Form 3160-3 FORM APPROVED OMB No. 1004-0220 (October 2024) Expires: October 31, 2027 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. NMNM122619 BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. DRILL REENTER 1a. Type of work: 1b. Type of Well: ✓ Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone ✓ Multiple Zone **DAUNTLESS 7 FED** 752H 2. Name of Operator 9. API Well No. EOG RESOURCES INCORPORATED 30-025-55415 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory WC 025 C 09 \$253309P; UPPR WOLFCAMP 1111 BAGBY SKY LOBBY 2, HOUSTON, TX 77002 (713) 651-7000 4. Location of Well (Report location clearly and in accordance with any State requirements.\*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 7/T25S/R33E/NMP At surface TR O / 1013 FSL / 2545 FEL / LAT 32.1406459 / LONG -103.6110595 At proposed prod. zone LOT 2 / 100 FNL / 1500 FEL / LAT 32.1666104 / LONG -103.6076747 14. Distance in miles and direction from nearest town or post office\* 12. County or Parish 13 State LEA NM 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well 100 feet location to nearest property or lease line, ft. 640.0 (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 20 feet 13105 feet / 23480 feet FED: NM2308 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* 23. Estimated duration 3492 feet 02/29/2024 25 days 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above) 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date SHEA BAILEY / Ph: (713) 651-7000 (Electronic Submission) 05/25/2023 Title Regulatory Contractor Approved by (Signature) Name (Printed/Typed) Date (Electronic Submission) CODY LAYTON / Ph: (575) 234-5959 05/29/2025 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

APPROVED WITH CONDITIONS (Continued on page 2)

\*(Instructions on page 2)

### State of New Mexico Energy, Minerals and Natural Resources Department

Submit Electronically Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

## Section 1 – Plan Description Effective May 25, 2021

I. Operator:EOG	Resources, Inc	OGRII	<b>D:</b> 7377		Da	nte: 9/25	/2025	
II. Type: ⊠ Origina	l 🗆 Amendm	ent due to □ 19.15	.27.9.D(6)(a) NI	MAC □ 19.15.27.	9.D(6)(l	o) NMAC	C □ Otl	ner.
If Other, please describe	»:							
<b>III. Well(s):</b> Provide the be recompleted from a s					wells pr	oposed to	be dri	lled or proposed to
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D		cipated MCF/D	P	Anticipated roduced Water BBL/D
DAUNTLESS 7 FED 752H		O-7-25S-33E	1013' FSL & 2545' FEL	+/- 1000	+/- 35	500	+/- 30	000
V. Anticipated Sched or proposed to be recom	<b>ule:</b> Provide th	e following inform single well pad or c	ation for each no	ew or recompleted entral delivery poi	l well or nt.	set of we	lls proj	posed to be drilled
Well Name	API	Spud Date	TD Reached Date	Completion Commencement		Initial I Back I		First Production Date
DAUNTLESS 7 FED 752H		12/10/25	12/25/25	2/01/26		3/01/26		4/01/26
VI. Separation Equipm VII. Operational Prac Subsection A through F VIII. Best Management during active and planner	tices: ⊠ Attac of 19.15.27.8 nt Practices: □	ch a complete descr NMAC. ⊠ Attach a comple	ription of the ac	tions Operator wi	ll take t	o comply	with t	he requirements of

<u>C-102</u>					State of Nev ls & Natura	v Mexico l Resources	Department		Revise	ed July 9, 2024	
Submit Electroni Via OCD Permit						ION DIVIS			✓ Initial Submittal		
								Submittal Type:	Amended Report		
								As Drilled			
		W	ELL LO	CATIO	N AND AC	REAGE DE	DICATION	PLAT			
API Number 30-025-5	55415		Pool Code	<del>8180</del> 79	Pool N	ame			R WOLFCAME	•	
Property Code 324978			Property Name		DAUNTL	ESS 7 FED				752H	
OGRID No.	7377		Operator Name		EOG RESO	URCES, INC			Ground Level Elev	ation 3492'	
Surface Owner:	State Fee	Tribal <b>7</b> Federal	•			Mineral Owner:	State Fee Tribal	Federal	•		
					Surface	Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude		Longitude	County	
0	7	25-S	33-E	-	1013' S	2545' E	N 32.14064	.59   W 1	03.6110595	LEA	
		<u> </u>	<u> </u>	<u> </u>		le Location					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S		Latitude		Longitude	County	
2	6	25-S	33-E	-	100' N	1500' E	N 32.16661	04   W 1	03.6076747	LEA	
			•	•	•			•	•		
Dedicated Acres		ning Well Defin		_		Overlapping Spacing		Consolidat			
640.00	Inf		<del>025-466</del> 2			1	<b>N</b>		<del></del>		
Order Numbers		LE	ASE WEL	.L		Well Setbacks are un	der Common Ownershij	p: Yes N	0		
					Kick Off P	oint (KOP)					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude		Longitude	County	
0	7	25-S	33-E	-	50' S	1500' E	N 32.13799	67 W 1	03.6076838	LEA	
					First Take	Point (FTP)					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude		Longitude	County	
0	7	25-S	33-E	-	100' S	1500' E	N 32.13813	41 W 1	03.6076838	LEA	
			!	į	Last Take	Point (LTP)		· · · · · ·	Į.		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the N/S	Feet from the E/W	Latitude		Longitude	County	
2	6	25-S	33-E	-	100' N	1500' E	N 32.16661	04 W 1	03.6076747	LEA	
Unitized Area or A	rea of Uniform I. U			Spacing Unity	Type Horizont	al Vertical	Ground I	Floor Elevation	3517'		
				1			I				
	OR CERTIF					SURVEYOR	S CERTIFICA	ΓΙΟΝ	this plat we Matte	,	
best of my kr that this orga in the land i well at this la or unleased m	nowledge and nization eithe ncluding the control pursuation pursuationeral interes	belief; and, if er owns a word proposed botton int to a contro	the well is a king interest n hole location act with an o untary pooling	vertical or of or unleased rong or has a riwner of a wo	complete to the directional well, nineral interest ght to drill this rking interest r a compulsory	notes of actual	that the well locat surveys made by n rect to the best of	ne or under m	this plat was matter y supervision, and w	Afrom field not the same	
If this well is received The o unleased mine	s a horizontal consent of at eral interest i he well's com	well, I furthe least one lesse n each tract ( pleted interval	r certify that e or owner of in the target	a working i				XIIIIII A	24508 24508 2000 ONA L SV 234:19 PM	100 Milling	
Star L	L Har	rell	10/1/2	5				9/29/2025 4	:34:19 PM	min.	
Signature Star L Ha	arrel		Date			Signature and Seal of	of Professional Surveyor	r Date	e		
Print Name						Certificate Number	Date of	Survey			
star_harr	ell@eog	resource	es.com					09/20/2021			
E-mail Address						1	1				

<u>C-102</u>	Enero	States y, Minerals &	e of New N			artment		Revised July 9, 2024
Submit Electronically Via OCD Permitting		OIL CONSI						Initial Submittal
							Submittal	Amended Report
							Type:	As Drilled
Property Name and Well Number		DAU	NTLESS 7	FED	752H		1	,
SURFACE LOCATION (SHL)  NEW MEXICO EAST NAD 1983  X=764894 Y=415652  LAT.: N 32.1406459  LONG.: W 103.6110595  NAD 1927  X=723708 Y=415594  LAT.: N 32.1405215  LONG.: W 103.6105853  1013' FSL 2545' FEL  KICK OFF POINT (KOP)  NEW MEXICO EAST NAD 1983  X=765945 Y=414696  LAT.: N 32.1379967  LONG.: W 103.6076838  NAD 1927  X=724760 Y=414638  LAT.: N 32.1378727  LONG.: W 103.6072085  50' FSL 1500' FEL   T-25-S, R-33-E  SECTION 6  LOT 1 - 40.00 ACRES  LOT 5 - 39.68 ACRES  LOT 5 - 39.68 ACRES  LOT 5 - 39.68 ACRES  LOT 7 - 39.78 ACRES  SECTION 7  LOT 1 - 39.82 ACRES  LOT 7 - 39.83 ACRES  LOT 2 - 39.82 ACRES  LOT 3 - 39.92 ACRES  LOT 4 - 39.98 ACRES  LOT 4 - 39.98 ACRES	36 1	31 T-24-S, R-3 6 T-25-S, R-3 LOT 4 LOT LOT 5 LOT 6	3-E //11	39 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1500' — LMP/ BHL		7.27 4.40 BOT	PPER MOST PERF. (UMP)  NEW MEXICO EAST NAD 1983  X=765945 Y=414746  LAT.: N 32.1381341  LONG.: W 103.6076838  NAD 1927  X=724759 Y=414687  LAT.: N 32.1380097  LONG.: W 103.6072098 100' FSL 1500' FEL  DWER MOST PERF. (LMP)  TOM HOLE LOCATION (BHL)  NEW MEXICO EAST NAD 1983  X=765878 Y=425105  LAT.: N 32.1666104  LONG.: W 103.6076747  NAD 1927  X=724693 Y=425047  LAT.: N 32.1664862  LONG.: W 103.6071990 100' FNL 1500' FEL
	12	7	= 132.30° 421.5' m	40'	  - 	100' _	I hereby plat wa made by	VEYORS CERTIFICATION certify that the well location shown on this splotted from field notes of actual surveys I me or under my supervision, and that the true and correct to the best of my belief. 2021
Released to Imaging: 11/4/2025 11:	13 u s s s s s s s s s s s s s s s s s s	7-25-5, R-33-E 7-25-5, R-33-E 7-25-5, R-33-E 7-25-5, R-33-E	=764805.88 ———————————————————————————————————	40'-11-0	1500'—KOP	18 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Date of Si Signature 55.11	

## 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	Available Maximum Daily Capacity
			Start Date	of System Segment Tie-in

XI. Map. $\square$ 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	$\square$ will $\square$ will not have capacity t	to gather 100% of the anticipated	natural gas
production volume from the well prior to the date of fin	rst production.		

<b>XIII. Line Pressure.</b> Operator $\square$ does $\square$ does not anticipate that its existing well(s) connected to the same segment, or po	rtion, of th	ıe
natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the no	ew well(s)	).

Attach Operator's plan to manage production in respons	e to the increased line pressure

XIV. Confidentiality: $\square$ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information prov	vided 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 of the	rmation
for which confidentiality is asserted and the basis for such assertion.	

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# Section 3 - Certifications Effective May 25, 2021

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## **Section 4 - Notices**

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

other alternative beneficial uses approved by the division.

fuel cell production; and

- (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: Regulatory Advisor
E-mail Address: Star_Harrell@eogresources.com
Date: 9/24/2025
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.

# VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize 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.



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

Permian

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

Rustler	1,040'
Tamarisk Anhydrite	1,115'
Top of Salt	1,265'
Base of Salt	4,735'
Lamar	4,970'
Bell Canyon	4,995'
Cherry Canyon	5,995'
Brushy Canyon	7,555'
Bone Spring Lime	9,100'
Leonard Shale	9,175'
1 <sup>st</sup> Bone Spring Sand	10,065'
2 <sup>nd</sup> Bone Spring Shale	10,300'
2 <sup>nd</sup> Bone Spring Sand	10,540'
3 <sup>rd</sup> Bone Spring Carb	11,175'
3 <sup>rd</sup> Bone Spring Sand	11,810'
Wolfcamp	12,275'
TD	13,105'

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

Upper Permian Sands	0-400'	Fresh Water
Bell Canyon	4,995'	Oil
Cherry Canyon	5,995'	Oil
Brushy Canyon	7,555'	Oil
Leonard (Avalon) Shale	9,175'	Oil
1 <sup>st</sup> Bone Spring Sand	10,065'	Oil
2 <sup>nd</sup> Bone Spring Shale	10,300'	Oil
2 <sup>nd</sup> Bone Spring Sand	10,540'	Oil
3 <sup>rd</sup> Bone Spring Carb	11,175'	Oil
3 <sup>rd</sup> Bone Spring Sand	11,810'	Oil
Wolfcamp	12,275'	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 9-5/8" or 10-3/4" casing at 1,140' and circulating cement back to surface.



## 4. CASING PROGRAM - Design A

Hole	Interv	al MD	Interval TVD		Csg			
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn
12-1/4"	0	1,140	0	1,140	9-5/8"	36#	J-55	LTC
8-3/4"	0	11,464	0	11,280	7-5/8"	29.7#	HCP-110	FXL
6-3/4"	0	10,964	0	10,780	5-1/2"	20#	P110-EC	DWC/C IS MS
6-3/4"	10,964	11,464	10,780	11,280	5-1/2"	20#	P110-EC	Vam Sprint SF
6-3/4"	11,464	23,480	11,280	13,105	5-1/2"	20#	P110-EC	DWC/C IS MS

Variance is requested to waive the centralizer requirements for the 7-5/8" casing in the 8-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 8-3/4 hole interval to maximize cement bond and zonal isolation.

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.

Variance is also requested to waive the annular clearance requirements for the 5-1/2" casing by 7-5/8" casing annulus to the proposed top of cement.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement from Onshore Order #2 under the following conditions:

- Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casing strings.
- Annular clearance less than 0.422" is acceptable for the production open hole section.

## **Cementing Program:**

Cemen	mg rrog	<u> 1 a 111 </u> •		
Depth	No. Sacks	Wt.	Yld Ft3/sk	Slurry Description
1,140' 9-5/8"	320	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	80	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 940')
11,280' 7-5/8"	460	14.2	1.11	1st Stage (Tail): Class C + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 7,360')
	1260	14.8	1.5	2nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface)
23,480' 5-1/2"	1080	14.2	1.31	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,780')



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					

EOG requests variance from minimum standards to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,555') and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 260 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

EOG will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

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.



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.

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:

1 1 1				
Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,140'	Fresh - Gel	8.6-8.8	28-34	N/c
1,140' – 11,280'	Brine	10.0-10.2	28-34	N/c
11,280' – 12,798'	Oil Base	8.7-9.4	58-68	N/c - 6
12,798' – 23,480'	Oil Base	10.0-14.0	58-68	4 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11.5 ppg. In order to maintain hole stability, mud weights up to 14.0 ppg may be utilized.

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

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

#### 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.



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

Open-hole logs are not planned for this well.

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

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

The estimated bottom-hole temperature (BHT) at TD is 201 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 9,540 psig and a maximum anticipated surface pressure of 6,657 psig (based on 14.0 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 7,555' 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:

A multi-bowl wellhead system will be utilized.

After running the 9-5/8" surface casing, a 9-5/8" 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 J-packer type. EOG Resources reserves the option to conduct BOPE testing during wait on cement periods provided a test plug is utilized.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5,000 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 21 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.



1013' FSL

**Proposed Wellbore** 

KB: 3517'

2545' FEL Section 7

T-25-S, R-33-E

GL: 3492'

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

Bit Size: 12-1/4" 9-5/8", 36#, J-55, LTC, 0' - 1,140" Bit Size: 8-3/4" 7-5/8", 29.7#, HCP-110, FXL, 0' - 11,280" TOC: 10,964' MD, 10,780' TVD Lateral: 23,480' MD, 13,105' TVD Bit Size: 6-3/4" **Upper Most Perf:** 5-1/2", 20.#, P110-EC, DWC/C IS MS 100' FSL & 1500' FEL Sec. 7 @ 0' - 10,780' **Lower Most Perf:** 5-1/2", 20.#, P110-EC, Vam Sprint SF 100' FNL & 1500' FEL Sec. 6 (a) 10,780' - 11,280' **BH Location:** 5-1/2", 20.#, P110-EC, DWC/C IS MS 100' FNL & 1500' FEL, @ 11,280' - 23,480' Sec. 6, T-25-S R-33-E KOP: 12,798' MD, 12,628' TVD EOC: 13,548' MD, 13,105' TVD



#### **Design B**

#### 4. CASING PROGRAM

Hole	Interv	al MD	Interval TVD		MD Interval TVD Csg				
Size	From (ft)	To (ft)	From (ft)	To (ft)	OD	Weight	Grade	Conn	
13"	0	1,140	0	1,140	10-3/4"	40.5#	J-55	STC	
9-7/8"	0	11,464	0	11,280	8-3/4"	38.5#	P110-EC	SLIJ II NA	
7-7/8"	0	23,480	0	13,105	6"	22.3#	P110-EC	DWC/C IS	

Variance is requested to waive the centralizer requirements for the 8-3/4" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" casing in the 7-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 7-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive the annular clearance requirements for the 6" casing by 8-3/4" casing annulus to the proposed top of cement.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement from Onshore Order #2 under the following conditions:

- Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casing strings.
- Annular clearance less than 0.422" is acceptable for the production open hole section.

## **Cementing Program:**

Centen	ungiro	<u> </u>		
Depth	No. Sacks	Wt.	Yld Ft3/sk	Slurry Description
1,140' 10-3/4"	290	13.5	1.73	Lead: Class C + 4.0% Bentonite Gel + 0.5% CaCl2 + 0.25 lb/sk Cello-Flake (TOC @ Surface)
	70	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 940')
11,280' 8-3/4"	530	14.2	1.11	1st Stage (Tail): Class C + 0.6% Halad-9 + 0.45% HR-601 + 3% Microbond (TOC @ 7,360')
	1430	14.8	1.5	2nd Stage (Bradenhead squeeze): Class C + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface)
23,480'	1770	14.2	1.31	Lead: Class H + 0.4% Halad-344 + 0.35% HR-601 + 3% Microbond (TOC @ 10,780')



EOG requests variance from minimum standards to pump a two stage cement job on the 8-3/4" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,555') and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 430 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

EOG will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

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.

#### Wellhead:

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"



1013' FSL 2545' FEL **Proposed Wellbore** 

KB: 3517' GL: 3492'

Section 7

T-25-S, R-33-E

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

Bit Size: 13" 10-3/4", 40.5#, J-55, STC, 0' - 1,140' Bit Size: 9-7/8" 7-5/8", 29.7#, HCP-110, FXL @ 0' - 11,280' TOC: 10,964' MD, 10,780' TVD Bit Size: 7-7/8" Lateral: 23,480' MD, 13,105' TVD 6", 22.3#, P110-EC, DWC/C IS, **Upper Most Perf:** @ 0' - 23,480' 100' FSL & 1500' FEL Sec. 7 **Lower Most Perf:** 100' FNL & 1500' FEL Sec. 6 BH Location: 100' FNL & 1500' FEL, Sec. 6, T-25-S R-33-E KOP: 12,798' MD, 12,628' TVD EOC: 13,548' MD, 13,105' TVD



# **Midland**

Lea County, NM (NAD 83 NME)
Dauntless 7 Fed
#752H

OH

Plan: Plan #0.1 RT

# **Standard Planning Report**

03 May, 2023



#### **Planning Report**

Database: Company: PEDM Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

Minimum Curvature

Project

Lea County, NM (NAD 83 NME)

Map System:US State Plane 1983Geo Datum:North American Datum 1983Map Zone:New Mexico Eastern Zone

System Datum:

Mean Sea Level

Site Dauntless 7 Fed

 Site Position:
 Northing:
 414,874.00 usft
 Latitude:
 32° 8′ 18.763 N

 From:
 Map
 Easting:
 762,795.00 usft
 Longitude:
 103° 37′ 4.285 W

Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 "

Well #752H

**Well Position** +N/-S 0.0 usft Northing: 415,652.00 usft Latitude: 32° 8' 26.323 N 764,894.00 usft +E/-W 0.0 usft Easting: Longitude: 103° 36' 39.813 W **Position Uncertainty** 0.0 usft Wellhead Elevation: usft **Ground Level:** 3,492.0 usft

Grid Convergence: 0.38 °

Wellbore OH

 Magnetics
 Model Name
 Sample Date
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF2020
 5/1/2023
 6.34
 59.76
 47,244.55181078

Design Plan #0.1 RT

Audit Notes:

Version:Phase:PLANTie On Depth:0.0

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

 0.0
 0.0
 0.0
 5.94

Plan Survey Tool Program Date 5/3/2023

Depth From Depth To

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

1 0.0 23,480.1 Plan #0.1 RT (OH) EOG MWD+IFR1

MWD + IFR1



#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,265.0	0.00	0.00	1,265.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,980.4	14.31	132.29	1,973.0	-59.8	65.7	2.00	2.00	0.00	132.29	
7,010.5	14.31	132.29	6,847.0	-896.2	985.3	0.00	0.00	0.00	0.00	
7,725.8	0.00	0.00	7,555.0	-956.0	1,051.0	2.00	-2.00	0.00	180.00	
12,798.3	0.00	0.00	12,627.5	-956.0	1,051.0	0.00	0.00	0.00	0.00	KOP(Dauntless 7 Fed
13,018.8	26.46	0.00	12,840.2	-906.0	1,051.0	12.00	12.00	0.00	0.00	FTP(Dauntless 7 Fed
13,548.3	90.00	359.62	13,104.9	-478.5	1,049.1	12.00	12.00	-0.07	-0.42	
23,480.1	90.00	359.62	13,105.0	9,453.0	984.0	0.00	0.00	0.00	0.00	PBHL(Dauntless 7 Fe

# eog resources

#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

Design:	Plan #0.1 R1								
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
1,265.0	0.00	0.00	1,265.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.70	132.29	1,300.0	-0.1	0.2	-0.1	2.00	2.00	0.00
1,400.0	2.70	132.29	1.400.0	-2.1	2.4	-1.9	2.00	2.00	0.00
1,500.0	4.70	132.29	1,499.7	-6.5	7.1	-5.7	2.00	2.00	0.00
1,600.0	6.70	132.29	1,599.2	-13.2	14.5	-11.6	2.00	2.00	0.00
			,						
1,700.0	8.70	132.29	1,698.3	-22.2	24.4	-19.5	2.00	2.00	0.00
1,800.0	10.70	132.29	1,796.9	-33.5	36.8	-29.5	2.00	2.00	0.00
1,900.0	12.70	132.29	1,894.8	-47.2	51.8	-41.5	2.00	2.00	0.00
1,980.4	14.31	132.29	1,973.0	-59.8	65.7	-52.7	2.00	2.00	0.00
2,000.0	14.31	132.29	1,992.0	-63.1	69.3	-55.5	0.00	0.00	0.00
2,100.0	14.31	132.29	2,088.9	-79.7	87.6	-70.2	0.00	0.00	0.00
2,200.0	14.31	132.29	2,185.8	-96.3	105.9	-84.8	0.00	0.00	0.00
2,300.0	14.31	132.29	2,282.7	-112.9	124.2	-99.5	0.00	0.00	0.00
2,400.0	14.31	132.29	2,379.6	-129.6	142.4	-114.1	0.00	0.00	0.00
2,500.0	14.31	132.29	2,476.5	-146.2	160.7	-128.8	0.00	0.00	0.00
2,600.0	14.31	132.29	2,573.4	-162.8	179.0	-143.4	0.00	0.00	0.00
2,700.0	14.31	132.29	2,670.3	-179.5	197.3	-158.1	0.00	0.00	0.00
2,800.0	14.31	132.29	2,767.2	-196.1	215.6	-172.7	0.00	0.00	0.00
2,900.0	14.31	132.29	2,864.1	-212.7	233.8	-187.4	0.00	0.00	0.00
3,000.0	14.31	132.29	2,961.0	-229.3	252.1	-202.0	0.00	0.00	0.00
3,100.0	14.31	132.29	3,057.9	-246.0	270.4	-216.6	0.00	0.00	0.00
3,200.0	14.31	132.29	3,154.8	-262.6	288.7	-231.3	0.00	0.00	0.00
			*						
3,300.0	14.31	132.29	3,251.7	-279.2	307.0	-245.9	0.00	0.00	0.00
3,400.0	14.31	132.29	3,348.6	-295.9	325.2	-260.6	0.00	0.00	0.00
3,500.0	14.31	132.29	3,445.5	-312.5	343.5	-275.2	0.00	0.00	0.00
3,600.0	14.31	132.29	3,542.4	-329.1	361.8	-289.9	0.00	0.00	0.00
3,700.0	14.31	132.29	3,639.3	-345.7	380.1	-304.5	0.00	0.00	0.00
3,800.0	14.31	132.29	3,736.2	-362.4	398.4	-319.2	0.00	0.00	0.00
3,900.0	14.31	132.29	3,833.1	-379.0	416.7	-333.8	0.00	0.00	0.00
4,000.0	14.31	132.29	3,929.9	-395.6	434.9	-348.5	0.00	0.00	0.00
4,100.0	14.31	132.29	4,026.8	-412.2	453.2	-363.1	0.00	0.00	0.00
4,200.0	14.31	132.29	4,123.7	-428.9	471.5	-377.8	0.00	0.00	0.00
4,300.0	14.31	132.29	4,220.6	-445.5	489.8	-392.4	0.00	0.00	0.00
4,400.0		132.29	4,317.5		508.1	-392.4 -407.0	0.00	0.00	0.00
	14.31			-462.1					
4,500.0	14.31	132.29	4,414.4	-478.8	526.3	-421.7	0.00	0.00	0.00
4,600.0	14.31	132.29	4,511.3	-495.4	544.6	-436.3	0.00	0.00	0.00
4,700.0	14.31	132.29	4,608.2	-512.0	562.9	-451.0	0.00	0.00	0.00
4,800.0	14.31	132.29	4,705.1	-528.6	581.2	-465.6	0.00	0.00	0.00
4,900.0	14.31	132.29	4,802.0	-545.3	599.5	-480.3	0.00	0.00	0.00
5,000.0	14.31	132.29	4,898.9	-561.9	617.7	-494.9	0.00	0.00	0.00
5,100.0	14.31	132.29	4,995.8	-578.5	636.0	-509.6	0.00	0.00	0.00



#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

esign:	Plan #0.1 RT								
lanned 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)
5,200.0	14.31	132.29	5,092.7	-595.2	654.3	-524.2	0.00	0.00	0.00
5,300.0	14.31	132.29	5,189.6	-611.8	672.6	-538.9	0.00	0.00	0.00
5,400.0	14.31	132.29	5,286.5	-628.4	690.9	-553.5	0.00	0.00	0.00
5,500.0	14.31	132.29	5,383.4	-645.0	709.1	-568.2	0.00	0.00	0.00
5,600.0	14.31	132.29	5,480.3	-661.7	727.4	-582.8	0.00	0.00	0.00
5,700.0	14.31	132.29	5,577.2	-678.3	745.7	-597.5	0.00	0.00	0.00
5,800.0	14.31	132.29	5,674.1	-694.9	764.0	-612.1	0.00	0.00	0.00
5,900.0	14.31	132.29	5,771.0	-711.6	782.3	-626.7	0.00	0.00	0.00
6,000.0	14.31	132.29	5,867.9	-728.2	800.5	-641.4	0.00	0.00	0.00
6,100.0	14.31	132.29	5,964.8	-744.8	818.8	-656.0	0.00	0.00	0.00
6,200.0	14.31	132.29	6,061.7	-761.4	837.1	-670.7	0.00	0.00	0.00
				-778.1	855.4				
6,300.0	14.31	132.29	6,158.6			-685.3	0.00	0.00	0.00
6,400.0	14.31	132.29	6,255.5	-794.7	873.7	-700.0	0.00	0.00	0.00
6,500.0 6,600.0	14.31	132.29 132.29	6,352.4	-811.3 -828.0	892.0 910.2	-714.6 -729.3	0.00	0.00	0.00
6,700.0	14.31 14.31	132.29	6,449.3 6,546.2	-828.0 -844.6	910.2 928.5	-729.3 -743.9	0.00 0.00	0.00 0.00	0.00 0.00
6,800.0	14.31	132.29	6,643.1	-861.2	946.8	-758.6	0.00	0.00	0.00
6,900.0	14.31	132.29	6,740.0	-877.8	965.1	-773.2	0.00	0.00	0.00
7,000.0	14.31	132.29	6,836.9	-894.5	983.4	-787.9	0.00	0.00	0.00
7,010.5	14.31	132.29	6,847.0	-896.2	985.3	-789.4	0.00	0.00	0.00
7,100.0	12.52	132.29	6,934.1	-910.2	1,000.6	-801.7	2.00	-2.00	0.00
7,200.0	10.52	132.29	7,032.1	-923.6	1,015.4	-813.5	2.00	-2.00	0.00
7,300.0	8.52	132.29	7,130.7	-934.7	1,027.6	-823.3	2.00	-2.00	0.00
7,400.0	6.52	132.29	7,229.9	-943.5	1,037.3	-831.1	2.00	-2.00	0.00
7,500.0	4.52	132.29	7,329.4	-950.0	1,044.4	-836.8	2.00	-2.00	0.00
7,600.0	2.52	132.29	7,429.2	-954.1	1,049.0	-840.4	2.00	-2.00	0.00
7,700.0	0.52	132.29	7,529.2	-955.9	1,050.9	-842.0	2.00	-2.00	0.00
7,725.8	0.00	0.00	7,555.0	-956.0	1,051.0	-842.0	2.00	-2.00	0.00
7,800.0	0.00	0.00	7,629.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,729.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,000.0	0.00	0.00	7,829.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,100.0	0.00	0.00	7,929.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,029.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,129.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,229.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,329.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,429.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,529.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,629.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,729.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,000.0	0.00	0.00	8,829.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,100.0	0.00	0.00	8,929.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,029.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,129.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,229.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,329.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9.600.0	0.00	0.00	9,429.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,529.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,629.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,729.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,000.0	0.00	0.00	9,829.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,100.0 10,200.0	0.00 0.00	0.00 0.00	9,929.2 10,029.2	-956.0 -956.0	1,051.0 1,051.0	-842.0 -842.0	0.00 0.00	0.00 0.00	0.00 0.00
10,200.0	0.00	0.00	10,129.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00

# eog resources

#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

Site: Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

 Design:
 Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

esign:	Plan #0.1 R1								
lanned 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)
10,400.0	0.00	0.00	10,229.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,329.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,429.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,529.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,629.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,729.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,000.0	0.00	0.00	10,829.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,100.0	0.00	0.00	10,929.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,029.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,129.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,229.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,329.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,600.0	0.00	0.00	11,429.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,700.0	0.00	0.00	11,529.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,800.0	0.00	0.00	11,629.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
11,900.0	0.00	0.00	11,729.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,000.0	0.00	0.00	11,829.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,100.0	0.00	0.00	11,929.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,200.0	0.00	0.00	12,029.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,300.0	0.00	0.00	12,129.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,400.0	0.00	0.00	12,229.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,500.0	0.00	0.00	12,329.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,600.0	0.00	0.00	12,429.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,700.0	0.00	0.00	12,529.2	-956.0	1,051.0	-842.0	0.00	0.00	0.00
12,798.3	0.00	0.00	12,627.5	-956.0	1,051.0	-842.0	0.00	0.00	0.00
•	ess 7 Fed #752H	•	40.000.0	050.0	4.054.0	0.40.0	10.00	40.00	0.00
12,800.0	0.20	0.00	12,629.2	-956.0	1,051.0	-842.0	12.00	12.00	0.00
12,825.0	3.20	0.00	12,654.2	-955.3	1,051.0	-841.3	12.00	12.00	0.00
12,850.0	6.20	0.00	12,679.1	-953.2	1,051.0	-839.3	12.00	12.00	0.00
12,875.0	9.20	0.00	12,703.8	-949.9	1,051.0	-835.9	12.00	12.00	0.00
12,900.0	12.20	0.00	12,728.4	-945.2	1,051.0	-831.3	12.00	12.00	0.00
12,925.0 12,950.0	15.20 18.20	0.00 0.00	12,752.7 12,776.6	-939.3 -932.1	1,051.0 1,051.0	-825.4 -818.3	12.00 12.00	12.00 12.00	0.00 0.00
			•						
12,975.0	21.20	0.00	12,800.2	-923.7	1,051.0	-809.9	12.00	12.00	0.00
13,000.0	24.20	0.00	12,823.2	-914.0	1,051.0	-800.3	12.00	12.00	0.00
13,018.8	26.46	0.00	12,840.2	-906.0	1,051.0	-792.3	12.00	12.00	0.00
13,025.0	ss 7 Fed #752H) 27.20	359.99	12,845.7	-903.2	1,051.0	-789.5	12.00	12.00	-0.19
13,050.0	30.20	359.95	12,845.7	-903.2 -891.2	1,051.0	-769.5 -777.6	12.00	12.00	-0.19 -0.17
13,075.0	33.20	359.91	12,888.9	-878.1	1,051.0	-764.5	12.00	12.00	-0.14
13,100.0 13,125.0	36.20 39.20	359.88 359.85	12,909.5 12,929.3	-863.8 -848.5	1,050.9 1,050.9	-750.4 -735.2	12.00 12.00	12.00 12.00	-0.12 -0.10
13,150.0	42.20	359.83	12,929.3	-646.5 -832.2	1,050.9	-735.2 -719.0	12.00	12.00	-0.10 -0.09
13,175.0	45.20	359.81	12,966.3	-815.0	1,050.8	-719.0	12.00	12.00	-0.08
13,200.0 13,225.0	48.20 51.20	359.79 359.77	12,983.4 12,999.6	-796.8 -777.7	1,050.8 1,050.7	-683.7 -664.7	12.00 12.00	12.00 12.00	-0.07 -0.07
13,225.0	51.20 54.20	359.77 359.76	12,999.6	-777.7 -757.8	1,050.7	-645.0	12.00	12.00	-0.07 -0.06
13,275.0	57.20	359.75	13,028.8	-737.0 -737.2	1,050.5	-624.4	12.00	12.00	-0.06
13,300.0	60.20	359.73	13,041.8	-715.8	1,050.4	-603.2	12.00	12.00	-0.05
13,325.0	63.20 66.20	359.72 359.71	13,053.7 13,064.3	-693.8 671.2	1,050.3 1,050.2	-581.3	12.00	12.00	-0.05
13,350.0 13,375.0	66.20 69.20	359.71 359.70	13,064.3	-671.2 -648.1	1,050.2	-558.9 -535.9	12.00 12.00	12.00 12.00	-0.05 -0.05
13,400.0	72.20	359.68	13,082.1	-624.5	1,030.1	-535.9 -512.4	12.00	12.00	-0.03
13,425.0	75.20	359.67	13,089.1	-600.5	1,049.8	-488.6	12.00	12.00	-0.04



#### **Planning Report**

Database: Company:

Project:

PEDM Midland

Lea County, NM (NAD 83 NME)

Site: Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

 Design:
 Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

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)
13,450.0	78.20	359.66	13,094.9	-576.2	1,049.7	-464.4	12.00	12.00	-0.04
13,475.0	81.20	359.65	13,099.3	-551.6	1,049.5	-439.9	12.00	12.00	-0.04
13,500.0	84.20	359.64	13,102.5	-526.8	1,049.4	-415.3	12.00	12.00	-0.04
13,525.0	87.20	359.63	13,104.4	-501.8	1,049.2	-390.5	12.00	12.00	-0.04
13,548.3	90.00	359.62	13,104.9	-478.5	1,049.1	-367.4	12.00	12.00	-0.04
13,600.0	90.00	359.62	13,104.9	-426.9	1,048.7	-316.0	0.00	0.00	0.00
13,700.0	90.00	359.62	13,104.9	-326.9	1,048.1	-216.6	0.00	0.00	0.00
13,800.0	90.00	359.62	13,104.9	-226.9	1,047.4	-117.2	0.00	0.00	0.00
13,900.0	90.00	359.62	13,104.9	-126.9	1,046.8	-17.8	0.00	0.00	0.00
14,000.0	90.00	359.62	13,104.9	-26.9	1,046.1	81.6	0.00	0.00	0.00
14,100.0	90.00	359.62	13,104.9	73.1	1,045.4	181.0	0.00	0.00	0.00
14,200.0	90.00	359.62	13,104.9	173.1	1,044.8	280.4	0.00	0.00	0.00
14,300.0	90.00	359.62	13,104.9	273.1	1,044.1	379.8	0.00	0.00	0.00
14,400.0	90.00	359.62	13,104.9	373.1	1,043.5	479.2	0.00	0.00	0.00
14,500.0	90.00	359.62	13,104.9	473.1	1,042.8	578.5	0.00	0.00	0.00
14,600.0	90.00	359.62	13,105.0	573.1	1,042.2	677.9	0.00	0.00	0.00
14,700.0	90.00	359.62	13,105.0	673.1	1,041.5	777.3	0.00	0.00	0.00
14,800.0	90.00	359.62	13,105.0	773.1	1,040.9	876.7	0.00	0.00	0.00
14,900.0	90.00	359.62	13,105.0	873.1	1,040.2	976.1	0.00	0.00	0.00
15,000.0	90.00	359.62	13,105.0	973.1	1,039.6	1,075.5	0.00	0.00	0.00
15,100.0	90.00	359.62	13,105.0	1,073.1	1,038.9	1,174.9	0.00	0.00	0.00
15,200.0	90.00	359.62	13,105.0	1,173.1	1,038.2	1,274.3	0.00	0.00	0.00
15,300.0	90.00	359.62	13,105.0	1,273.1	1,037.6	1,373.7	0.00	0.00	0.00
15,400.0	90.00	359.62	13,105.0	1,373.1	1,036.9	1,473.1	0.00	0.00	0.00
15,500.0	90.00	359.62	13,105.0	1,473.1	1,036.3	1,572.5	0.00	0.00	0.00
15,600.0	90.00	359.62	13,105.0	1,573.1	1,035.6	1,671.9	0.00	0.00	0.00
15,700.0	90.00	359.62	13,105.0	1,673.1	1,035.0	1,771.3	0.00	0.00	0.00
15,800.0	90.00	359.62	13,105.0	1,773.1	1,034.3	1,870.7	0.00	0.00	0.00
15,900.0	90.00	359.62	13,105.0	1,873.1	1,033.7	1,970.0	0.00	0.00	0.00
16,000.0	90.00	359.62	13,105.0	1,973.1	1,033.0	2,069.4	0.00	0.00	0.00
16,100.0	90.00	359.62	13,105.0	2,073.1	1,032.3	2,168.8	0.00	0.00	0.00
16,200.0	90.00	359.62	13,105.0	2,173.1	1,031.7	2,268.2	0.00	0.00	0.00
16,300.0	90.00	359.62	13,105.0	2,273.1	1,031.0	2,367.6	0.00	0.00	0.00
16,400.0 16,500.0	90.00 90.00	359.62 359.62	13,105.0 13,105.0	2,373.1 2,473.1	1,030.4 1,029.7	2,467.0 2,566.4	0.00 0.00	0.00 0.00	0.00 0.00
				2,573.1			0.00		0.00
16,600.0 16,700.0	90.00 90.00	359.62 359.62	13,105.0 13,105.0	2,673.1	1,029.1 1,028.4	2,665.8 2,765.2	0.00	0.00 0.00	0.00
16,700.0	90.00	359.62	13,105.0	2,073.1	1,026.4	2,765.2	0.00	0.00	0.00
16,900.0	90.00	359.62	13,105.0	2,873.1	1,027.6	2,864.0	0.00	0.00	0.00
17,000.0	90.00	359.62	13,105.0	2,973.1	1,026.5	3,063.4	0.00	0.00	0.00
17,100.0	90.00	359.62	13,105.0	3,073.1	1,025.8	3,162.8	0.00	0.00	0.00
17,200.0	90.00	359.62	13,105.0	3,173.1	1,025.1	3,262.2	0.00	0.00	0.00
17,300.0	90.00	359.62	13,105.0	3,273.1	1,024.5	3,361.5	0.00	0.00	0.00
17,400.0	90.00	359.62	13,105.0	3,373.1	1,023.8	3,460.9	0.00	0.00	0.00
17,500.0	90.00	359.62	13,105.0	3,473.1	1,023.2	3,560.3	0.00	0.00	0.00
17,600.0	90.00	359.62	13,105.0	3,573.1	1,022.5	3,659.7	0.00	0.00	0.00
17,700.0	90.00	359.62	13,105.0	3,673.1	1,021.9	3,759.1	0.00	0.00	0.00
17,800.0	90.00	359.62	13,105.0	3,773.1	1,021.2	3,858.5	0.00	0.00	0.00
17,900.0	90.00	359.62	13,105.0	3,873.1	1,020.6	3,957.9	0.00	0.00	0.00
18,000.0	90.00	359.62	13,105.0	3,973.0	1,019.9	4,057.3	0.00	0.00	0.00
18,100.0	90.00	359.62	13,105.0	4,073.0	1,019.2	4,156.7	0.00	0.00	0.00
18,200.0	90.00	359.62	13,105.0	4,173.0	1,018.6	4,256.1	0.00	0.00	0.00
18,300.0	90.00	359.62	13,105.0	4,273.0	1,017.9	4,355.5	0.00	0.00	0.00
18,400.0	90.00	359.62	13,105.0	4,373.0	1,017.3	4,454.9	0.00	0.00	0.00

# eog resources

#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
18,500.0	90.00	359.62	13,105.0	4,473.0	1,016.6	4,554.3	0.00	0.00	0.00
18,600.0	90.00	359.62	13,105.0	4,573.0	1,016.0	4,653.6	0.00	0.00	0.00
18,700.0	90.00	359.62	13,105.0	4,673.0	1,015.3	4,753.0	0.00	0.00	0.00
18,800.0	90.00	359.62	13,105.0	4,773.0	1,014.7	4,852.4	0.00	0.00	0.00
18,900.0	90.00	359.62	13,105.0	4,873.0	1,014.0	4,951.8	0.00	0.00	0.00
19,000.0	90.00	359.62	13,105.0	4,973.0	1,013.3	5,051.2	0.00	0.00	0.00
19,100.0	90.00	359.62	13,105.0	5,073.0	1,012.7	5,150.6	0.00	0.00	0.00
19,200.0	90.00	359.62	13,105.0	5,173.0	1,012.0	5,250.0	0.00	0.00	0.00
19,300.0	90.00	359.62	13,105.0	5,273.0	1,011.4	5,349.4	0.00	0.00	0.00
19,400.0	90.00	359.62	13,105.0	5,373.0	1,010.7	5,448.8	0.00	0.00	0.00
19,500.0	90.00	359.62	13,105.0	5,473.0	1,010.1	5,548.2	0.00	0.00	0.00
19,600.0	90.00	359.62	13,105.0	5,573.0	1,009.4	5,647.6	0.00	0.00	0.00
19,700.0	90.00	359.62	13,105.0	5,673.0	1,008.8	5,747.0	0.00	0.00	0.00
19,800.0	90.00	359.62	13,105.0	5,773.0	1,008.1	5,846.4	0.00	0.00	0.00
19,900.0	90.00	359.62	13,105.0	5,873.0	1,007.5	5,945.8	0.00	0.00	0.00
20,000.0	90.00	359.62	13,105.0	5,973.0	1,006.8	6,045.1	0.00	0.00	0.00
20,100.0	90.00	359.62	13,105.0	6,073.0	1,006.1	6,144.5	0.00	0.00	0.00
20,200.0	90.00	359.62	13,105.0	6,173.0	1,005.5	6,243.9	0.00	0.00	0.00
20,300.0	90.00	359.62	13,105.0	6,273.0	1,004.8	6,343.3	0.00	0.00	0.00
20,400.0	90.00	359.62	13,105.0	6,373.0	1,004.2	6,442.7	0.00	0.00	0.00
20,500.0	90.00	359.62	13,105.0	6,473.0	1,003.5	6,542.1	0.00	0.00	0.00
20,600.0	90.00	359.62	13,105.0	6,573.0	1,002.9	6,641.5	0.00	0.00	0.00
20,700.0	90.00	359.62	13,105.0	6,673.0	1,002.2	6,740.9	0.00	0.00	0.00
20,800.0	90.00	359.62	13,105.0	6,773.0	1,001.6	6,840.3	0.00	0.00	0.00
20,900.0	90.00	359.62	13,105.0	6,873.0	1,000.9	6,939.7	0.00	0.00	0.00
21,000.0	90.00	359.62	13,105.0	6,973.0	1,000.2	7,039.1	0.00	0.00	0.00
21,100.0	90.00	359.62	13,105.0	7,073.0	999.6	7,138.5	0.00	0.00	0.00
21,200.0	90.00	359.62	13,105.0	7,173.0	998.9	7,237.9	0.00	0.00	0.00
21,300.0	90.00	359.62	13,105.0	7,273.0	998.3	7,337.2	0.00	0.00	0.00
21,400.0	90.00	359.62	13,105.0	7,373.0	997.6	7,436.6	0.00	0.00	0.00
21,500.0	90.00	359.62	13,105.0	7,473.0	997.0	7,536.0	0.00	0.00	0.00
21,600.0	90.00	359.62	13,105.0	7,573.0	996.3	7,635.4	0.00	0.00	0.00
21,700.0	90.00	359.62	13,105.0	7,673.0	995.7	7,734.8	0.00	0.00	0.00
21,800.0	90.00	359.62	13,105.0	7,773.0	995.0	7,834.2	0.00	0.00	0.00
21,900.0	90.00	359.62	13,105.0	7,873.0	994.4	7,933.6	0.00	0.00	0.00
22,000.0	90.00	359.62	13,105.0	7,973.0	993.7	8,033.0	0.00	0.00	0.00
22,100.0	90.00	359.62	13,105.0	8,073.0	993.0	8,132.4	0.00	0.00	0.00
22,200.0	90.00	359.62	13,105.0	8,173.0	992.4	8,231.8	0.00	0.00	0.00
22,300.0	90.00	359.62	13,105.0	8,273.0	991.7	8,331.2	0.00	0.00	0.00
22,400.0	90.00	359.62	13,105.0	8,373.0	991.1	8,430.6	0.00	0.00	0.00
22,500.0	90.00	359.62	13,105.0	8,473.0	990.4	8,530.0	0.00	0.00	0.00
22,600.0	90.00	359.62	13,105.0	8,572.9	989.8	8,629.4	0.00	0.00	0.00
22,700.0	90.00	359.62	13,105.0	8,672.9	989.1	8,728.7	0.00	0.00	0.00
22,800.0	90.00	359.62	13,105.0	8,772.9	988.5	8,828.1	0.00	0.00	0.00
22,900.0	90.00	359.62	13,105.0	8,872.9	987.8	8,927.5	0.00	0.00	0.00
23,000.0	90.00	359.62	13,105.0	8,972.9	987.1	9,026.9	0.00	0.00	0.00
23,100.0	90.00	359.62	13,105.0	9,072.9	986.5	9,126.3	0.00	0.00	0.00
23,100.0	90.00	359.62 359.62			986.5 985.8	9,126.3	0.00	0.00	0.00
	90.00		13,105.0	9,172.9		9,225.7 9,325.1		0.00	0.00
23,300.0 23,400.0		359.62 350.62	13,105.0	9,272.9	985.2	9,325.1 9,424.5	0.00		
23,400.0	90.00	359.62 359.62	13,105.0	9,372.9	984.5		0.00	0.00	0.00
∠ა,48∪.1	90.00	JJ9.0Z	13,105.0	9,453.0	984.0	9,504.1	0.00	0.00	0.00



#### **Planning Report**

Database: PEDM Company: Midland

Project: Lea County, NM (NAD 83 NME)

 Site:
 Dauntless 7 Fed

 Well:
 #752H

 Wellbore:
 OH

Design: Plan #0.1 RT

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

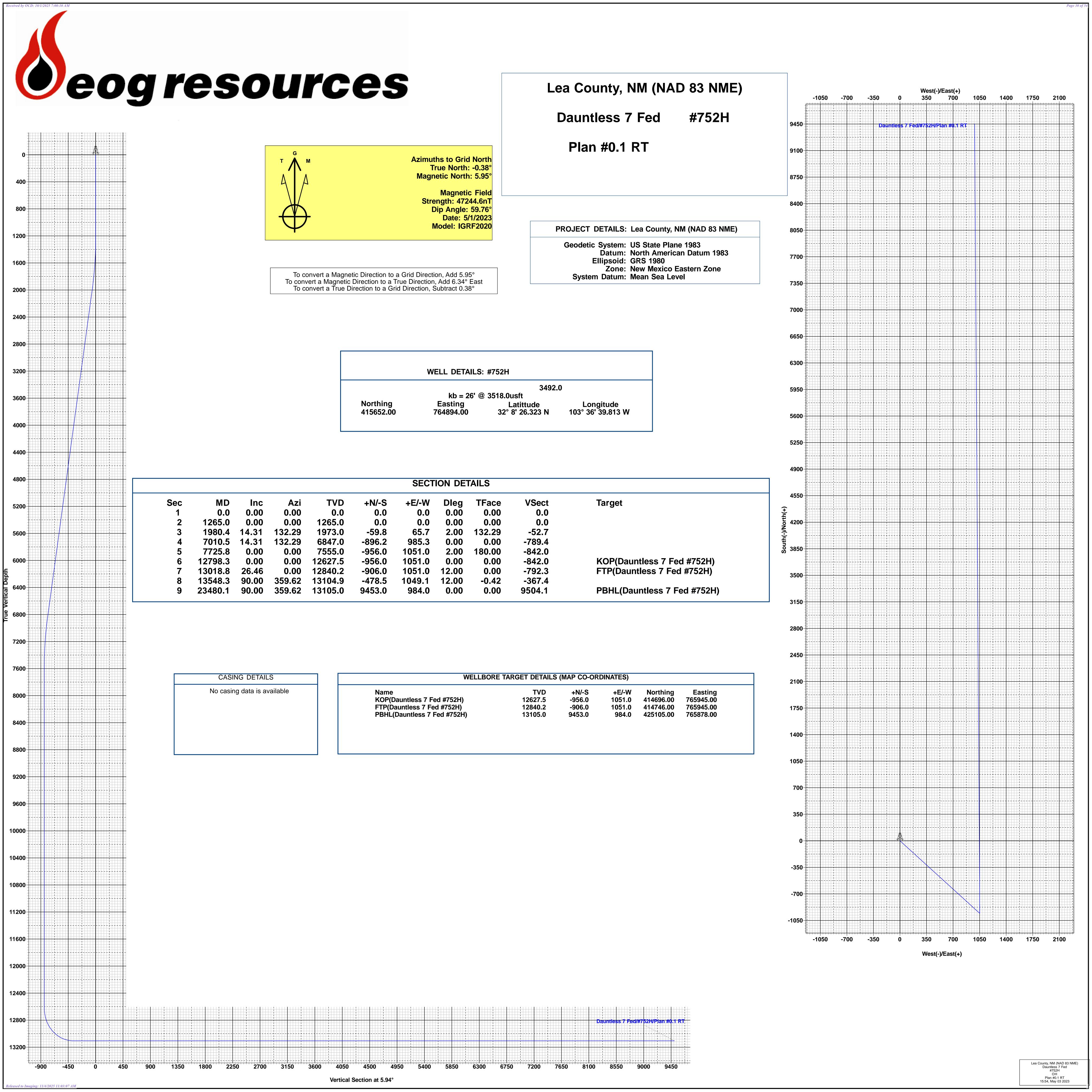
**Survey Calculation Method:** 

Well #752H

kb = 26' @ 3518.0usft kb = 26' @ 3518.0usft

Grid

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(Dauntless 7 Fed #: - plan hits target cent - Point	0.00 er	0.00	12,627.5	-956.0	1,051.0	414,696.00	765,945.00	32° 8′ 16.793 N	103° 36' 27.665 W
FTP(Dauntless 7 Fed #7 - plan hits target cent - Point	0.00 er	0.00	12,840.2	-906.0	1,051.0	414,746.00	765,945.00	32° 8′ 17.288 N	103° 36' 27.661 W
PBHL(Dauntless 7 Fed ‡ - plan hits target cent - Point	0.00 er	0.00	13,105.0	9,453.0	984.0	425,105.00	765,878.00	32° 9′ 59.798 N	103° 36' 27.628 W



# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: EOG Resources Incorporated
WELL NAME & NO.: Dauntless 7 Fed 752H
LOCATION: Sec 07-25S-33E-NMP
COUNTY: Lea County, New Mexico

 $\mathbf{COA}$ 

$H_2S$	•	No	O Yes			
Potash /	None	Secretary	© R-111-Q	☐ Open Annulus		
WIPP				$\square$ WIPP		
Cave / Karst	• Low	Medium	C High	Critical		
Wellhead	Conventional	<ul><li>Multibowl</li></ul>	O Both	<ul><li>Diverter</li></ul>		
Cementing	☐ Primary Squeeze	Cont. Squeeze	EchoMeter	□ DV Tool		
Special Req	☐ Capitan Reef	☐ Water Disposal	$\square$ COM	Unit		
Waste Prev.	C Self-Certification	C Waste Min. Plan	APD Submitted p	prior to 06/10/2024		
Additional	▼ Flex Hose	Casing Clearance	☐ Pilot Hole	☐ Break Testing		
Language	☐ Four-String	☐ Offline Cementing	☐ Fluid-Filled			

#### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

#### **B. CASING**

- 1. The **9-5/8** inch surface casing shall be set at approximately **1140** 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 <u>8 hours</u> or <u>500</u> pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- a. First stage: Operator will cement with intent to reach the top of the Brushy Canyon.
- b. **Second stage:** Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified.

Operator has proposed to pump down Surface X <u>Intermediate 1</u> annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the Intermediate 1 casing to tieback requirements listed above after the second stage BH to verify TOC. Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

If cement does not reach surface, the next casing string must come to surface.

- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least **300 feet** into previous casing string (additional tieback due to not meeting 0.422" clearance requirement.) Operator shall provide method of verification.

#### C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
- 2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

# **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)

#### **Contact Lea County Petroleum Engineering Inspection Staff:**

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
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. 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.
    - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2<sup>nd</sup> 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

#### A. CASING

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

#### **B. PRESSURE CONTROL**

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
- 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:
  - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - ii. 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.
  - iii. Manufacturer representative shall install the test plug for the initial BOP test.
  - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - v. 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.
  - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead 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).
  - ii. 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.)
  - iii. 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 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 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.



#### Dauntless 7 Fed #752H

### **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.



#### Dauntless 7 Fed #752H

#### ■ 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.



## Dauntless 7 Fed #752H

# **Emergency Assistance Telephone List**

PUBLIC SAFETY:	911 or
<b>Lea County Sheriff's Department</b>	(575) 396-3611
Corey Helton	
Fire Department	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
U.S. Department of Labor	(575) 887-1174
Bureau of Land Management - Hobbs (Lea Co)	(575) 393-3612
PET On Call - Hobbs	(575) 706-2779
Bureau of Land Management - Carlsbad (Eddy Co)	(575) 234-5972
PET On Call - Carlsbad	(575) 706-2779
New Mexico Oil Conservation Division - Artesia	(575) 748-1283
Inspection Group South - Gilbert Gordero	(575) 626-0830
EOG Resources, Inc.	
EOG Midland	(432) 686-3600
Company Drilling Consultants:	
Jett Dueitt	(432) 230-4840
Blake Burney	
Drilling Engineers	
Stephen Davis	(432) 235-9789
Matt Day	(210) 296-4456
Drilling Managers	
Branden Keener	(210) 294-3729
Drilling Superintendents	
Lance Hardy	(432) 215-8152
Ryan Reynolds	(432) 215-5978
Steve Kelly	(210) 416-7894
H&P Drilling	
H&P Drilling	(432) 563-5757
Nabors Drilling	(132) 303 3131
Nabors Drilling	(432) 363-8180
Patterson UTI	(152) 505 0100
Patterson UTI	(432) 561-9382
EOG Safety	(152) 501 7502
Brian Chandler (HSE Manager)	(817) 239-0251
Time Commerce (11012 1110110501)	(017, 23) 0231

### 10,000 PSI BOP Annular Variance Request

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

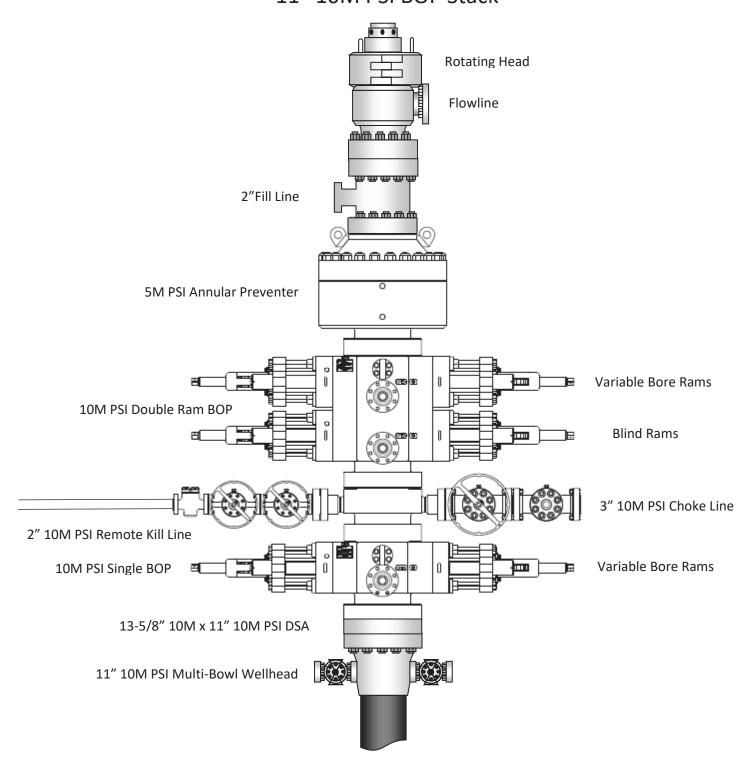
The tables below outlines the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

9-7/8" & 8-3/4" Intermediate Hole Section  10M psi requirement					
					RWP
Drillpipe	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
HWDP	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
Jars	4.500"	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	-	-
Intermediate casing	7.625"	Annular	5M	-	-
Open-hole	-	Blind Rams	10M	-	-

6-3/4" Production Hole Section					
10M psi requirement					
Component	OD	Primary Preventer	RWP	Alternate Preventer(s)	RWP
Drillpipe	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
HWDP	4.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
DCs and MWD tools	4.750 – 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
Mud Motor	4.750 – 5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
Mud Motor	5.500 – 5.750"	Annular	5M	-	-
Production casing	5.500"	Annular	5M	Upper 3.5 - 5.5" VBR	10M
				Lower 3.5 - 5.5" VBR	10M
Open-hole	-	Blind Rams	10M	-	-

VBR = Variable Bore Ram

# EOG Resources 11" 10M PSI BOP Stack



#### 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



2/24/2022

#### **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.



2/24/2022

- 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.



2/24/2022

#### **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.

Page | 3



2/24/2022

- 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**

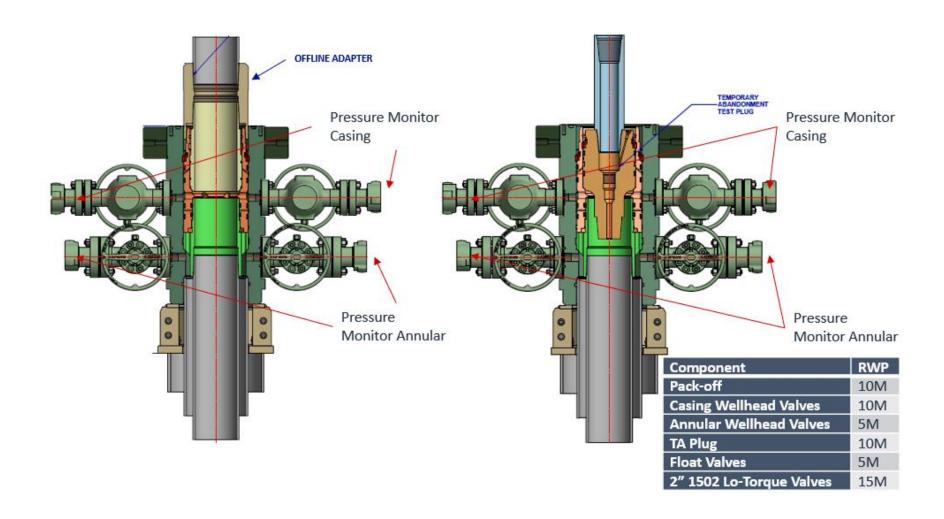
- 1. Sound alarm (alert crew).
- 2. Shut down pumps.
- 3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
- 4. Confirm shut-in.
- 5. Notify tool pusher/company representative.
- 6. Open rig choke and begin pumping again taking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



Figure 1: Cameron TA Plug and Offline Adapter Schematic

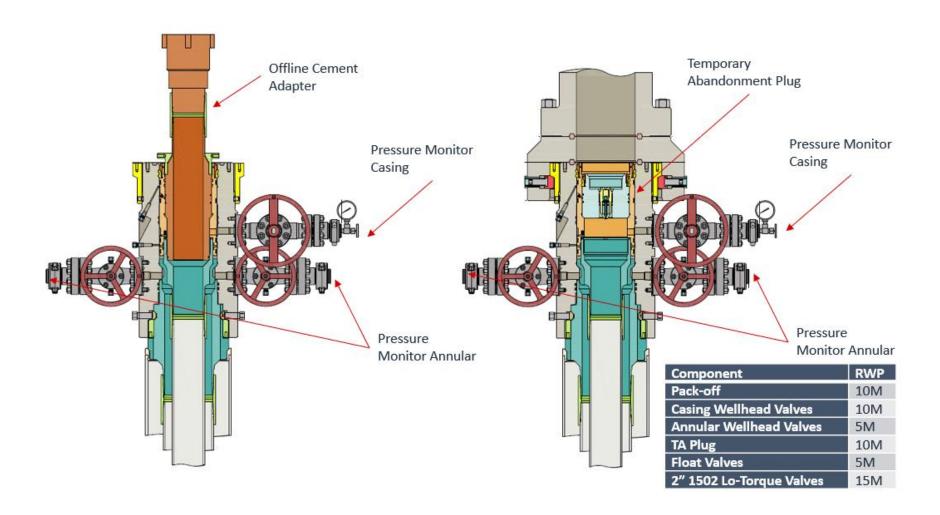


Page | 5



2/24/2022

Figure 2: Cactus TA Plug and Offline Adapter Schematic

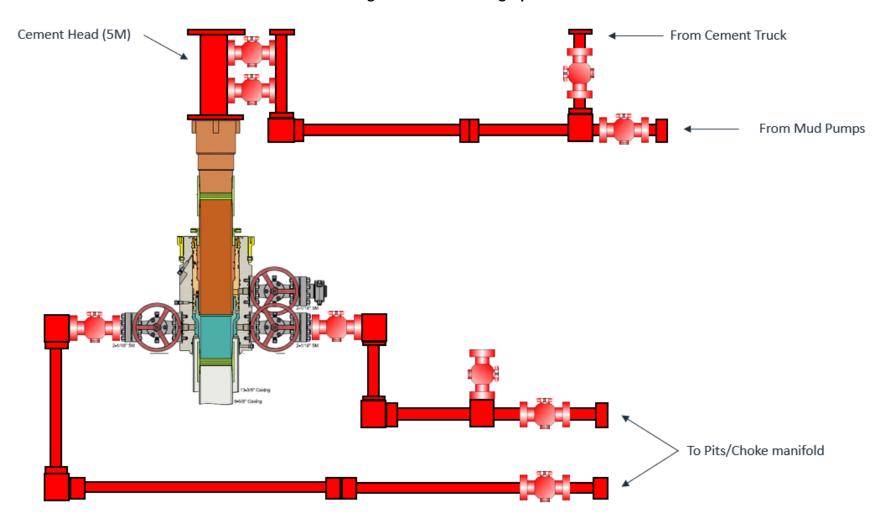


Page | 6



2/24/2022

Figure 3: Back Yard Rig Up



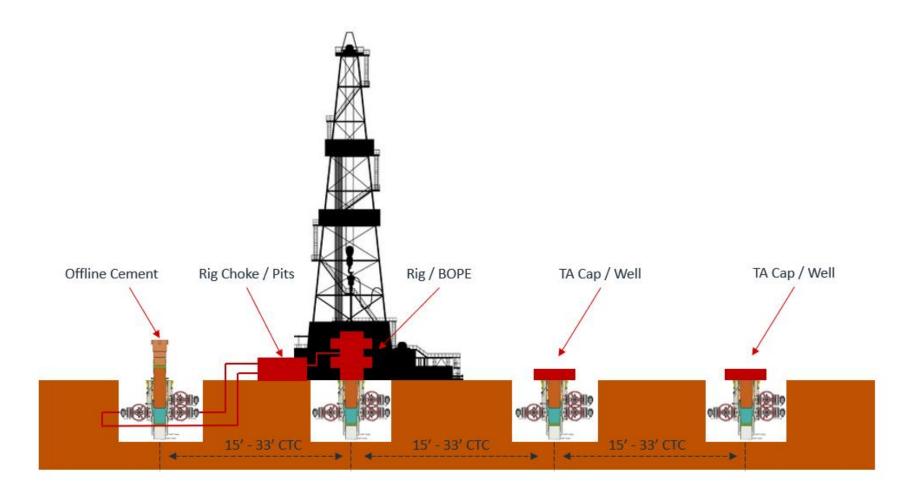
\*\*\* All Lines 10M rated working pressure

Page | 7



2/24/2022

Figure 4: Rig Placement Diagram



Page | 8

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

ACKNOWLEDGMENTS

Action 510991

#### **ACKNOWLEDGMENTS**

Operator:	OGRID:
EOG RESOURCES INC	7377
5509 Champions Drive	Action Number:
Midland, TX 79706	510991
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### ACKNOWLEDGMENTS

I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

Sante Fe Main Office Phone: (505) 476-3441

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 510991

#### **CONDITIONS**

Operator:	OGRID:
EOG RESOURCES INC	7377
5509 Champions Drive	Action Number:
Midland, TX 79706	510991
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Created By	Condition	Condition Date
sharrell1	Cement is required to circulate on both surface and intermediate1 strings of casing.	10/1/2025
sharrell1	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	10/1/2025
matthew.gomez	Administrative order required for non-standard location prior to production.	11/4/2025
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	11/4/2025
matthew.gomez	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.	11/4/2025
matthew.gomez	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.	11/4/2025
matthew.gomez	File As Drilled C-102 and a directional Survey with C-104 completion packet.	11/4/2025