

Submit a Copy To Appropriate District  
Office  
District I – (575) 393-6161  
1625 N. French Dr., Hobbs, NM 88240  
District II – (575) 748-1283  
811 S. First St., Artesia, NM 88210  
District III – (505) 334-6178  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV – (505) 476-3460  
1220 S. St. Francis Dr., Santa Fe, NM  
87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
Revised July 18, 2013

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-025-46167
5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Estancia SED State
8. Well Number 101H
9. OGRID Number 005380
10. Pool name or Wildcat WC-025 G-09 S243310P: Upper Wolfcamp

<p><b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)</p>	
1. Type of Well: Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/>	
2. Name of Operator XTO Energy, Inc.	
3. Address of Operator 6401 Holiday Hill Road, Bldg 5 Midland, Texas 79707	
4. Well Location Unit Letter <u>M</u> : <u>347</u> feet from the <u>South</u> line and <u>536</u> feet from the <u>West</u> line Section <u>31</u> Township <u>23S</u> Range <u>33E</u> NMPM County <u>Eddy</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3644' GL	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

XTO Energy, Inc. respectfully requests to change the associated drillign program of the well per the attached. This will update the hole size, casing design, associated cement program and mud circulation system. An updated directional plan for reference is also attached.

Variances are requested for:

Spud/batch drilling  
Offline Cementing  
BOP Break Testing

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Stephanie Rabadue TITLE Regulatory Coordinator DATE 01/04/2020

Type or print name Stephanie Rabadue E-mail address: stephanie\_rabadue@xtoenergy.com PHONE: 432-620-6714

**For State Use Only**

APPROVED BY: [Signature] TITLE \_\_\_\_\_ DATE 01/31/2021

Conditions of Approval (if any): \_\_\_\_\_

## DRILLING PLAN: NMOCD COMPLIANCE

XTO Energy Inc.  
 Estancia Sed 102H  
 Projected TD: 17956' MD / 12456' TVD  
 SHL: 409' FSL & 1204' FWL , Section 31, T23S, R33E  
 BHL: 50' FNL & 990' FWL , Section 31, T23S, R33E  
 Lea County, NM

## 1. Geologic Name of Surface Formation

A. Permian

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

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	1196'	Water
Top of Salt	1646'	Water
Base of Salt	4546'	Water
Delaware	4996'	Water
Brushy Canyon	7403'	Water/Oil/Gas
Bone Spring	8896'	Water
1st Bone Spring Ss	10046'	Water/Oil/Gas
2nd Bone Spring Ss	10671'	Water/Oil/Gas
3rd Bone Spring Ss	11896'	Water/Oil/Gas
Wolfcamp	12271'	Water/Oil/Gas
Wolfcamp X	12326'	Water/Oil/Gas
Wolfcamp Y	12436'	Water/Oil/Gas
Target/Land Curve	12456'	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 @ 1546' (100' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11673' 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" 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' – 1546'	11-3/4"	54	BTC	J-55	New	1.18	2.96	10.18
8-3/4"	0' – 4000'	7-5/8"	29.7	Liberty FJ	CYP-110	New	2.07	2.80	1.61
8-3/4"	4000' – 11673'	7-5/8"	29.7	Liberty FJ	HCL-80	New	1.50	1.89	1.78
6-3/4"	0' – 11573'	5-1/2"	23	Semi-Premium	P-110	New	1.21	2.14	2.25
6-3/4"	11573' – 12250'	5-1/2"	23	Semi-Flush	P-110	New	1.21	2.02	10.40
6-3/4"	12250' - 17956'	5"	18	Semi-Premium	P-110	New	1.16	1.84	13.59

· 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 0.3:

· 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 +/- 1546'**

Lead: 570 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: 7-5/8", 29.7 New casing to be set at +/- 11673**

Lead: 600 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)

Tail: 40 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: Surface

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. 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.

##### **Production Casing: 5-1/2", 23 x 5", 18 New casing to be set at +/- 17956'**

Lead: 20 sxs VersaCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water)

Tail: 580 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 4579 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 nipping 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 (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 1546'	14-3/4"	FW / Native	8.4-8.8	35-40	NC
1546' - 11673'	8-3/4"	Brine / Cut Brine / Direct Emulsion	8.5-9.7	30-32	NC
11673' to 17956'	6-3/4"	Cut Brine / WBM /	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 170 to 190 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 7319 psi.

## 10. Anticipated Starting Date and Duration of Operations



## **XTO Energy**

**Lea County, NM (NAD-27)**

**Estancia Sed**

**#101H**

**OH**

**Plan: PERMIT v2**

## **Standard Planning Report**

**08 December, 2020**



Project: Lea County, NM (NAD-27)  
Site: Estancia Sed  
Well: #101H  
Wellbore: OH  
Design: PERMIT v2

PROJECT DETAILS: Lea County, NM (NAD-27)  
Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
ES 101H: SHL (347' FSL & 536' FWL)	0.00	0.00	0.00	457155.00	721273.30	32.2548082	-103.6175578	Point
ES 101H: FTP	12364.00	-247.70	-184.30	456907.30	721089.00	32.2541308	-103.6181593	Point
ES 101H: LTP	12364.00	4832.00	-210.80	461987.00	721062.50	32.2680941	-103.6181355	Point
ES 101H: PBHL (50' FNL & 350' FWL)	12364.00	4882.00	-211.30	462037.00	721062.00	32.2682316	-103.6181361	Point

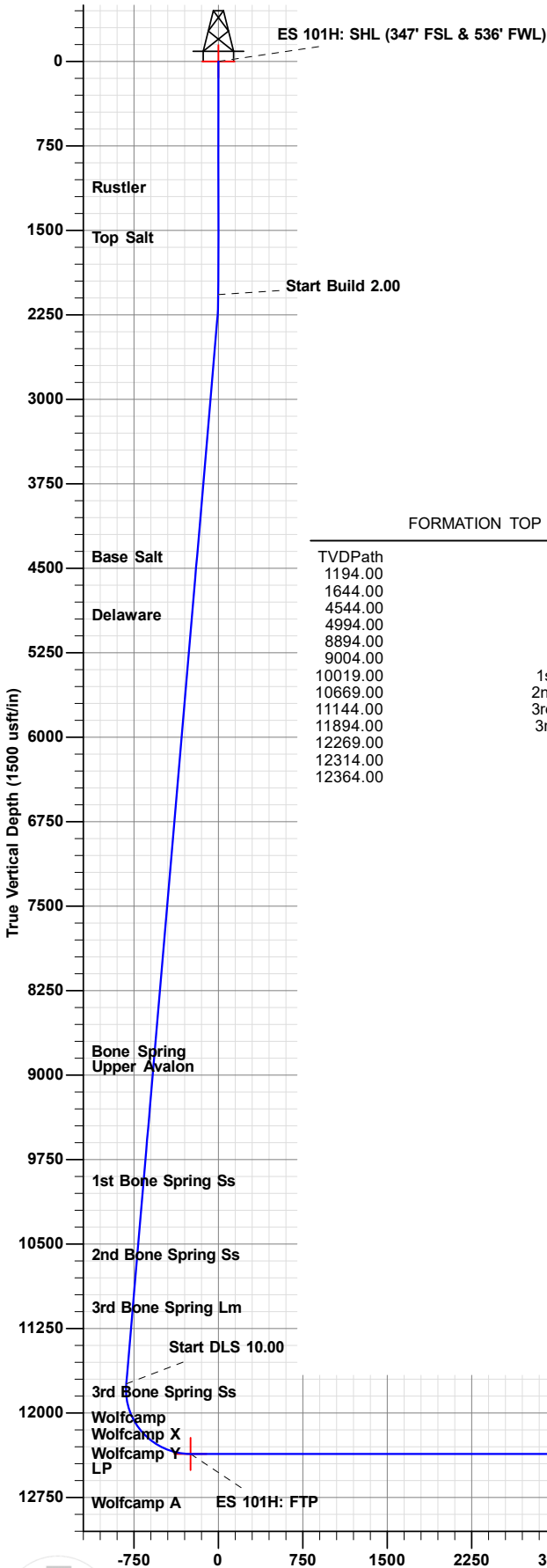
WELL DETAILS: #101H

Rig Name:  
Ref GL @ 3644.00usft  
Ground Level: 3644.00

+N/-S +E/-W Northing Easting Latitude Longitude  
0.00 0.00 457155.00 721273.30 32.2548082 -103.6175578

SECTION DETAILS

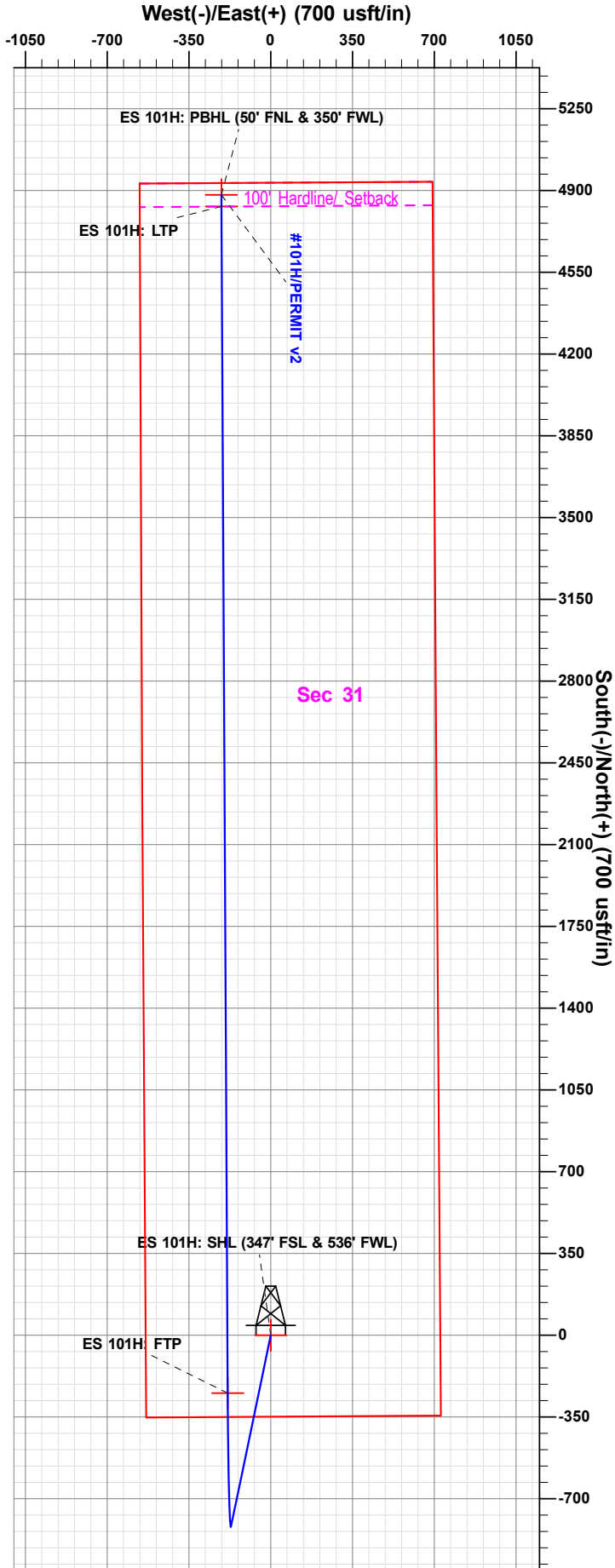
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2070.00	0.00	0.00	2070.00	0.00	0.00	0.00	0.00	0.00
3	2320.21	5.00	191.73	2319.89	-10.69	-2.22	2.00	191.73	-10.68
4	11778.64	5.00	191.73	11742.27	-818.50	-169.95	0.00	0.00	-817.60
5	12727.58	90.00	359.70	12364.00	-247.70	-184.30	10.00	167.92	-246.73
6	17807.34	90.00	359.70	12364.00	4832.00	-211.04	0.00	0.00	4833.04
7	17857.35	90.00	359.70	12364.00	4882.00	-211.30	0.00	0.00	4883.04



FORMATION TOP DETAILS

TVDPATH	Formation
1194.00	Rustler
1644.00	Top Salt
4544.00	Base Salt
4994.00	Delaware
8894.00	Bone Spring
9004.00	Upper Avalon
10019.00	1st Bone Spring Ss
10669.00	2nd Bone Spring Ss
11144.00	3rd Bone Spring Lm
11894.00	3rd Bone Spring Ss
12269.00	Wolfcamp
12314.00	Wolfcamp X
12364.00	LP

Vertical Section at 359.70° (1500 usft/in)



## District I

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Phone: (575) 748-1283 Fax: (575) 748-9720

## District III

1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

## District IV

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

<sup>1</sup> API Number 30-025-	<sup>2</sup> Pool Code	<sup>3</sup> Pool Name
<sup>4</sup> Property Code	<sup>5</sup> Property Name ESTANCIA SED	<sup>6</sup> Well Number 101H
<sup>7</sup> OGRID No. 005380	<sup>8</sup> Operator Name XTO ENERGY, INC.	<sup>9</sup> Elevation 3,644'

<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
4	31	23 S	33 E		347	SOUTH	536	WEST	LEA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	31	23 S	33 E		50	NORTH	350	WEST	LEA

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.	<b>SEE ORIGINAL C-102</b> <b>NO CHANGES TO ORIGINAL C-102</b>
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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.

<p><sup>16</sup></p>				<p><b><sup>17</sup> OPERATOR CERTIFICATION</b></p> <p>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 owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>	
<p><b><sup>18</sup> SURVEYOR CERTIFICATION</b></p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>05-21-2019 Date of Survey</p> <p>Signature and Seal of Professional Surveyor: </p> <p>MARK DILLON HARP 23786 Certificate Number</p>				<p>RR 2018112874</p>	



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

<b>Project</b>	Lea County, NM (NAD-27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

Site		Estancia Sed			
Site Position:		Northing:	457,155.00 usft	Latitude:	32.2548083
From:	Map	Easting:	721,273.30 usft	Longitude:	-103.6175578
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	#101H					
Well Position	+N/-S	0.00 usft	Northing:	457,155.00 usft	Latitude:	32.2548083
	+E/-W	0.00 usft	Easting:	721,273.30 usft	Longitude:	-103.6175578
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,644.00 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	06/11/19	6.76	60.06	47,746

<b>Design</b>	PERMIT v2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	359.70

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,070.00	0.00	0.00	2,070.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,320.21	5.00	191.73	2,319.89	-10.69	-2.22	2.00	2.00	0.00	191.73	
11,778.64	5.00	191.73	11,742.27	-818.50	-169.95	0.00	0.00	0.00	0.00	
12,727.58	90.00	359.70	12,364.00	-247.70	-184.30	10.00	8.96	17.70	167.92	ES 101H: FTP
17,807.34	90.00	359.70	12,364.00	4,832.00	-211.04	0.00	0.00	0.00	0.00	ES 101H: LTP
17,857.35	90.00	359.70	12,364.00	4,882.00	-211.30	0.00	0.00	0.00	0.00	ES 101H: PBHL (50





## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
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	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,070.00	0.00	0.00	2,070.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.60	191.73	2,100.00	-0.15	-0.03	-0.15	2.00	2.00	0.00
2,200.00	2.60	191.73	2,199.96	-2.89	-0.60	-2.88	2.00	2.00	0.00
2,300.00	4.60	191.73	2,299.75	-9.04	-1.88	-9.03	2.00	2.00	0.00
2,320.21	5.00	191.73	2,319.89	-10.69	-2.22	-10.68	2.00	2.00	0.00
2,400.00	5.00	191.73	2,399.38	-17.51	-3.63	-17.49	0.00	0.00	0.00
2,500.00	5.00	191.73	2,499.00	-26.05	-5.41	-26.02	0.00	0.00	0.00
2,600.00	5.00	191.73	2,598.62	-34.59	-7.18	-34.55	0.00	0.00	0.00
2,700.00	5.00	191.73	2,698.23	-43.13	-8.95	-43.08	0.00	0.00	0.00
2,800.00	5.00	191.73	2,797.85	-51.67	-10.73	-51.61	0.00	0.00	0.00
2,900.00	5.00	191.73	2,897.47	-60.21	-12.50	-60.14	0.00	0.00	0.00
3,000.00	5.00	191.73	2,997.09	-68.75	-14.27	-68.67	0.00	0.00	0.00
3,100.00	5.00	191.73	3,096.71	-77.29	-16.05	-77.21	0.00	0.00	0.00
3,200.00	5.00	191.73	3,196.33	-85.83	-17.82	-85.74	0.00	0.00	0.00
3,300.00	5.00	191.73	3,295.95	-94.37	-19.59	-94.27	0.00	0.00	0.00
3,400.00	5.00	191.73	3,395.57	-102.91	-21.37	-102.80	0.00	0.00	0.00
3,500.00	5.00	191.73	3,495.19	-111.45	-23.14	-111.33	0.00	0.00	0.00
3,600.00	5.00	191.73	3,594.80	-119.99	-24.91	-119.86	0.00	0.00	0.00
3,700.00	5.00	191.73	3,694.42	-128.53	-26.69	-128.39	0.00	0.00	0.00
3,800.00	5.00	191.73	3,794.04	-137.08	-28.46	-136.92	0.00	0.00	0.00
3,900.00	5.00	191.73	3,893.66	-145.62	-30.23	-145.46	0.00	0.00	0.00
4,000.00	5.00	191.73	3,993.28	-154.16	-32.01	-153.99	0.00	0.00	0.00
4,100.00	5.00	191.73	4,092.90	-162.70	-33.78	-162.52	0.00	0.00	0.00
4,200.00	5.00	191.73	4,192.52	-171.24	-35.55	-171.05	0.00	0.00	0.00
4,300.00	5.00	191.73	4,292.14	-179.78	-37.33	-179.58	0.00	0.00	0.00
4,400.00	5.00	191.73	4,391.75	-188.32	-39.10	-188.11	0.00	0.00	0.00
4,500.00	5.00	191.73	4,491.37	-196.86	-40.87	-196.64	0.00	0.00	0.00
4,600.00	5.00	191.73	4,590.99	-205.40	-42.65	-205.17	0.00	0.00	0.00
4,700.00	5.00	191.73	4,690.61	-213.94	-44.42	-213.71	0.00	0.00	0.00
4,800.00	5.00	191.73	4,790.23	-222.48	-46.19	-222.24	0.00	0.00	0.00
4,900.00	5.00	191.73	4,889.85	-231.02	-47.97	-230.77	0.00	0.00	0.00
5,000.00	5.00	191.73	4,989.47	-239.56	-49.74	-239.30	0.00	0.00	0.00
5,100.00	5.00	191.73	5,089.09	-248.10	-51.51	-247.83	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

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)
5,200.00	5.00	191.73	5,188.71	-256.64	-53.29	-256.36	0.00	0.00	0.00
5,300.00	5.00	191.73	5,288.32	-265.18	-55.06	-264.89	0.00	0.00	0.00
5,400.00	5.00	191.73	5,387.94	-273.73	-56.83	-273.42	0.00	0.00	0.00
5,500.00	5.00	191.73	5,487.56	-282.27	-58.61	-281.96	0.00	0.00	0.00
5,600.00	5.00	191.73	5,587.18	-290.81	-60.38	-290.49	0.00	0.00	0.00
5,700.00	5.00	191.73	5,686.80	-299.35	-62.15	-299.02	0.00	0.00	0.00
5,800.00	5.00	191.73	5,786.42	-307.89	-63.93	-307.55	0.00	0.00	0.00
5,900.00	5.00	191.73	5,886.04	-316.43	-65.70	-316.08	0.00	0.00	0.00
6,000.00	5.00	191.73	5,985.66	-324.97	-67.47	-324.61	0.00	0.00	0.00
6,100.00	5.00	191.73	6,085.28	-333.51	-69.25	-333.14	0.00	0.00	0.00
6,200.00	5.00	191.73	6,184.89	-342.05	-71.02	-341.67	0.00	0.00	0.00
6,300.00	5.00	191.73	6,284.51	-350.59	-72.79	-350.21	0.00	0.00	0.00
6,400.00	5.00	191.73	6,384.13	-359.13	-74.57	-358.74	0.00	0.00	0.00
6,500.00	5.00	191.73	6,483.75	-367.67	-76.34	-367.27	0.00	0.00	0.00
6,600.00	5.00	191.73	6,583.37	-376.21	-78.11	-375.80	0.00	0.00	0.00
6,700.00	5.00	191.73	6,682.99	-384.75	-79.89	-384.33	0.00	0.00	0.00
6,800.00	5.00	191.73	6,782.61	-393.29	-81.66	-392.86	0.00	0.00	0.00
6,900.00	5.00	191.73	6,882.23	-401.83	-83.43	-401.39	0.00	0.00	0.00
7,000.00	5.00	191.73	6,981.84	-410.38	-85.21	-409.92	0.00	0.00	0.00
7,100.00	5.00	191.73	7,081.46	-418.92	-86.98	-418.45	0.00	0.00	0.00
7,200.00	5.00	191.73	7,181.08	-427.46	-88.75	-426.99	0.00	0.00	0.00
7,300.00	5.00	191.73	7,280.70	-436.00	-90.53	-435.52	0.00	0.00	0.00
7,400.00	5.00	191.73	7,380.32	-444.54	-92.30	-444.05	0.00	0.00	0.00
7,500.00	5.00	191.73	7,479.94	-453.08	-94.07	-452.58	0.00	0.00	0.00
7,600.00	5.00	191.73	7,579.56	-461.62	-95.85	-461.11	0.00	0.00	0.00
7,700.00	5.00	191.73	7,679.18	-470.16	-97.62	-469.64	0.00	0.00	0.00
7,800.00	5.00	191.73	7,778.80	-478.70	-99.39	-478.17	0.00	0.00	0.00
7,900.00	5.00	191.73	7,878.41	-487.24	-101.17	-486.70	0.00	0.00	0.00
8,000.00	5.00	191.73	7,978.03	-495.78	-102.94	-495.24	0.00	0.00	0.00
8,100.00	5.00	191.73	8,077.65	-504.32	-104.71	-503.77	0.00	0.00	0.00
8,200.00	5.00	191.73	8,177.27	-512.86	-106.49	-512.30	0.00	0.00	0.00
8,300.00	5.00	191.73	8,276.89	-521.40	-108.26	-520.83	0.00	0.00	0.00
8,400.00	5.00	191.73	8,376.51	-529.94	-110.03	-529.36	0.00	0.00	0.00
8,500.00	5.00	191.73	8,476.13	-538.49	-111.81	-537.89	0.00	0.00	0.00
8,600.00	5.00	191.73	8,575.75	-547.03	-113.58	-546.42	0.00	0.00	0.00
8,700.00	5.00	191.73	8,675.36	-555.57	-115.35	-554.95	0.00	0.00	0.00
8,800.00	5.00	191.73	8,774.98	-564.11	-117.13	-563.49	0.00	0.00	0.00
8,900.00	5.00	191.73	8,874.60	-572.65	-118.90	-572.02	0.00	0.00	0.00
9,000.00	5.00	191.73	8,974.22	-581.19	-120.67	-580.55	0.00	0.00	0.00
9,100.00	5.00	191.73	9,073.84	-589.73	-122.45	-589.08	0.00	0.00	0.00
9,200.00	5.00	191.73	9,173.46	-598.27	-124.22	-597.61	0.00	0.00	0.00
9,300.00	5.00	191.73	9,273.08	-606.81	-125.99	-606.14	0.00	0.00	0.00
9,400.00	5.00	191.73	9,372.70	-615.35	-127.77	-614.67	0.00	0.00	0.00
9,500.00	5.00	191.73	9,472.32	-623.89	-129.54	-623.20	0.00	0.00	0.00
9,600.00	5.00	191.73	9,571.93	-632.43	-131.31	-631.74	0.00	0.00	0.00
9,700.00	5.00	191.73	9,671.55	-640.97	-133.09	-640.27	0.00	0.00	0.00
9,800.00	5.00	191.73	9,771.17	-649.51	-134.86	-648.80	0.00	0.00	0.00
9,900.00	5.00	191.73	9,870.79	-658.05	-136.63	-657.33	0.00	0.00	0.00
10,000.00	5.00	191.73	9,970.41	-666.59	-138.41	-665.86	0.00	0.00	0.00
10,100.00	5.00	191.73	10,070.03	-675.14	-140.18	-674.39	0.00	0.00	0.00
10,200.00	5.00	191.73	10,169.65	-683.68	-141.95	-682.92	0.00	0.00	0.00
10,300.00	5.00	191.73	10,269.27	-692.22	-143.73	-691.45	0.00	0.00	0.00
10,400.00	5.00	191.73	10,368.89	-700.76	-145.50	-699.99	0.00	0.00	0.00
10,500.00	5.00	191.73	10,468.50	-709.30	-147.27	-708.52	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,600.00	5.00	191.73	10,568.12	-717.84	-149.05	-717.05	0.00	0.00	0.00
10,700.00	5.00	191.73	10,667.74	-726.38	-150.82	-725.58	0.00	0.00	0.00
10,800.00	5.00	191.73	10,767.36	-734.92	-152.59	-734.11	0.00	0.00	0.00
10,900.00	5.00	191.73	10,866.98	-743.46	-154.37	-742.64	0.00	0.00	0.00
11,000.00	5.00	191.73	10,966.60	-752.00	-156.14	-751.17	0.00	0.00	0.00
11,100.00	5.00	191.73	11,066.22	-760.54	-157.91	-759.70	0.00	0.00	0.00
11,200.00	5.00	191.73	11,165.84	-769.08	-159.69	-768.24	0.00	0.00	0.00
11,300.00	5.00	191.73	11,265.45	-777.62	-161.46	-776.77	0.00	0.00	0.00
11,400.00	5.00	191.73	11,365.07	-786.16	-163.23	-785.30	0.00	0.00	0.00
11,500.00	5.00	191.73	11,464.69	-794.70	-165.01	-793.83	0.00	0.00	0.00
11,600.00	5.00	191.73	11,564.31	-803.24	-166.78	-802.36	0.00	0.00	0.00
11,700.00	5.00	191.73	11,663.93	-811.79	-168.55	-810.89	0.00	0.00	0.00
11,778.64	5.00	191.73	11,742.27	-818.50	-169.95	-817.60	0.00	0.00	0.00
11,800.00	2.95	200.45	11,763.58	-819.93	-170.33	-819.03	10.00	-9.62	40.81
11,850.00	2.47	334.71	11,813.55	-820.16	-171.24	-819.25	10.00	-0.95	268.52
11,900.00	7.32	351.53	11,863.36	-816.03	-172.17	-815.12	10.00	9.69	33.63
11,950.00	12.29	354.89	11,912.61	-807.58	-173.11	-806.66	10.00	9.94	6.73
12,000.00	17.27	356.33	11,960.94	-794.86	-174.06	-793.94	10.00	9.97	2.88
12,050.00	22.27	357.14	12,007.98	-777.98	-175.01	-777.06	10.00	9.99	1.62
12,100.00	27.26	357.67	12,053.37	-757.07	-175.95	-756.14	10.00	9.99	1.05
12,150.00	32.26	358.04	12,096.76	-732.27	-176.87	-731.34	10.00	9.99	0.75
12,200.00	37.26	358.32	12,137.83	-703.79	-177.77	-702.85	10.00	9.99	0.56
12,250.00	42.25	358.55	12,176.26	-671.84	-178.64	-670.90	10.00	10.00	0.45
12,300.00	47.25	358.73	12,211.75	-636.66	-179.47	-635.71	10.00	10.00	0.37
12,350.00	52.25	358.89	12,244.05	-598.52	-180.26	-597.57	10.00	10.00	0.31
12,400.00	57.25	359.03	12,272.90	-557.71	-181.01	-556.75	10.00	10.00	0.27
12,450.00	62.25	359.15	12,298.08	-514.53	-181.69	-513.58	10.00	10.00	0.24
12,500.00	67.25	359.26	12,319.40	-469.33	-182.32	-468.37	10.00	10.00	0.22
12,550.00	72.25	359.36	12,336.71	-422.44	-182.88	-421.48	10.00	10.00	0.21
12,600.00	77.24	359.46	12,349.86	-374.22	-183.38	-373.26	10.00	10.00	0.20
12,650.00	82.24	359.56	12,358.76	-325.04	-183.80	-324.07	10.00	10.00	0.19
12,700.00	87.24	359.65	12,363.34	-275.26	-184.14	-274.30	10.00	10.00	0.18
12,727.58	90.00	359.70	12,364.00	-247.70	-184.30	-246.73	10.00	10.00	0.18
12,800.00	90.00	359.70	12,364.00	-175.28	-184.68	-174.31	0.00	0.00	0.00
12,900.00	90.00	359.70	12,364.00	-75.28	-185.21	-74.31	0.00	0.00	0.00
13,000.00	90.00	359.70	12,364.00	24.72	-185.73	25.69	0.00	0.00	0.00
13,100.00	90.00	359.70	12,364.00	124.72	-186.26	125.69	0.00	0.00	0.00
13,200.00	90.00	359.70	12,364.00	224.72	-186.79	225.69	0.00	0.00	0.00
13,300.00	90.00	359.70	12,364.00	324.72	-187.31	325.69	0.00	0.00	0.00
13,400.00	90.00	359.70	12,364.00	424.72	-187.84	425.69	0.00	0.00	0.00
13,500.00	90.00	359.70	12,364.00	524.71	-188.37	525.69	0.00	0.00	0.00
13,600.00	90.00	359.70	12,364.00	624.71	-188.89	625.69	0.00	0.00	0.00
13,700.00	90.00	359.70	12,364.00	724.71	-189.42	725.69	0.00	0.00	0.00
13,800.00	90.00	359.70	12,364.00	824.71	-189.94	825.69	0.00	0.00	0.00
13,900.00	90.00	359.70	12,364.00	924.71	-190.47	925.69	0.00	0.00	0.00
14,000.00	90.00	359.70	12,364.00	1,024.71	-191.00	1,025.69	0.00	0.00	0.00
14,100.00	90.00	359.70	12,364.00	1,124.71	-191.52	1,125.69	0.00	0.00	0.00
14,200.00	90.00	359.70	12,364.00	1,224.70	-192.05	1,225.69	0.00	0.00	0.00
14,300.00	90.00	359.70	12,364.00	1,324.70	-192.58	1,325.69	0.00	0.00	0.00
14,400.00	90.00	359.70	12,364.00	1,424.70	-193.10	1,425.69	0.00	0.00	0.00
14,500.00	90.00	359.70	12,364.00	1,524.70	-193.63	1,525.69	0.00	0.00	0.00
14,600.00	90.00	359.70	12,364.00	1,624.70	-194.16	1,625.69	0.00	0.00	0.00
14,700.00	90.00	359.70	12,364.00	1,724.70	-194.68	1,725.69	0.00	0.00	0.00
14,800.00	90.00	359.70	12,364.00	1,824.70	-195.21	1,825.69	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

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)	
14,900.00	90.00	359.70	12,364.00	1,924.69	-195.73	1,925.69	0.00	0.00	0.00	
15,000.00	90.00	359.70	12,364.00	2,024.69	-196.26	2,025.69	0.00	0.00	0.00	
15,100.00	90.00	359.70	12,364.00	2,124.69	-196.79	2,125.69	0.00	0.00	0.00	
15,200.00	90.00	359.70	12,364.00	2,224.69	-197.31	2,225.69	0.00	0.00	0.00	
15,300.00	90.00	359.70	12,364.00	2,324.69	-197.84	2,325.69	0.00	0.00	0.00	
15,400.00	90.00	359.70	12,364.00	2,424.69	-198.37	2,425.69	0.00	0.00	0.00	
15,500.00	90.00	359.70	12,364.00	2,524.69	-198.89	2,525.69	0.00	0.00	0.00	
15,600.00	90.00	359.70	12,364.00	2,624.69	-199.42	2,625.69	0.00	0.00	0.00	
15,700.00	90.00	359.70	12,364.00	2,724.68	-199.95	2,725.69	0.00	0.00	0.00	
15,800.00	90.00	359.70	12,364.00	2,824.68	-200.47	2,825.69	0.00	0.00	0.00	
15,900.00	90.00	359.70	12,364.00	2,924.68	-201.00	2,925.69	0.00	0.00	0.00	
16,000.00	90.00	359.70	12,364.00	3,024.68	-201.52	3,025.69	0.00	0.00	0.00	
16,100.00	90.00	359.70	12,364.00	3,124.68	-202.05	3,125.69	0.00	0.00	0.00	
16,200.00	90.00	359.70	12,364.00	3,224.68	-202.58	3,225.69	0.00	0.00	0.00	
16,300.00	90.00	359.70	12,364.00	3,324.68	-203.10	3,325.69	0.00	0.00	0.00	
16,400.00	90.00	359.70	12,364.00	3,424.67	-203.63	3,425.69	0.00	0.00	0.00	
16,500.00	90.00	359.70	12,364.00	3,524.67	-204.16	3,525.69	0.00	0.00	0.00	
16,600.00	90.00	359.70	12,364.00	3,624.67	-204.68	3,625.69	0.00	0.00	0.00	
16,700.00	90.00	359.70	12,364.00	3,724.67	-205.21	3,725.69	0.00	0.00	0.00	
16,800.00	90.00	359.70	12,364.00	3,824.67	-205.73	3,825.69	0.00	0.00	0.00	
16,900.00	90.00	359.70	12,364.00	3,924.67	-206.26	3,925.69	0.00	0.00	0.00	
17,000.00	90.00	359.70	12,364.00	4,024.67	-206.79	4,025.69	0.00	0.00	0.00	
17,100.00	90.00	359.70	12,364.00	4,124.66	-207.31	4,125.69	0.00	0.00	0.00	
17,200.00	90.00	359.70	12,364.00	4,224.66	-207.84	4,225.69	0.00	0.00	0.00	
17,300.00	90.00	359.70	12,364.00	4,324.66	-208.37	4,325.69	0.00	0.00	0.00	
17,400.00	90.00	359.70	12,364.00	4,424.66	-208.89	4,425.69	0.00	0.00	0.00	
17,500.00	90.00	359.70	12,364.00	4,524.66	-209.42	4,525.69	0.00	0.00	0.00	
17,600.00	90.00	359.70	12,364.00	4,624.66	-209.95	4,625.69	0.00	0.00	0.00	
17,700.00	90.00	359.70	12,364.00	4,724.66	-210.47	4,725.69	0.00	0.00	0.00	
17,807.34	90.00	359.70	12,364.00	4,832.00	-211.04	4,833.04	0.00	0.00	0.00	
17,857.35	90.00	359.70	12,364.00	4,882.00	-211.30	4,883.04	0.00	0.00	0.00	

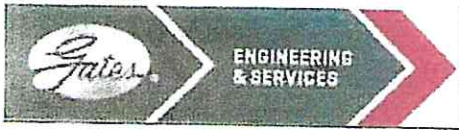
Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
ES 101H: SHL (347' F - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	457,155.00	721,273.30	32.2548083	-103.6175578	
ES 101H: FTP - plan hits target center - Point	0.00	0.00	12,364.00	-247.70	-184.30	456,907.30	721,089.00	32.2541308	-103.6181593	
ES 101H: PBHL (50' F - plan hits target center - Point	0.00	0.00	12,364.00	4,882.00	-211.30	462,037.00	721,062.00	32.2682316	-103.6181361	
ES 101H: LTP - plan misses target center by 0.24usft at 17807.34usft MD (12364.00 TVD, 4832.00 N, -211.04 E) - Point	0.00	0.00	12,364.00	4,832.00	-210.80	461,987.00	721,062.50	32.2680942	-103.6181355	



## Planning Report

<b>Database:</b>	EDM 5000.1.13 Single User Db	<b>Local Co-ordinate Reference:</b>	Well #101H
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Ref GL @ 3644.00usft
<b>Project:</b>	Lea County, NM (NAD-27)	<b>MD Reference:</b>	Ref GL @ 3644.00usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	#101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PERMIT v2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,194.00	-2,294.90	Rustler				
1,644.00	-1,844.90	Top Salt				
2,489.90	0.00	Wolfcamp Y				
2,489.90	0.00	Wolfcamp A				
4,552.83	1,055.10	Base Salt				
5,004.55	1,505.10	Delaware				
8,919.47	5,405.10	Bone Spring				
9,029.89	5,515.10	Upper Avalon				
10,048.78	6,530.10	1st Bone Spring Ss				
10,701.26	7,180.10	2nd Bone Spring Ss				
11,178.08	7,655.10	3rd Bone Spring Lm				
11,931.02	8,405.10	3rd Bone Spring Ss				
12,392.87	8,780.10	Wolfcamp				
12,486.41	8,825.10	Wolfcamp X				
12,727.58	8,875.10	LP				



GATES E & S NORTH AMERICA, INC  
DU-TEX  
134 44TH STREET  
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: crpe@s@gates.com  
WEB: www.gates.com

### GRADE D PRESSURE TEST CERTIFICATE

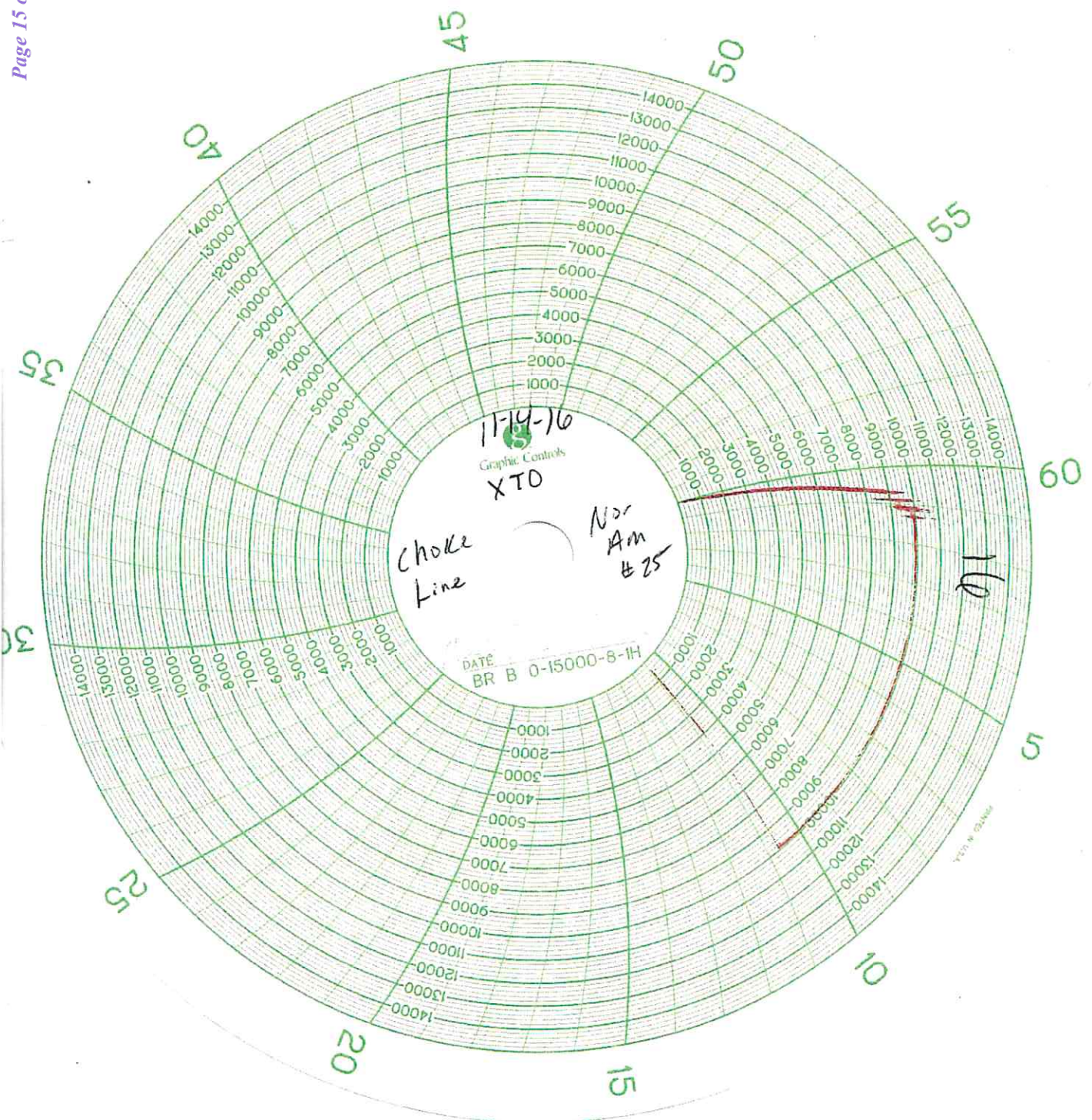
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	

Form PTC - 01 Rev.0 2









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 nipped 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.

**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

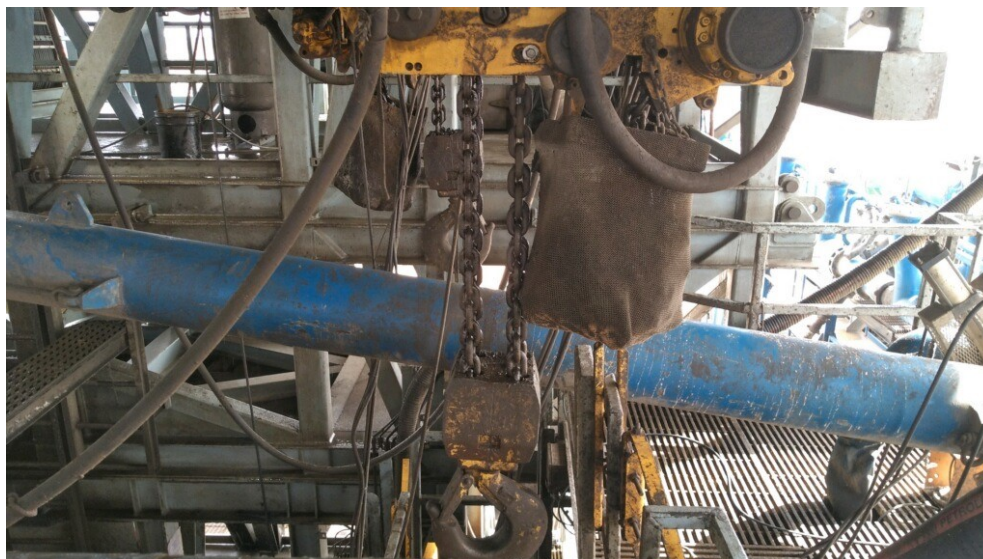


Figure 2: BOP Winch System

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.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>ac</sup> psig (MPa)	Pressure Test—High Pressure <sup>ac</sup>	
		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 MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

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.

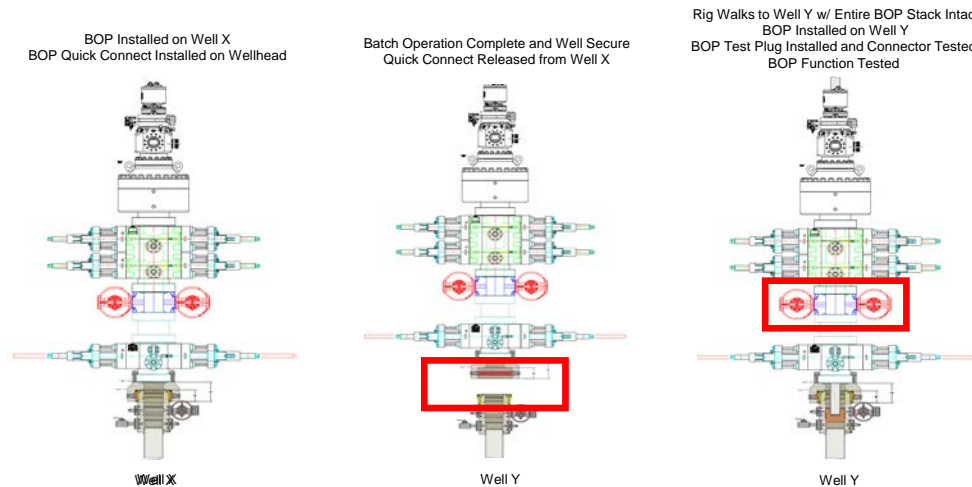
### **Procedures**

1. 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.

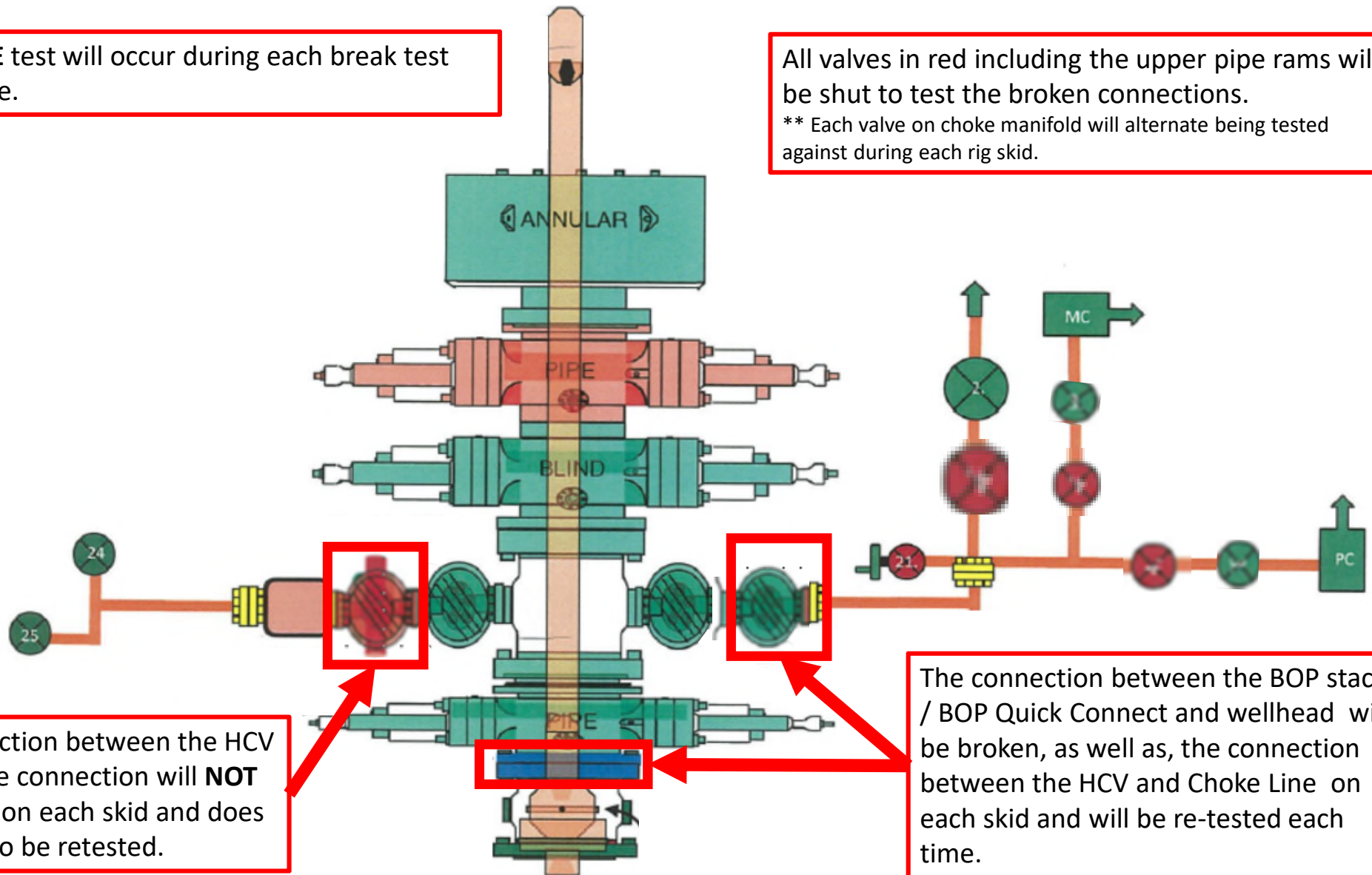
Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

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.

Only **ONE** test will occur during each break test procedure.

All valves in red including the upper pipe rams will be shut to test the broken connections.

\*\* Each valve on choke manifold will alternate being tested against during each rig skid.



The connection between the HCV and kill line connection will **NOT** be broken on each skid and does not need to be retested.

The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.

**XTO Permian Operating, LLC Offline Cementing Variance Request**

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 nippedled 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

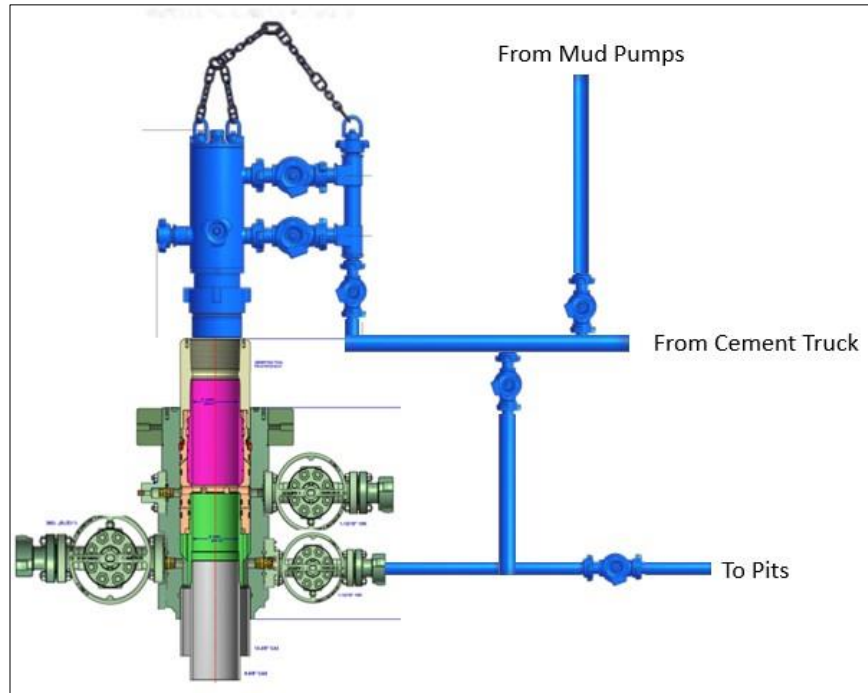
## XTO Permian Operating, LLC Offline Cementing Variance Request



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 nipping 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



**XTO Permian Operating, LLC Offline Cementing Variance Request**

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.

**XTO Permian Operating, LLC Offline Cementing Variance Request**

XTO requests the option to cement the production casing string offline as a prudent batch drilling efficiency of acreage development.

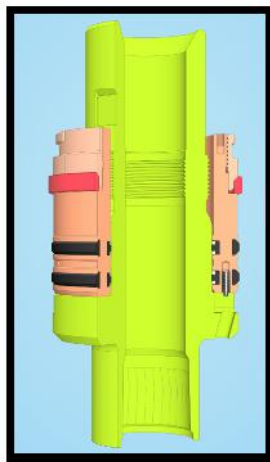
**1. Cement Program**

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

**2. Offline Cementing Procedure**

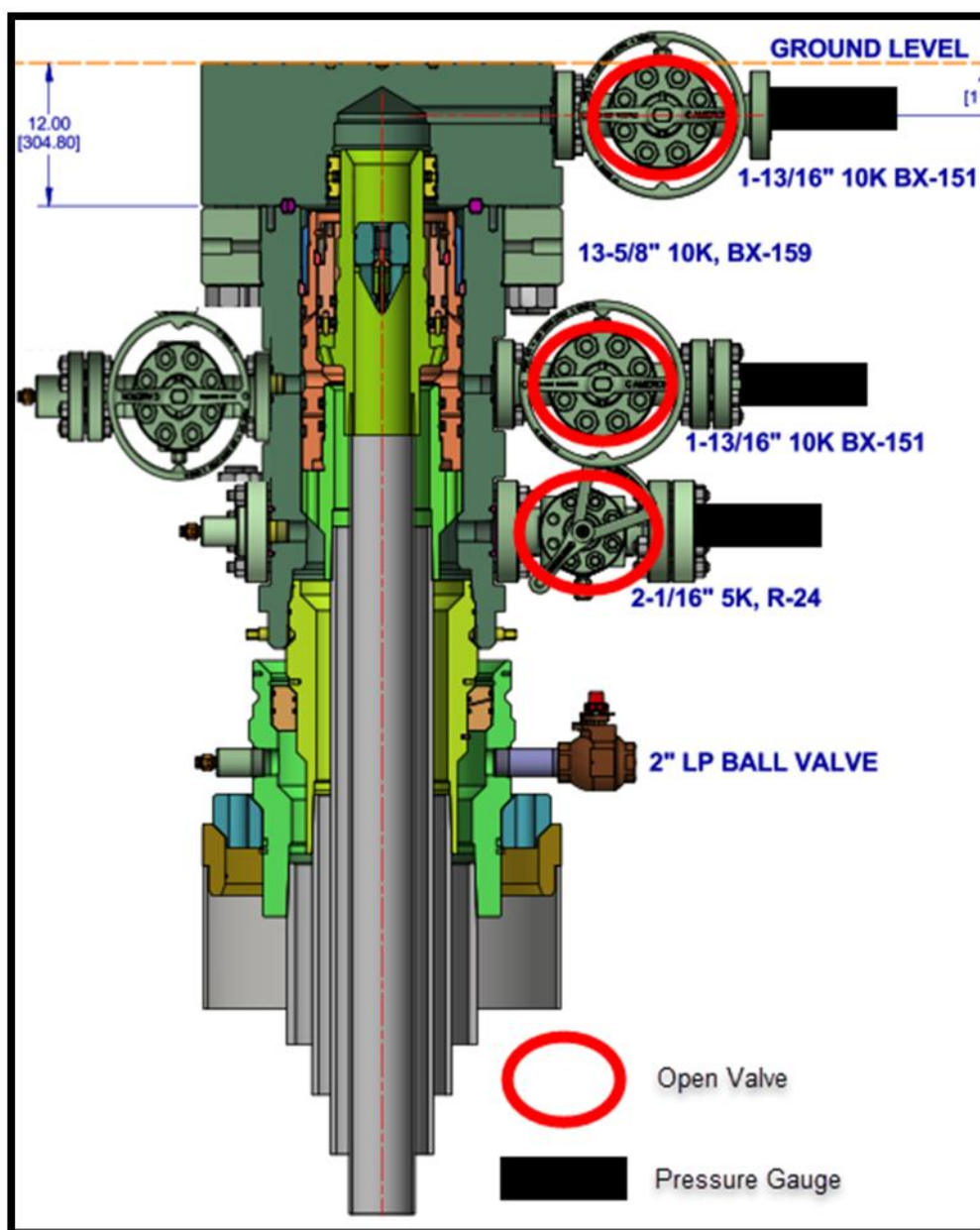
The operational sequence will be as follows: If a well control event occurs, the NMOCD will be contacted for approval prior to conducting offline cementing operations.

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 10,000 psi. After a satisfactory test is achieved, bleed off all test pressure, remove the test pump, and re-install the fitting.
5. Lay down the landing joint/running tool and install a back-pressure valve (BPV) in the hanger.
6. 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 nipped down until after the cement job is completed with cement 500 ft. 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

## XTO Permian Operating, LLC Offline Cementing Variance Request

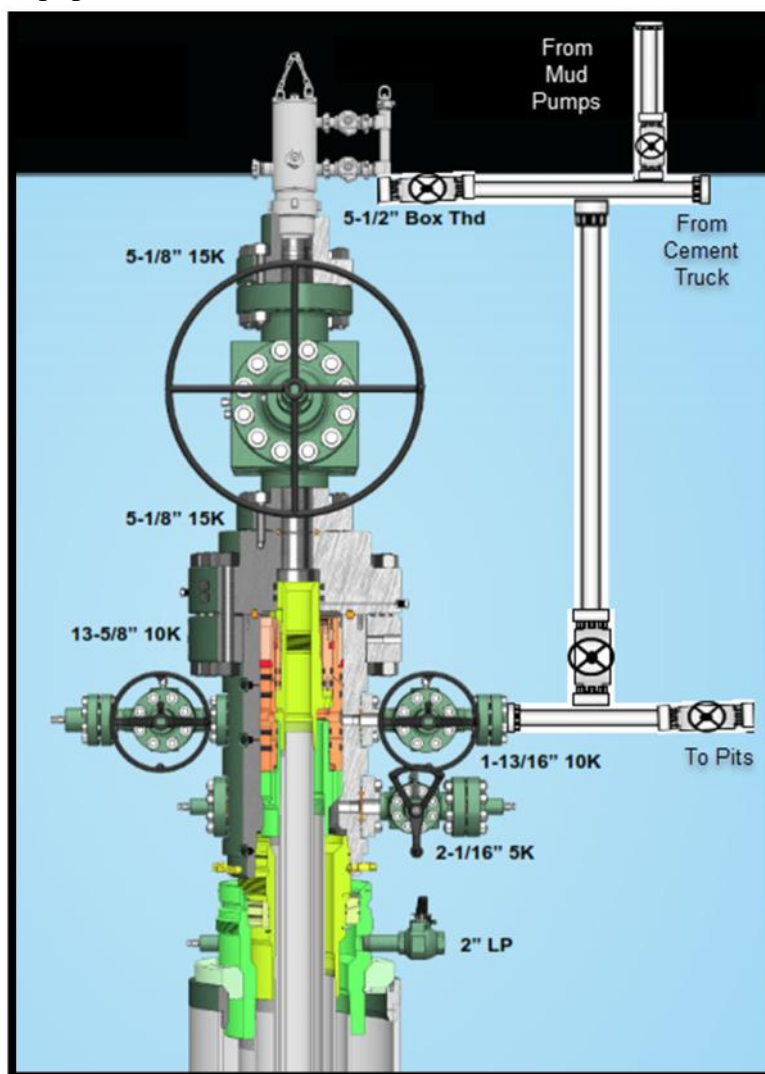


Wellhead diagram during skidding operations with BPV

7. Skid rig to next well on pad.
8. 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.
9. Remove the cover and install the flange with gate valve and cement head adapter. Re-test between the upper seal on the 5-1/2" and the lower seal on the cement adapter / in-between the seals of the cement adapter. Proceed to confirm no pressure behind the BPV by unseating the poppet and pull the same. 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 nipping up for further remediation.
  - a. Well Control Plan:

**XTO Permian Operating, LLC Offline Cementing Variance Request**

- 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.
10. Install offline cement tool.
  11. Rig up cement equipment.



Wellhead diagram during offline cementing operations

**XTO Permian Operating, LLC Offline Cementing Variance Request**

12. 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.
13. Perform cement job taking returns from the annulus wellhead valve.
14. Confirm well is static and floats are holding after cement job.
15. Install BPV and remove cement equipment, offline cement tools, and install night cap with pressure gauge for monitoring.

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
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**District III**  
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**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
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**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
  
Action 11831

CONDITIONS OF APPROVAL

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707	OGRID: 5380	Action Number: 11831	Action Type: C-103A
OCD Reviewer pkautz	Condition None		