0.00	0.00	Target
Depth Incl (usft) 0.0 1,200.0 1,285.9	(°) 0.00 0.00 1.72	(°) 0.00 0.00 191.87	(usft) 0.0 1,200.0 1,285.9	(usft) 0.0 0.0 -1.3	(usft) 0.0 0.0 -0.3	(°/100usft) 0.00 0.00 2.00	0.0 0.0 2.0	0 0.00 0 0.00 0 0.00	0.00 0.00 191.87	Target
Depth (usft) Incl 0.0 1,200.0 1,285.9 10,607.8	(°) 0.00 0.00 1.72 1.72	(°) 0.00 0.00 191.87 191.87	(usft) 0.0 1,200.0 1,285.9 10,603.6	(usft) 0.0 -1.3 -274.7	(usft) 0.0 -0.3 -57.7	(°/100usft) 0.00 0.00 2.00 0.00	0.0 0.0 2.0 0.0	0 0.00 0 0.00 0 0.00 0 0.00	0.00 0.00 191.87 0.00	
Depth (usft) Incl (usft) 0.0 1,200.0 1,285.9 10,607.8 10,693.7	(°) 0.00 0.00 1.72 1.72 0.00	(°) 0.00 0.00 191.87 191.87 0.00	(usft) 0.0 1,200.0 1,285.9 10,603.6 10,689.5	(usft) 0.0 -1.3 -274.7 -276.0	(usft) 0.0 -0.3 -57.7 -58.0	(°/100usft) 0.00 0.00 2.00 0.00 2.00	0.0 0.0 2.0 0.0 -2.0	0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	0.00 0.00 191.87 0.00 180.00	KOP(Froderick 33 Fe
Depth (usft) Incl 0.0 1,200.0 1,285.9 10,607.8	(°) 0.00 0.00 1.72 1.72	(°) 0.00 0.00 191.87 191.87	(usft) 0.0 1,200.0 1,285.9 10,603.6	(usft) 0.0 -1.3 -274.7	(usft) 0.0 -0.3 -57.7	(°/100usft) 0.00 0.00 2.00 0.00	0.0 0.0 2.0 0.0	0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00 0 0.00	0 0.00 0.00 191.87 0.00 180.00 0 0.00	Target KOP(Froderick 33 Fer FTP(Froderick 33 Fer

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Dat	tabase:	PEDM	Local Co-ordinate Reference:	Well #586H
Co	mpany:	Midland	TVD Reference:	kb = 26' @ 3702.0usft
Pro	oject:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3702.0usft
Sit	ie:	Froderick 33 Fed	North Reference:	Grid
We	ell:	#586H	Survey Calculation Method:	Minimum Curvature
We	ellbore:	ОН		
De	sign:	Plan #0.1 RT		

## Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
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
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,285.9	1.72	191.87	1,285.9	-1.3	-0.3	-1.3	2.00	2.00	0.00
1,300.0	1.72	191.87	1,300.0	-1.7	-0.4	-1.7	0.00	0.00	0.00
1,400.0	1.72	191.87	1,399.9	-4.6	-1.0	-4.6	0.00	0.00	0.00
1,500.0	1.72	191.87	1,499.9	-7.5	-1.6	-7.5	0.00	0.00	0.00
1,600.0	1.72	191.87	1,599.8	-10.5	-2.2	-10.4	0.00	0.00	0.00
	1.72			-13.4					
1,700.0 1,800.0	1.72	191.87 191.87	1,699.8 1,799.8	-13.4 -16.3	-2.8 -3.4	-13.4 -16.3	0.00 0.00	0.00 0.00	0.00 0.00
							0.00	0.00	0.00
1,900.0	1.72	191.87	1,899.7	-19.3	-4.1	-19.2			
2,000.0	1.72	191.87	1,999.7	-22.2	-4.7	-22.1	0.00	0.00	0.00
2,100.0	1.72	191.87	2,099.6	-25.1	-5.3	-25.1	0.00	0.00	0.00
2,200.0	1.72	191.87	2,199.6	-28.1	-5.9	-28.0	0.00	0.00	0.00
2,300.0	1.72	191.87	2,299.5	-31.0	-6.5	-30.9	0.00	0.00	0.00
2,400.0	1.72	191.87	2,399.5	-33.9	-7.1	-33.8	0.00	0.00	0.00
2,500.0	1.72	191.87	2,499.4	-36.9	-7.7	-36.8	0.00	0.00	0.00
2,600.0	1.72	191.87	2,599.4	-39.8	-8.4	-39.7	0.00	0.00	0.00
2,700.0	1.72	191.87	2,699.4	-42.7	-9.0	-42.6	0.00	0.00	0.00
2,800.0	1.72	191.87	2,799.3	-45.7	-9.6	-45.5	0.00	0.00	0.00
2,900.0	1.72	191.87	2,899.3	-48.6	-10.2	-48.5	0.00	0.00	0.00
3,000.0	1.72	191.87	2,999.2	-51.5	-10.8	-51.4	0.00	0.00	0.00
3,100.0	1.72	191.87	3,099.2	-54.5	-10.8	-54.3	0.00	0.00	0.00
3,200.0	1.72	191.87	3,199.1	-57.4	-12.1	-57.2	0.00	0.00	0.00
3,300.0	1.72	191.87	3,299.1	-60.3	-12.7	-60.2	0.00	0.00	0.00
3,400.0	1.72	191.87	3,399.0	-63.3	-13.3	-63.1	0.00	0.00	0.00
3,500.0	1.72	191.87	3,499.0	-66.2	-13.9	-66.0	0.00	0.00	0.00
3,600.0	1.72	191.87	3,598.9	-69.1	-14.5	-68.9	0.00	0.00	0.00
3,700.0	1.72	191.87	3,698.9	-72.1	-15.1	-71.9	0.00	0.00	0.00
3,800.0	1.72	191.87	3,798.9	-75.0	-15.8	-74.8	0.00	0.00	0.00
3,900.0	1.72	191.87	3,898.8	-78.0	-16.4	-77.7	0.00	0.00	0.00
4,000.0	1.72	191.87	3,998.8	-80.9	-17.0	-80.6	0.00	0.00	0.00
4,100.0	1.72	191.87	4,098.7	-83.8	-17.6	-83.6	0.00	0.00	0.00
4,200.0	1.72	191.87	4,198.7	-86.8	-18.2	-86.5	0.00	0.00	0.00
4,300.0	1.72	191.87	4,298.6	-89.7	-18.8	-89.4	0.00	0.00	0.00
4,400.0	1.72	191.87	4,398.6	-92.6	-19.5	-92.3	0.00	0.00	0.00
4,500.0	1.72	191.87	4,498.5	-95.6	-20.1	-95.3	0.00	0.00	0.00
4,600.0	1.72	191.87	4,598.5	-98.5	-20.7	-98.2	0.00	0.00	0.00
4,700.0	1.72	191.87	4,698.5	-101.4	-21.3	-101.1	0.00	0.00	0.00
4,800.0	1.72	191.87	4,798.4	-104.4	-21.9	-104.0	0.00	0.00	0.00
4,900.0	1.72	191.87	4,898.4	-107.3	-22.5	-106.9	0.00	0.00	0.00
5,000.0	1.72	191.87	4,998.3	-110.2	-23.2	-109.9	0.00	0.00	0.00
5,100.0	1.72	191.87	5,098.3	-113.2	-23.8	-112.8	0.00	0.00	0.00
5,200.0	1.72	191.87	5,198.2	-116.1	-24.4	-115.7	0.00	0.00	0.00

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COMPASS 5000.16 Build 100



Database:	PEDM	Local Co-ordinate Reference:	Well #586H
Company:	Midland	TVD Reference:	kb = 26' @ 3702.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3702.0usft
Site:	Froderick 33 Fed	North Reference:	Grid
Well:	#586H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

Planned Survey

Meas Dep (us	oth	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	1.72	191.87	5,298.2	-119.0	-25.0	-118.6	0.00	0.00	0.00
5	,400.0	1.72	191.87	5,398.1	-122.0	-25.6	-121.6	0.00	0.00	0.00
	,500.0	1.72	191.87	5,498.1	-124.9	-26.2	-124.5	0.00	0.00	0.00
	,600.0	1.72	191.87	5,598.0	-127.8	-26.9	-127.4	0.00	0.00	0.00
	,700.0	1.72	191.87	5,698.0	-130.8	-27.5	-130.3	0.00	0.00	0.00
	,800.0	1.72	191.87	5,798.0	-133.7	-28.1	-133.3	0.00	0.00	0.00
5	,900.0	1.72	191.87	5,897.9	-136.6	-28.7	-136.2	0.00	0.00	0.00
	,000.0	1.72	191.87	5,997.9	-139.6	-29.3	-139.1	0.00	0.00	0.00
	,100.0	1.72	191.87	6,097.8	-142.5	-29.9	-142.0	0.00	0.00	0.00
	,200.0	1.72	191.87	6,197.8	-145.4	-30.6	-145.0	0.00	0.00	0.00
	,200.0	1.72	191.87	6,297.7	-148.4	-31.2	-147.9	0.00	0.00	0.00
	,400.0	1.72	191.87	6,397.7	-151.3	-31.8	-150.8	0.00	0.00	0.00
	,500.0	1.72	191.87	6,497.6	-154.2	-32.4	-153.7	0.00	0.00	0.00
	,600.0	1.72	191.87	6,597.6	-157.2	-33.0	-156.7	0.00	0.00	0.00
	,700.0	1.72	191.87	6,697.6	-160.1	-33.6	-159.6	0.00	0.00	0.00
	,800.0	1.72	191.87	6,797.5	-163.0	-34.3	-162.5	0.00	0.00	0.00
				6.897.5						
	,900.0	1.72	191.87	-,	-166.0	-34.9	-165.4	0.00	0.00	0.00
	,000.0	1.72	191.87	6,997.4	-168.9	-35.5	-168.4	0.00	0.00	0.00
	,100.0	1.72 1.72	191.87	7,097.4	-171.8	-36.1	-171.3	0.00	0.00	0.00
	,200.0 ,300.0	1.72	191.87 191.87	7,197.3 7,297.3	-174.8 -177.7	-36.7 -37.3	-174.2 -177.1	0.00 0.00	0.00 0.00	0.00 0.00
				,						
	,400.0	1.72	191.87	7,397.2	-180.6	-38.0	-180.1	0.00	0.00	0.00
	,500.0	1.72	191.87	7,497.2	-183.6	-38.6	-183.0	0.00	0.00	0.00
	,600.0	1.72	191.87	7,597.1	-186.5	-39.2	-185.9	0.00	0.00	0.00
	,700.0	1.72	191.87	7,697.1	-189.4	-39.8	-188.8	0.00	0.00	0.00
/	,800.0	1.72	191.87	7,797.1	-192.4	-40.4	-191.8	0.00	0.00	0.00
	,900.0	1.72	191.87	7,897.0	-195.3	-41.0	-194.7	0.00	0.00	0.00
	,000.0	1.72	191.87	7,997.0	-198.2	-41.7	-197.6	0.00	0.00	0.00
	,100.0	1.72	191.87	8,096.9	-201.2	-42.3	-200.5	0.00	0.00	0.00
	,200.0	1.72	191.87	8,196.9	-204.1	-42.9	-203.5	0.00	0.00	0.00
8	,300.0	1.72	191.87	8,296.8	-207.0	-43.5	-206.4	0.00	0.00	0.00
8	,400.0	1.72	191.87	8,396.8	-210.0	-44.1	-209.3	0.00	0.00	0.00
8	,500.0	1.72	191.87	8,496.7	-212.9	-44.7	-212.2	0.00	0.00	0.00
8	,600.0	1.72	191.87	8,596.7	-215.8	-45.4	-215.2	0.00	0.00	0.00
8	,700.0	1.72	191.87	8,696.7	-218.8	-46.0	-218.1	0.00	0.00	0.00
8	,800.0	1.72	191.87	8,796.6	-221.7	-46.6	-221.0	0.00	0.00	0.00
8	,900.0	1.72	191.87	8,896.6	-224.6	-47.2	-223.9	0.00	0.00	0.00
9	,000.0	1.72	191.87	8,996.5	-227.6	-47.8	-226.9	0.00	0.00	0.00
	,100.0	1.72	191.87	9,096.5	-230.5	-48.4	-229.8	0.00	0.00	0.00
9	,200.0	1.72	191.87	9,196.4	-233.4	-49.1	-232.7	0.00	0.00	0.00
	,300.0	1.72	191.87	9,296.4	-236.4	-49.7	-235.6	0.00	0.00	0.00
9	,400.0	1.72	191.87	9,396.3	-239.3	-50.3	-238.5	0.00	0.00	0.00
	,500.0	1.72	191.87	9,496.3	-242.2	-50.9	-241.5	0.00	0.00	0.00
	,600.0	1.72	191.87	9,596.3	-245.2	-51.5	-244.4	0.00	0.00	0.00
	,700.0	1.72	191.87	9,696.2	-248.1	-52.1	-247.3	0.00	0.00	0.00
	,800.0	1.72	191.87	9,796.2	-251.0	-52.8	-250.2	0.00	0.00	0.00
9	,900.0	1.72	191.87	9,896.1	-254.0	-53.4	-253.2	0.00	0.00	0.00
	,000.0	1.72	191.87	9,996.1	-256.9	-54.0	-256.1	0.00	0.00	0.00
	,100.0	1.72	191.87	10,096.0	-259.8	-54.6	-259.0	0.00	0.00	0.00
	,200.0	1.72	191.87	10,196.0	-262.8	-55.2	-261.9	0.00	0.00	0.00
	,300.0	1.72	191.87	10,295.9	-265.7	-55.8	-264.9	0.00	0.00	0.00
10	,400.0	1.72	191.87	10,395.9	-268.6	-56.5	-267.8	0.00	0.00	0.00
	,500.0	1.72	191.87	10,495.8	-271.6	-57.1	-270.7	0.00	0.00	0.00
	,607.8	1.72	191.87	10,603.6	-274.7	-57.7	-273.9	0.00	0.00	0.00
<u>.                                    </u>						-				

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COMPASS 5000.16 Build 100



Database:	PEDM	Local Co-ordinate Reference:	Well #586H
Company:	Midland	TVD Reference:	kb = 26' @ 3702.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3702.0usft
Site:	Froderick 33 Fed	North Reference:	Grid
Well:	#586H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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)
10,693.7	0.00	0.00	10,689.5	-276.0	-58.0	-275.1	2.00	-2.00	0.00
KOP(Froder	ick 33 Fed #586H								
10,700.0	0.75	0.00	10,695.8	-276.0	-58.0	-275.1	12.00	12.00	0.00
,									
10,725.0	3.75	0.00	10,720.8	-275.0	-58.0	-274.1	12.00	12.00	0.00
10,750.0	6.75	0.00	10,745.7	-272.7	-58.0	-271.8	12.00	12.00	0.00
10,775.0	9.76	0.00	10,770.4	-269.1	-58.0	-268.2	12.00	12.00	0.00
10,800.0	12.76	0.00	10,794.9	-264.2	-58.0	-263.3	12.00	12.00	0.00
10,825.0	15.76	0.00	10,819.1	-258.1	-58.0	-257.2	12.00	12.00	0.00
10,850.0	18.76	0.00	10,843.0	-250.6	-58.0	-249.8	12.00	12.00	0.00
10,875.0	21.76	0.00	10,866.5	-242.0	-58.0	-241.1	12.00	12.00	0.00
10,873.0	24.76	0.00	10,889.4		-58.0			12.00	0.00
,			,	-232.1		-231.3	12.00		
10,914.2	26.46	0.00	10,902.2	-226.0	-58.0	-225.1	12.00	12.00	0.00
•	ck 33 Fed #586H								_
10,925.0	27.76	359.98	10,911.8	-221.1	-58.0	-220.2	12.00	12.00	-0.19
10,950.0	30.76	359.94	10,933.7	-208.8	-58.0	-208.0	12.00	12.00	-0.1
10,975.0	33.76	359.90	10,954.8	-195.5	-58.0	-194.6	12.00	12.00	-0.14
11,000.0	36.76	359.87	10,975.2	-181.1	-58.1	-180.2	12.00	12.00	-0.12
11,025.0	39.76	359.85	10,994.8	-165.6	-58.1	-164.7	12.00	12.00	-0.10
11,050.0	42.76	359.82	11,013.6	-149.1	-58.1	-148.3	12.00	12.00	-0.09
					-58.2				-0.08
11,075.0 11,100.0	45.76 48.76	359.80 359.78	11,031.5 11,048.5	-131.7 -113.3	-58.2 -58.3	-130.8 -112.5	12.00 12.00	12.00 12.00	-0.0
11,125.0	51.76	359.77	11,064.5	-94.1	-58.3	-93.2	12.00	12.00	-0.07
11,150.0	54.76	359.75	11,079.4	-74.1	-58.4	-73.2	12.00	12.00	-0.06
11,175.0	57.76	359.74	11,093.3	-53.3	-58.5	-52.4	12.00	12.00	-0.0
11,200.0	60.76	359.72	11,106.1	-31.8	-58.6	-30.9	12.00	12.00	-0.0
11,225.0	63.76	359.71	11,117.7	-9.7	-58.7	-8.8	12.00	12.00	-0.0
11,250.0	66.76	359.70	11,128.2	13.0	-58.8	13.9	12.00	12.00	-0.05
11,275.0	69.76	359.69	11,137.5	36.3	-59.0	37.1	12.00	12.00	-0.0
11,300.0	72.76	359.67	11,145.5	59.9	-59.1	60.8	12.00	12.00	-0.04
11,325.0	75.76	359.66	11,152.3	84.0	-59.2	84.8	12.00	12.00	-0.04
11,325.0	78.76	359.65	11,157.8	108.4	-59.2	109.2	12.00	12.00	-0.04
11,375.0	81.76	359.64	11,162.0	133.0	-59.5	133.9	12.00	12.00	-0.04
11,400.0	84.76	359.63	11,164.9	157.8	-59.7	158.7	12.00	12.00	-0.04
11,425.0	87.76	359.62	11,166.6	182.8	-59.9	183.6	12.00	12.00	-0.04
11,443.7	90.00	359.62	11,166.9	201.5	-60.0	202.3	12.00	12.00	-0.04
11,500.0	90.00	359.62	11,166.9	257.8	-60.4	258.6	0.00	0.00	0.00
11,600.0	90.00	359.62	11,166.9	357.8	-61.0	358.6	0.00	0.00	0.00
11,700.0	90.00	359.62	11,166.9	457.8	-61.7	458.6	0.00	0.00	0.00
11,800.0	90.00	359.62	11,166.9	557.8	-62.4	558.6	0.00	0.00	0.0
11,900.0	90.00	359.62	11,166.9	657.8	-63.0	658.6	0.00	0.00	0.0
12,000.0	90.00	359.62	11,166.9	757.7	-63.7	758.6	0.00	0.00	0.0
,		359.62 359.62	11,166.9			758.6 858.6		0.00	
12,100.0	90.00			857.7	-64.4		0.00		0.00
12,200.0	90.00	359.62	11,167.0 11,167.0	957.7 1 057 7	-65.1	958.6	0.00	0.00	0.00
12,300.0	90.00	359.62	11,107.0	1,057.7	-65.7	1,058.6	0.00	0.00	0.00
12,400.0	90.00	359.62	11,167.0	1,157.7	-66.4	1,158.6	0.00	0.00	0.00
12,500.0	90.00	359.62	11,167.0	1,257.7	-67.1	1,258.6	0.00	0.00	0.00
12,600.0	90.00	359.62	11,167.0	1,357.7	-67.7	1,358.6	0.00	0.00	0.00
12,700.0	90.00	359.62	11,167.0	1,457.7	-68.4	1,458.6	0.00	0.00	0.00
12,800.0	90.00	359.62	11,167.0	1,557.7	-69.1	1,558.6	0.00	0.00	0.0
12,900.0	90.00	359.62	11,167.0	1,657.7	-69.8	1,658.6	0.00	0.00	0.0
12,900.0	90.00	359.62	11,167.0	1,757.7	-09.8	1,758.6	0.00	0.00	0.00
13,000.0	90.00	359.62	11,167.0	1,857.7	-70.4	1,858.6	0.00	0.00	0.00
13,100.0	90.00	359.62	11,167.0	1,857.7	-71.1	1,958.6	0.00	0.00	0.00
13,200.0		359.62 359.62	11,167.0						
1.3.300.00	90.00	339.0Z	11.107.0	2,057.7	-72.4	2,058.6	0.00	0.00	0.00

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COMPASS 5000.16 Build 100



Database:	PEDM	Local Co-ordinate Reference:	Well #586H
Company:	Midland	TVD Reference:	kb = 26' @ 3702.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3702.0usft
Site:	Froderick 33 Fed	North Reference:	Grid
Well:	#586H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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)
13,400.0	90.00	359.62	11,167.0	2,157.7	-73.1	2,158.6	0.00	0.00	0.00
13,500.0	90.00	359.62	11,167.0	2,257.7	-73.8	2,258.5	0.00	0.00	0.00
13,600.0	90.00	359.62	11,167.0	2,357.7	-74.5	2,358.5	0.00	0.00	0.00
13,700.0	90.00	359.62	11,167.0	2,457.7	-75.1	2,458.5	0.00	0.00	0.00
13,800.0	90.00	359.62	11,167.0	2,557.7	-75.8	2,558.5	0.00	0.00	0.00
13,900.0	90.00	359.62	11,167.0	2,657.7	-76.5	2,658.5	0.00	0.00	0.00
14,000.0	90.00	359.62	11,167.0	2,757.7	-77.2	2,758.5	0.00	0.00	0.00
14,100.0	90.00	359.62	11,167.0	2,857.7	-77.8	2,858.5	0.00	0.00	0.00
14,200.0	90.00	359.62	11,167.0	2,957.7	-78.5	2,958.5	0.00	0.00	0.00
14,300.0	90.00	359.62	11,167.0	3,057.7	-79.2	3,058.5	0.00	0.00	0.00
14,400.0	90.00	359.62	11,167.0	3,157.7	-79.8	3,158.5	0.00	0.00	0.00
14,500.0	90.00	359.62	11,167.0	3,257.7	-80.5	3,258.5	0.00	0.00	0.00
14,600.0	90.00	359.62	11,167.0	3,357.7	-81.2	3,358.5	0.00	0.00	0.00
14,700.0	90.00	359.62	11,167.0	3,457.7	-81.9	3,458.5	0.00	0.00	0.00
14,800.0	90.00	359.62	11,167.0	3,557.7	-82.5	3,558.5	0.00	0.00	0.00
14,900.0	90.00	359.62	11,167.0	3,657.7	-83.2	3,658.5	0.00	0.00	0.00
15,000.0	90.00	359.62	11,167.0	3,757.7	-83.9	3,758.5	0.00	0.00	0.00
15,100.0	90.00	359.62	11,167.0	3,857.7	-84.5	3,858.5	0.00	0.00	0.00
15,200.0	90.00	359.62	11,167.0	3,957.7	-85.2	3,958.5	0.00	0.00	0.00
15,300.0	90.00	359.62	11,167.0	4,057.7	-85.9	4,058.5	0.00	0.00	0.00
15,400.0	90.00	359.62	11,167.0	4,157.7	-86.6	4,158.5	0.00	0.00	0.00
15,500.0	90.00	359.62	11,167.0	4,257.7	-87.2	4,258.5	0.00	0.00	0.00
15,600.0	90.00	359.62	11,167.0	4,357.7	-87.9	4,358.5	0.00	0.00	0.00
15,700.0	90.00	359.62	11,167.0	4,457.7	-88.6	4,458.5	0.00	0.00	0.00
15,800.0	90.00	359.62	11,167.0	4,557.7	-89.2	4,558.5	0.00	0.00	0.00
15,900.0	90.00	359.62	11,167.0	4,657.7	-89.9	4,658.5	0.00	0.00	0.00
16,000.0	90.00	359.62	11,167.0	4,757.7	-90.6	4,758.5	0.00	0.00	0.00
16,100.0	90.00	359.62	11,167.0	4,857.7	-91.3	4,858.5	0.00	0.00	0.00
16,200.0	90.00	359.62	11,167.0	4,957.7	-91.9	4,958.5	0.00	0.00	0.00
16,300.0	90.00	359.62	11,167.0	5,057.7	-92.6	5,058.5	0.00	0.00	0.00
16,400.0	90.00	359.62	11,167.0	5,157.6	-93.3	5,158.5	0.00	0.00	0.00
16,500.0	90.00	359.62	11,167.0	5,257.6	-93.9	5,258.5	0.00	0.00	0.00
16,600.0	90.00	359.62	11,167.0	5,357.6	-94.6	5,358.5	0.00	0.00	0.00
16,700.0	90.00	359.62	11,167.0	5,457.6	-95.3	5,458.5	0.00	0.00	0.00
16,800.0	90.00	359.62	11,167.0	5,557.6	-96.0	5,558.4	0.00	0.00	0.00
16,900.0	90.00	359.62	11,167.0	5,657.6	-96.6	5,658.4	0.00	0.00	0.00
17,000.0	90.00	359.62	11,167.0	5,757.6	-97.3	5,758.4	0.00	0.00	0.00
17,100.0	90.00	359.62	11,167.0	5,857.6	-98.0	5,858.4	0.00	0.00	0.00
17,200.0	90.00	359.62	11,167.0	5,957.6	-98.6	5,958.4	0.00	0.00	0.00
17,300.0	90.00	359.62	11,167.0	6,057.6	-99.3	6,058.4	0.00	0.00	0.00
17,400.0	90.00	359.62	11,167.0	6,157.6	-100.0	6,158.4	0.00	0.00	0.00
17,500.0	90.00	359.62	11,167.0	6,257.6	-100.7	6,258.4	0.00	0.00	0.00
17,600.0	90.00	359.62	11,167.0	6,357.6	-101.3	6,358.4	0.00	0.00	0.00
17,700.0	90.00	359.62	11,167.0	6,457.6	-102.0	6,458.4	0.00	0.00	0.00
17,800.0	90.00	359.62	11,167.0	6,557.6	-102.7	6,558.4	0.00	0.00	0.00
17,900.0	90.00	359.62	11,167.0	6,657.6	-103.3	6,658.4	0.00	0.00	0.00
18,000.0	90.00	359.62	11,167.0	6,757.6	-104.0	6,758.4	0.00	0.00	0.00
18,100.0	90.00	359.62	11,167.0	6,857.6	-104.7	6,858.4	0.00	0.00	0.00
18,200.0	90.00	359.62	11,167.0	6,957.6	-105.4	6,958.4	0.00	0.00	0.00
18,300.0	90.00	359.62	11,167.0	7,057.6	-106.0	7,058.4	0.00	0.00	0.00
18,400.0	90.00	359.62	11,167.0	7,157.6	-106.7	7,158.4	0.00	0.00	0.00
18,500.0	90.00	359.62	11,167.0	7,257.6	-107.4	7,258.4	0.00	0.00	0.00
18,600.0	90.00	359.62	11,167.0	7,357.6	-108.0	7,358.4	0.00	0.00	0.00
18,700.0	90.00	359.62	11,167.0	7,457.6	-108.7	7,458.4	0.00	0.00	0.00

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COMPASS 5000.16 Build 100



Database: Company: Project: Site: Well: Well: Wellbore: Design:	PEDM Midland Lea County, N Froderick 33 F #586H OH Plan #0.1 RT	M (NAD 83 NM	E)	TVD F MD R North	Co-ordinate Re Reference: eference: Reference: y Calculation M		Well #586H kb = 26' @ 3 kb = 26' @ 3 Grid Minimum Cu	702.0usft	
Planned Survey Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft) 18,743.4	(°) 90.00	(°) 359.62	(usft) 11,167.0	(usft) 7,501.0	(usft) -109.0	<b>(usft)</b> 7,501.8	(°/ <b>100usft)</b> 0.00	(°/ <b>100usft)</b> 0.00	(°/ <b>100usft)</b> 0.00

18,743.4 90.00 PBHL(Froderick 33 Fed #586H)

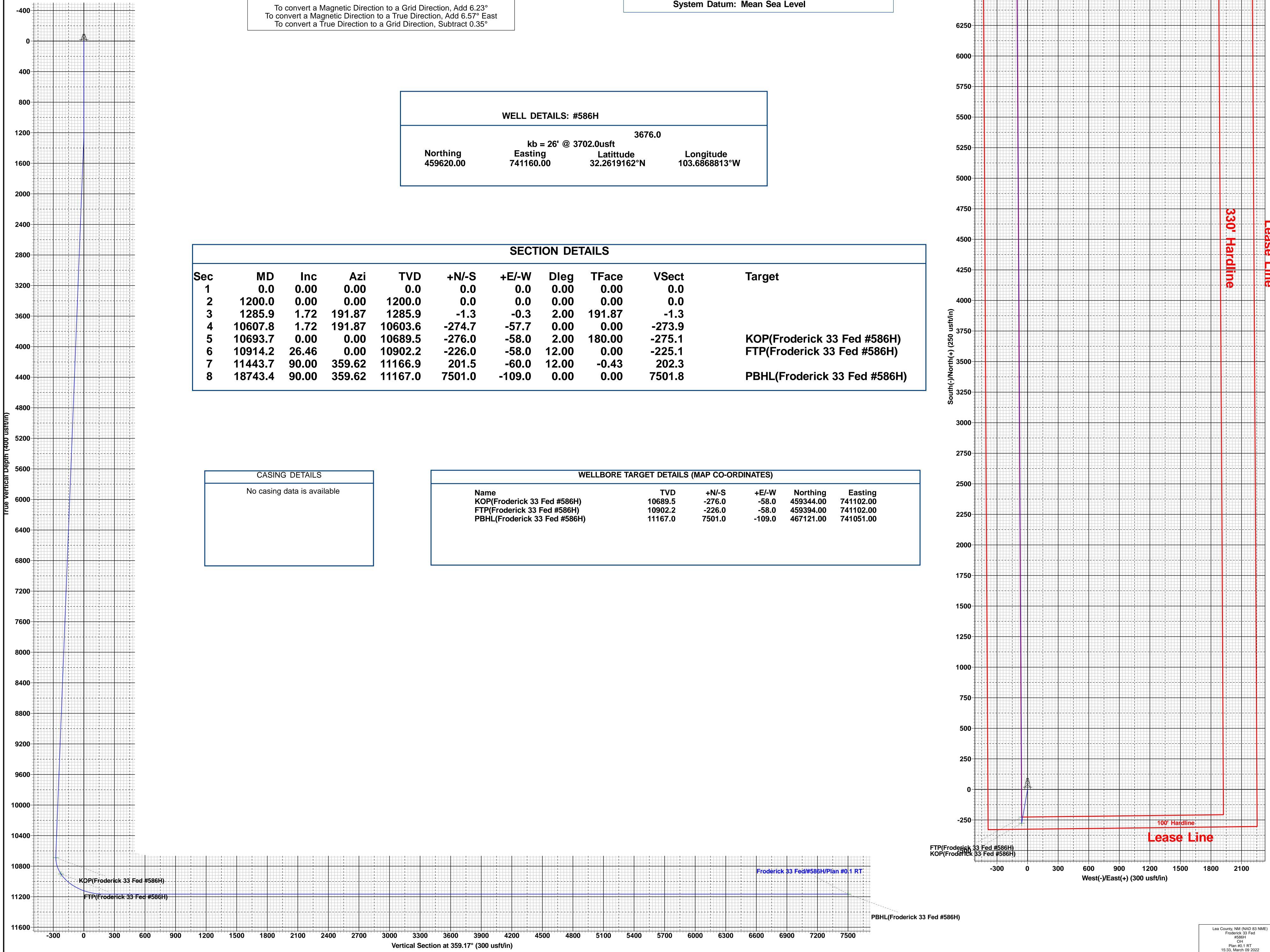
Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP(Froderick 33 Fed # - plan hits target cent - Point	0.00 ter	0.00	10,689.5	-276.0	-58.0	459,344.00	741,102.00	32.2611586°N	103.6870743°W
FTP(Froderick 33 Fed # - plan hits target cent - Point	0.00 ter	0.00	10,902.2	-226.0	-58.0	459,394.00	741,102.00	32.2612960°N	103.6870733°W
PBHL(Froderick 33 Fed - plan hits target cent - Point	0.00 ter	0.00	11,167.0	7,501.0	-109.0	467,121.00	741,051.00	32.2825361°N	103.6870878°W

# leog resources



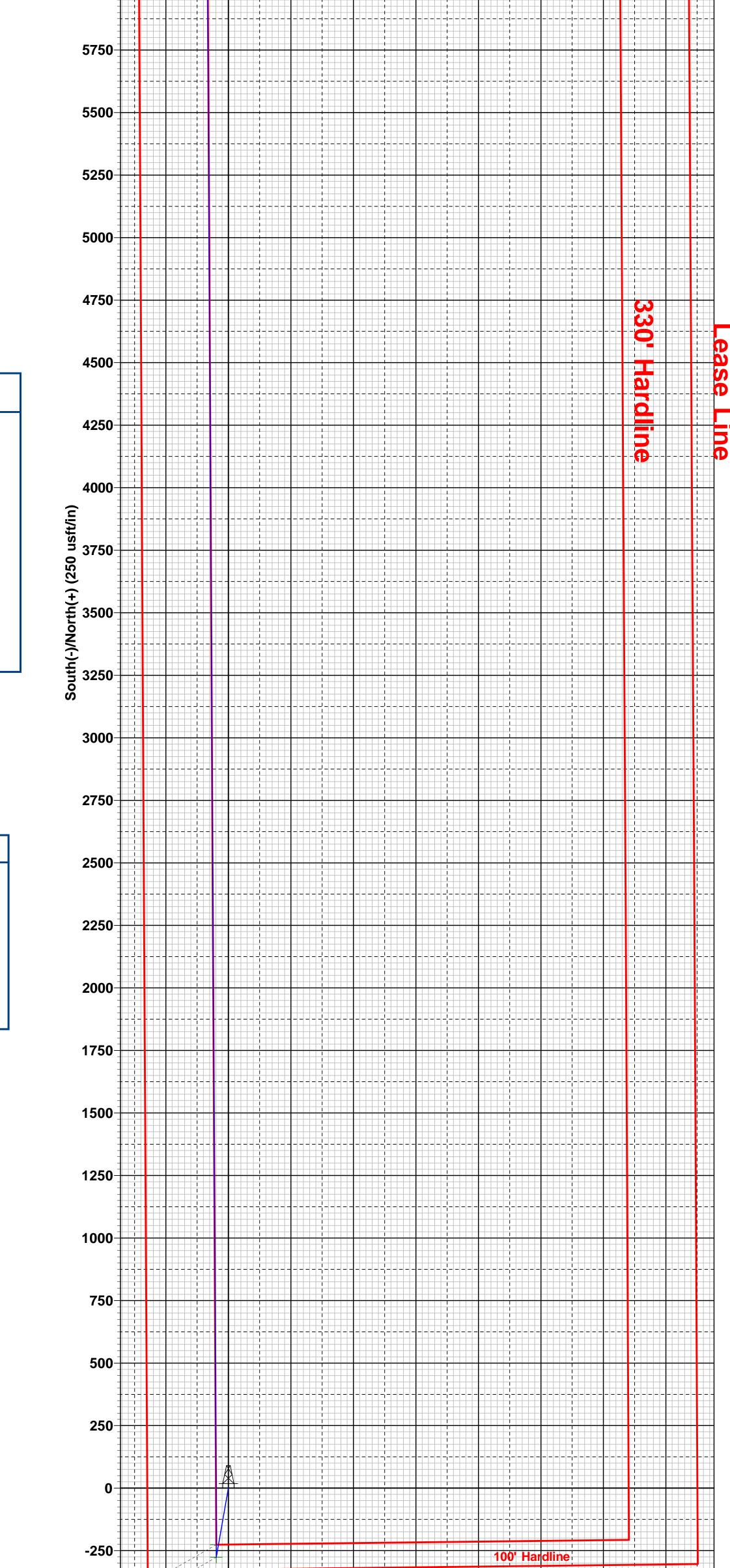
# Lea County, NM (NAD 83 NME)

West(-)/East(+) (300 usft/in) Froderick 33 Fed #586H 1200 -300 300 600 900 7750 **Plan #0.1 RT** Lease Line 00' Hardline 7500 Froderick-33-Fed/#586H/Plan-#0.1 R PBHL(Frod**ø250 <del>33 |</del>Fed #586H)** 7000 PROJECT DETAILS: Lea County, NM (NAD 83 NME) 6750 Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: New Mexico Eastern Zone 6500 System Datum: Mean Sea Level 



	kh – 26' @	3676.0 3702.0usft	
Northing 459620.00	Easting 741160.00	Latittude 32.2619162°N	Longitude 103.6868813°W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1285.9	1.72	191.87	1285.9	-1.3	-0.3	2.00	191.87	-1.3	
4	10607.8	1.72	191.87	10603.6	-274.7	-57.7	0.00	0.00	-273.9	
5	10693.7	0.00	0.00	10689.5	-276.0	-58.0	2.00	180.00	-275.1	KOP(Froderick 33 Fed #586H)
6	10914.2	26.46	0.00	10902.2	-226.0	-58.0	12.00	0.00	-225.1	FTP(Froderick 33 Fed #586H)
7	11443.7	90.00	359.62	11166.9	201.5	-60.0	12.00	-0.43	202.3	
8	18743.4	90.00	359.62	11167.0	7501.0	-109.0	0.00	0.00	7501.8	PBHL(Froderick 33 Fed #586H)



1500

1800

2100

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

## OPERATOR'S NAME: EOG RESOURCES INCORPORATED WELL NAME & NO.: FRODERICK 33 FED 586H SURFACE HOLE FOOTAGE: 2316'/N & 389'/W BOTTOM HOLE FOOTAGE 100'/N & 330'/W LOCATION: Section 33, T.23 S., R.32 E., NMP COUNTY: Lea County, New Mexico

## COA

H2S	• Yes	O No	
Potash	None	© Secretary	© R-111-P
Cave/Karst Potential	Low	O Medium	O High
Cave/Karst Potential	Critical		
Variance	O None	Flex Hose	O Other
Wellhead	Conventional	Multibowl	O Both
Wellhead Variance	O Diverter		
Other	4 String	Capitan Reef	WIPP
Other	Fluid Filled	🗆 Pilot Hole	□ Open Annulus
Cementing	□ Contingency	EchoMeter	Primary Cement
	Cement Squeeze		Squeeze
Special Requirements	🗆 Water Disposal	COM	🗆 Unit
Special Requirements	□ Batch Sundry		
Special Requirements	Break Testing	☑ Offline	Casing
Variance		Cementing	Clearance

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## **B.** CASING

## Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1,320** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) 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  $\underline{\mathbf{8}}$ <u>hours</u> 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.
- The 9-5/8 inch intermediate casing shall be set at approximately 4,810 feet. Please review volumes and ensure TOC to surface. Excess < 25% CFO recommendation. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:</li>

## **Option 1 (Single Stage):**

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
- 3. The **5-1**/2 inch production casing shall be set at approximately **18,743** feet. The minimum required fill of cement behind the **5-1**/2 inch production casing is:

## **Option 1 (Single Stage):**

• 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).'
- Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) 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)**

## (Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system) BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170 Subpart 3172.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

## **Offline Cementing**

OK for surface and intermediate intervals.Notify the BLM prior to the commencement of any offline cementing procedure.

## **Casing Clearance:**

- Salt annular clearance variance in place for the intermediate interval
- Overlap clearance OK in the production interval

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate "coffee ground or less" before cementing.

## 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)

## $\boxtimes$ Eddy County

**EMAIL** or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

**BLM\_NM\_CFO\_DrillingNotifications@BLM.GOV** (575) 361-2822

## Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

- 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 **43** CFR part **3170** Subpart **3172** 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.
- <u>Wait on cement (WOC) for Potash Areas:</u> 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 <u>24 hours</u>. 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. <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity 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

- All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.
- 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 43
     CFR part 3170 Subpart 3172 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

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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 cement), 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR part 3170 Subpart 3172 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 **43 CFR**

## part 3170 Subpart 3172.

## 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.

KPI 10/16/2023



## 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:
  - a. Breathing Apparatus:
    - i. Rescue Packs (SCBA) 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
    - ii. Work/Escape packs —4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
    - iii. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.
  - b. Auxiliary Rescue Equipment:
    - i. Stretcher
    - ii. Two OSHA full body harness
    - iii. 100 ft 5/8 inch OSHA approved rope
    - iv. 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 System:

- 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.

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Froderick 33 Fed #586H

## **Emergency Assistance Telephone List**

Corey Helton           Fire Department           Carlsbad         (575) 885-312           Artesia         (575) 786-505           Hospitals         (575) 746-505           Carlsbad         (575) 787-412           Artesia         (575) 748-333           Hobbs         (575) 748-333           Hobbs         (575) 748-333           Hobbs         (575) 748-333           Hobbs         (575) 748-971           Bureau of Public Safety/Carlsbad         (575) 748-971           Highway Department         (575) 885-328           U.S. Department of Labor         (575) 887-117           Bureau of Land Management - Hobbs (Lea Co)         (575) 789-3361           PET On Call - Hobbs         (575) 706-277           Bureau of Land Management - Carlsbad (Eddy Co)         (575) 706-277           PET On Call - Carlsbad         (575) 706-277           New Mexico Oil Conservation Division - Artesia         (575) 748-128           Inspection Group South - Gilbert Gordero         (575) 626-083           EOG Midland         (432) 230-484           Blake Burney         U           Daniel Moose         (432) 230-484           Blake Burney         U           Daniel Moose         (432) 232-9708	PUBLIC SAFETY:	911 or
Fire Department       (575) 885-312         Artesia       (575) 885-312         Artesia       (575) 746-505         Hospitals       (575) 748-503         Carlsbad       (575) 748-303         Hobbs       (575) 748-333         Hobbs       (575) 748-333         Hobbs       (575) 748-971         Bigman Carlsbad       (575) 748-971         Highway Department       (575) 885-328         U.S. Department of Labor       (575) 885-328         U.S. Department of Labor       (575) 780-277         Bureau of Land Management - Hobbs (Lea Co)       (575) 706-277         Bureau of Land Management - Carlsbad (Eddy Co)       (575) 706-277         PET On Call - Carlsbad       (575) 706-277         New Mexico Oil Conservation Division - Artesia       (575) 706-277         New Mexico Oil Conservation Division - Artesia       (575) 706-277         New Mexico Oil Conservation Division - Artesia       (575) 706-277         New Mexico Oil Conservation Division - Artesia       (575) 748-712         Inspection Group South - Gilbert Gordero       (575) 626-083         EOG Midland       (432) 203-484         Blake Burney       Dilling Engineers         Daniel Moose       (432) 312-280         Esteban Del Valle	Lea County Sheriff's Department	(575) 396-3611
Carlsbad         (575) 885-312           Artesia         (575) 746-505           Hospitals         (575) 746-505           Carlsbad         (575) 748-303           Hobbs         (575) 748-333           Hobbs         (575) 748-333           Hobbs         (575) 748-333           Hobbs         (575) 748-971           Highway Department         (575) 885-328           U.S. Department of Labor         (575) 885-328           U.S. Department of Labor         (575) 706-277           Bureau of Land Management - Carlsbad (Eddy Co)         (575) 706-277           PET On Call - Carlsbad         (575) 706-277           New Mexico Oil Conservation Division - Artesia         (575) 762-77           New Mexico Oil Conservation Division - Artesia         (575) 762-77           New Mexico Oil Conservation Division - Artesia         (575) 766-277           New Mexico Oil Conservation Division - Artesia         (575) 762-78           EOG Midland         (432) 230-484           Blake Burney         200           Darile Mose         (432) 230-484           Blake Burney         200           Dariel Mose         (432) 209-706           Stephen Davis         (432) 215-280           Dariel Mose         (210) 776-513	Corey Helton	
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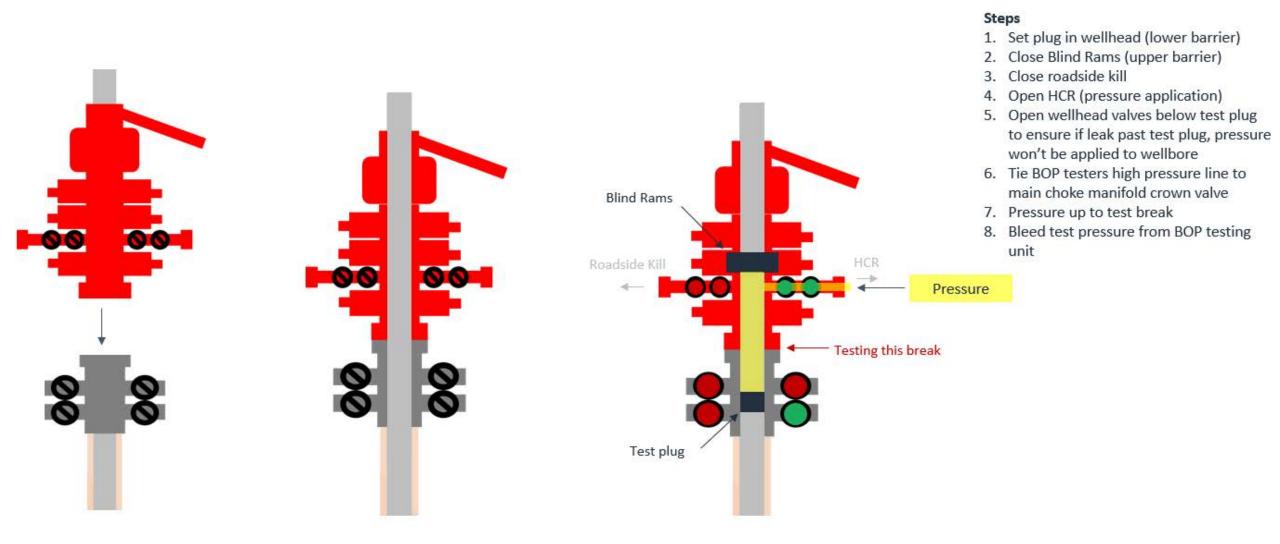


## **Break-test BOP & Offline Cementing:**

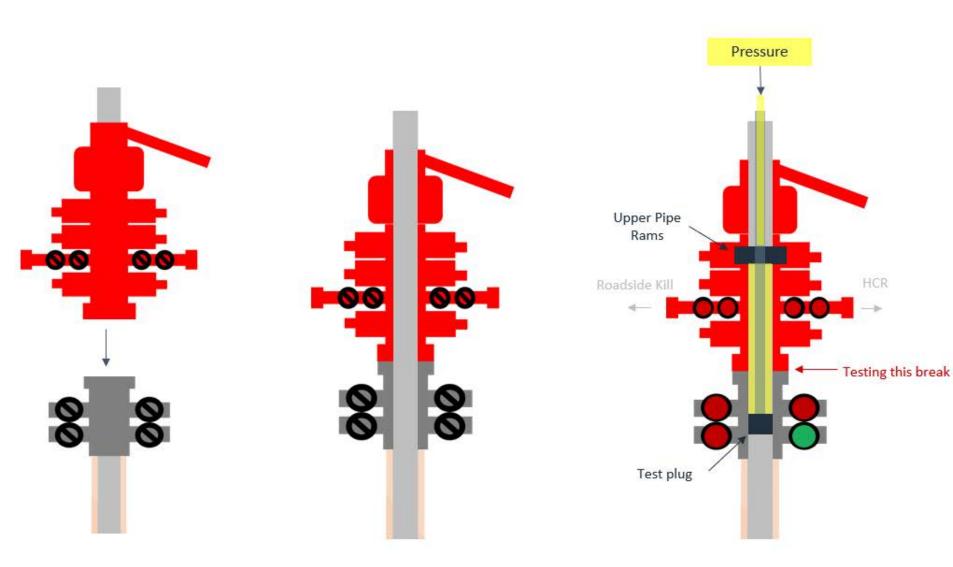
EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of ECFR Title 43 Part 3172.6(b)(9)(iv) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days.
- This test will be conducted for 5M rated hole intervals only.
- Each rig requesting the break-test variance is capable of picking up the BOP without damaging components using winches, following API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth edition, December 2018, Annex C. Table C.4) which recognizes break testing as an acceptable practice.
- Function tests will be performed on the following BOP elements:
  - Annular **à** during each full BOPE test
  - Upper Pipe Rams **à** On trip ins where FIT required
  - Blind Rams **à** Every trip
  - Lower Pipe Rams à during each full BOPE test
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface or intermediate sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

## **Break Test Diagram (HCR valve)**



## **Break Test Diagram (Test Joint)**



### Steps

- 1. Set plug in with test joint wellhead (lower barrier)
- 2. Close Upper Pipe Rams (upper barrier)
- 3. Close roadside kill
- 4. Close HCR
- Open wellhead valves below test plug to ensure if leak past test plug, pressure won't be applied to wellbore
- 6. Tie BOP testers high pressure line to top of test joint
- 7. Pressure up to test break
- 8. Bleed test pressure from BOP testing unit

## **S**eog resources

Offline Intermediate Cementing Procedure

### **Cement Program**

1. No changes to the cement program will take place for offline cementing.

### Summarized Operational Procedure for Intermediate Casing

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment back pressure valves.
  - a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
- 2. Land production casing on mandrel hanger through BOP.
  - a. If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online**.
- 3. Break circulation and confirm no restrictions.
  - a. Ensure no blockage of float equipment and appropriate annular returns.
  - b. Perform flow check to confirm well is static.
- 4. Set pack-off
  - a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
  - b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
- 5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
  - a. Minimum 4 hrs notice.
- 6. With the well secured and BLM notified, nipple down BOP and secure on hydraulic carrier or cradle.
  - a. Note, if any of the barriers fail to test, the BOP stack will not be nippled down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.
- 7. Skid/Walk rig off current well.
- 8. Confirm well is static before removing TA Plug.
  - a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
  - b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing.
  - c. Well control plan can be seen in Section B, Well Control Procedures.
  - d. If need be, rig can be moved back over well and BOP nippled back up for any further remediation.

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## **S**eog resources

Offline Intermediate Cementing Procedure

- e. Diagram for rig positioning relative to offline cementing can be seen in Figure 4.
- 9. Rig up return lines to take returns from wellhead to pits and rig choke.
  - a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
  - b. If either test fails, perform corrections and retest before proceeding.
  - c. Return line schematics can be seen in Figure 3.
- 10. Remove TA Plug from the casing.
- 11. Install offline cement tool.
  - a. Current offline cement tool schematics can be seen in Figure 1 (Cameron) and Figure 2 (Cactus).
- 12. Rig up cement head and cementing lines.
  - a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
- 13. Break circulation on well to confirm no restrictions.
  - a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
  - b. Max anticipated time before circulating with cement truck is 6 hrs.
- 14. Pump cement job as per plan.
  - a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
  - b. If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
- 15. Confirm well is static and floats are holding after cement job.
  - a. With floats holding and backside static:
    - i. Remove cement head.
  - b. If floats are leaking:
    - i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
  - c. If there is flow on the backside:
    - i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
- 16. Remove offline cement tool.
- 17. Install night cap with pressure gauge for monitoring.
- 18. Test night cap to 5,000 psi for 10 min.

#### **Example Well Control Plan Content**

### A. Well Control Component Table

The table below, which covers the cementing of the <u>5M MASP (Maximum Allowable Surface Pressure) portion of the well</u>, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nippled up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	15M

### **B. Well Control Procedures**

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

### **General Procedure While Circulating**

- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.

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## **S**eog resources

Offline Intermediate Cementing Procedure

- 6. Read and record the following:
  - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
  - b. Pit gain
  - c. Time
  - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

### **General Procedure While Cementing**

- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.
- 6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.
- 7. Continue to place cement until plug bumps.
- 8. At plug bump close rig choke and cement head.
- 9. Read and record the following
  - a. SICP and AP
  - b. Pit gain
  - c. Time
  - d. Shut-in annulus valves on wellhead

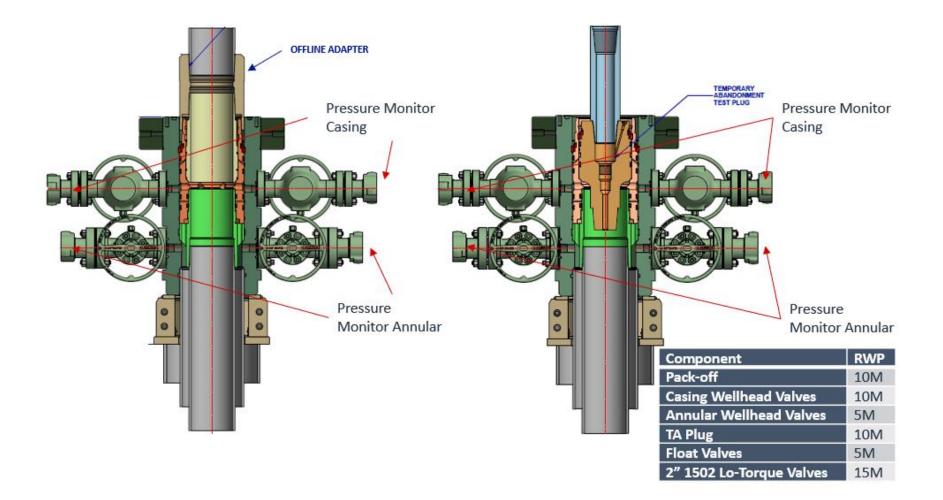
### General Procedure After Cementing

- 1. Sound alarm (alert crew).
- 2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 3. Confirm shut-in.
- 4. Notify tool pusher/company representative.
- 5. Read and record the following:
  - a. SICP and AP
  - b. Pit gain
  - c. Time
  - d. Shut-in annulus valves on wellhead

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### **Seog resources** Offline Intermediate Cementing Procedure

Figure 1: Cameron TA Plug and Offline Adapter Schematic



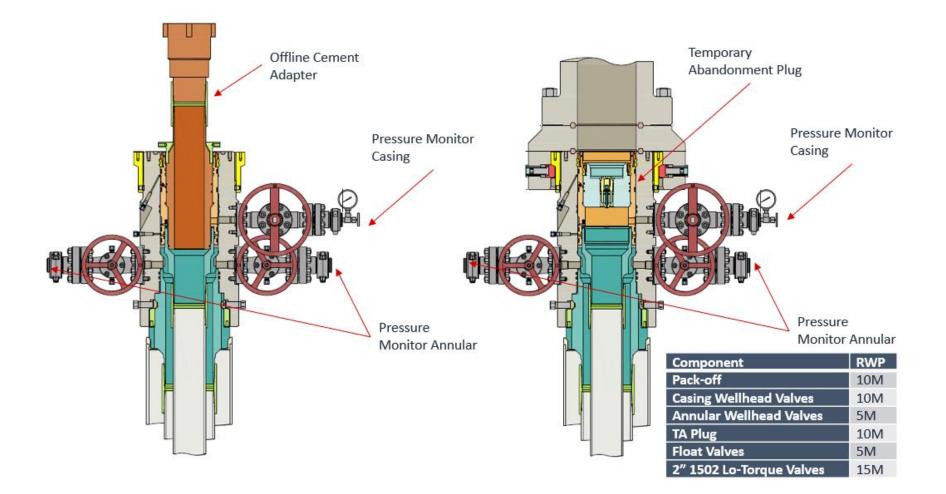
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# **Offline Intermediate Cementing Procedure**



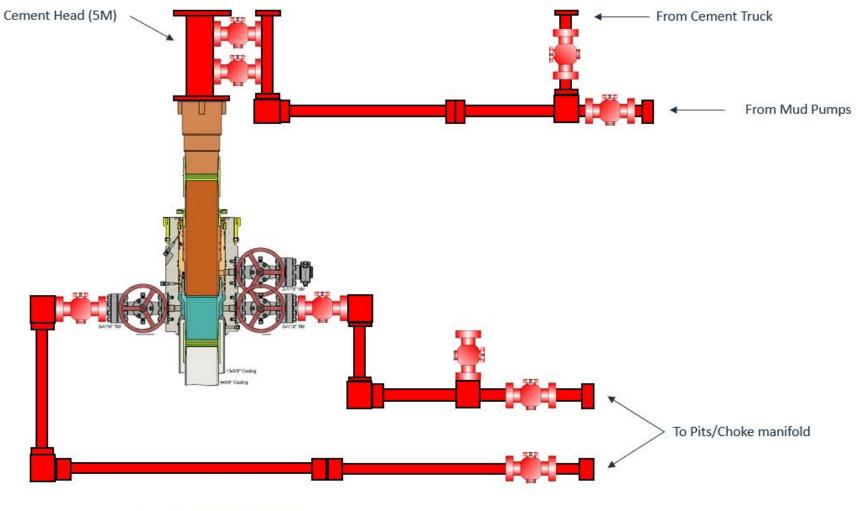


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### **Seog resources** Offline Intermediate Cementing Procedure



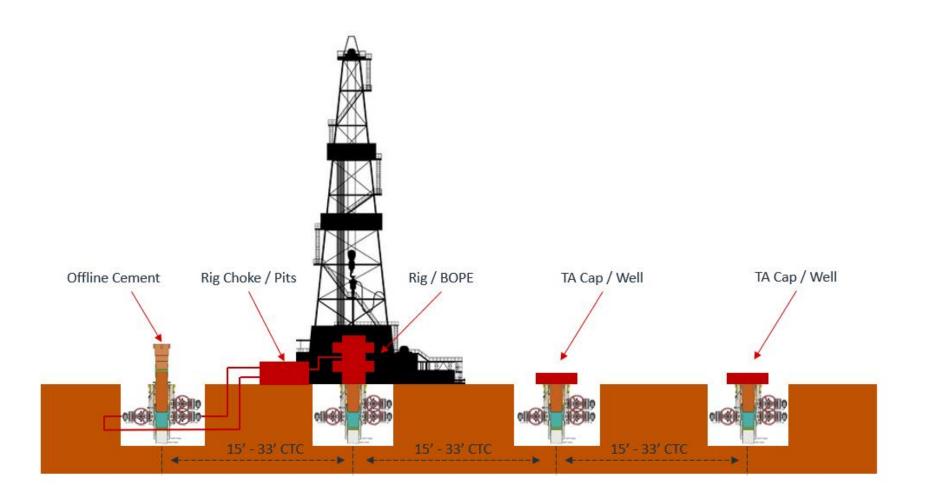


\*\*\* All Lines 10M rated working pressure

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### 10,000 PSI BOP Annular Variance Request (EOG Variance 1c)

EOG Resources request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

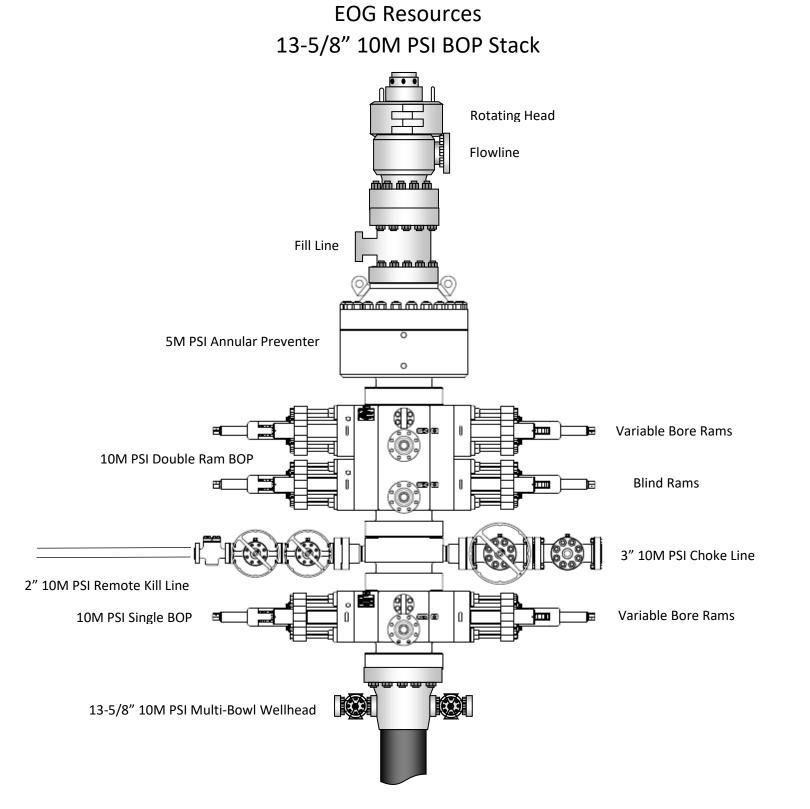
### 1. Component and Preventer Compatibility Tables

The tables below outlines the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

12-1/4" Intermediate Hole Section 10M psi requirement						
Component	OD	<b>Primary Preventer</b>	RWP	Alternate Preventer(s)	RWP	
Drillpipe	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M	
	4.500"			Lower 3.5 - 5.5" VBR	10M	
HWDP	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M	
	4.500"			Lower 3.5 - 5.5" VBR	10M	
Jars	6.500″	Annular	5M	Upper 3.5 - 5.5" VBR	10M	
				Lower 3.5 - 5.5" VBR	10M	
DCs and MWD tools	6.500" - 8.000"	Annular	5M	-	-	
Mud Motor	8.000" – 9.625"	Annular	5M	-	-	
1 <sup>st</sup> Intermediate casing	9.625"	Annular	5M	-	-	
Open-hole	-	Blind Rams	10M	-	-	

8-3/4" Production Hole Section 10M psi requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M
	4.500"			Lower 3.5 - 5.5" VBR	10M
HWDP	5.000" or	Annular	5M	Upper 3.5 - 5.5" VBR	10M
	4.500"			Lower 3.5 - 5.5" VBR	10M
Jars	6.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
DCs and MWD tools	6.500" - 8.000"	Annular	5M	-	-
Mud Motor	6.750" – 8.000"	Annular	5M	-	-
2 <sup>nd</sup> Intermediate casing	7.625″	Annular	5M	-	-
Open-hole	-	Blind Rams	10M	-	-

VBR = Variable Bore Ram



### 2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the EOG Resources drilling supervisor's office on location, and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 100% of its RWP.

### General Procedure While Drilling

- 1. Sound alarm (alert crew)
- 2. Space out drill string
- 3. Shut down pumps (stop pumps and rotary)
- 4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

### General Procedure While Tripping

- 1. Sound alarm (alert crew)
- 2. Stab full opening safety valve and close
- 3. Space out drill string
- 4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
  - b. Pit gain
  - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

### General Procedure While Running Production Casing

- 1. Sound alarm (alert crew)
- 2. Stab crossover and full opening safety valve and close
- 3. Space out string
- 4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
- 5. Confirm shut-in
- 6. Notify toolpusher/company representative
- 7. Read and record the following:
  - a. SIDPP and SICP
    - b. Pit gain
    - c. Time
- 8. Regroup and identify forward plan
- 9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

### General Procedure With No Pipe In Hole (Open Hole)

- 1. Sound alarm (alert crew)
- 2. Shut-in with blind rams. (HCR and choke will already be in the closed position.)
- 3. Confirm shut-in
- 4. Notify toolpusher/company representative
- 5. Read and record the following:
  - a. SICP
  - b. Pit gain
  - c. Time
- 6. Regroup and identify forward plan

### General Procedures While Pulling BHA thru Stack

- 1. PRIOR to pulling last joint of drillpipe thru the stack.
  - a. Perform flowcheck, if flowing:
  - b. Sound alarm (alert crew)
  - c. Stab full opening safety valve and close
  - d. Space out drill string with tool joint just beneath the upper variable bore rams.
  - e. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - f. Confirm shut-in
  - g. Notify toolpusher/company representative
  - h. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - i. Regroup and identify forward plan

- 2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. Stab crossover and full opening safety valve and close
  - c. Space out drill string with upset just beneath the upper variable bore rams.
  - d. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
  - e. Confirm shut-in
  - f. Notify toolpusher/company representative
  - g. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - h. Regroup and identify forward plan
- 3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
  - a. Sound alarm (alert crew)
  - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
  - c. If impossible to pick up high enough to pull the string clear of the stack:
  - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
  - e. Space out drill string with tooljoint just beneath the upper variable bore ram.
  - f. Shut-in using upper variable bore ram. (HCR and choke will already be in the closed position.)
  - g. Confirm shut-in
  - h. Notify toolpusher/company representative
  - i. Read and record the following:
    - i. SIDPP and SICP
    - ii. Pit gain
    - iii. Time
  - j. Regroup and identify forward plan

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

CONDITIONS

Operator:	OGRID:	
EOG RESOURCES INC	7377	
P.O. Box 2267	Action Number:	
Midland, TX 79702	280066	
	Action Type:	
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

#### CONDITIONS

CONDING		
Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/27/2023
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 zones and shall immediately set in cement the water protection string	10/27/2023
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	10/27/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	10/27/2023
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	10/27/2023

CONDITIONS

Action 280066

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