Form 3160-3 (June 2015)		FORM APPROVED OMB No. 1004-0137 Expires: January 31, 2018 5. Lease Serial No.		
UNITED STATES DEPARTMENT OF THE INTE BUREAU OF LAND MANAGE				
APPLICATION FOR PERMIT TO DRIL	6. If Indian, Allotee o	r Tribe Name		
1a. Type of work:   DRILL   REENT	TER	7. If Unit or CA Agree	ement, Name and No.	
1b. Type of Well:  Oil Well  Gas Well  Other    1c. Type of Completion:  Hydraulic Fracturing  Single 2	Zone Multiple Zone	8. Lease Name and Well No.		
2. Name of Operator		9. API Well No. 30-0	15-56586	
3a. Address   3b.	Phone No. (include area code)	10. Field and Pool, or		
<ul> <li>4. Location of Well (<i>Report location clearly and in accordance with a</i> At surface At proposed prod. zone</li> </ul>	ny State requirements.*)	11. Sec., T. R. M. or I	Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish	13. State	
15. Distance from proposed*     16.       location to nearest     property or lease line, ft.       (Also to nearest drig. unit line, if any)     4	No of acres in lease 17. Spacir	g Unit dedicated to thi	s well	
18. Distance from proposed location*       19.         to nearest well, drilling, completed, applied for, on this lease, ft.       19.	Proposed Depth 20, BLM/	BIA Bond No. in file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)   22.	Approximate date work will start*	23. Estimated duratio	n	
24	. Attachments			
The following, completed in accordance with the requirements of Ons (as applicable)	hore Oil and Gas Order No. 1, and the H	ydraulic Fracturing rul	e per 43 CFR 3162.3-3	
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System Lat SUPO must be filed with the appropriate Forest Service Office).</li> </ol>	<ul> <li>4. Bond to cover the operation Item 20 above).</li> <li>5. Operator certification.</li> <li>6. Such other site specific inform BLM.</li> </ul>	, ,	C X	
25. Signature	Name (Printed/Typed)	I	Date	
Title	1			
Approved by (Signature)	Name (Printed/Typed)	I	Date	
Title Application approval does not warrant or certify that the applicant hole applicant to conduct operations thereon. Conditions of approval, if any, are attached.	Office ds legal or equitable title to those rights	in the subject lease whi	ich would entitle the	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make i of the United States any false, fictitious or fraudulent statements or rep			y department or agency	



\*(Instructions on page 2)

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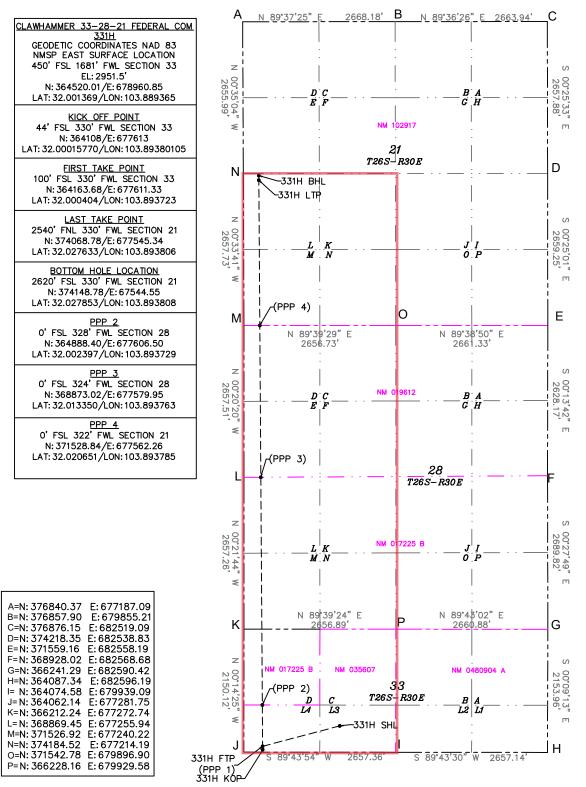
(Continued on page 2)

Energy, Minerals & Natura OUL CONSERVAT					ural	New Mexico A Resources Department FION DIVISION			Revised July, 2024		
	lectronically Permitting							011		Initial Submittal	
	0								Submittal Type:	Amended Report	
										As Drilled	
				W	ELL LOC	ATIO	ON INFORMATIO	N			
API N	umber	(50)	Pool Cod			P	ool Name	- 09 CO	220167	DONE SDDING	
Prone	30-015-5 rty Code	06586	Property	97863 Name			WILDCAL	3-03 520	53016K;	BONE SPRING Well Number	
TTOPC	337276		lioperty		CLAWHAMI	MER	33-28-21 FED C	СОМ		331H	
OGRID	No. 6137		Operator	Name	WDV F	NED	GY PERMIAN, LLC			Ground Level	Elevation
a .			<b>n n</b>	1 577		NER				2951.5'	
Surfac	e Owner:	□State □	Fee ∐Irit	al <u>K</u> Fe	deral		Mineral Owner:	∐State	_Fee	Tribal XFederal	
						Surfa	ce Location				
UL	Section	Township	Range	Lot	Ft. from	n N/S	S Ft. from E/W	Latitude		Longitude	County
	33	26-S	30-E	3	450'	$\mathbf{S}$	1681'W	32.001	369	103.889365	EDDY
					Bo	ottom	Hole Location				
UL	Section	Township	Range	Lot	Ft. from	n N/S	S Ft. from E/W	Latitude		Longitude	County
L	21	26-S	30-E		2620'	$\mathbf{S}$	330'W	32.027	853	103.893808	EDDY
		Infill or Def	ining Well	Defining	Well API	Overla	apping Spacing Uni	t (Y/N)	Consolie	lation Code	
60	9.5	X		322	H		N P				
Order	Numbers	POOLING	ORDER P	ENDING	ŕ	Well	setbacks are under	Common	Ownersl	nip: [X]Yes □No	
					Vial	- 066	Deint (KOD)				
UL	Section	Township	Range	Lot	Ft. from		Point (KOP) S Ft. from E/W	Latitude		Longitude	County
0L	33	26-S	30-E	4	44'		332' W	32.0001	5770	103.89380105	EDDY
	00	20 0	00 H	•				02.0001		100.00000100	
UL	Section	Township	Range	Lot	Firs Ft. from		ke Point (FTP) S Ft. from E/W	Latitude		Longitude	County
0L	33	26-S	30-E	4	100'		330' W	32.000-	404	103.893723	EDDY
	00	20 8	00 1	-				00.000		100.0001.00	1001
UL	Section	Township	Range	Lot	Ft. from		ke Point (LTP) 5 Ft. from E/W	Latitude		Longitude	County
L	21	26-S	30-E	LOU	2540'		330' W	32.027	633	103.893806	EDDY
Ц	~1	20-3	90-F		2040	0		52.021	000	103.033000	EDDI
Unitiz	zed Area or A	Area of Unifo	rm Interest YES		Space	ing U	unit Type Horizont	tal Vertio	al	Ground Floor Elev N/A	ration:
		N.G. MANG									
	FOR CERTI certify that the	FICATIONS information con	ntained herein i	s true and c	omplete to the	best	SURVEYOR CERTIFIC				
		belief, and, if the				uns	I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and				
including	the proposed	bottom hole loc	ation or has a r	ight to drill	this well at this						
		ontract with an on voluntary pooli				der				BER	EHOLOS
	e entered by the									R AL MEX	$\langle c \rangle \langle v \rangle$
		tal well, I furthe									$\sum$
consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's							D 23261	1 /a			
completed interval will be located or obtained a compulsory pooling order from the							Ro Aller	Martin 20 /			
division.	ny A.	Brow	n 04/04	/2025							
Signa	tore		Date			5	Signature and Seal	of Profes	ssional	Surveyor ONAL	50.
	y A. Brown	ı									/
	ed Name					c	Certificate Number	Date of	Survev		
amy.l	brown@dv	n.com							·		
Email	Address						23261	03/20	25		

#### ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



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	State of New Mexico Energy, Minerals and Natural Resources Department						mit Electronically E-permitting	
	Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505							
	Ν	ATURAL GA	AS MANA	GEMENT P	LAN			
This Natural Gas Manaş	gement Plan m	ust be submitted wi	ith each Applica	tion for Permit to I	Drill (A	PD) for a new o	r recompleted well.	
			1 – Plan D fective May 25					
I. Operator: WPX ENE	RGY PERMIAN, I	LC	_OGRID:	246289		<b>Date:</b> /	15 / 2024	
II. Type: 🖾 Original 🛛	□ Amendment	due to □ 19.15.27.	9.D(6)(a) NMA	С 🗆 19.15.27.9.D(	(6)(b) N	IMAC □ Other.		
If Other, please describe								
<b>III. Well(s):</b> Provide th be recompleted from a s					wells pi	roposed to be dr	illed or proposed to	
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D		icipated MCF/D I	Anticipated Produced Water BBL/D	
See attachment								
IV. Central Delivery P	oint Name:	See attachment			L	[See 19.15.2	27.9(D)(1) NMAC]	
V. Anticipated Schedu proposed to be recomple					vell or s	et of wells prop	osed to be drilled or	
Well Name	API	Spud Date	TD Reached Date	Completion Commencement		Initial Flow Back Date	First Production Date	
See attachment								
<ul> <li>VI. Separation Equipment:</li></ul>								
Subsection A through F VIII. Best Managemen during active and planne	nt Practices: E	Attach a comple	te description of	f Operator's best n	nanagei	ment practices t	o minimize venting	

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#### NATURAL GAS MANAGEMENT PLAN Section 1 - Plan Description

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

		I	1		
				Daily Anticipated GAS/OIL/WATER	
Well Name	API	ULSTR & FOOTAGES		.,,,	Central Delivery Point Name:
CLAWHAMMER 33-28-21 FEDERAL COM 321H		33-26S-30E, 480 FSL & 1681 FWL		(+/-) 6350 mcfd/(+/-) 2350 bopd/(+/-) 8300 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 322H		33-26S-30E, 477 FSL & 2354 FWL		(+/-) 6350 mcfd/(+/-) 2350 bopd/(+/-) 8300 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 323H		33-26S-30E, 447 FSL & 2354 FWL		(+/-) 6350 mcfd/(+/-) 2350 bopd/(+/-) 8300 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 324H		33-26S-30E, 423 FSL & 1521 FEL		(+/-) 6350 mcfd/(+/-) 2350 bopd/(+/-) 8300 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 325H		33-26S-30E, 360 FSL & 1120 FEL		(+/-) 6350 mcfd/(+/-) 2350 bopd/(+/-) 8300 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 330H		33-26S-30E, 453 FSL & 1520 FEL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 331H		33-26S-30E, 450 FSL & 1681 FWL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 332H		33-26S-30E, 420 FSL & 1681 FWL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 333H		33-26S-30E, 417 FSL & 2354 FWL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 334H		33-26S-30E, 393 FSL & 1521 FEL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 335H		33-26S-30E, 330 FSL & 1120 FEL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 336H		33-26S-30E, 300 FSL & 1120 FEL		(+/-) 7000 mcfd/(+/-) 2000 bopd/(+/-) 8000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 440H		33-26S-30E, 232 FSL & 2354 FWL		(+/-) 12000 mcfd/(+/-) 1140 bopd/(+/-) 12000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 441H		33-26S-30E, 270 FSL & 1681 FWL		(+/-) 12000 mcfd/(+/-) 1140 bopd/(+/-) 12000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 442H		33-26S-30E, 292 FSL & 2354 FWL		(+/-) 12000 mcfd/(+/-) 1140 bopd/(+/-) 12000 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 443H		33-26S-30E, 250 FSL & 1120 FEL		(+/-) 12000 mcfd/(+/-) 1140 bopd/(+/-) 12000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 444H		33-26S-30E, 220 FSL & 1120 FEL		(+/-) 12000 mcfd/(+/-) 1140 bopd/(+/-) 12000 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 451H		33-26S-30E, 240 FSL & 1681 FWL		(+/-) 9500 mcfd/(+/-) 665 bopd/(+/-) 9500 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 452H		33-26S-30E, 210 FSL & 1681 FWL		(+/-) 9500 mcfd/(+/-) 665 bopd/(+/-) 9500 bwpd	CLAWHAMMER 33-28-21 FED WEST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 453H		33-26S-30E, 262 FSL & 2354 FWL		(+/-) 9500 mcfd/(+/-) 665 bopd/(+/-) 9500 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD
CLAWHAMMER 33-28-21 FEDERAL COM 454H		33-26S-30E, 190 FSL & 1120 FEL		(+/-) 9500 mcfd/(+/-) 665 bopd/(+/-) 9500 bwpd	CLAWHAMMER 33-28-21 FED EAST PAD

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

				Completion		First
			TD Reached	Commencem	Initial Flow	Production
Well Name	API	Spud Date	Date	ent Date	back Date	Date
CLAWHAMMER 33-28-21 FEDERAL COM 321H	n/a	4/14/2025	5/14/2025	9/11/2025	9/11/2025	9/11/2025
CLAWHAMMER 33-28-21 FEDERAL COM 322H	n/a	3/22/2025	4/21/2025	8/19/2025	8/19/2025	8/19/2025
CLAWHAMMER 33-28-21 FEDERAL COM 323H	n/a	3/6/2025	4/5/2025	8/3/2025	8/3/2025	8/3/2025
CLAWHAMMER 33-28-21 FEDERAL COM 324H	n/a	1/31/2025	3/2/2025	6/30/2025	6/30/2025	6/30/2025
CLAWHAMMER 33-28-21 FEDERAL COM 325H	n/a	3/27/2025	4/26/2025	8/24/2025	8/24/2025	8/24/2025
CLAWHAMMER 33-28-21 FEDERAL COM 330H	n/a	3/6/2025	4/5/2025	8/3/2025	8/3/2025	8/3/2025
CLAWHAMMER 33-28-21 FEDERAL COM 331H	n/a	2/16/2025	3/18/2025	7/16/2025	7/16/2025	7/16/2025
CLAWHAMMER 33-28-21 FEDERAL COM 332H	n/a	2/17/2025	3/19/2025	7/17/2025	7/17/2025	7/17/2025
CLAWHAMMER 33-28-21 FEDERAL COM 333H	n/a	3/6/2025	4/5/2025	8/3/2025	8/3/2025	8/3/2025
CLAWHAMMER 33-28-21 FEDERAL COM 334H	n/a	2/1/2025	3/3/2025	7/1/2025	7/1/2025	7/1/2025
CLAWHAMMER 33-28-21 FEDERAL COM 335H	n/a	2/10/2025	3/12/2025	7/10/2025	7/10/2025	7/10/2025
CLAWHAMMER 33-28-21 FEDERAL COM 336H	n/a	3/4/2025	4/3/2025	8/1/2025	8/1/2025	8/1/2025
CLAWHAMMER 33-28-21 FEDERAL COM 440H	n/a	4/7/2025	5/7/2025	9/4/2025	9/4/2025	9/4/2025
CLAWHAMMER 33-28-21 FEDERAL COM 441H	n/a	4/11/2025	5/11/2025	9/8/2025	9/8/2025	9/8/2025
CLAWHAMMER 33-28-21 FEDERAL COM 442H	n/a	5/3/2025	6/2/2025	9/30/2025	9/30/2025	9/30/2025
CLAWHAMMER 33-28-21 FEDERAL COM 443H	n/a	3/10/2025	4/9/2025	8/7/2025	8/7/2025	8/7/2025
CLAWHAMMER 33-28-21 FEDERAL COM 444H	n/a	3/21/2025	4/20/2025	8/18/2025	8/18/2025	8/18/2025
CLAWHAMMER 33-28-21 FEDERAL COM 451H	n/a	3/23/2025	4/22/2025	8/20/2025	8/20/2025	8/20/2025
CLAWHAMMER 33-28-21 FEDERAL COM 452H	n/a	3/4/2025	4/3/2025	8/1/2025	8/1/2025	8/1/2025
CLAWHAMMER 33-28-21 FEDERAL COM 453H	n/a	2/1/2025	3/3/2025	7/1/2025	7/1/2025	7/1/2025
CLAWHAMMER 33-28-21 FEDERAL COM 454H	n/a	2/20/2025	3/22/2025	7/20/2025	7/20/2025	7/20/2025

\* DATES SUBJECT TO CHANGE

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

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

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

#### IX. Anticipated Natural Gas Production:

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

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

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

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

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

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

□ Attach Operator's plan to manage production in response to the increased line pressure.

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

#### Section 3 - Certifications Effective May 25, 2021

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

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

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

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

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

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

# Section 4 - Notices

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

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

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

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

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

Signature:
Printed Name: Jeffrey Walla Title:
Title: Surface Land & Regulatory Manager
E-mail Address: jeff.walla@dvn.com
Date:
Phone: (405) 552-8154
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

### VI. Separation Equipment

Devon Energy Production Company, L.P. utilizes a "stage separation" process in which oil and gas separation is carried out through a series of separators operating at successively reduced pressures. Hydrocarbon liquids are produced into a high-pressure inlet separator, then carried through one or more lower pressure separation vessels before entering the storage tanks. The purpose of this separation process is to attain maximum recovery of liquid hydrocarbons from the fluids and allow maximum capture of produced gas into the sales pipeline. Devon utilizes a series of Low-Pressure Compression units to capture gas off the staged separation and send it to the sales pipeline. This process minimizes the amount of flash gas that enters the end-stage storage tanks that is subsequently vented or flared.

### VII. Operational Practices

Devon Energy Production Company, L. P. will employ best management practices and control technologies to maximize the recovery and minimize waste of natural gas through venting and flaring.

- During drilling operations, Devon will utilize flares and/or combustors to capture and control natural gas, where technically feasible. If flaring is deemed technically in-feasible, Devon will employ best management practices to minimize or reduce venting to the extent possible.
- During completions operations, Devon will utilize Green Completion methods to capture gas produced during well completions that is otherwise vented or flared. If capture is technically in-feasible, flares and/or combustors will be used to capture and control flow back fluids entering into frac tanks during initial flowback. Upon indication of first measurable hydrocarbon volumes, Devon will turn operations to onsite separation vessels and flow to the gathering pipeline.
- During production operations, Devon will take every practical effort to minimize waste of natural gas through venting and flaring by:
  - Designing and constructing facilities in a manner consistent to achieve maximum capture and control of hydrocarbon liquids & produced gas
  - Utilizing a closed-loop capture system to collect and route produced gas to sales line via low pressure compression, or to a flare/combustor
  - Flaring in lieu of venting, where technically feasible
  - Utilizing auto-ignitors or continuous pilots, with thermocouples connected to Scada, to quickly detect and resolve issues related to malfunctioning flares/combustors
  - Employ the use of automatic tank gauging to minimize storage tank venting during loading events
  - Installing air-driven or electric-driven pneumatics & combustion engines, where technically feasible to minimize venting to the atmosphere
  - Confirm equipment is properly maintained and repaired through a preventative maintenance and repair program to ensure equipment meets all manufacturer specifications
  - Conduct and document AVO inspections on the frequency set forth in Part 27 to detect and repair any onsite leaks as quickly and efficiently as is feasible

VIII. Best Management Practices during Maintenance

Devon Energy Production Company, L.P. will utilize best management practices to minimize venting during active and planned maintenance activities. Devon is operating under guidance that production facilities permitted under NOI permits have no provisions to allow high pressure flaring and high pressure flaring is only allowed in disruption scenarios so long as the duration is less than eight hours. When technically feasible, flaring during maintenance activities will be utilized in lieu of venting to the atmosphere. Devon will work with third-party operators during scheduled maintenance of downstream pipeline or processing plants to address those events ahead of time to minimize venting. Actions considered include identifying alternative capture approaches or planning to temporarily reduce production or shut in the well to address these circumstances.

#### **Devon Energy Annular Preventer Summary**

#### 1. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Component	OD	Preventer	RWP
Drillpipe	4.5"	Fixed lower 4.5"	10M
		Upper 4.5-7" VBR	
HWDP	4.5"	Fixed lower 4.5"	10M
		Upper 4.5-7" VBR	
Drill collars and MWD tools	4.75"	Upper 4.5-7" VBR	10M
Mud Motor	4.75"	Upper 4.5-7" VBR	10M
Production casing	5.5"	Upper 4.5-7" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

6-3/4" Production hole section, 10M requirement

VBR = Variable Bore Ram. Compatible range listed in chart.

#### 2. 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 drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission their operating pressure limit. The operator may chose an operating pressure less than or equal to RWP, but in no case will it exceed the RWP of the annular preventer.

#### 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 the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

### **Devon Energy Annular Preventer Summary**

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# 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 the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

# General Procedure While Running 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 the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

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

- 1. Sound alarm (alert crew)
- 2. Shut-in with blind rams or BSR. (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

#### **Devon Energy Annular Preventer Summary**

#### 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 pipe ram.
  - e. Shut-in using upper pipe ram. (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 compatible pipe ram.
  - d. Shut-in using compatible pipe ram. (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 pipe ram.
  - f. Shut-in using upper pipe 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

#### 1. Geologic Formations

TVD of target	9875	Pilot hole depth	N/A
MD at TD:	19814	Deepest expected fresh water	

Basin

	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	675		
Salt	1506		
Base of Salt	3337		
Delaware	3337		
Cherry Canyon	4621		
Brushy Canyon	5611		
Bone Spring 1st	8301		
Bone Spring 2nd	8929		
3rd Bone Spring Lime	9223		

\*H2S, water flows, loss of circulation, abnormal pressures, etc.

#### 2. Casing Program

		Wt Casing		Interval	Casing Interval			
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	45 1/2	J-55	BTC	0	700	0	700
9 7/8	8 5/8	32	P110HSCY	MOFXL	0	9346	0	9346
7 7/8	5 1/2	20	P110	DWC / C-IS+	0	19814	0	9875

•All casing strings will be tested in accordance with 43 CFR 3172. Must have table for contingency casing.

#### 3. Cementing Program

Casing	# Sks	тос	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	430	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	277	Surf	9	3.27	Lead: Class C Cement + additives
Int I	435	5611	13.2	1.44	Tail: Class H / C + additives
Int 1	630	Surf	13.2	1.44	Squeeze Lead: Class C Cement + additives
Intermediate	277	Surf	9	3.27	Lead: Class C Cement + additives
Squeeze	435	5611	13.2	1.44	Tail: Class H / C + additives
Production	117	7446	9	3.27	Lead: Class H /C + additives
Froduction	1372	9446	13.2	1.44	Tail: Class H / C + additives

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon 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. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures.

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	T	уре	✓	Tested to:
			Anı	nular	X	50% of rated working pressure
Int 1	13-5/8"	5M		d Ram	Х	
Int I	15 5/6	5101		e Ram		5M
			Doub	le Ram	Х	5101
			Other*			
			Annular (5M)		Х	50% of rated working pressure
Production	13-5/8"	5M	Blind Ram		Х	
Floduction		JIVI	Pipe Ram Double Ram			
					Х	5111
			Other*			
			Annul	ar (5M)		
			Blind	d Ram		
			Pipe	e Ram		
			Doub	le Ram		
			Other*			
N A variance is requested for	the use of a	a diverter or	the surface	casing. See	attached for	schematic.
A variance is requested to	run a 5 M a	nnular on a	10M system	1		

### 4. Pressure Control Equipment (Three String Design)

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### 5. Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

### 6. Logging and Testing Procedures

Logging, C	oring and Testing
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the
Х	Completion Rpeort and sbumitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional	logs planned	Interval			
	Resistivity	Int. shoe to KOP			
	Density	Int. shoe to KOP			
Х	CBL	Production casing			
Х	Mud log	Intermediate shoe to TD			
	PEX				

#### 7. Drilling Conditions

Condition	Specfiy what type and where?				
BH pressure at deepest TVD	5392				
Abnormal temperature	No				

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogren S	Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations
greater than	100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is
encountered	measured values and formations will be provided to the BLM.
Ν	H2S is present
Y	H2S plan attached.

#### 8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).

 $^{3}$  The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.

- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

#### Attachments

X Directional Plan Other, describe



# **Section 1 - Geologic Formations**

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15273361	UNKNOWN	2972	0	0	OTHER : SURFACE	NONE	Ν
15273371	BELL CANYON	-509	3481	3481	SANDSTONE, SHALE	NATURAL GAS, OIL	N
15273363	CHERRY CANYON	-1649	4621	4621	SANDSTONE, SHALE	NATURAL GAS, OIL	N
15273364	BRUSHY CANYON	-2639	5611	5611	SANDSTONE, SHALE	NATURAL GAS, OIL	N
15273365	BONE SPRING LIME	-4358	7330	7330	LIMESTONE	NATURAL GAS, OIL	N
15273366	BONE SPRING 1ST	-5329	8301	8301	SANDSTONE	NATURAL GAS, OIL	N
15273367	BONE SPRING LIME	-5624	8596	8596	LIMESTONE	NATURAL GAS, OIL	N
15273368	BONE SPRING 2ND	-5957	8929	8929	SANDSTONE	NATURAL GAS, OIL	N
15273369	BONE SPRING LIME	-6404	9376	9376	LIMESTONE	NATURAL GAS, OIL	Y
15273372	BONE SPRING 3RD	-7201	10173	10173	SANDSTONE	NATURAL GAS, OIL	Y
15273373	WOLFCAMP	-7591	10563	10563	SHALE	NATURAL GAS, OIL	N

### **Section 2 - Blowout Prevention**

#### Pressure Rating (PSI): 5M

Rating Depth: 9875

**Equipment:** BOP/BOPE will be installed per 43 CFR 3172 requirements prior to drilling below intermediate 1 casing, a BOP/BOPE system with the above minimum rating will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per 43 CFR 3172 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

#### Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.





Commitment Runs Deep



Design Plan Operation and Maintenance Plan Closure Plan

SENM - Closed Loop Systems June 2010

### I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

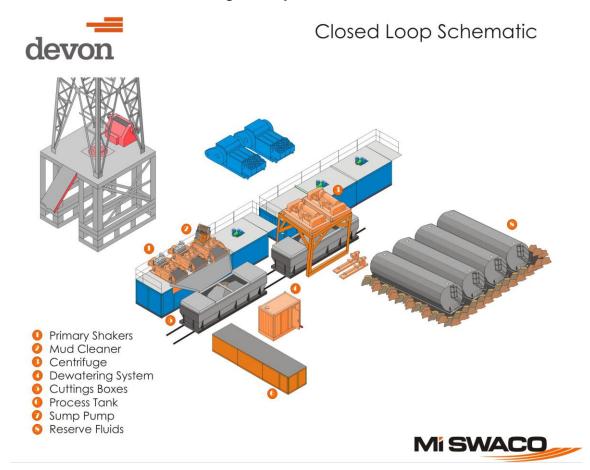
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

### II. Operations and Maintenance Plan

*Primary Shakers*: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

*Mud Cleaner:* The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



*Centrifuges*: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependent on well factors.

*Dewatering System:* The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

*Cuttings Boxes:* Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

*Process Tank:* (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

*Reserve Fluids (Tank Farm):* A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

#### III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

# **Devon Energy** APD VARIANCE DATA

### **OPERATOR NAME:** Devon Energy

#### 1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

#### 2. Description of Operations

- **1.** A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
  - **a.** After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - **b.** Rig will utilize fresh water based mud to drill surface hole to TD.
- 2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- **3.** A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
  - **a.** A means for intervention will be maintained while the drilling rig is not over the well.
- 4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - **a.** The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
- **6.** Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
- 7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

ev	on	Well: CLAWHAMMER 33-28-21 FEDERAL COM 331H County: Eddy Wellbore: Permit Plan Design: Permit Plan #1							Geodetic System: US State Plane 1983 Datum: North American Datum 1927 Ellipsoid: Clarke 1866 Zone: 3001 - NM East (NAD83)			
		MD (ft)	<b>INC</b> (°)	<b>AZI</b> (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	<b>DLS</b> (°/100ft)	Comment		
		0.00 2000.00 2600.00 8777.32 9477.32 9445.79 10345.79 19813.94	0.00 0.00 12.00 12.00 0.00 0.00 90.00 90.00	0.00 253.00 253.00 253.00 253.00 359.61 359.61 359.61	0.00 2000.00 2595.62 8637.96 9233.58 9302.04 9875.00 9875.00	0.00 0.00 -18.30 -393.81 -412.11 -412.11 160.83 9628.77	0.00 0.00 -59.87 -1288.09 -1347.95 -1347.95 -1351.85 -1416.30	0.00 0.00 -9.40 -202.17 -211.57 -211.57 355.85 9732.37	0.00 0.00 2.00 0.00 2.00 0.00 10.00 0.00	SHL Start Tanger Hold Tanger Drop to Vert Hold Vertica KOP Landing Poir BHL	nt tical I	
	0											
	2000										SECTION 21	
h (ft)	4000											
True Vertical Depth (ft)	6000										SECTION 28	
Tr	8000											
	10000											
	12000 -2000	0		2000		400 <b>Ve</b>	o ertical Section		000		8000 10000 1	
	<b>Key Depths</b> Rustler Salt Base of Salt		MD (ft) 675.00 1506.00 3357.94	TVD (ft) 675.00 1506.00 3337.00				MD (ft)	TVD (ft)	Lat (°)	Long Section Footages	
	Delaware Cherry Canyon Brushy Canyon Bone Spring 1st Bone Spring 2nd 3rd Bone Spring	Lime / Point of Pen	3357.94 4670.62 5682.74 8432.84 9072.17 9366.74	3337.00 4621.00 5611.00 8301.00 8929.00 9223.00		SHL KOP Point of P Exit BHL	enetration	0.00 9445.79 9366.74 19733.94 19813.94	0.00 9302.04 9223.00 9875.01 9875.00	32.0013 32.0002 32.0004 32.0276	-103.8894 450' FSL, 1681' FWL of Sec 33 in T26S, R30 -103.8938 44' FSL, 332' FWL of Sec 33 in T26S, R30E -103.8937 100' FSL, 330' FWL of Sec 33 in T26S, R30E -103.8938 2540' FSL, 330' FWL of Sec 21 in T26S, R30 -103.8939 2620' FSL, 330' FWL of Sec 21 in T26S, R30	
	exit		19733.94	9875.01				КОР	<b>Y</b> 364108	<b>X</b> 677613	<b>MD</b> 9445.79	

**Released to Imaging: 5/14/2025 3:04:06 PM** 

.

von		County: Wellbore:			1 FEDERAL C	OM 331H			Geodetic System: US State Plane 1983 Datum: North American Datum 1927 Ellipsoid: Clarke 1866 Zone: 3001 - NM East (NAD83)
	MD	INC	AZI	TVD	NS	EW	vs	DLS	Comment
_	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
	100.00	0.00	253.00	100.00	0.00	0.00	0.00	0.00	
	200.00	0.00	253.00	200.00	0.00 0.00	0.00	0.00 0.00	0.00	
	300.00 400.00	0.00	253.00	300.00 400.00	0.00	0.00	0.00	0.00	
	400.00 500.00	0.00	253.00	400.00 500.00	0.00	0.00	0.00	0.00 0.00	
	600.00	0.00 0.00	253.00 253.00	600.00	0.00	0.00 0.00	0.00	0.00	
	675.00	0.00	253.00	675.00	0.00	0.00	0.00	0.00	Rustler
	700.00	0.00	253.00	700.00	0.00	0.00	0.00	0.00	Kustiei
	800.00	0.00	253.00	800.00	0.00	0.00	0.00	0.00	
	900.00	0.00	253.00	900.00	0.00	0.00	0.00	0.00	
	1000.00	0.00	253.00	1000.00	0.00	0.00	0.00	0.00	
	1100.00	0.00	253.00	1100.00	0.00	0.00	0.00	0.00	
	1200.00	0.00	253.00	1200.00	0.00	0.00	0.00	0.00	
	1300.00	0.00	253.00	1300.00	0.00	0.00	0.00	0.00	
	1400.00	0.00	253.00	1400.00	0.00	0.00	0.00	0.00	
	1500.00	0.00	253.00	1500.00	0.00	0.00	0.00	0.00	
	1506.00	0.00	253.00	1506.00	0.00	0.00	0.00	0.00	Salt
	1600.00	0.00	253.00	1600.00	0.00	0.00	0.00	0.00	
	1700.00	0.00	253.00	1700.00	0.00	0.00	0.00	0.00	
	1800.00	0.00	253.00	1800.00	0.00	0.00	0.00	0.00	
	1900.00	0.00	253.00	1900.00	0.00	0.00	0.00	0.00	
	2000.00	0.00	253.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
	2100.00	2.00	253.00	2099.98	-0.51	-1.67	-0.26	2.00	
	2200.00	4.00	253.00	2199.84	-2.04	-6.67	-1.05	2.00	
	2300.00	6.00	253.00	2299.45	-4.59	-15.01	-2.36	2.00	
	2400.00	8.00	253.00	2398.70	-8.15	-26.66	-4.18	2.00	
	2500.00	10.00	253.00	2497.47	-12.72	-41.62	-6.53	2.00	
	2600.00	12.00	253.00	2595.62	-18.30	-59.87	-9.40	2.00	Hold Tangent
	2700.00	12.00	253.00	2693.44	-24.38	-79.75	-12.52	0.00	
	2800.00	12.00	253.00	2791.25	-30.46	-99.63	-15.64	0.00	
	2900.00	12.00	253.00	2889.07	-36.54	-119.52	-18.76	0.00	
	3000.00	12.00	253.00	2986.88	-42.62	-139.40	-21.88	0.00	
	3100.00	12.00	253.00	3084.70	-48.70	-159.28	-25.00	0.00	
	3200.00	12.00	253.00	3182.51	-54.78	-179.16	-28.12	0.00	
	3300.00	12.00	253.00	3280.33	-60.85	-199.05	-31.24	0.00	
	3357.94	12.00	253.00	3337.00	-64.38	-210.57	-33.05	0.00	Base of Salt, Delaware
	3400.00	12.00	253.00	3378.14	-66.93	-218.93	-34.36	0.00	
	3500.00	12.00	253.00	3475.96	-73.01	-238.81	-37.48	0.00	
	3600.00	12.00	253.00	3573.77	-79.09	-258.69	-40.60	0.00	
	3700.00	12.00	253.00	3671.59	-85.17	-278.58	-43.72	0.00	
	3800.00	12.00	253.00	3769.40	-91.25	-298.46	-46.84	0.00	
	3900.00	12.00	253.00	3867.22	-97.33	-318.34	-49.96	0.00	
	4000.00	12.00	253.00	3965.03	-103.41	-338.22	-53.09	0.00	
	4100.00	12.00	253.00	4062.84	-109.49	-358.11	-56.21	0.00	
	4200.00	12.00	253.00	4160.66	-115.56	-377.99	-59.33	0.00	
	4300.00	12.00	253.00	4258.47	-121.64	-397.87	-62.45	0.00	
	4400.00 4500.00	12.00 12.00	253.00 253.00	4356.29 4454.10	-127.72 -133.80	-417.75 -437.64	-65.57 -68.69	0.00 0.00	
	4500.00 4600.00	12.00	253.00 253.00	4454.10 4551.92	-133.80 -139.88	-437.64 -457.52	-68.69 -71.81	0.00	
	4600.00 4670.62	12.00	253.00 253.00	4551.92	-139.88	-457.52 -471.56	-71.81	0.00	Cherry Canyon
	4670.62 4700.00	12.00	253.00 253.00	4621.00 4649.73	-144.17 -145.96	-471.56 -477.40	-74.01 -74.93	0.00	Cherry Carlyon
	4700.00	12.00	253.00 253.00	4649.73 4747.55	-145.96 -152.04	-477.40 -497.29	-74.93	0.00	
	4900.00	12.00	253.00	4845.36	-152.04	-497.29	-78.05	0.00	
	4900.00 5000.00	12.00	253.00	4943.18	-164.19	-517.17	-84.29	0.00	
	5100.00	12.00	253.00	5040.99	-170.27	-556.93	-87.41	0.00	
	5200.00	12.00	253.00	5138.81	-176.35	-576.82	-90.53	0.00	
	5300.00	12.00	253.00	5236.62	-182.43	-596.70	-93.65	0.00	
	5400.00	12.00	253.00	5230.02 5334.44	-182.43	-616.58	-95.05 -96.77	0.00	
	5500.00	12.00	253.00	5432.25	-194.59	-636.46	-99.90	0.00	
	5600.00	12.00	253.00	5530.07	-200.67	-656.35	-103.02	0.00	
	5682.74	12.00	253.00	5611.00	-200.87	-672.80	-105.60	0.00	Brushy Canyon
	5700.00	12.00	253.00	5627.88	-205.70	-676.23	-105.00	0.00	Stasty carryon
	5800.00	12.00	253.00	5725.70	-206.73	-676.23	-100.14	0.00	
	5900.00	12.00	253.00	5823.51	-212.03	-715.99	-112.38	0.00	
	6000.00	12.00	253.00	5921.33	-224.98	-735.88	-115.50	0.00	
	6100.00	12.00	253.00	6019.14	-231.06	-755.76	-118.62	0.00	
	6200.00	12.00	253.00	6116.95	-237.14	-775.64	-121.74	0.00	
		. 2.00		5.10.55					
	6300.00	12.00	253.00	6214.77	-243.22	-795.53	-124.86	0.00	

Control         United 12,000,000,000,000,000,000,000,000,000,0	. =		147-17	CLANAULAR	MED 22 20 2		OM 22111			Goodatic System: LIS State Plane 1002	
Description         Description         Description         Description         Description         Description         Description           100         100         200	devon				MER 33-28-2	T FEDERAL C	OM 331H				
NO.         K2         K2         K3         K3         K4         K3         K4			-		I						
Int         C         C         C         C         C         Control           660000         120         2530         64024         2474         8452         131         120         2530         64024         2474         8453         130         120         2530         64024         2474         8453         130         130         120         2530         64024         2474         8435         100         140         120         2530         64024         2474         8435         100         140         120         2530         64024         120         2500         120         2500         19242         2445         1403         100         140         120         2500         19242         1404         1453         100         140         120         2500         19242         11042         1507         100         140         120         2500         17243         1404         11142         17474         100         140         120         2500         17344         1404         11145         1747         100         140         140         140         140         140         140         140         140         140         140         140			Design:	Permit Plan	#1					Zone: 3001 - NM East (NAD83)	
min         min         min         min         min         min         min           res         10		MD	INC	AZI	TVD	NS	EW	vs	DLS	Comment	
600.0012.0023.00606.0073.0747.5047.5074.50 <t< th=""><th>-</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Comment</th><th></th></t<>	-									Comment	
67030         1202         23.03         681.04         -27.33         -87.34         -47.44         0.00           60000         1202         23.03         681.04         -27.95         -44.34         1.00           70000         1202         23.03         681.04         -27.95         -44.34         1.00           70000         1202         23.03         702.22         -77.44         -12.35         0.00           70000         1202         23.03         702.22         -77.41         -12.35         0.00           70000         1202         23.03         702.22         -77.41         -12.35         0.00           70000         1202         23.03         77.74         -2.22         -17.14         0.00         -           70000         1202         23.03         77.74         -2.24         -17.14         0.00         -         -           70000         1202         23.03         77.74         -2.24         -17.34         0.00         -         -           81000         1202         23.03         87.47         -2.247         17.34         0.00         -         -           81000         1202         23.04											
600.0012.0023.0081.06-7.07.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0023.0073.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0072.007.20.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.00-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.00-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.00-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.70-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.70-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.70-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.70-7.43.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.7023.00-7.43.00-7.43.00-7.43.00-7.43.00710.0012.0023.0077.7023.007.74.00-7.43.00-7.40.00710.0012.0023.007.74.007.43.00-7.43.00-7.43.00710.0012.0023.0087.7017.40.00-7.40.00-7.40.00710.00											
700.0012.0020.0069.07 <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>-140.46</th><th></th><th></th><th></th></t<>								-140.46			
71000012.0025.0095.0095.1094.5494.5215.0073000012.0025.0072.0010.0014.0012.0025.0072.0073000012.0025.0072.0010.4014.0114.2112.0010.0073000012.0025.0073.0010.4014.0114.2110.0073000012.0025.0073.0034.4011.0010.0010.0073000012.0025.0073.7034.6011.33.5117.4710.0073000012.0025.0073.7036.2011.33.5117.1110.1084000012.0025.0073.7036.2011.33.5117.1110.1084000012.0025.0086.7011.1110.1310.0084000012.0025.0086.7011.1110.1310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086.7011.1114.0310.0084000012.0025.0086											
720000         7200         72000 <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>											
7400007200753007530073007101710176307101 <t< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
75000											
Proteom         12.00         23.03         748.63         32.32         17.38         14.65         0.0           Proteom         12.00         23.03         77.81         32.03         17.38         14.75         0.00           B0000         12.00         23.03         77.75         35.62         17.33         17.17         0.00           B0000         12.00         23.03         77.75         35.62         17.33         17.14         10.0           B0000         12.00         23.03         87.75         35.82         17.33         14.15         0.00           B0000         12.00         23.03         867.84         35.18         17.133         14.15         0.00           B4000         12.00         23.03         867.85         37.82         12.33         90.00         Bene Spring 1st           B4000         12.00         23.03         867.85         13.01         12.05         0.00           B77.32         12.03         83.06         40.21         13.10         0.05         12.00         12.00           B77.32         12.03         83.06         40.23         13.10         0.00         12.00         12.00         12.00         1											
77000         1200         2300         75418         34340         1937         17167         0.00           79000         120         2300         777381         3440         11135         17179         0.00           81000         120         2300         77752         3456         11333         18115         0.00           81000         120         2300         77754         3556         11333         18115         0.00           80000         120         2300         87725         1239         19142         0.00           80000         120         2300         86161         37169         1228         19352         0.00           80000         120         2300         86616         3811         1228         19564         0.00           80000         155         2300         85669         4019         1321         200         port Verktal           80000         155         2300         85669         4019         1351         200         port Verktal           90000         75         2300         8569         4019         1351         200         port Verktal           90000         155         2300 <th></th> <td></td>											
P30000P3000P3783P3048P11325P1749D.00P10000P200P303P7754P3526P11331P1181D.01P10000P200P303P3754P3526P11331P1727D.01P30000P200P303P3036P1033P1042D.01P1041P42246P103P3038P1035P1035P1034P1041P1041P42246P102P318P323P1052P1042P1041P1041P60000P102P318P323P352P1054P1041P1041P60000P102P318P323P352P1054P1041P1041P71733P103P318P3184P1242P1042P1041P1041P0000P15P310P3564P3131P3154P204P1041P0000P15P310P3564P3131P3154P314P3145P0000P15P310P3564P3131P3145P3145P3145P0000P15P310P3154P3131P3145P3145P3145P0000P15P310P3154P3131P3145P3145P3145P1000P15P3104P3145P3145P3145P3145P3145P1000P15P3145P3145P3145P3145P3145P1000P15P3145P3145P3145P3145P3145P1000P15P3145P3145											
80000         1200         2500         777.4         4564         413.31         17.91         0.00           82000         1200         2530         873.4         352.4         113.31         147.15         0.00           84000         1200         253.0         871.00         -563.0         173.07         121.03         193.91         0.00           84000         1200         253.0         866.0         -765.7         123.22         196.4         0.00           87000         1200         253.0         866.1         -383.1         120.22         196.4         0.00           87000         1200         253.0         866.4         -383.1         120.22         196.4         0.00           970000         7.5         253.0         867.4         -401.1         200.5         2.00           970000         7.5         253.0         876.4         -401.5         -313.1         2.00         2.00           970000         7.5         253.0         876.4         -401.5         -315.0         2.00         400.00         556.1         2.00.0         410.00         -401.5         -401.5         -401.5         -401.5         -401.5         -401.5         -4		7800.00	12.00	253.00	7681.99			-171.67	0.00		
81000012.0082.00797.6492.8293.7891.71.3091.81.3091.72.7000083000012.0025.008310097.2812.73.019.13.1019.12.701008412.4412.0025.00830.0097.5912.73.219.92.4100100pone Spring 1st8000012.0025.00867.6097.5912.22.8319.52.419.321008000012.0025.00867.7529.8112.80.920.711001001008777.2215.00857.8087.8440.0513.00.11001001001009000095.525.0087.8440.0513.00.1100100100100100977.7215.0087.8087.8041.81.113.81.220.71100100100970.0015.525.0097.6041.81.113.81.220.71100100100970.0115.525.0097.6041.91.113.7321.150.00100100100966740.125.0097.6041.1113.7421.150.00100100100100966740.125.0097.6041.1113.7421.150.00100											
82000120082008073.2373.30184.15000840001200830.0826.88370.7123.09190.39000840001200250.0836.69972.87123.29193.20000850001200250.0846.1383.01122.23195.20000870001200250.0867.2393.81180.9002.17000870001550250.0876.4935.11127.21197.6100080000155250.0875.4400.51130.10205.62009000075.5250.0875.6400.51130.31205.52009000055.5250.0875.6410.51413.24201.200090000155250.0975.7410.51131.4220120190000155250.0975.6410.11137.9521.150090000156250.9956.741.11137.9521.1500977.2000156.9956.941.11137.9521.150090000155250.0975.0141.9721.150090000156956.9975.0141.9721.150090000154250.5975.0141.9721.1510090000154250.5975.0154.9721.00141.1490000154.9956.9975.0154.9710.											
BAD00012.0025.0087.0137.4137.270.0064.22412.0025.00830.0037.6712.9219.320.0064.22412.0025.0086.0137.6512.2219.320.00600.0012.0025.0086.7537.2219.320.00777.3212.0025.0086.7537.81-28.0010.00877.3212.0025.0086.75-37.81-28.0010.00900.0095.525.0087.84-30.00-35.1013.00-20.5120.00900.0095.525.0087.84-40.00-35.10-35.00-36.00-30.0097.7161.025.0089.50-41.81-31.42-20.74-20900.0035.525.0090.57-41.51-31.42-21.74-2097.7161.025.0095.67-41.51-31.42-21.74-2099.0035.525.0095.67-41.51-31.47-21.15-0099.0035.625.0095.67-41.14-31.47-21.15-0099.0054.235.6195.61-41.21-31.475-21.15-0099.0054.235.6195.61-41.21-31.475-21.15-0099.0054.235.6197.00-25.62-35.61-35.61-25.6299.0054.235.6197.00-16.43-16.4410.00 <t< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
9422412.0023.0083.0483.0412.12.8712.12.8191.420.000		8300.00	12.00	253.00	8171.06	-364.80	-1193.18	-187.27	0.00		
8500.00         12.00         23.00         846.69         378.30         193.52         0.00           8700.00         12.00         23.00         846.23         383.81         1272.71         199.76         0.00           8700.00         15.55         23.00         867.37         939.16         122.05         122.06         2.00           8700.00         75.5         23.00         875.44         -400.51         131.00         2.05         2.00           9900.00         75.5         23.00         875.35         -404.66         -132.22         2.01         Bone Spring 2nd           9100.0         55.5         23.00         987.27         -11.01         -134.27         -20.12         2.00           9200.0         35.5         23.00         985.69         -01.445         -21.1.0         2.00           9300.0         35.5         23.00         985.69         -21.1.1         -134.67         1.00           9400.0         0.00         35.49         92.00         41.2.1         1.41.99         -21.1.6         0.00           9400.00         5.42         39.59         93.63         -31.42.7         -11.40         0.00           9400.00         5.42 <th></th> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Deve Colleg Ant</td> <td></td>										Deve Colleg Ant	
8000012.0023.0086.4538.331.22.23196.640.008777.3212.0023.0086.75-38.111.28.00-02.170.008700.0017.5523.0086.01-39.56-22.17-0.021008000.007.5523.0087.57-40.46-131.01-02.612.009072.176.1023.0087.50-40.46-131.01-02.612.009072.176.1023.0097.53-40.46-131.24-20.742.009070.005.5523.0095.67-41.11-131.21-20.712.00900.001.5523.0095.67-41.11-134.25-21.02-20.019200.001.5523.0095.67-41.11-134.75-21.052.009400.000.0035.6195.61-314.75-21.00-009400.001.5435.61-134.75-11.500.009400.005.4235.61-134.75-131.051009400.005.4235.61-134.75-131.051009400.005.4235.6196.55-134.87-05.621009400.005.4235.6197.7515.43130.67100.029400.005.4235.6197.7515.43130.67100.029400.005.4235.6197.7515.43130.67100.029400.005.4235.9197.7515.43										bone spring ist	
87000         97732         200         95208         95242         -12804         -200         Popo Iverkical           88000         975         2530         85744         -001         1700         200         Popo Iverkical           99000         75         2530         85735         -1300         -1300         200         Popo Iverkical           99000         75         2530         85735         -0104         -13242         -2014         200           91000         55         2530         9567         -0101         -13247         200         And Popo Iverkical           91000         155         2530         95527         -0111         -13247         201         200           93000         152         2530         9520         -1111         -13479         -2115         200         Hold Verkial           94000         0.00         3561         95200         4121         13479         -2115         200         Hold Verkial           94000         5.42         3561         94501         -13479         -2115         200         Hold Verkial           95000         5.42         3561         94502         13467         13480 <t< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
880000         11.5         25.00         856.016         -120.24         -20.26         2.00           990000         7.5         25.00         857.35         -014.06         -132.42         -207.44         2.00           9072.17         6.10         253.00         895.69         -400.16         -132.42         -209.51         2.00           900000         5.55         25.00         995.67         -101.01         -134.27         -210.74         2.00           910000         5.55         25.00         952.67         -111.1         -134.95         -211.54         2.00           9366.74         0.21         253.00         923.00         -111.11         -134.95         -211.55         2.00           940000         0.00         356.61         925.26         -121.11         -134.95         -211.57         0.00           950000         5.42         356.61         956.61         -134.87         -134.95         11.10         10.00           960000         5.42         356.61         956.81         -134.867         10.00         5.42         356.61         956.81         -134.867         10.00         5.42         356.61         956.25         -134.867         10.00		8700.00	12.00	253.00	8562.32	-389.11	-1272.71	-199.76	0.00		
9900009.558.53978.4691009.7582.00910009.752.300987.309135.139.097.22.009070176.102.5193.009.552.30905.63-131.61-210.742.009300001.552.30905.63-111.81-134.12-211.642.009300001.512.30915.22-111.81-134.95-211.642.00937.720.002.956922.30-112.11-134.95-211.562.00941.670.013.9561922.62-121.11-134.95-211.560.00944.570.003.9561922.62-121.11-134.95-211.570.00944.570.003.9561923.51-419.55-134.970.00KoP9600001.5423.9561930.00-134.13-134.97-115.621.009600001.5423.9561930.00-141.81-134.95-115.621.009600001.5423.9561963.00-144.971.05.411.009600001.5423.9561963.00-144.971.00-145.41100000055423.9561977.05-135.241.00100000055423.9561977.05-135.241.00100000055423.9561975.001.352.91.3521.0010000005541975.001.352.91.352.91.0010000009561 <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Drop to Vertical</td><td></td></td<>										Drop to Vertical	
90000         7.5         25.0         887.3         -048.6         -132.42         -077.44         200           91000         5.55         25.0         950.0         -133.42         -005.5         200           920000         3.55         25.0         956.3         -134.2         -005.5         200           9306.44         0.15         25.00         956.3         -114.0         -134.2         -211.40         200           9306.44         0.15         25.00         25.30         92.23         -11.11         -134.79         -211.55         200         Hold Vertical           9400.00         0.00         39.61         925.62         -11.21         134.79         -201.55         0.00           9500.00         54.2         39.61         935.04         -12.11         134.79         -201.2         100           9500.00         54.2         39.61         954.40         39.44         -134.81         -156.2         100           9600.00         54.2         39.61         97.17         16.10         -136.54         100           9700.00         54.2         39.61         97.10         -135.54         136.54         10.00           9700.00 <th></th> <td></td>											
9100.00         5.55         253.00         8956.60         -406.19         -133.13         -2005.50         2.00           9200.00         1.55         253.00         9056.37         -411.81         -1346.95         -211.40         2.00           9366.74         0.21         253.00         9223.00         -412.10         -1347.93         -211.55         2.00         Hold Ventical           9400.00         0.00         355.61         925.62         -412.11         -1347.95         -211.55         0.00           9405.00         0.00         355.61         925.62         -412.11         -1347.95         -201.50         0.00           9500.00         5.42         355.61         950.60         -534.63         -1348.33         -156.62         1.00           9600.00         5.42         355.61         963.40         -306.66         -1348.33         -136.62         1.00           9700.00         2.54.2         355.61         971.05         -131.37         -343.61         31.924         1.00           1000.00         55.42         355.61         977.50         15.63         315.85         31.05         1.00           1000.00         90.00         355.61         977.50											
920009155935090543791427192142792145200930671021233092330412.1013473921156200Hole Vertical930732000353692336412.11134739211560.00Hole Vertical9400000035369302.40412.11134739211570.00Hole Vertical9415790.00353619302.40412.11134739211570.00KOP95000015.4235361945.40-314.63156.210.00SA96000015.42359.61947.92-115.02100SA99000054.2359.61971.79-144.33156.21100100000054.2359.61977.39164.33-135.15310.56100100000054.2359.61977.39164.33-135.15310.56100100000054.2359.61977.3915.01153.54100100000000035.61977.9015.05135.79100103000000035.61977.9015.05135.79100104300090035.61977.9015.04135.45100105000090035.61977.9015.04135.45100106000090035.61977.9015.04135.45100.70107000035.61977.9015.04135.4590.7015.45 <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>Bone Spring 2nd</th><th></th></td<>										Bone Spring 2nd	
93000         15.5         23.00         9232.00         -412.0         -1346.95         -211.56         200           9367.42         0.00         233.00         9232.00         412.11         -1347.95         -211.57         200         Hold Ventcal           90000         0.00         39.61         926.62         -412.11         -1347.95         -211.57         0.00           950000         5.42         39.61         930.24         -112.11         -1347.95         -211.57         0.00           950000         5.42         39.61         930.40         -36.66         -1348.73         -156.2         1.00           970000         5.42         39.61         971.15         -241.31         -1348.67         10.00           990000         5.42         39.61         971.15         -241.31         -1348.17         -48.41         10.00           100000         5.42         39.61         973.07         164.33         -136.62         10.00           100000         5.42         39.61         973.00         150.5         -1352.22         19.84         10.00           100000         9.00         39.61         975.00         151.50         -1352.23         10.00 </th <th></th>											
986.7         0.21         23300         923.08         -1210         -1347.93         -211.55         2.00         Hold Vertical           9977.32         0.00         359.61         923.58         -11211         -1347.95         -211.55         0.00         Hold Vertical           9940.00         0.00         359.61         926.26         -11211         -1347.95         -211.57         0.00         KOP           9900.00         15.42         359.61         955.04         -55.63         -134.83         -156.62         100           9900.00         35.42         359.61         944.07         -301.66         -134.67         -106.54         100           9900.00         35.42         359.61         947.10         -241.31         -134.81         -146.44         3.82           1000.00         65.42         359.61         977.39         -156.24         -130.0         -         -         -           10100.00         65.42         359.61         977.39         -156.24         -130.2         100         -         -           10300.00         85.42         359.61         975.00         150.4         -135.29         50.57         -00.2         -           104											
9400.00.0035561952.62-412.11-1347.95-211.570.00KCP9500.005.42356.61935.18-095.5-1347.97-209.0210.009600.0015.42355.61945.40-391.48-134.09191.1310.009700.0025.42355.61945.40-305.63-1348.6710.05.5410.009900.0035.42355.61971.31-1349.12-42.4110.0010000.0055.42355.61977.37-1349.6433.8210.0010000.0055.42355.61987.50-177.48-1350.23119.4410.0010200.0075.42355.61987.50-156.241350.5610.00-10300.0085.42355.61987.50115.64-1355.6310.00-10300.0085.42355.61987.50115.04-1355.22409.5410.0010300.0090.00355.61987.50151.54130.5510.0010500.0090.00355.61987.50151.54130.5610.0010500.0090.00355.61987.50151.54130.8710.0010600.0090.00355.61987.50151.54130.8710.0011000.0090.00355.61987.50151.54130.8710.0011000.0090.00355.61987.50151.54130.8710.0011000.0090.00355.61987.50151.54<										3rd Bone Spring Lime / Point of Penetration	
9445,790.00855.61935.61935.61-447.211347.95-211.570.00KOP9500.0015.42355.61935.61-949.43-1344.09-191.1310.009700.0025.42355.61964.40-366.63-134.83155.6210.009900.0045.42359.61971.01-241.31-134.91.242.4110.001000.0055.42355.61972.77-164.33-134.6433.8210.0010100.0055.42355.61963.12-175.48-135.18310.0210200.0075.42355.61967.10-151.54310.6510.0010300.0075.42355.61967.50155.0515.6210.0010300.00355.61967.50151.55-135.2240.9510.0010300.00355.61967.50155.05-135.2250.8510.0010300.00355.61967.50155.64-135.4530.0610400.0090.00355.61967.50155.6390.70.0010600.0090.00355.61975.00155.04-135.4580.570.0010900.0090.00355.61975.00155.04-135.4510.0210900.0090.00355.61975.00155.03130.740.0011000.0090.00355.61975.00155.03130.740.0011000.0090.00355.61975.00155.02136.70100.7		9377.32	0.00	253.00	9233.58	-412.11	-1347.95	-211.57	2.00	Hold Vertical	
95000       5.42       359.61       945.81       -09.05       -1347.97       -209.02       10.00         9600.00       15.42       359.61       948.00       -314.80       -191.13       10.00         9700.00       35.42       359.61       954.00       -136.43       -134.66       -106.54       10.00         9000.00       45.42       359.61       971.37       -164.33       -134.64       -136.22       10.00         10000.00       65.42       359.61       973.70       -164.33       -1350.23       119.84       10.00         10200.00       65.42       359.61       973.70       166.30       1350.23       119.84       10.00         10300.00       85.42       350.61       987.50       16.62       1350.23       10.00       10.00         10343.07       90.00       359.61       987.50       15.158       355.85       10.00       10.00         10400.00       90.00       359.61       987.50       15.154       135.29       50.857       0.00         10600.00       90.00       359.61       987.50       15.52       70.56       10.00       10.00         10700.00       90.00       359.61       987.50											
9600.00       15.42       359.61       946.400       -356.63       -191.13       10.00         9700.00       25.42       359.61       964.10       -356.63       -134.83       156.62       10.00         9900.00       45.42       359.61       961.10       -241.31       -349.12       -42.41       10.00         1000.00       65.42       359.61       971.70       -241.31       -134.94       33.20       10.00         11000.00       65.42       359.61       987.50       164.33       1350.67       131.00       10.00         10200.00       75.42       359.61       987.50       115.0       -135.54       10.50       10.00         10300.00       854.2       359.61       987.50       15.50       135.29       50.87       10.00         10400.00       90.00       359.61       987.50       15.50       135.29       50.87       10.00         10500.00       90.00       359.61       987.50       15.54       15.54       15.04       135.56       10.00         10600.00       90.00       359.61       987.50       15.54       15.54       10.00       15.10       135.24       15.00       15.10       135.54       10.0										КОР	
9800.0035.42359.61963.41.2-306.06-1348.67-106.5410.009900.0045.42355.61977.37-16.33-1349.6433.2210.001000.0065.42359.61982.309-77.48-135.023119.8410.0010200.0075.42355.61987.50155.54-135.1510.5610.0010300.0065.42359.61987.50155.54-135.1510.5610.0010304.0085.42355.61987.50150.50-135.2220.570.0010304.0090.00359.61987.500315.50-135.2220.570.0010600.0090.00359.61987.500315.50-135.4210.0010600.0090.00359.61987.500315.50-135.4210.0010700.0090.00359.61987.500155.04-135.4980.670.0010800.0090.00359.61987.500155.05-135.6910.0011000.0090.00359.61987.500155.05-135.6910.0011000.0090.00359.61987.500155.05-135.6910.0011000.0090.00359.61987.500115.02-135.6410.0011000.0090.00359.61987.500115.02-135.901398.860.0011000.0090.00359.61987.500115.02-136.74120.0011000.0090.00359.6198											
9900.0045.42359.619710.15-241.31-1349.12-42.4110.001000.0055.42359.619773.79-16.43-138.0210.001020.0075.42359.61985.5516.62-135.02113.0210.001030.0085.42359.619875.0016.62-135.0810.0010.001030.0090.00359.619875.00105.05-135.1835.5510.00Landing Point1040.0090.00359.619875.00151.05-135.22409.540.0010600.0090.00359.619875.00151.54-135.280.0010700.0090.00359.619875.00415.04-135.560.0010700.0090.00359.619875.00415.04-135.560.0010700.0090.00359.619875.00415.04-135.560.0010700.0090.00359.619875.00115.03-135.290.0011000.0090.00359.619875.00115.03-135.6390.700.0011000.0090.00359.619875.00115.03-135.6390.700.0011000.0090.00359.619875.00115.03-135.6390.700.0011000.0090.00359.619875.00115.03-135.93100.8011000.0090.00359.619875.00115.03-136.94100.8011000.0090.00359.619875.		9700.00	25.42	359.61	9548.00	-356.63	-1348.33	-156.62	10.00		
100000         55.42         359.61         977.79         -164.33         -1349.64         33.82         10.00           110000         65.42         359.61         9825.05         -177.48         -1350.23         119.84         10.00           1020000         75.42         359.61         985.65         16.62         -1350.87         213.03         10.00           1030000         85.42         359.61         9875.00         115.01         -1351.55         355.81         10.00           10400.00         90.00         359.61         9875.00         215.05         -1352.27         409.54         0.00           10500.00         90.00         359.61         9875.00         15.05         -1352.27         508.57         0.00           10600.00         90.00         359.61         9875.00         15.04         -1354.57         0.00           10700.00         90.00         359.61         9875.00         15.04         -1354.56         90.47         0.00           11000.00         90.00         359.61         9875.00         15.03         -1356.3         90.7         0.00           11000.00         90.00         359.61         9875.00         15.03         -1356.3											
101000065.42359.61982.309-77.48-1350.23119.8410.0010200.0075.42359.61985.5516.62-1350.87213.0310.0010303.0085.42359.61987.5016.03-1351.54310.5610.0010345.7990.00359.61987.500215.05-1352.22409.540.0010500.0090.00359.61987.500215.05-1352.22409.540.0010600.0090.00359.61987.500415.04-1353.5800.670.0010600.0090.00359.61987.500415.04-1354.54807.610.0010900.0090.00359.61987.500415.04-1354.53904.700.0010900.0090.00359.61987.500715.04-135.63904.700.0011000.0090.00359.61987.50015.03-135.63100.740.0011000.0090.00359.61987.500115.03-135.63100.740.0011000.0090.00359.61987.500115.03-135.64100.800.0011000.0090.00359.61987.500115.02-136.91100.800.0011000.0090.00359.61987.500115.02-136.91100.800.0011000.0090.00359.61987.500115.02-136.91199.900.0011000.0090.00359.61987.500115.02 <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>											
103000085.42359.619873.07115.10-1351.85355.6510.00Landing Point10400.0090.00359.619875.00215.05-1352.20409.540.0010500.0090.00359.619875.00215.05-1352.20508.570.0010600.0090.00359.619875.00415.04-1353.28607.610.0010700.0090.00359.619875.00515.04-1354.27706.640.0010800.0090.00359.619875.00515.04-1354.27706.640.0010900.0090.00359.619875.00151.04-1355.31100.70.0010900.0090.00359.619875.00115.03-1356.31102.770.0011000.0090.00359.619875.00115.03-1358.451309.860.0011200.0090.00359.619875.00115.02-1359.711498.900.0011300.0090.00359.619875.00115.02-1361.481597.930.0011600.0090.00359.619875.00115.02-1361.481597.930.0011600.0090.00359.619875.00115.02-1361.481597.930.0011600.0090.00359.619875.00115.02-1361.481597.930.0011600.0090.00359.619875.00115.02-1361.481597.930.0011600.0090.00359.61											
10345.7990.00359.619875.00160.83-1351.85355.8510.00Landing Point10400.0090.00359.619875.00215.05-1352.22409.540.0010500.0090.00359.619875.00315.05-1352.95607.610.0010700.0090.00359.619875.00415.04-1353.58607.610.0010700.0090.00359.619875.00615.04-1354.95805.670.0010900.0090.00359.619875.00715.04-1355.63904.700.0011000.0090.00359.619875.00715.04-1355.63904.700.0011100.0090.00359.619875.00915.03-1355.911003.740.0011100.0090.00359.619875.00115.03-1355.63100.8111100.0090.00359.619875.00115.03-1357.07120.80111300.0090.00359.619875.00115.02-1359.711498.900.0011100.0090.00359.619875.00115.02-1361.401597.930.0011100.0090.00359.619875.00115.02-1361.401597.930.0011100.0090.00359.619875.00115.02-1361.401595.930.0011100.0090.00359.619875.00115.02-1361.401595.930.0011100.0090.00359.619875.00 <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>											
10400.00       90.00       359.61       9875.00       215.05       -1352.22       409.54       0.00         10500.00       90.00       359.61       9875.00       315.05       -1352.90       508.57       0.00         10600.00       90.00       359.61       9875.00       515.04       -1353.58       607.61       0.00         10700.00       90.00       359.61       9875.00       515.04       -1354.27       706.64       0.00         10800.00       90.00       359.61       9875.00       515.04       -1354.27       706.64       0.00         10900.00       90.00       359.61       9875.00       715.04       -1354.95       805.67       0.00         11000.00       90.00       359.61       9875.00       715.04       -1356.39       1002.77       0.00         11100.00       90.00       359.61       9875.00       115.03       -1356.39       1002.77       0.00         11200.00       90.00       359.61       9875.00       115.02       -1359.03       1398.6       0.00         11300.00       90.00       359.61       9875.00       115.02       -1359.03       1398.6       0.00         1160.00       90.00 <td< th=""><th></th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>											
10500.0090.00359.619875.00315.05-1352.90508.570.0010600.0090.00359.619875.00415.04-1353.88607.610.0010700.0090.00359.619875.00515.04-1354.95805.670.0010900.0090.00359.619875.00515.04-1355.63904.700.0011000.0090.00359.619875.00715.04-1355.63904.700.0011000.0090.00359.619875.00915.03-1356.931003.740.0011200.0090.00359.619875.00115.03-1356.931002.770.0011200.0090.00359.619875.00115.03-1358.35130.830.0011300.0090.00359.619875.00115.02-1359.711201.800.0011400.0090.00359.619875.00115.02-1359.711498.900.0011500.0090.00359.619875.001515.02-1361.081695.950.0011700.0090.00359.619875.001515.02-1361.081695.950.0011800.0090.00359.619875.001715.01-1362.441895.330.0011900.0090.00359.619875.001715.01-1364.82199.900.0012000.0090.00359.619875.001715.01-1364.48195.190.0012000.0090.00359.619875.00										Landing Point	
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1090.0090.00359.619875.00715.04-1355.63904.700.001100.0090.00359.619875.00815.03-1356.311003.740.0011100.0090.00359.619875.00915.03-1356.991102.770.0011200.0090.00359.619875.001015.03-1356.771201.800.0011300.0090.00359.619875.00115.03-1358.351308.330.0011400.0090.00359.619875.001215.02-1359.031399.860.0011500.0090.00359.619875.001315.02-1360.401597.930.0011600.0090.00359.619875.001415.02-1360.401597.930.0011700.0090.00359.619875.001615.02-1361.761795.990.0011800.0090.00359.619875.001615.02-1361.761795.990.0011900.0090.00359.619875.001615.02-1361.761795.990.001200.0090.00359.619875.001815.01-1362.441895.030.001200.0090.00359.619875.001915.01-1364.482192.120.001200.0090.00359.619875.002015.01-1365.162291.160.001200.0090.00359.619875.002115.00-1365.852390.190.001200.0090.00359.619											
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11400.0090.00359.619875.001215.02-1359.031399.860.0011500.0090.00359.619875.001315.02-1359.711498.900.0011600.0090.00359.619875.001415.02-1360.401597.930.0011700.0090.00359.619875.001515.02-1361.081696.960.0011800.0090.00359.619875.001615.02-1361.761795.990.0011900.0090.00359.619875.001715.10-1363.121994.060.0012000.0090.00359.619875.001915.01-1363.802093.090.0012100.0090.00359.619875.002015.01-1365.162291.160.0012200.0090.00359.619875.002115.00-1365.162291.160.0012300.0090.00359.619875.002115.00-1365.162291.160.0012400.0090.00359.619875.002115.00-1365.162291.160.0012400.0090.00359.619875.00215.00-1365.552390.190.0012500.0090.00359.619875.00215.00-1365.552390.190.0012600.0090.00359.619875.00215.00-1365.552390.190.0012600.0090.00359.619875.00215.00-1365.552390.190.0012600.0090.00359.61 </th <th></th> <td></td>											
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11900.0090.00359.619875.001715.01-1362.441895.030.0012000.0090.00359.619875.001815.01-1363.121994.060.0012100.0090.00359.619875.001915.01-1363.802993.090.0012200.0090.00359.619875.002015.01-1364.482192.120.0012300.0090.00359.619875.002015.01-1365.162291.160.0012400.0090.00359.619875.002215.00-1365.852390.190.0012500.0090.00359.619875.002215.00-1365.352489.220.0012600.0090.00359.619875.002415.00-1365.322489.220.00											
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12400.00 90.00 359.61 9875.00 2215.00 -1365.85 2390.19 0.00 12500.00 90.00 359.61 9875.00 2315.00 -1366.53 2489.22 0.00 12600.00 90.00 359.61 9875.00 2415.00 -1367.21 2588.25 0.00				359.61	9875.00	2015.01		2192.12	0.00		
12500.00 90.00 359.61 9875.00 2315.00 -1366.53 2489.22 0.00 12600.00 90.00 359.61 9875.00 2415.00 -1367.21 2588.25 0.00											
12600.00 90.00 359.61 9875.00 2415.00 -1367.21 2588.25 0.00											
		12700.00	90.00	359.61	9875.00	2514.99	-1367.89	2687.28	0.00		

		Well: County: Wellbore:	Eddy	MER 33-28-2	1 FEDERAL C	COM 331H			Geodetic System: US State Plane 1983 Datum: North American Datum 1927 Ellipsoid: Clarke 1866
			Permit Plar Permit Plar						Zone: 3001 - NM East (NAD83)
MD	)	INC	AZI	TVD	NS	EW	vs	DLS	Comment
(ft) 12800		(°) 90.00	(°) 359.61	(ft) 9875.00	(ft) 2614.99	(ft) -1368.57	(ft) 2786.32	(°/100ft) 0.00	
12900		90.00	359.61	9875.00	2714.99	-1369.25	2885.35	0.00	
13000		90.00	359.61	9875.00	2814.99	-1369.93	2984.38	0.00	
13100	0.00	90.00	359.61	9875.00	2914.99	-1370.61	3083.41	0.00	
13200	0.00	90.00	359.61	9875.00	3014.98	-1371.30	3182.45	0.00	
13300		90.00	359.61	9875.00	3114.98	-1371.98	3281.48	0.00	
13400		90.00	359.61	9875.00	3214.98	-1372.66	3380.51	0.00	
13500 13600		90.00 90.00	359.61 359.61	9875.00 9875.00	3314.98 3414.97	-1373.34 -1374.02	3479.54 3578.57	0.00 0.00	
13700		90.00	359.61	9875.00 9875.00	3514.97	-1374.02	3677.61	0.00	
13800		90.00	359.61	9875.00	3614.97	-1375.38	3776.64	0.00	
13900	00.0	90.00	359.61	9875.00	3714.97	-1376.06	3875.67	0.00	
14000	0.00	90.00	359.61	9875.00	3814.96	-1376.74	3974.70	0.00	
14100		90.00	359.61	9875.00	3914.96	-1377.43	4073.74	0.00	
14200		90.00	359.61	9875.01	4014.96	-1378.11	4172.77	0.00	
14300		90.00	359.61	9875.01	4114.96	-1378.79	4271.80	0.00	
14400 14500		90.00 90.00	359.61 359.61	9875.01 9875.01	4214.96 4314.95	-1379.47 -1380.15	4370.83 4469.87	0.00 0.00	
14500		90.00	359.61	9875.01	4314.95	-1380.83	4469.87 4568.90	0.00	
14700		90.00	359.61	9875.01	4514.95	-1381.51	4667.93	0.00	
14800		90.00	359.61	9875.01	4614.95	-1382.19	4766.96	0.00	
14900		90.00	359.61	9875.01	4714.94	-1382.88	4865.99	0.00	
15000		90.00	359.61	9875.01	4814.94	-1383.56	4965.03	0.00	
15100		90.00	359.61	9875.01	4914.94	-1384.24	5064.06	0.00	
15200		90.00	359.61	9875.01	5014.94	-1384.92 -1385.60	5163.09	0.00	
15300 15400		90.00 90.00	359.61 359.61	9875.01 9875.01	5114.93 5214.93	-1385.60	5262.12 5361.16	0.00 0.00	
15500		90.00	359.61	9875.01	5314.93	-1386.96	5460.19	0.00	
15600		90.00	359.61	9875.01	5414.93	-1387.64	5559.22	0.00	
15700	0.00	90.00	359.61	9875.01	5514.93	-1388.33	5658.25	0.00	
15800	00.0	90.00	359.61	9875.01	5614.92	-1389.01	5757.29	0.00	
15900		90.00	359.61	9875.01	5714.92	-1389.69	5856.32	0.00	
16000		90.00	359.61	9875.01	5814.92	-1390.37	5955.35	0.00	
16100 16200		90.00 90.00	359.61 359.61	9875.01 9875.01	5914.92 6014.91	-1391.05 -1391.73	6054.38 6153.41	0.00 0.00	
16300		90.00	359.61	9875.01 9875.01	6114.91	-1391.73	6252.45	0.00	
16400		90.00	359.61	9875.01	6214.91	-1393.09	6351.48	0.00	
16500		90.00	359.61	9875.01	6314.91	-1393.77	6450.51	0.00	
16600	00.0	90.00	359.61	9875.01	6414.90	-1394.46	6549.54	0.00	
16700		90.00	359.61	9875.01	6514.90	-1395.14	6648.58	0.00	
16800		90.00	359.61	9875.01	6614.90	-1395.82	6747.61	0.00	
16900		90.00	359.61	9875.01	6714.90	-1396.50	6846.64	0.00	
17000 17100		90.00 90.00	359.61 359.61	9875.01 9875.01	6814.90 6914.89	-1397.18 -1397.86	6945.67 7044.70	0.00 0.00	
17200		90.00	359.61	9875.01 9875.01	7014.89	-1398.54	7143.74	0.00	
17300		90.00	359.61	9875.01	7114.89	-1399.22	7242.77	0.00	
17400		90.00	359.61	9875.01	7214.89	-1399.91	7341.80	0.00	
17500		90.00	359.61	9875.01	7314.88	-1400.59	7440.83	0.00	
17600		90.00	359.61	9875.01	7414.88	-1401.27	7539.87	0.00	
17700 17800		90.00	359.61	9875.01	7514.88	-1401.95	7638.90	0.00	
17800		90.00 90.00	359.61 359.61	9875.01 9875.01	7614.88 7714.87	-1402.63 -1403.31	7737.93 7836.96	0.00 0.00	
18000		90.00	359.61	9875.01 9875.01	7814.87	-1403.51	7936.00	0.00	
18100		90.00	359.61	9875.01	7914.87	-1404.67	8035.03	0.00	
18200		90.00	359.61	9875.01	8014.87	-1405.36	8134.06	0.00	
18300		90.00	359.61	9875.01	8114.86	-1406.04	8233.09	0.00	
18400		90.00	359.61	9875.01	8214.86	-1406.72	8332.12	0.00	
18500		90.00	359.61	9875.01	8314.86	-1407.40	8431.16	0.00	
18600		90.00	359.61	9875.01	8414.86	-1408.08	8530.19	0.00	
18700 18800		90.00 90.00	359.61 359.61	9875.01 9875.01	8514.86 8614.85	-1408.76 -1409.44	8629.22 8728.25	0.00 0.00	
18900		90.00 90.00	359.61	9875.01 9875.01	8714.85	-1409.44 -1410.12	8728.25 8827.29	0.00	
19000		90.00	359.61	9875.01	8814.85	-1410.12	8926.32	0.00	
19100		90.00	359.61	9875.01	8914.85	-1411.49	9025.35	0.00	
19200		90.00	359.61	9875.01	9014.84	-1412.17	9124.38	0.00	
19300		90.00	359.61	9875.01	9114.84	-1412.85	9223.42	0.00	
19400		90.00	359.61	9875.01	9214.84	-1413.53	9322.45	0.00	
19500		90.00	359.61	9875.01	9314.84	-1414.21	9421.48	0.00	
19600 19700		90.00 90.00	359.61 359.61	9875.01 9875.01	9414.83 9514 83	-1414.89 -1415.57	9520.51 9619.54	0.00	
19/00	0.00	90.00	222.01	30/ 3.01	9514.83	-1415.57	3019.54	0.00	

evon	•	County: Wellbore:			1 FEDERAL C	COM 331H	Geodetic System: US State Plane 1983 Datum: North American Datum 1927 Ellipsoid: Clarke 1866 Zone: 3001 - NM East (NAD83)			
	MD (ft) 19733.94 19800.00	INC (°) 90.00 90.00	<b>AZI</b> (°) 359.61 359.61	<b>TVD</b> (ft) 9875.01 9875.01	NS (ft) 9548.77 9614.83	<b>EW</b> (ft) -1415.80 -1416.25	VS (ft) 9653.16 9718.58	DLS (°/100ft) 0.00 0.00	Comment exit	
	19813.94	90.00	359.61	9875.00	9628.77	-1416.30	9732.37	0.00	BHL	

#### Section 2 - Blowout Preventer Testing Procedure

#### Variance Request

Devon Energy requests to only test BOP connection breaks after drilling out of surface casing and while skidding between wells which conforms to API Standard 53 and industry standards. This test will include the Top Pipe Rams, HCR, Kill Line Check Valve, QDC (quick disconnect to wellhead) and Shell of the 10M BOPE to 5M for 10 minutes. If a break to the flex hose that runs to the choke manifold is required due to repositioning from a skid, the HCR will remain open during the shell test to include that additional break. The variance only pertains to intermediate hole-sections and no deeper than the Bone Springs Formation where 5M BOP tests are required. The initial BOP test will follow OOGO2.III.A.2.i, and subsequent tests following a skid will only test connections that are broken. The annular preventer will be tested to 100% working pressure. This variance will meet or exceed OOGO2.III.A.2.i per the following: Devon Energy will perform a full BOP test per OOGO2.III.A.2.i before drilling out of the intermediate casing string(s) and starting the production hole, before starting any hole section that requires a 10M test, before the expiration of the allotted 14-days for 5M intermediate batch drilling or when the drilling rig is fully mobilized to a new well pad, whichever is sooner. We will utilize a 200' TVD tolerance between intermediate shoes as the cutoff for a full BOP test. The BLM will be contacted 4hrs prior to a BOPE test. The BLM will be notified if and when a well control event is encountered. Break test will be a 14 day interval and not a 30 day full BOPE test interval. If in the event break testing is not utilized, then a full BOPE test would be conducted.

1. Well Control Response:

1. Primary barrier remains fluid

2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:

- a) Annular first
- b) If annular were to not hold, Upper pipe rams second (which were tested on the skid BOP test)
- c) If the Upper Pipe Rams were to not hold, Lower Pipe Rams would be third

A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 5,000 psi WP.

Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

Separator

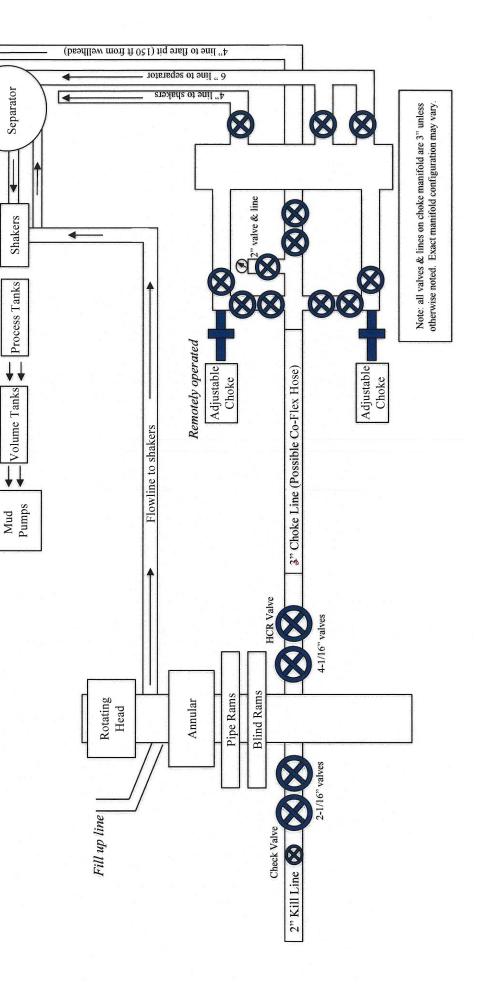
Shakers

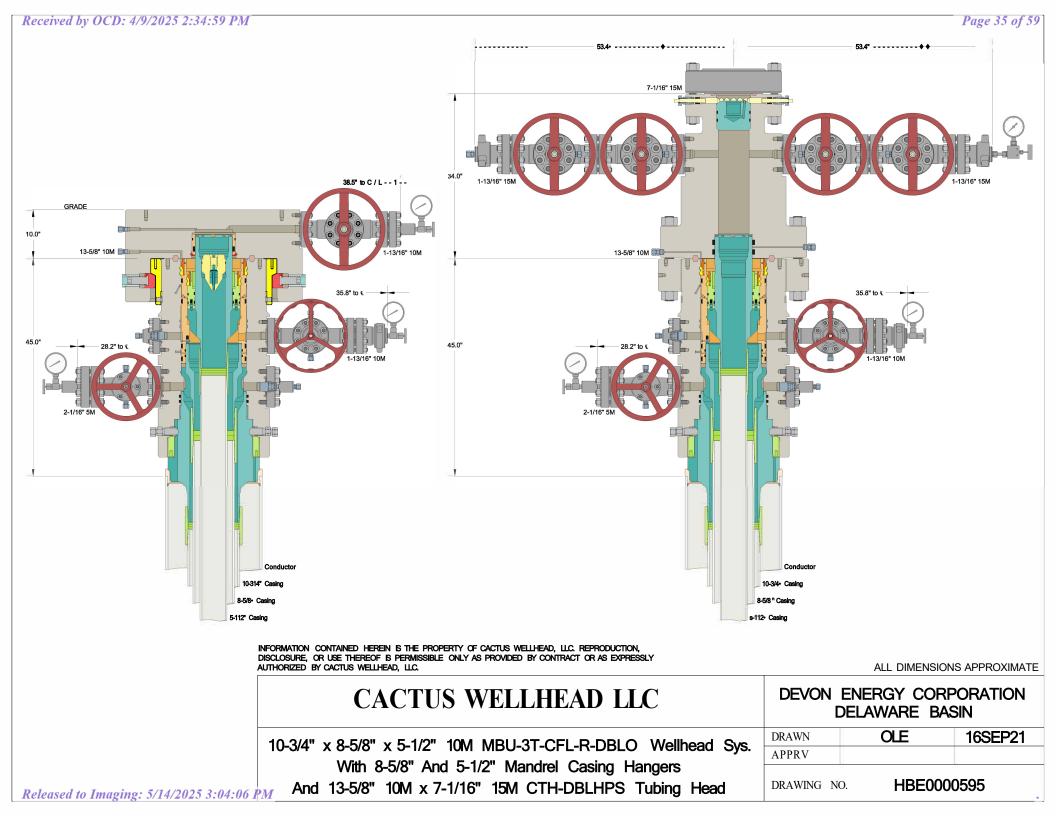
Roll Off Bins & Tracks Closed Loop Equip

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13-5/8" 5 M BOPE & Closed Loop

**Equipment Schematic** 





Casing Assumptions and Load Cases

Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Surface Casing Burst Design							
Load Case	External Pressure	Internal Pressure					
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-					
		section plus Test psi					
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole					
		section					
Displace to Gas	Formation Pore Pressure	Dry gas from next casing point					

Surface Casing Collapse Design							
Load Case	External Pressure	Internal Pressure					
Full Evacuation	Water gradient in cement, mud above TOC	None					
Cementing	Wet cement weight	Water (8.33ppg)					

Surface Casing Tension Design						
Load Case	Assumptions					
Overpull	100kips					
Runing in hole	3 ft/s					
Service Loads	N/A					

Casing Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Intermediate Casing Burst Design				
Load Case External Pressure Internal Pressure				
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-		
		section plus Test psi		
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole		
		section		
Fracture @ Shoe	Formation Pore Pressure	Dry gas		

Intermediate Casing Collapse Design				
Load Case External Pressure Internal Pressure				
Full Evacuation	Water gradient in cement, mud above TOC	None		
Cementing	Wet cement weight	Water (8.33ppg)		

Intermediate Casing Tension Design		
Load Case Assumptions		
Overpull	100kips	
Runing in hole 2 ft/s		
Service Loads N/A		

etal One Corp.				MO-FXL 8-	-5/8 32 0
	MO-FXL			P110HSCY	
Metal One	*1 Pipe Body: BMP P110HSCY MinYS125ksi		CDS#	MinYS1	
	Special Drift 7.875"		·	SD7.8	
	Connection Data		Date	27-Nov-23	
	Connection Data	Oneet	Date	21-1101-20	
	Geometry	<u>Imperial</u>		<u>S.I.</u>	
	Pipe Body				
	Grade *1	P110HSCY		P110HSCY	
	MinYS *1	125	ksi	125	ksi
	Pipe OD (D)	8 5/8	in	219.08	mm
MO-FXL	Weight	32.00	lb/ft	47.68	kg/m
	Actual weight	31.10		46.34	kg/m
	Wall Thickness (t)	0.352	in	8.94	mm
	Pipe ID ( d )	7.921	in	201.19	mm
	Pipe body cross section	9.149	in <sup>2</sup>	5,902	mm <sup>2</sup>
	Special Drift Dia. *1	7.875	in	200.03	mm
	-	-	-	-	-
	• · ·	L			
	Connection	0.605	in	210.00	100.000
$\uparrow \leftrightarrow$	Box OD (W)	8.625	in	219.08	mm
	PIN ID	7.921	in	201.19	mm
Box	Make up Loss	3.847	in	97.71	mm
critical	Box Critical Area	5.853	in <sup>2</sup>	3686	mm <sup>2</sup>
area	Joint load efficiency	69		% 69 %	
5	Thread Taper	1		2" per ft)	
Ĺ	Number of Threads 5 TPI				
	Performance		5	TPI	
Aake p	Performance Performance Properties		-		
nake p	Performance Performance Properties	1,144	kips	5,087	kN
nake p sss D	Performance Performance Properties S.M.Y.S. *1 M.I.Y.P. *1	1,144 8,930	kips psi	5,087 61.59	MPa
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Aake p bss D	Performance Performance Properties S.M.Y.S. *1 M.I.Y.P. *1 Collapse Strength *1 Note S.M.Y.S.= Specif	1,144 8,930 4,300 ied Minimum YIE	kips psi psi LD Stree	5,087 61.59 29.66 ngth of Pipe boo	MPa MPa
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lake puss D Pin critical	Performance Performance Properties S.M.Y.S. *1 M.I.Y.P. *1 Collapse Strength *1 Note S.M.Y.S.= Specif M.I.Y.P. = Minim *1: BMP P110HSCY: MinYS1	1,144 8,930 4,300 ied Minimum YIE um Internal Yielo 25ksi, SD7.875,	kips psi psi ELD Strei Pressur Collapse	5,087 61.59 29.66 ngth of Pipe body re of Pipe body	MPa MPa <sup>dy</sup>
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Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to <u>http://www.mtlo.co.jp/mo-con/\_images/top/WebsiteTerms\_Active\_20333287\_1.pdf</u> the contents of which are incorporated by reference into this Connection Data Sheet.

Casing Assumptions and Load Cases

Production

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both WPX Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Production Casing Burst Design				
Load Case External Pressure Internal Pressure				
Pressure Test	Formation Pore Pressure	Fluid in hole (water or produced		
		water) + test psi		
Tubing Leak	Formation Pore Pressure	Packer @ KOP, leak below		
		surface 8.6 ppg packer fluid		
Stimulation	Formation Pore Pressure	Max frac pressure with heaviest		
		frac fluid		

Production Casing Collapse Design				
Load Case External Pressure Internal Pressure				
Full Evacuation	Water gradient in cement, mud above TOC.	None		
Cementing	Wet cement weight	Water (8.33ppg)		

Production Casing Tension Design		
Load Case Assumptions		
Overpull 100kips		
Runing in hole 2 ft/s		
Service Loads N/A		

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	WPX Energy Permian LLC					
LOCATION:	Section 33, T.26 S., R.30 E., NMPM					
COUNTY:	Eddy County, New Mexico 🔻					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 330H					
ATS/API ID:	ATS-24-1761					
APD ID:	10400098807					
Sundry ID:	N/a					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 331H					
ATS/API ID:	ATS-24-1750					
APD ID:	10400098838 N/a					
Sundry ID:	N/a					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 332H					
ATS/API ID:	ATS-24-1754					
APD ID:	10400098841					
Sundry ID:	N/a					
Sundry ID.	17/4					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 333H					
ATS/API ID:	ATS-24-1757					
APD ID:	10400098847					
Sundry ID:	N/a					
-						
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 334H					
ATS/API ID:	ATS-24-1764					
APD ID:	10400098809					
Sundry ID:	N/a					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 335H					
ATS/API ID:	ATS-24-1763					
APD ID:	10400098811					
Sundry ID:	N/a					
WELL NAME & NO.:	Clawhammer 33-28-21 Federal Com 336H					
ATS/API ID:	ATS-24-1767					
APD ID:	10400098818 N/a					
Sundry ID:	N/a					

COA

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H2S	No		
Potash			
Potasn	None 🔽	None 🔽	
	P	P	
Cave/Karst	Medium 🔻		
Potential			
Cave/Karst	Critical		
Potential			
Variance	C None	E Flex Hose	C Other
Wellhead	Conventional and Multibov	vl 🔫	
Other	$\Box$ 4 String $\Box$ 5 String	Capitan Reef	□ WIPP
		None 🔫	
		·	
Other	Pilot Hole	C Open Annulus	
	None -		
Cementing	Contingency Squeeze	Echo-Meter	Primary Cement
Cementing			Squeeze
	None 🔫	Int 1 🔫	-
			None 🔫
Special	□ Water	COM	🗆 Unit
Requirements	Disposal/Injection		
Special	Batch Sundry	Waste Prevention	
Requirements		None 🔽	
Special	Break Testing	☑ Offline	Casing
Requirements	-	Cementing	Clearance
Variance			

### 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 part 3170 Subpart 3176**, 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 10-3/4 inch surface casing shall be set at approximately 700 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be 14 3/4 inch in diameter.
  - 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</u> <u>hours</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

## Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

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

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

• Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

### **Option 2:**

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.

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- a. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon at 5611'.
- 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. (Squeeze 630 sxs Class C)
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down **10-3/4**" X **8-5/8**" annulus after primary cementing stage. <u>Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the **8-5/8**" casing to surface after the second stage <u>BH to verify TOC.</u></u>

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 run one CBL per Well Pad. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure.

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

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

- In <u>Medium Cave/Karst Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd 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 200 feet into previous casing string. Operator shall provide method of verification.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

## 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.

## **Option 1:**

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

## **Option 2:**

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

- 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 3172.6(b)(9) must be followed.

## **D. SPECIAL REQUIREMENT (S)**

## **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR part 3170 Subpart 3171
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

## Approval Date: 03/25/2025

• In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be on the sign.</u>

## **BOPE Break Testing Variance (Approved)**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at **21**-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170 Subpart 3172.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

### **Offline Cementing**

Operator has been (**Approved**) to pump the proposed cement program offline in the **Intermediate(s) interval**.

Offline cementing should commence within 24 hours of landing the casing for the interval.

Notify the BLM 4hrs prior to cementing offline at Eddy County: 575-361-2822.

## **GENERAL REQUIREMENTS**

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

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

Eddy County
 EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
 BLM NM CFO DrillingNotifications@BLM.GOV

(575) 361-2822

- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43** CFR part **3170** Subpart **3172** as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

#### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or

if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least <u>8 hours</u>. 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. <u>Wait on cement (WOC) for Water Basin:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.
- B. PRESSURE CONTROL
- All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.

- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been

done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR part 3170 Subpart 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 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).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per 43 CFR part 3170 Subpart 3172.

#### C. DRILLING MUD

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

### D. WASTE MATERIAL AND FLUIDS

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

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

Long Vo (LVO) 10/17/2024

**Approval Date: 03/25/2025** 

Received by OCD: 4/9/2025 2:34:59 PM



## **WPX Energy Permian, LLC**

3500 One Williams Center Tulsa, Oklahoma 74172

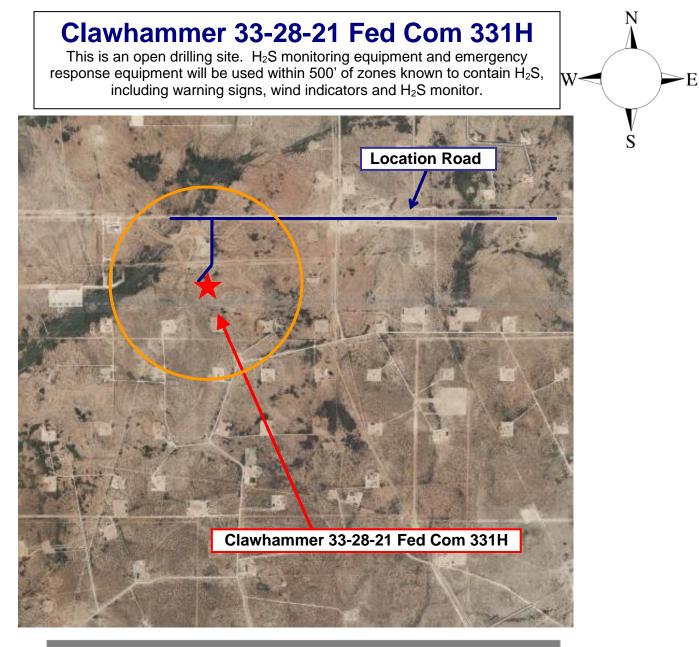
# Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan

For

## Clawhammer 33-28-21 Fed Com 331H

Sec-33 T-26S R-30E 450' FSL - 1681' FWL LAT: 32.001369° N (NAD83) LONG: 103.889365° W

**Eddy County, TX** 



Assumed 100 ppm ROE = 3000' (Radius of Exposure) 100 ppm H2S concentration shall trigger activation of this plan.

### Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. <u>There are no homes or buildings in or near the ROE</u>.

## Assumed 100 ppm ROE = 3000'

## **100** ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

#### Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - $\circ$  Detection of H<sub>2</sub>S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

#### Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the emergency responders and local officials. Take care to protect downwind whenever there is an ignition of the gas.

Common	Chemical	Specific	Threshold	Hazardous Limit	Lethal
Name	Formula	Gravity	Limit		Concentration
Hydrogen Sulfide	H₂S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

### Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

## **Contacting Authorities**

WPX Energy Permian Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the TXRRC must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. WPX Energy Permian Corp. response must be in coordination with the Texas Railroad Commission

## Hydrogen Sulfide Drilling Operation Plan

## I. HYDROGEN SULFIDE (H<sub>2</sub>S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- 1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S)
- 2. The proper use and maintenance of personal protective equipment and life support systems.
- 3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- 4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- 1. The effects of H<sub>2</sub>S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- 2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- 3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan.

There will be weekly H<sub>2</sub>S and well control drills for all personnel in each crew.

## II. HYDROGEN SULFIDE TRAINING

Note: All  $H_2S$  safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain  $H_2S$ .

## 1. Well Control Equipment

- A. Flare line
- B. Choke manifold Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

## 2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

## 3. H<sub>2</sub>S detection and monitoring equipment:

Portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights which activate when H<sub>2</sub>S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

## Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

## 4. Mud program:

The mud program has been designed to minimize the volume of  $H_2S$  circulated to surface. Proper mud weight, safe drilling practices and the use of  $H_2S$  scavengers will minimize hazards when penetrating  $H_2S$  bearing zones.

## 5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H<sub>2</sub>S trim.
- B. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

## 6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

## 7. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

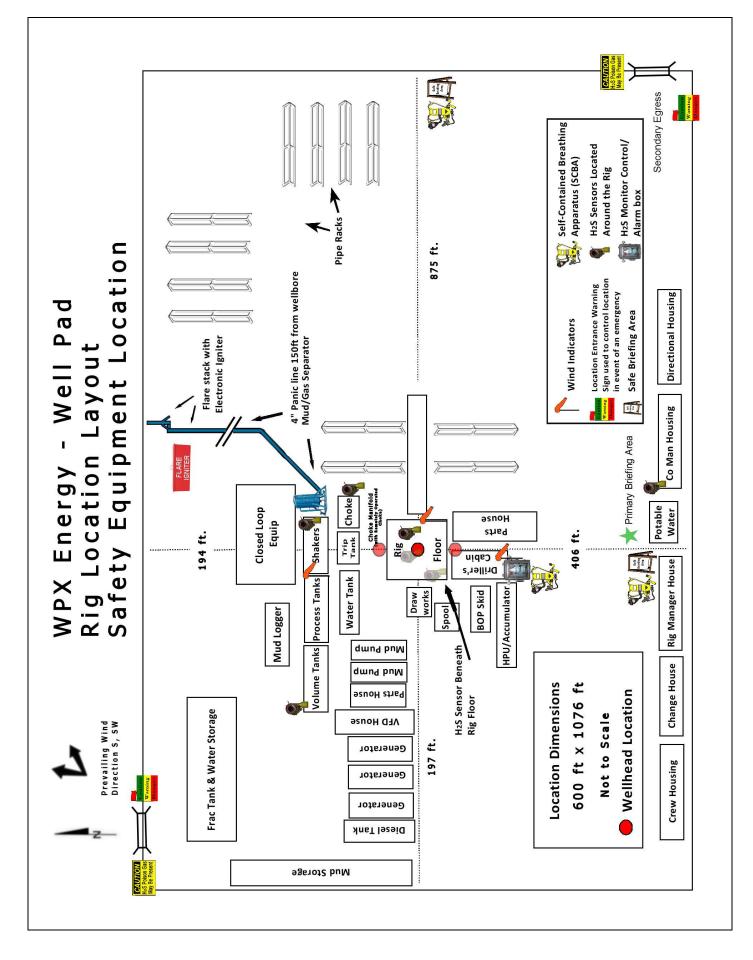
WPX Energy Permian/Devon Energy Corp. Company Call List				
Employee/Company Contact Representative	Position	Phone Number	After Hours Number	
Jonathan Fisher (North)	Drilling Manager	832-967-7912		
Jason Hildebrand (South)	Drilling Manager	405-552-6514		
Rich Downey	Drilling VP	405-228-2415		
Josh Harvey	EHS Manger	405-228-2440	918-500-5536	
Laura Wright	EHS Supervisor	405-552-5334	832-969-8145	
Robert Glover	EHS Professional	575-703-5712	575-703-5712	
Lane Frank	Lead EHS	580-579-7052	580-579-7052	
Rickey Porter	Lead EHS	903-720-8315	903-720-8315	
Ronnie Handy	Lead EHS	918-839-2046	918-839-2046	
Brock Vise	Lead EHS	918-413-3291	918-413-3291	

Agency	Call List	
Winkler	Fire Dept. – Kermit Volunteer	911
County	EMERGENCY MANAGEMENT	432-586-2035
TX	EMS	432-586-5860
(432)	Winkler Co Sherriff	432-586-3461
<u> </u>	Texas Department of Emergency Services Region 4	915-849-4005
	Texas Railroad Commission - 24-Hour Emergency Numbers	844-773-0305
		512-463-6788
	Winkler County Memorial Hospital ER	432-586-5864
	TCEQ	432-570-1359
Lea	Hobbs	
<b>County</b>	Lea County Communication Authority	397-9265
<u>(575)</u>	State Police	885-3138
	City Police	397-9265
	Sheriff's Office	396-3611
	Ambulance	911
	Fire Department	397-9308
Eddy	Carlsbad	
County	State Police	885-3137
(575)	City Police	885-2111
<u>,</u>	Sheriff's Office	887-7551
	Ambulance	<u>911</u>
	Fire Department	885-3125
		005-5125
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control (915) 699-0139	(915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
Give	Native Air – Emergency Helicopter – Hobbs	(575) 347-9836
GPS	For Air Ambulance - Eddy County Dispatch	(575)-616-7155
position:	For Air Ambulance - Lea County (LCCA)	(575)-397-9265
	Poison Control (24/7)	(800) 222-1222
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	(000) 000 +000
	National Pollution Control Center	202-795-6958
	NPCC – Oil Spills	800-280-7118

Prepared in conjunction with







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

Operator:	OGRID:
WPX Energy Permian, LLC	246289
Devon Energy - Regulatory	Action Number:
Oklahoma City, OK 73102	450471
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Construction of the second s		
Created By	Condition	Condition Date
wsalter	Cement is required to circulate on both surface and intermediate1 strings of casing.	4/9/2025
wsalter	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	4/9/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	5/14/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	5/14/2025
ward.rikala	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.	5/14/2025
ward.rikala	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.	5/14/2025

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