Form 3160-5 (June 2015)	UNITED STATE	S	MOCD Rec'd: 9	9/23/2020	FORM APPROVED OMB NO. 1004-0137			
	DEPARTMENT OF THE I BUREAU OF LAND MANA	GEMENT					31, 2018	
SUNDR Do not use	NMNM0506A 6. If Indian, Allottee or Tribe Name							
abandoned w								
SUBMIT II	7. If Unit or CA/Ag 891000303X	reement,	, Name and/or No.					
1. Type of Well □ Oil Well ⊠ Gas Well □ 0	8. Well Name and N POKER LAKE U		TWR 125H					
2. Name of Operator XTO PERMIAN OPERATIN		KELLY KAR os@xtoenergy.			<ol> <li>API Well No. 30-015-47373</li> </ol>	3-00-X1		
3a. Address 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	BLDG 5	3b. Phone No Ph: 432-62	. (include area code) 20-4374		10. Field and Pool of PURPLE SAG	or Explor SE-WO	ratory Area LFCAMP (GAS)	
4. Location of Well (Footage, Sec.	, T., R., M., or Survey Description	e)			11. County or Parisl	h, State		
Sec 21 T24S R31E NENW 3 32.208675 N Lat, 103.78292					EDDY COUN	TY, NN	1	
12. CHECK THE	APPROPRIATE BOX(ES)	TO INDICA	TE NATURE O	F NOTICE,	REPORT, OR OT	THER !	DATA	
TYPE OF SUBMISSION			TYPE OF	F ACTION				
Notice of Intent	□ Acidize	Dee	pen		ion (Start/Resume)		Water Shut-Off	
Subsequent Report	□ Alter Casing	-	raulic Fracturing	□ Reclam			Well Integrity	
☐ Final Abandonment Notice	□ Casing Repair □ Change Plans	—	Construction g and Abandon	□ Recomp	arily Abandon	Other Change to Original A	ange to Original A	
	Convert to Injection		□ Plug Back □ Water D			PD	)	
13. Describe Proposed or Completed O If the proposal is to deepen direction Attach the Bond under which the v following completion of the involv testing has been completed. Final determined that the site is ready for	onally or recomplete horizontally, work will be performed or provide red operations. If the operation re Abandonment Notices must be fil	give subsurface the Bond No. of sults in a multip	locations and measu n file with BLM/BIA e completion or reco	red and true ve Required sul ompletion in a 1	ertical depths of all per bsequent reports must new interval, a Form 3	tinent ma be filed v 160-4 mi	arkers and zones. within 30 days ust be filed once	
XTO Permian Operating, LL	C, requests permission to r	make the follo	wing changes to	the original	APD:			
Casing/Cement design per t	he attached drilling program	n.						
Change BHL from 200'FSL	& 2486'FEL to 200'FSL & 1	870'FEL.						
XTO also requests the follow	wing variances:	(	DCD Accepted for R	ecord 10/5/20	)20 - JAG			
Approval to utilize a spudde Operations.	r rig to pre-set surface casi	ng per the att	ached Descriptio	n of				
Batch drill this well if necess	ary. In doing so, XTO will s	et each casir	g string and ens	ure that				
14. I hereby certify that the foregoing	Electronic Submission #	AN OPERATI	IG LLC, sent to t	he Carlsbad	•			
	KARDOS				ORDINATOR			
Signature (Electroni	c Submission)		Date 09/21/2	020				
	THIS SPACE FO				SE			
Approved By_JENNIFER_SANC	HEZ		TitlePETROLE	UM ENGINI	EER		Date 09/22/2020	
Conditions of approval, if any, are attac certify that the applicant holds legal or which would entitle the applicant to cor	equitable title to those rights in the	s not warrant or e subject lease	Office Carlsba	d				
Title 18 U.S.C. Section 1001 and Title 4 States any false, fictitious or fraudule	43 U.S.C. Section 1212, make it a nt statements or representations as	crime for any posto any matter w	erson knowingly and ithin its jurisdiction.	willfully to ma	ake to any department	or agenc	y of the United	
(Instructions on page 2) <b>** BLM RE</b>	VISED ** BLM REVISE	D ** BLM R	EVISED ** BLN		D ** BLM REVIS	ED **		

# Additional data for EC transaction #530827 that would not fit on the form

#### 32. Additional remarks, continued

the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

XTO requests the option to cement the surface and intermediate casing strings offline for the below wells per the attached procedure.

ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to ONLY retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole. See attached procedure

Attachments: C102 & Supplement Drilling Program Multibowl Diagram Directional Drill Plan Spudder Rig Description of Operations BOP Break Test Procedure Offline Cementing Procedure

# Revisions to Operator-Submitted EC Data for Sundry Notice #530827

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM0506A	NMNM0506A
Agreement:	NMNM71016X	891000303X (NMNM71016X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com
	Ph: 432-620-4374	Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com
	Ph: 432-620-4374	Ph: 432-620-4374
Location: State: County:	NM EDDY	NM EDDY
Field/Pool:	PURPLE SAGE WOLFCAMP	PURPLE SAGE-WOLFCAMP (GAS)
Well/Facility:	POKER LAKE UNIT 16 TWR 125H Sec 21 T24S R31E Mer NMP NENW 515FNL 2590FWL	POKER LAKE UNIT 16 TWR 125H Sec 21 T24S R31E NENW 515FNL 2590

POKER LAKE UNIT 16 TWR 125H Sec 21 T24S R31E NENW 515FNL 2590FWL 32.208675 N Lat, 103.782921 W Lon

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating, LLC
LEASE NO.:	NMNM-0000506A
WELL NAME & NO.:	Poker Lake Unit 16 TWR 125H
SURFACE HOLE FOOTAGE:	0515' FNL & 2590' FWL
<b>BOTTOM HOLE FOOTAGE</b>	0200' FSL & 1870' FEL Sec. 28, T.24 S., R.31 E.
LOCATION:	Section 21, T.24 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

# COA

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

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware. Abnormal pressure may be encountered in the 3rd Bone Spring and all subsequent formations.

# 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 Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

# **B.** CASING

- 1. The **11-3/4** inch surface casing shall be set at approximately **820** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of <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 **7-5/8** inch intermediate casing is:
  - Cement as proposed. Report Echo meter results on subsequent sundry.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

# C. PRESSURE CONTROL

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

# **BOP Break Testing Variance**

- Shell testing is not approved for any portion of the hole with a MASP of 5000 psi or greater.
- 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 prior to the commencement of any BOP Break Testing operations.
- A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

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

# Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

# **Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months.

# **GENERAL REQUIREMENTS**

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

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)
  - Eddy County Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

# A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least <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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. 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.
- 4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 5. 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.
- 6. 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.

# B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer.
  - c. 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.
  - d. The results of the test shall be reported to the appropriate BLM office.
  - e. 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.

- f. 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.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

# C. DRILLING MUD

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

# D. WASTE MATERIAL AND FLUIDS

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

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

# JAM 09222020

District I

1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 <u>District III</u> 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u>

1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

1	API Number <sup>2</sup> Pool Code <sup>3</sup> Pool Name 30-015- 47373										
<sup>4</sup> Property	Code	<sup>5</sup> Property Name <sup>6</sup> Well Num									
				P	OKER LAKE U	NIT 16 TWR			125H		
<sup>7</sup> OGRID	No.				<sup>8</sup> Operator I	Name				<sup>9</sup> Elevation	
37307.	5			XTO	PERMIAN OPE	ERATING, LLC.				3,506'	
	<sup>10</sup> Surface Location										
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/	West line	County	
С	21	24 S	31 E		515	NORTH	2,590	WES	ST	EDDY	
			<sup>11</sup> Bot	ttom Hole	e Location If	Different Fron	n Surface				
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/	West line	County	
0	28	24 S	31 E		200	SOUTH	1,870	EAS	Т	EDDY	
<sup>12</sup> Dedicated Acres	s <sup>13</sup> Joint of	r Infill <sup>14</sup> C	onsolidation (	Code <sup>15</sup> Ord	er No.						

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

16 SHL (NAD83 NME) LTP (I	
	NAD83 NME) <sup>17</sup> OPERATOR CERTIFICATION
<b>SEC. 16</b>	430,372.8 I hereby certify that the information contained herein is true and complete
	to the best of my knowledge and belief, and that this organization either
LAT. = 32.208675 °N LAT. =	32.181963 °N
	103.780228 °W owns a working interest or unleased mineral interest in the land including
FTP (NAD83 NME) BHL (I	<b>(NAD83 NME)</b> the proposed bottom hole location or has a right to drill this well at this
S.H.L. Y= 440,275.2 Y=	location pursuant to a contract with an owner of such a mineral or working
	, interest of the terminal line encoded and terminal line encode
GRID AZ.=765647	52.181000 N
	103.780227 °W order heretofore entered by the division.
	Jellie Jardos
	712,938.3 E Signature Date
	711,635.8 E 712,953.3 E
	711 (52.1 5
	711,652.1 E Printed Name
	711,669.4 E
	712,989,1 F
	711,686.6 E E-mail Address
	713,007.1 E
Y = 440,027.1 Y =	
<b>GRID AZ.=179'36'54" X</b> = 670,388.7 <b>X</b> =	
HORIZ. DIST.=10,032.66' I I LAT. = 32.208551 °N LAT. =	32.181839 °N
LONG. = 103.782436 °W LONG. =	103.779745 °W plat was plotted from field notes of actual surveys
I I FTP (NAD27 NME) BHL (I	(NAD27 NME) made by me or under my supervision, and that the
Y = 440,216.3 Y =	430,184.1
<b>SEC. 28</b> X = 671,204.8 X =	
G G G G G G G G G G G G G G G G G G G	32.181482 °N
LONG. = 105.779194 W LONG. =	32.181482 °N 103.779745 °W <b>05-15-2020</b> <b>Date of Survey</b> 670,435.6 E 671,754.2 E Signatue and Seal of
CORNER COORDINATES (NAD2)	Date of Survey
	670,435.6 E 671,754.3 E Signatue and Seal of
	Professional Surveyor
	670,451.8 E
	670,468.0 E 671,787.7 E
1 870' F-Y= 435,269.4 N , X=	671,787.7 E 670,485.1 E
	670,8485.1 E
	670,502.2 E
	671 822 7 F
J-1- 423,587.4 N , A-	Certificate Number LM 2018010233

Intent As Drilled		
API #		
Operator Name:	Property Name:	Well Number

# Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitu	de				Longitude				NAD

# First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitu	Latitude			Longitude				NAD	

# Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitu	Latitude			Longituc	le			NAD	

Is this well the defining well for the Horizontal Spacing Unit?	

Is this well an infill well?

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

#### Poker Lake Unit 16 TWR 125H Projected TD: 21980' MD / 11868' TVD SHL: 515' FNL & 2590' FWL , Section 21, 7245, R31E BHL: 200' FSL & 1870' FEL , Section 28, T245, R31E Eddy County, NM

#### **Casing Design**

The surface fresh water sands will be protected by setting 11-3/4" casing @ 917' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11112' and bring TOC back to surface. A 6-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2" x 5-1/2" casing will be set at TD and cemented back 300' into the 7-5/8" casing shoe.

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
14-3/4"	0'-917'	11-3/4"	54	BTC	J-55	New	1.24	4.99	17.17
8-3/4"	0' - 4000'	7-5/8"	29.7	Liberty FJ	CYP-110	New	2.17	2.80	1.69
8-3/4"	4000' - 11112'	7-5/8"	29.7	Liberty FJ	HCL-80	New	1.58	1.98	1.92
6-3/4"	0'-11012'	5-1/2"	23	Semi- Premium	P-110	New	1.21	2.25	2.03
6-3/4"	11012' - 21980'	5-1/2"	23	Semi-Flush	P-110	New	1.21	2.08	5.68

 $\cdot$  XTO requests to not utilize centralizers in the curve and lateral

 $\cdot$  7-5/8" Collapse analyzed using 50% evacuation based on regional experience.

· 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

 $\cdot$  Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

· Request to use 5" BTC Float equipment for the the production casing

#### WELLHEAD:

Permanent Wellhead – Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

- Wellhead will be installed by manufacturer's representatives.
  - · Manufacturer will monitor welding process to ensure appropriate temperature of seal.
  - $\cdot$  Operator will test the 7-5/8" casing per BLM Onshore Order 2
  - · Wellhead Manufacturer representative will not be present for BOP test plug installation

#### Cement Program

#### Surface Casing:

Lead: 280 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water) Tail: 190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water) Compressives: 12-hr = 900 psi 24 hr = 1500 psi TOC: Surface

#### Intermediate Casing:

#### <u>1st Stage</u>

Optional Lead: 350 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water) TOC: Surface

 Tail: 420 sxs Halcem - Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1150 psi

 TOC: Brushy Canyon (6518')
 24 hr = 1150 psi
 24 hr = 1150 psi

#### 2nd Stage

 Tail: 610 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1150 psi

 TOC: Surface
 24 hr = 1150 psi
 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6518<sup>1</sup>) and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echometer. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO 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.

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

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per GE procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

#### **Production Casing:**

Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Tail: 760 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 7.20 gal/sx water) Compressives: 12-hr = 800 psi 24 hr = 1500psi TOC: 300' inside previous shoe

#### **Mud Circulation Program**

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 917'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
917' - 11112'	8-3/4"	Brine / Cut Brine / Direct Emuslion	8.5-9.7	30-32	NC
11112' to 21980'	6-3/4"	Cut Brine / WBM / OBM	10.8-11.8	32-36	NC

Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4" surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids control equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

#### DRILLING PLAN: BLM COMPLIANCE (Supplement to BLM 3160-3)

XTO Energy Inc. Poker Lake Unit 16 TWR 125H Projected TD: 21980' MD / 11868' TVD SHL: 515' FNL & 2590' FWL , Section 21, T24S, R31E BHL: 200' FSL & 1870' FEL , Section 28, T24S, R31E Eddy County, NM

#### 1. Geologic Name of Surface Formation

A. Permian

#### 2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	626'	Water
Top of Salt	967'	Water
Base of Salt	4165'	Water
Delaware	4403'	Water
Brushy Canyon	6518'	Water/Oil/Gas
Bone Spring	8228'	Water
1st Bone Spring Ss	9293'	Water/Oil/Gas
2nd Bone Spring Ss	9998'	Water/Oil/Gas
3rd Bone Spring Ss	11128'	Water/Oil/Gas
Wolfcamp	11598'	Water/Oil/Gas
Wolfcamp X	11618'	Water/Oil/Gas
Wolfcamp A	11768'	Water/Oil/Gas
Target/Land Curve	11868'	Water/Oil/Gas

\*\*\* Hydrocarbons @ Brushy Canyon

\*\*\* Groundwater depth 40' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 11-3/4" casing @ 917' (50' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11112' and bring TOC back to surface. A 6-3/4 inch curve and lateral hole will be drilled to MD/TD and 5-1/2" x 5-1/2" casing will be set at TD and cemented back 300' into the 7-5/8" casing shoe.

#### 3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
14-3/4"	0' – 917'	11-3/4"	54	BTC	J-55	New	1.24	4.99	17.17
8-3/4"	0' – 4000'	7-5/8"	29.7	Liberty FJ	CYP-110	New	2.17	2.80	1.69
8-3/4"	4000' – 11112'	7-5/8"	29.7	Liberty FJ	HCL-80	New	1.58	1.98	1.92
6-3/4"	0' – 11012'	5-1/2"	23	Semi-Premium	P-110	New	1.21	2.25	2.03
6-3/4"	11012' - 21980'	5-1/2"	23	Semi-Flush	P-110	New	1.21	2.08	5.68

· XTO requests to not utilize centralizers in the curve and lateral

.7-5/8" Collapse analyzed using 50% evacuation based on regional experience

· 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

•Request to use 5" BTC Float equipment for the the production casing

#### Wellhead:

Permanent Wellhead – Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 11-3/4" SOW bottom

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

Wellhead will be installed by manufacturer's representatives.

· Manufacturer will monitor welding process to ensure appropriate temperature of seal.

· Operator will test the 7-5/8" casing per BLM Onshore Order 2

· Wellhead Manufacturer representative will not be present for BOP test plug installation

#### 4. Cement Program

#### Surface Casing: 11-3/4", 54 New J-55, BTC casing to be set at +/- 917'

Lead: 280 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water)

```
        Tail:
        190 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

        Compressives:
        12-hr =
        900 psi
        24 hr = 1500 psi

        TOC:
        Surface
        24 hr = 1500 psi
        24 hr = 1500 psi
```

#### Intermediate Casing: 7-5/8", 29.7 New casing to be set at +/- 11112'

<u>1st Stage</u> Optional Lead: 350 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water) TOC: Surface

 Tail: 420 sxs Halcem - Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1150psi

 TOC:
 Brushy Canyon (6518')
 24 hr = 1150psi

2nd Stage

 Tail: 610 sxs Halcem-Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 5.29 gal/sx water)

 Compressives:
 12-hr =
 900 psi
 24 hr = 1150 psi

 TOC: Surface
 12-hr =
 900 psi
 24 hr = 1150 psi

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6518') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO 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.

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

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per GE

Production Casing: 5-1/2", 23 New casing to be set at +/- 21980' Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)

Tail: 760 sxs VersaCem	(mixed at 13.2 ppg,	1.51 ft3/sx,	7.20 gal/sx water)
Compressives	12-hr =	800 psi	24 hr = 1500 psi

TOC: 300' inside previous shoe

#### 5. Pressure Control Equipment

Once the permanent WH is installed on the 11-3/4" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M 3-Ram BOP. MASP should not exceed 4363 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M). Also a variance is requested to test the 5M annular to 70% of working pressure at 3500 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 70% of the working pressure. When nippling up on the 11-3/4", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned

tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM on each rig skid on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole.

A variance is requested to cement offline for the surface and intermediate casing strings according to attached offline cementing supporting documentation.

#### 6. Proposed Mud Circulation System

INTERVAL	Hole Size	Mud Type	MW	Viscosity	Fluid Loss
			(ppg)	(sec/qt)	(cc)
0' - 917'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
917' - 11112'	8-3/4"	Brine / Cut Brine / Direct Emuslion	8.5-9.7	30-32	NC
11112' to 21980'	6-3/4"	Cut Brine / WBM / OBM	10.8-11.8	32-36	NC

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud and set 11-3/4" surface casing, isolating the fresh water aquifer. Drill out from under 11-3/4" surface casing with a brine/oil direct emulsion mud system. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

#### 7. Auxiliary Well Control and Monitoring Equipment

- A. A Kelly cock will be in the drill string at all times.
- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 11-3/4" casing.

#### 8. Logging, Coring and Testing Program

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

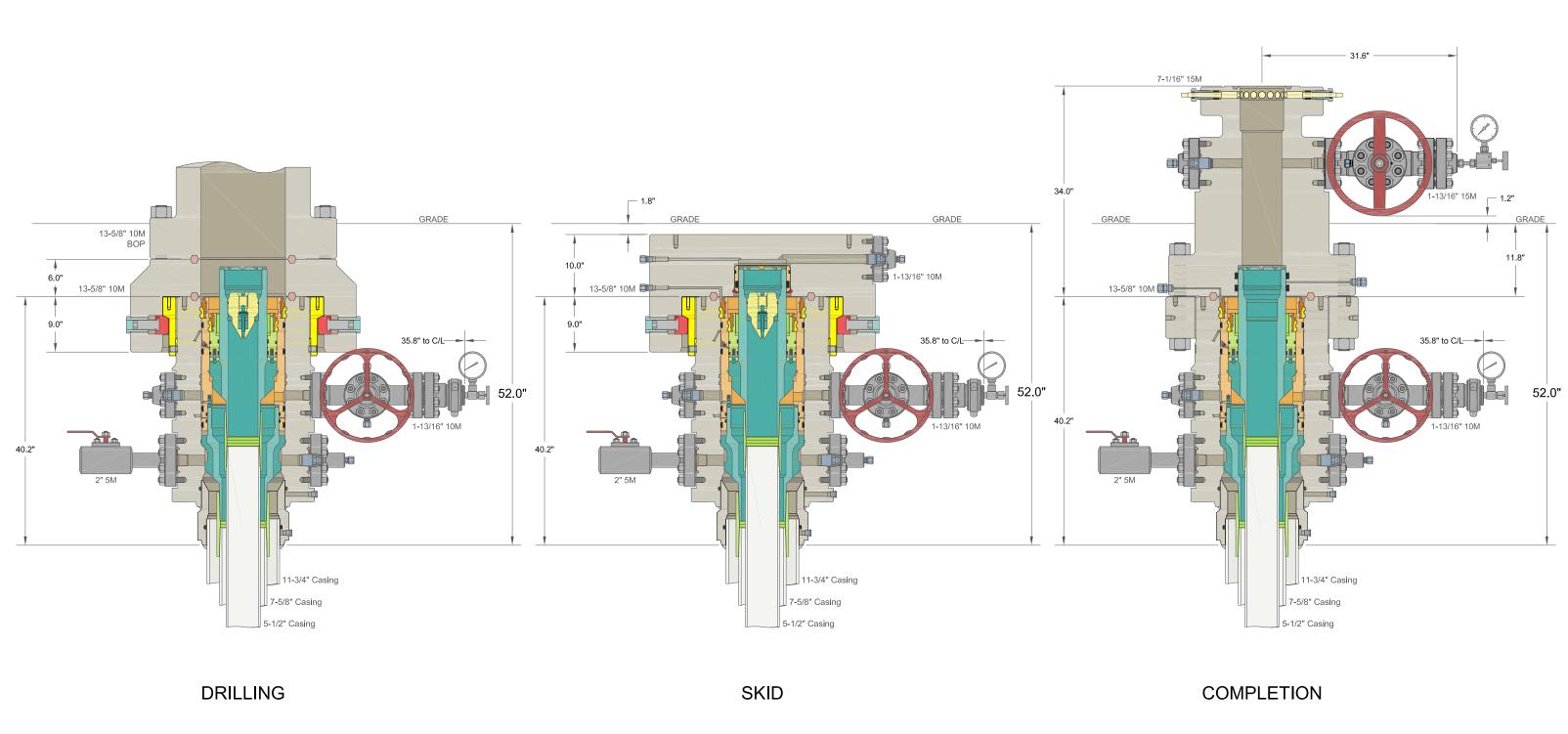
#### 9. Abnormal Pressures and Temperatures / Potential Hazards

None Anticipated. BHT of 165 to 185 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a

serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6974 psi.

#### 10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as



# CACTUS WELLHEAD L

30" x 11-3/4" x 7-5/8" x 5-1/2" MBU-3T-SF SOW V With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-S And 7-5/8" & 5-1/2" Fluted Mandrel Casing

INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

		ALL DIVIENSION	NS APPROXIMATE
LC		KTO ENERGY IN POKER LAKE, N	-
Wellhead System	AWN	DLE	09DEC19
	PRV		
SB Tubing Head DR/	awing no	D. ODE000	3261



# **XTO Energy**

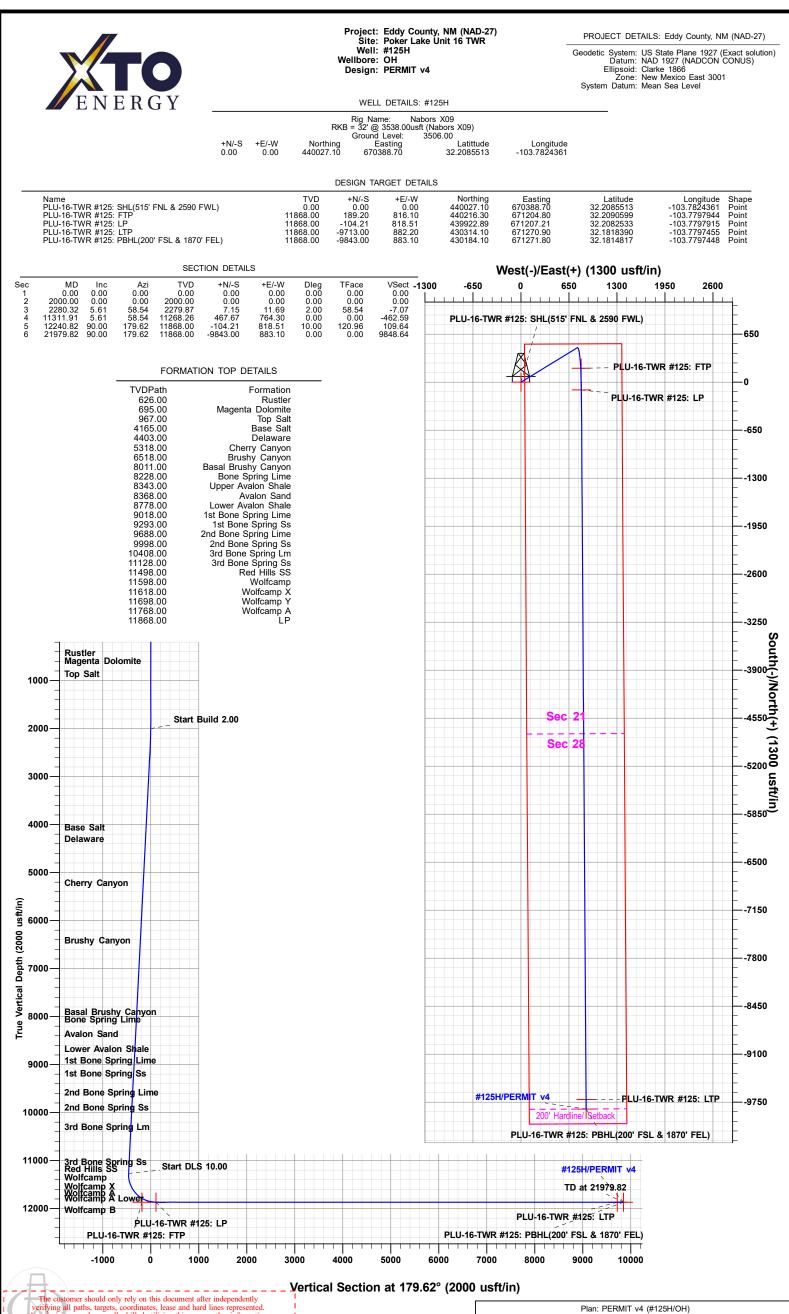
Eddy County, NM (NAD-27) Poker Lake Unit 16 TWR #125H

OH

Plan: PERMIT v4

# **Standard Planning Report**

16 September, 2020



Created By: Matthew May Date: 22:24, September 16 2020



Company: Project: Site: Well: Wellbore: Design:	XTO Eddy Poke #125I OH	PERMIT v4			Local Co-ordinate Reference:Well #125HTVD Reference:RKB = 32' @ 3538.00usft (Nabors XMD Reference:RKB = 32' @ 3538.00usft (Nabors XNorth Reference:GridSurvey Calculation Method:Minimum Curvature					,
Project	Eddy (	County, NM (N	NAD-27)							
Map System: Geo Datum: Map Zone:	NAD 19	te Plane 1927 927 (NADCON exico East 300	I CONUS)	ion)	System D	atum:	Μ	ean Sea Level		
Site	Poker	Lake Unit 16	TWR							
Site Position: From: Position Uncert	Ma t <b>ainty:</b>	•	North Easti ) usft Slot I	-	,	861.50 usft 513.80 usft 13-3/16 "	Latitude: Longitude: Grid Conve	ergence:		32.2108713 -103.7884840 0.29 °
Well	#125H									
Well Position	+N/-S +E/-W	-834.4 1,874.9	00 usft Ea	orthing: asting:		440,027.10 670,388.70	usft Lo	titude: ngitude:		32.2085514 -103.7824361
Position Uncert	tainty	0.0	0 usft W	ellhead Elev	ation:	0.00	usft <b>Gr</b>	ound Level:		3,506.00 usft
Wellbore	OH									
Magnetics	Мо	del Name	Sampl		Declina (°)			Angle °)	Field St (n	T)
Magnetics	Мо	del Name IGRF2015	Sampl	<b>e Date</b> 10/22/20						
Magnetics Design	Mo	IGRF2015	Sampl					°) ¯		T)
		IGRF2015	Sampl					°) ¯		T)
Design		IGRF2015	Sampl	10/22/20		6.69		°) ¯		T)
Design Audit Notes:	PERM	IGRF2015 IIT v4	Phas epth From (T (usft)	10/22/20	(°) PLAN +N/-S (usft)	6.69 Tid +E (u	e On Depth: E/-W Isft)	°) 59.97 Dire	(n 0.00 ection (°)	T)
Design Audit Notes: Version:	PERM	IGRF2015 IIT v4	Phas epth From (T	10/22/20	(°) PLAN <b>+N/-S</b>	6.69 Tid +E (u	e On Depth: E/-W	°) 59.97 Dire	(n 0.00 ection	T)
Design Audit Notes: Version:	PERM	IGRF2015 IIT v4	Phas epth From (T (usft)	10/22/20	(°) PLAN +N/-S (usft)	6.69 Tid +E (u	e On Depth: E/-W Isft)	°) 59.97 Dire	(n 0.00 ection (°)	T)
Design Audit Notes: Version: Vertical Section Plan Sections Measured	PERM	IGRF2015 IIT v4	Phas epth From (T (usft)	10/22/20	(°) PLAN +N/-S (usft)	6.69 Tid +E (u	e On Depth: E/-W Isft)	°) 59.97 Dire 17 Turn Rate	(n 0.00 ection (°)	T)
Design Audit Notes: Version: Vertical Section Plan Sections Measured Depth In (usft) 0.00	PERM n: clination (°) 0.00	IGRF2015 IIT v4 De Azimuth (°) 0.00	Phas epth From (T (usft) 0.00 Vertical Depth (usft) 0.00	10/22/20 se: P VD) +N/-S (usft) 0.00	(°) PLAN +N/-S (usft) 0.00 +E/-W (usft) 0.00	6.69 Tid +E (u 0 Dogleg Rate (°/100usft) 0.00	e On Depth: E/-W Isft) .00 Build Rate (°/100usft) 0.00	°) 59.97 Dire 17 Turn Rate (°/100usft) 0.00	(n 0.00 ection (°) 79.62 TFO (°) 0.00	T) 47,562
Design Audit Notes: Version: Vertical Section Plan Sections Measured Depth In (usft) 0.00 2,000.00	PERM n: clination (°) 0.00 0.00	IGRF2015 IIT v4 <b>De</b> <b>Azimuth</b> (°) 0.00 0.01	Phas epth From (T (usft) 0.00 Vertical Depth (usft) 0.00 2,000.00	10/22/20 se: P VD) +N/-S (usft) 0.00 0.00	(°) PLAN +N/-S (usft) 0.00 +E/-W (usft) 0.00 0.00	6.69 Tid +E (u 0 Dogleg Rate (°/100usft) 0.00 0.00	e On Depth: E/-W Isft) .00 Build Rate (°/100usft) 0.00 0.00	°) 59.97 Dire 17 Turn Rate (°/100usft) 0.00 0.00	(n 0.00 ection (°) 79.62 TFO (°) 0.00 0.01	T) 47,562
Design Audit Notes: Version: Vertical Section Plan Sections Measured Depth In (usft) 0.00 2,000.00 2,280.32	PERM n: clination (°) 0.00 0.00 5.61	IGRF2015 IIT v4 <b>De</b> <b>Azimuth</b> (°) 0.00 0.01 58.54	Phas epth From (T (usft) 0.00 Vertical Depth (usft) 0.00 2,000.00 2,279.87	10/22/20 se: P VD) +N/-S (usft) 0.00 0.00 7.15	(°) PLAN +N/-S (usft) 0.00 +E/-W (usft) 0.00 0.00 11.69	6.69 Tid +E (u 0 Dogleg Rate (°/100usft) 0.00 0.00 2.00	e On Depth: E/-W Isft) .00 Build Rate (°/100usft) 0.00 0.00 2.00	°) 59.97 Dire 17 Turn Rate (°/100usft) 0.00 0.00 0.00	(n 0.00 ection (°) 79.62 TFO (°) 0.00 0.01 58.54	T) 47,562
Design Audit Notes: Version: Vertical Section Plan Sections Measured Depth In (usft) 0.00 2,000.00	PERM n: clination (°) 0.00 0.00	IGRF2015 IIT v4 <b>De</b> <b>Azimuth</b> (°) 0.00 0.01	Phas epth From (T (usft) 0.00 Vertical Depth (usft) 0.00 2,000.00	10/22/20 se: P VD) +N/-S (usft) 0.00 0.00	(°) PLAN +N/-S (usft) 0.00 +E/-W (usft) 0.00 0.00	6.69 Tid +E (u 0 Dogleg Rate (°/100usft) 0.00 0.00	e On Depth: E/-W Isft) .00 Build Rate (°/100usft) 0.00 0.00	°) 59.97 Dire 17 Turn Rate (°/100usft) 0.00 0.00 0.00 0.00 0.00	(n 0.00 ection (°) 79.62 TFO (°) 0.00 0.01	T) 47,562



Database: Company:	EDM 5000.1.13 Single User Db XTO Energy	Local Co-ordinate Reference: TVD Reference:	Well #125H RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH	-	
Design:	PERMIT v4		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PLU-16-TW	/R #125: SHL(	515' FNL & 25	590 FWL)						
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
626.00	0.00	0.00	626.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	020.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
695.00	0.00	0.00	695.00	0.00	0.00	0.00	0.00	0.00	0.00
Magenta D	olomite								
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
967.00	0.00	0.00	967.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.01	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	58.54	2,099.98	0.91	1.49	-0.90	2.00	2.00	0.00
2,200.00	4.00	58.54	2,199.84	2 64	5.95	-3.60	2.00	2.00	0.00
'				3.64					
2,280.32	5.61	58.54	2,279.87	7.15	11.69	-7.07	2.00	2.00	0.00
2,300.00	5.61	58.54	2,299.46	8.16	13.33	-8.07	0.00	0.00	0.00
2,400.00	5.61	58.54	2,398.98	13.25	21.66	-13.11	0.00	0.00	0.00
2,500.00	5.61	58.54	2,498.50	18.35	30.00	-18.15	0.00	0.00	0.00
2,600.00	5.61	58.54	2,598.02	23.45	38.33	-23.20	0.00	0.00	0.00
2,700.00	5.61	58.54	2,697.55	28.55	46.66	-28.24	0.00	0.00	0.00
2,800.00	5.61	58.54	2,797.07	33.65	40.00 54.99	-20.24 -33.29	0.00	0.00	0.00
2,800.00	5.61	58.54 58.54	2,896.59	38.75	63.33	-33.29 -38.33	0.00	0.00	0.00
2,900.00	5.61	58.54 58.54	2,896.59	30.75 43.85	71.66	-30.33 -43.37	0.00	0.00	0.00
3,000.00	0.01	50.54	2,990.11	43.00	00.11	-43.37	0.00	0.00	0.00
3,100.00	5.61	58.54	3,095.63	48.95	79.99	-48.42	0.00	0.00	0.00
3,200.00	5.61	58.54	3,195.15	54.05	88.33	-53.46	0.00	0.00	0.00
3,300.00	5.61	58.54	3,294.68	59.15	96.66	-58.50	0.00	0.00	0.00
3,400.00	5.61	58.54	3,394.20	64.24	104.99	-63.55	0.00	0.00	0.00
3,500.00	5.61	58.54	3,493.72	69.34	113.33	-68.59	0.00	0.00	0.00
3,600.00	5.61	58.54	3,593.24	74.44	121.66	-73.63	0.00	0.00	0.00
3,700.00	5.61	58.54	3,692.76	79.54	129.99	-78.68	0.00	0.00	0.00
3,800.00	5.61	58.54	3,792.28	84.64	138.32	-83.72	0.00	0.00	0.00
3,900.00	5.61	58.54	3,891.81	89.74	146.66	-88.76	0.00	0.00	0.00
4,000.00	5.61	58.54	3,991.33	94.84	154.99	-93.81	0.00	0.00	0.00
,									
4,100.00	5.61	58.54	4,090.85	99.94	163.32	-98.85	0.00	0.00	0.00
4,174.51	5.61	58.54	4,165.00	103.74	169.53	-102.61	0.00	0.00	0.00
Base Salt									
4,200.00	5.61	58.54	4,190.37	105.04	171.66	-103.89	0.00	0.00	0.00
4,300.00	5.61	58.54	4,289.89	110.13	179.99	-108.94	0.00	0.00	0.00



Database: Company:	EDM 5000.1.13 Single User Db XTO Energy	Local Co-ordinate Reference: TVD Reference:	Well#125H RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	PERMIT v4		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.00	5.61	58.54	4,389.41	115.23	188.32	-113.98	0.00	0.00	0.00
4,413.65	5.61	58.54	4,403.00	115.93	189.46	-114.67	0.00	0.00	0.00
<b>Delaware</b> 4,500.00 4,600.00 4,700.00 4,800.00	5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54	4,488.94 4,588.46 4,687.98 4,787.50	120.33 125.43 130.53 135.63	196.66 204.99 213.32 221.66	-119.03 -124.07 -129.11 -134.16	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
4,900.00 5,000.00 5,100.00 5,200.00 5,300.00	5.61 5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54 58.54	4,887.02 4,986.54 5,086.07 5,185.59 5,285.11	140.73 145.83 150.93 156.03 161.12	229.99 238.32 246.65 254.99 263.32	-139.20 -144.24 -149.29 -154.33 -159.37	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,333.05	5.61	58.54	5,318.00	162.81	266.07	-161.04	0.00	0.00	0.00
Cherry Ca									
5,400.00 5,500.00 5,600.00 5,700.00	5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54	5,384.63 5,484.15 5,583.67 5,683.20	166.22 171.32 176.42 181.52	271.65 279.99 288.32 296.65	-164.42 -169.46 -174.50 -179.55	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
5,800.00 5,900.00 6,000.00 6,100.00 6,200.00	5.61 5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54 58.54	5,782.72 5,882.24 5,981.76 6,081.28 6,180.80	186.62 191.72 196.82 201.92 207.01	304.99 313.32 321.65 329.98 338.32	-184.59 -189.64 -194.68 -199.72 -204.77	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,300.00 6,400.00 6,500.00 6,538.82	5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54	6,280.33 6,379.85 6,479.37 6,518.00	212.11 217.21 222.31 224.29	346.65 354.98 363.32 366.55	-209.81 -214.85 -219.90 -221.85	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
Brushy Ca									
6,600.00 6,700.00 6,800.00 6,900.00 7,000.00 7,100.00	5.61 5.61 5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54 58.54 58.54	6,578.89 6,678.41 6,777.93 6,877.46 6,976.98 7,076.50	227.41 232.51 237.61 242.71 247.81 252.90	371.65 379.98 388.32 396.65 404.98 413.32	-224.94 -229.98 -235.03 -240.07 -245.11 -250.16	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
7,200.00 7,300.00 7,400.00 7,500.00 7,600.00	5.61 5.61 5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54 58.54	7,176.02 7,275.54 7,375.06 7,474.59 7,574.11	258.00 263.10 268.20 273.30 278.40	421.65 429.98 438.31 446.65 454.98	-255.20 -260.25 -265.29 -270.33 -275.38	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
7,700.00 7,800.00 7,900.00 8,000.00 8,038.99	5.61 5.61 5.61 5.61 5.61	58.54 58.54 58.54 58.54 58.54 58.54	7,673.63 7,773.15 7,872.67 7,972.19 8,011.00	283.50 288.60 293.70 298.80 300.78	463.31 471.65 479.98 488.31 491.56	-280.42 -285.46 -290.51 -295.55 -297.52	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
Basal Brus	shy Canyon								
8,100.00 8,200.00 8,257.04	5.61 5.61 5.61	58.54 58.54 58.54	8,071.72 8,171.24 8,228.00	303.89 308.99 311.90	496.65 504.98 509.73	-300.59 -305.64 -308.51	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
Bone Sprin 8,300.00 8,372.59	5.61 5.61	58.54 58.54	8,270.76 8,343.00	314.09 317.79	513.31 519.36	-310.68 -314.34	0.00 0.00	0.00 0.00	0.00 0.00
Upper Ava	Ion Shale								
8,397.71	5.61	58.54	8,368.00	319.07	521.45	-315.61	0.00	0.00	0.00



Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #125H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	PERMIT v4		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Avalon Sa	nd								
8,400.00	5.61	58.54	8,370.28	319.19	521.64	-315.72	0.00	0.00	0.00
8,500.00	5.61	58.54	8,469.80	324.29	529.98	-320.77	0.00	0.00	0.00
8,600.00	5.61	58.54	8,569.32	329.39	538.31	-325.81	0.00	0.00	0.00
8,700.00	5.61	58.54	8,668.85	334.49	546.64	-330.86	0.00	0.00	0.00
8,800.00	5.61	58.54	8,768.37	339.59	554.98	-335.90	0.00	0.00	0.00
8,809.68	5.61	58.54	8,778.00	340.08	555.78	-336.39	0.00	0.00	0.00
Lower Ava	Ion Shale								
8,900.00	5.61	58.54	8,867.89	344.69	563.31	-340.94	0.00	0.00	0.00
9,000.00	5.61	58.54	8,967.41	349.78	571.64	-345.99	0.00	0.00	0.00
9,050.83	5.61	58.54	9,018.00	352.38	575.88	-348.55	0.00	0.00	0.00
1st Bone S	Spring Lime								
9,100.00	5.61	58.54	9,066.93	354.88	579.98	-351.03	0.00	0.00	0.00
9,200.00	5.61	58.54	9,166.45	359.98	588.31	-356.07	0.00	0.00	0.00
9,300.00	5.61	58.54	9,265.98	365.08	596.64	-361.12	0.00	0.00	0.00
9,327.16	5.61	58.54	9,293.00	366.47	598.91	-362.49	0.00	0.00	0.00
1st Bone \$ 9,400.00	Spring Ss 5.61	58.54	9,365.50	370.18	604.98	-366.16	0.00	0.00	0.00
,			,						
9,500.00	5.61	58.54	9,465.02	375.28	613.31	-371.20	0.00	0.00	0.00
9,600.00	5.61	58.54	9,564.54	380.38	621.64	-376.25	0.00	0.00	0.00
9,700.00	5.61	58.54	9,664.06	385.48	629.97	-381.29	0.00	0.00	0.00
9,724.05	5.61 Spring Lime	58.54	9,688.00	386.70	631.98	-382.50	0.00	0.00	0.00
9,800.00	5.61	58.54	9,763.58	390.58	638.31	-386.33	0.00	0.00	0.00
,			-						
9,900.00	5.61	58.54	9,863.11	395.68	646.64	-391.38	0.00	0.00	0.00
10,000.00	5.61	58.54	9,962.63	400.77	654.97	-396.42	0.00 0.00	0.00	0.00
10,035.54	5.61	58.54	9,998.00	402.59	657.94	-398.21	0.00	0.00	0.00
2nd Bone 10,100.00	5.61	58.54	10,062.15	405.87	663.31	-401.46	0.00	0.00	0.00
10,200.00	5.61	58.54	10,161.67	410.97	671.64	-406.51	0.00	0.00	0.00
			-						
10,300.00	5.61	58.54	10,261.19	416.07	679.97	-411.55	0.00	0.00	0.00
10,400.00	5.61	58.54 58.54	10,360.71	421.17	688.31	-416.60	0.00 0.00	0.00	0.00
10,447.51 3rd Bone \$	5.61 Spring L m	56.54	10,408.00	423.59	692.27	-418.99	0.00	0.00	0.00
10,500.00	5.61	58.54	10.460.24	426.27	696.64	-421.64	0.00	0.00	0.00
10,600.00	5.61	58.54	10,559.76	431.37	704.97	-426.68	0.00	0.00	0.00
10,700.00	5.61	58.54	10,659.28	436.47	713.30	-431.73	0.00	0.00	0.00
10,800.00	5.61	58.54	10,758.80	441.57	713.30	-431.73	0.00	0.00	0.00
10,900.00	5.61	58.54	10,858.32	446.66	729.97	-441.81	0.00	0.00	0.00
11,000.00	5.61	58.54	10,957.84	451.76	738.30	-446.86	0.00	0.00	0.00
11,100.00	5.61	58.54	11,057.37	456.86	746.64	-451.90	0.00	0.00	0.00
11,170.97	5.61	58.54	11,128.00	460.48	752.55	-455.48	0.00	0.00	0.00
3rd Bone S		50.0 <del>-1</del>	11,120.00	100.40	, 52.00	100.40	0.00	0.00	0.00
11,200.00	5.61	58.54	11,156.89	461.96	754.97	-456.94	0.00	0.00	0.00
11,300.00	5.61	58.54	11,256.41	467.06	763.30	-461.99	0.00	0.00	0.00
11,311.91	5.61	58.54	11,268.26	467.67	764.30	-462.59	0.00	0.00	0.00
11,350.00	4.89	100.45	11,306.21	468.34	767.48	-463.24	10.00	-1.87	110.03
11,400.00	7.62	140.68	11,355.92	465.39	771.68	-460.26	10.00	5.45	80.45
11,450.00	11.92	156.15	11,405.20	458.10	775.87	-452.95	10.00	8.60	30.94
11,500.00	16.61	163.25	11,453.65	446.53	780.02	-441.35	10.00	9.39	14.21
11,546.89	21.14	167.06	11,498.00	431.87	783.85	-426.66	10.00	9.65	8.12
Red Hills S									
11,550.00	21.44	167.26	11,500.90	430.76	784.10	-425.55	10.00	9.73	6.36



Database	:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #125H
Company	/:	XTO Energy	TVD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Project:		Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:		Poker Lake Unit 16 TWR	North Reference:	Grid
Well:		#125H	Survey Calculation Method:	Minimum Curvature
Wellbore	:	OH		
Design:		PERMIT v4		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,600.00 11,650.00 11,658.92	26.33 31.25 32.13	169.84 171.66 171.93	11,546.61 11,590.41 11,598.00	410.92 387.16 382.53	788.07 791.91 792.58	-405.69 -381.90 -377.26	10.00 10.00 10.00	9.78 9.85 9.87	5.16 3.64 3.04
Wolfcamp 11,682.85 Wolfcamp	34.50	172.59	11,618.00	369.50	794.35	-364.22	10.00	9.88	2.78
11,700.00	36.20	173.02	11,631.99	359.66	795.59	-354.37	10.00	9.89	2.50
11,750.00 11,786.89 Wolfcamp	41.15 44.81 <b>Y</b>	174.10 174.77	11,671.01 11,698.00	328.62 303.59	799.08 801.51	-323.31 -298.27	10.00 10.00	9.91 9.92	2.15 1.81
11,800.00 11,850.00 11,896.55 Wolfcamp	46.11 51.08 55.71	174.98 175.73 176.33	11,707.19 11,740.25 11,768.00	294.29 256.92 219.64	802.35 805.37 807.95	-288.96 -251.57 -214.28	10.00 10.00 10.00	9.93 9.94 9.95	1.65 1.49 1.30
11,900.00	56.05	176.38	11,769.93	216.80	808.14	-211.43	10.00	9.95	1.22
11,950.00 11,968.96	61.03 62.92	176.95 177.16	11,796.02 11,804.93	174.23 157.52	810.61 811.47	-168.85 -152.13	10.00 10.00	9.95 9.95	1.15 1.08
12,000.00 12,050.00	<b>/R #125: FTP</b> 66.01 70.99	177.48 177.96	11,818.31 11,836.63	129.54 83.07	812.78 814.63	-124.15 -77.67	10.00 10.00	9.96 9.96	1.03 0.97
12,100.00 12,150.00 12,200.00 12,240.76	75.97 80.95 85.93 89.99	178.42 178.85 179.28 179.62	11,850.84 11,860.84 11,866.55 11,868.00	35.18 -13.78 -63.43 -104.16	816.14 817.31 818.12 818.51	-29.76 19.20 68.86 109.59	10.00 10.00 10.00 10.00	9.96 9.96 9.96 9.96	0.91 0.87 0.85 0.84
<b>LP</b> 12,240.82	90.00	179.62	11,868.00	-104.21	818.51	109.64	10.00	9.96	0.84
	/R #125: LP								
12,300.00 12,400.00 12,500.00 12,600.00	90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00	-163.39 -263.39 -363.39 -463.39	818.90 819.56 820.23 820.89	168.82 268.82 368.82 468.82	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
12,700.00 12,800.00	90.00 90.00	179.62 179.62	11,868.00 11,868.00	-563.39 -663.38	821.55 822.22	568.82 668.82	0.00 0.00	0.00 0.00	0.00 0.00
12,900.00 13,000.00 13,100.00	90.00 90.00 90.00	179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00	-763.38 -863.38 -963.38	822.88 823.54 824.21	768.82 868.82 968.82	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
13,200.00 13,300.00	90.00 90.00	179.62 179.62	11,868.00	-1,063.37 -1,163.37	824.87 825.53	1,068.82	0.00	0.00	0.00
13,400.00 13,500.00 13,600.00 13,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-1,263.37 -1,363.37 -1,463.37 -1,563.36	826.20 826.86 827.52 828.19	1,268.82 1,368.82 1,468.82 1,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,800.00 13,900.00	90.00 90.00	179.62 179.62	11,868.00 11,868.00	-1,663.36 -1,763.36	828.85 829.51	1,668.82 1,768.82	0.00 0.00	0.00 0.00	0.00 0.00
14,000.00 14,100.00 14,200.00	90.00 90.00 90.00	179.62 179.62 179.62	11,868.00 11,868.00 11,868.00	-1,863.36 -1,963.35 -2,063.35	830.18 830.84 831.50	1,868.82 1,968.82 2,068.82	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
14,300.00 14,400.00 14,500.00	90.00 90.00 90.00	179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00	-2,163.35 -2,263.35 -2,363.35 2,463.34	832.17 832.83 833.49 834.16	2,168.82 2,268.82 2,368.82	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
14,600.00 14,700.00 14,800.00	90.00 90.00 90.00	179.62 179.62 179.62	11,868.00 11,868.00 11,868.00	-2,463.34 -2,563.34 -2,663.34	834.16 834.82 835.48	2,468.82 2,568.82 2,668.82	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00



Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #125H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	PERMIT v4		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,900.00 15,000.00 15,100.00 15,200.00	90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00	-2,763.34 -2,863.33 -2,963.33 -3,063.33	836.15 836.81 837.47 838.13	2,768.82 2,868.82 2,968.82 3,068.82	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
15,300.00 15,400.00 15,500.00 15,600.00 15,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-3,163.33 -3,263.33 -3,363.32 -3,463.32 -3,563.32	838.80 839.46 840.12 840.79 841.45	3,168.82 3,268.82 3,368.82 3,468.82 3,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
15,800.00 15,900.00 16,000.00 16,100.00 16,200.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-3,663.32 -3,763.32 -3,863.31 -3,963.31 -4,063.31	842.11 842.78 843.44 844.10 844.77	3,668.82 3,768.82 3,868.82 3,968.82 4,068.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
16,300.00 16,400.00 16,500.00 16,600.00 16,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-4,163.31 -4,263.30 -4,363.30 -4,463.30 -4,563.30	845.43 846.09 846.76 847.42 848.08	4,168.82 4,268.82 4,368.82 4,468.82 4,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
16,800.00 16,900.00 17,000.00 17,100.00 17,200.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-4,663.30 -4,763.29 -4,863.29 -4,963.29 -5,063.29	848.75 849.41 850.07 850.74 851.40	4,668.82 4,768.82 4,868.82 4,968.82 5,068.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
17,300.00 17,400.00 17,500.00 17,600.00 17,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-5,163.28 -5,263.28 -5,363.28 -5,463.28 -5,563.28	852.06 852.73 853.39 854.05 854.72	5,168.82 5,268.82 5,368.82 5,468.82 5,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
17,800.00 17,900.00 18,000.00 18,100.00 18,200.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-5,663.27 -5,763.27 -5,863.27 -5,963.27 -6,063.26	855.38 856.04 856.71 857.37 858.03	5,668.82 5,768.82 5,868.82 5,968.82 6,068.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
18,300.00 18,400.00 18,500.00 18,600.00 18,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-6,163.26 -6,263.26 -6,363.26 -6,463.26 -6,563.25	858.69 859.36 860.02 860.68 861.35	6,168.82 6,268.82 6,368.82 6,468.82 6,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
18,800.00 18,900.00 19,000.00 19,100.00 19,200.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-6,663.25 -6,763.25 -6,863.25 -6,963.24 -7,063.24	862.01 862.67 863.34 864.00 864.66	6,668.82 6,768.82 6,868.82 6,968.82 7,068.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
19,300.00 19,400.00 19,500.00 19,600.00 19,700.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-7,163.24 -7,263.24 -7,363.24 -7,463.23 -7,563.23	865.33 865.99 866.65 867.32 867.98	7,168.82 7,268.82 7,368.82 7,468.82 7,568.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
19,800.00 19,900.00 20,000.00 20,100.00 20,200.00	90.00 90.00 90.00 90.00 90.00	179.62 179.62 179.62 179.62 179.62 179.62	11,868.00 11,868.00 11,868.00 11,868.00 11,868.00	-7,663.23 -7,763.23 -7,863.22 -7,963.22 -8,063.22	868.64 869.31 869.97 870.63 871.30	7,668.82 7,768.82 7,868.82 7,968.82 8,068.82	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00



Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #125H
Company:	XTO Energy	TVD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ОН		
Design:	PERMIT v4		

## Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,300.00	90.00	179.62	11,868.00	-8,163.22	871.96	8,168.82	0.00	0.00	0.00
20,400.00	90.00	179.62	11,868.00	-8,263.22	872.62	8,268.82	0.00	0.00	0.00
20,500.00	90.00	179.62	11,868.00	-8,363.21	873.29	8,368.82	0.00	0.00	0.00
20,600.00	90.00	179.62	11,868.00	-8,463.21	873.95	8,468.82	0.00	0.00	0.00
20,700.00	90.00	179.62	11,868.00	-8,563.21	874.61	8,568.82	0.00	0.00	0.00
20,800.00	90.00	179.62	11,868.00	-8,663.21	875.28	8,668.82	0.00	0.00	0.00
21,000.00	90.00	179.62	11,868.00	-8,763.21	875.94	8,768.82	0.00	0.00	0.00
21,000.00	90.00	179.62	11,868.00	-8,863.20	876.60	8,868.82	0.00	0.00	0.00
21,100.00	90.00	179.62	11,868.00	-8,963.20	877.26	8,968.82	0.00	0.00	0.00
21,200.00	90.00	179.62	11,868.00	-9,063.20	877.93	9,068.82	0.00	0.00	0.00
21,300.00	90.00	179.62	11,868.00	-9,163.20	878.59	9,168.82	0.00	0.00	0.00
21,400.00	90.00	179.62	11,868.00	-9,263.19	879.25	9,268.82	0.00	0.00	0.00
21,500.00	90.00	179.62	11,868.00	-9,363.19	879.92	9,368.82	0.00	0.00	0.00
21,600.00	90.00	179.62	11,868.00	-9,463.19	880.58	9,468.82	0.00	0.00	0.00
21,700.00 21,800.00 21,849.82	90.00 90.00 90.00 90.00	179.62 179.62 179.62	11,868.00 11,868.00 11,868.00	-9,563.19 -9,663.19 -9,713.00	881.24 881.91 882.24	9,568.82 9,668.82 9,718.64	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
21,900.00 21,979.82	90.00 90.00 VR #125: PBHI	179.62 179.62 L <b>(200' FSL &amp;</b>	11,868.00 11,868.00 <b>1870' FEL)</b>	-9,763.18 -9,843.00	882.57 883.10	9,768.82 9,848.64	0.00 0.00	0.00 0.00	0.00 0.00

# Design Targets

•••									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLU-16-TWR #125: S - plan hits target c - Point		0.00	0.00	0.00	0.00	440,027.10	670,388.70	32.2085514	-103.7824361
PLU-16-TWR #125: L - plan hits target c - Point	0.00 enter	0.00	11,868.00	-104.21	818.51	439,922.89	671,207.20	32.2082533	-103.7797915
PLU-16-TWR #125: L - plan misses targ - Point			11,868.00 21849.82u	-9,713.00 sft MD (1186	882.20 8.00 TVD, -9	430,314.10 9713.00 N, 882.2	671,270.90 4 E)	32.1818390	-103.7797455
PLU-16-TWR #125: F - plan misses targ - Point			11,868.00 t 11968.96	189.20 usft MD (1180	816.10 04.93 TVD, <sup>7</sup>	440,216.30 157.52 N, 811.47	671,204.80 E)	32.2090599	-103.7797944
PLU-16-TWR #125: P - plan hits target c - Point		0.01	11,868.00	-9,843.00	883.10	430,184.10	671,271.80	32.1814817	-103.7797448



Database: Company:	EDM 5000.1.13 Single User Db XTO Energy	Local Co-ordinate Reference: TVD Reference:	Well#125H RKB = 32' @ 3538.00usft (Nabors X09)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB = 32' @ 3538.00usft (Nabors X09)
Site:	Poker Lake Unit 16 TWR	North Reference:	Grid
Well:	#125H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT v4		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
626.00	626.00	Rustler			
695.00	695.00	Magenta Dolomite			
967.00	967.00	Top Salt			
4,174.51	4,165.00	Base Salt			
4,413.65	4,403.00	Delaware			
5,333.05	5,318.00	Cherry Canyon			
6,538.82	6,518.00	Brushy Canyon			
8,038.99	8,011.00	Basal Brushy Canyon			
8,257.04	8,228.00	Bone Spring Lime			
8,372.59	8,343.00	Upper Avalon Shale			
8,397.71	8,368.00	Avalon Sand			
8,809.68	8,778.00	Lower Avalon Shale			
9,050.83	9,018.00	1st Bone Spring Lime			
9,327.16	9,293.00	1st Bone Spring Ss			
9,724.05	9,688.00	2nd Bone Spring Lime			
10,035.54	9,998.00	2nd Bone Spring Ss			
10,447.51	10,408.00	3rd Bone Spring Lm			
11,170.97	11,128.00	3rd Bone Spring Ss			
11,546.89	11,498.00	Red Hills SS			
11,658.92	11,598.00	Wolfcamp			
11,682.85	11,618.00	Wolfcamp X			
11,786.89	11,698.00	Wolfcamp Y			
11,896.55	11,768.00	Wolfcamp A			
12,240.76	11,868.00	LP			

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

- 1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
  - a. 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).
  - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
- 2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
- 3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
- 4. Spudder rig operations are expected to take 2-3 days per well on the pad.
- 5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
  - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
  - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
- 7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
- 8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

# 1. Cement Program

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

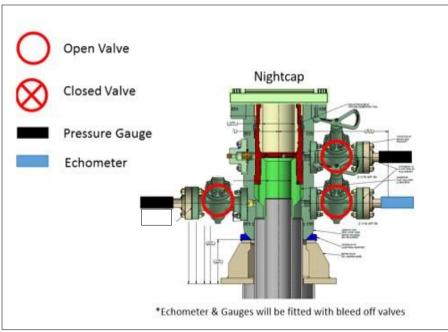
# 2. Offline Cementing Procedure

The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
- 2. Land casing with mandrel
- 3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
- 4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
- 5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
  - a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.

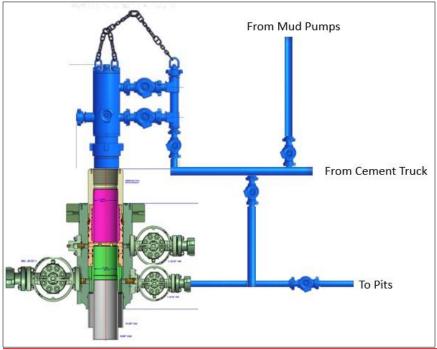


Annular packoff with both external and internal seals



Wellhead diagram during skidding operations

- 6. Skid rig to next well on pad.
- 7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
  - a. Well Control Plan
    - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
    - ii. Rig pumps or a 3<sup>rd</sup> party pump will be tied into the upper casing valve to pump down the casing ID
    - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
    - v. Well will be confirmed static
    - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
- 8. Install offline cement tool
- 9. Rig up cement equipment



Wellhead diagram during offline cementing operations

- 10. Circulate bottoms up with cement truck
  - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
  - b. Max anticipated time before circulating with cement truck is 6 hrs
- 11. Perform cement job taking returns from the annulus wellhead valve
- 12. Confirm well is static and floats are holding after cement job
- 13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

# **Background**

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

## **Supporting Documentation**

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

	Pressure Test-Low	Pressure Test-	-High Pressure <sup>ac</sup>
Component to be Pressure Tested	Pressure <sup>ac</sup> psig (MPa)	Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>bd</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or M whichever is lower	ASP for the well program,
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	
	during the evaluation period. The p	ressure shall not decrease below the allest OD drill pipe to be used in well	
	from one wellhead to another within when the integrity of a pressure sea	n the 21 days, pressure testing is req	uired for pressure-containing an

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

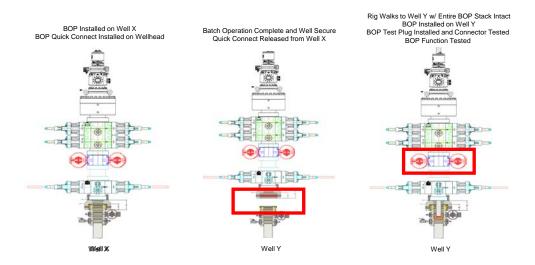
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No.2.

# **Procedures**

- XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a. A full BOP test will be conducted on the first well on the pad.
  - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
    - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
    - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
  - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d. A full BOP test will be required prior to drilling any production hole.
- 3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a. Between the HCV valve and choke line connection
  - b. Between the BOP quick connect and the wellhead
- 4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6. The connections mentioned in 3a and 3b will then be reconnected.
- 7. Install test plug into the wellhead using test joint or drill pipe.
- 8. A shell test is performed against the upper pipe rams testing the two breaks.
- 9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

- 11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.



Note: Picture below highlights BOP components that will be tested during batch operations

#### **Summary**

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.

2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.

3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.

4. Full BOP test will be required prior to drilling the production hole.

