

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

**District III**

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

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

Form C-101

August 1, 2011

Permit 296936

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

1. Operator Name and Address XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707		2. OGRID Number 5380
		3. API Number 30-025-49030
4. Property Code 39243	5. Property Name ESTANCIA SED STATE	6. Well No. 101H

**7. Surface Location**

UL - Lot M	Section 31	Township 23S	Range 33E	Lot Idn 4	Feet From 409	N/S Line S	Feet From 1209	E/W Line W	County Lea
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**8. Proposed Bottom Hole Location**

UL - Lot D	Section 31	Township 23S	Range 33E	Lot Idn 1	Feet From 50	N/S Line N	Feet From 303	E/W Line W	County Lea
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**9. Pool Information**

WC-025 G-09 S243310P;UPPER WOLFCAMP	98135
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**Additional Well Information**

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3649
16. Multiple N	17. Proposed Depth 17533	18. Formation Wolfcamp	19. Contractor	20. Spud Date 6/28/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	40	1577	550	0
Int1	8.75	7.625	29.7	11829	1460	0
Prod	6.75	5	18	17533	510	11529

**Casing/Cement Program: Additional Comments**

The well will include a tapered string. See attached drilling program for additional casing/cement information associated with the well.
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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	5000	3500	Camron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable.	<b>OIL CONSERVATION DIVISION</b>	
Signature:		
Printed Name: Electronically filed by Tiffany Yancey	Approved By: Paul F Kautz	
Title: Production Analyst	Title: Geologist	
Email Address: tiffany.yancey@exxonmobil.com	Approved Date: 6/15/2021	Expiration Date: 6/15/2023
Date: 6/6/2021	Phone: 432-215-8939	Conditions of Approval Attached

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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 <b>30-025-49030</b>	<sup>2</sup> Pool Code 98135	<sup>3</sup> Pool Name WC-025 G-09 S243310P; Upper Wolfcamp
<sup>4</sup> Property Code 39243	<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 3,649'

<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		409	SOUTH	1,209	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	330	WEST	LEA

<sup>12</sup> Dedicated Acres 160	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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>LOT ACREAGE TABLE</b></p> <p><b>SECTION 31</b></p> <p>LOT 1 - 37.99 ACRES</p> <p>LOT 2 - 38.06 ACRES</p> <p>LOT 3 - 38.12 ACRES</p> <p>LOT 4 - 38.19 ACRES</p> <p><b>SEC. 31</b></p> <p><b>T23S R33E</b></p> <p>GRID AZ.=359°41'55"</p> <p>HORIZ. DIST.=5,180.00'</p> <p>GRID AZ.=247°29'42"</p> <p>HORIZ. DIST.=949.19'</p>	<p><b>SHL (NAD83 NME)</b></p> <p>Y = 457,279.2</p> <p>X = 763,130.0</p> <p>LAT. = 32.255098 °N</p> <p>LONG. = 103.615860 °W</p> <p><b>FTP (NAD83 NME)</b></p> <p>Y = 456,915.9</p> <p>X = 762,253.1</p> <p>LAT. = 32.254116 °N</p> <p>LONG. = 103.618705 °W</p> <p><b>SHL (NAD27 NME)</b></p> <p>Y = 457,220.6</p> <p>X = 721,946.4</p> <p>LAT. = 32.254976 °N</p> <p>LONG. = 103.615379 °W</p> <p><b>FTP (NAD27 NME)</b></p> <p>Y = 456,857.3</p> <p>X = 721,069.5</p> <p>LAT. = 32.253994 °N</p> <p>LONG. = 103.618224 °W</p> <p><b>LTP (NAD83 NME)</b></p> <p>Y = 462,045.8</p> <p>X = 762,226.1</p> <p>LAT. = 32.268217 °N</p> <p>LONG. = 103.618682 °W</p> <p><b>BHL (NAD83 NME)</b></p> <p>Y = 462,095.8</p> <p>X = 762,225.9</p> <p>LAT. = 32.268354 °N</p> <p>LONG. = 103.618681 °W</p> <p><b>LTP (NAD27 NME)</b></p> <p>Y = 461,987.1</p> <p>X = 721,042.6</p> <p>LAT. = 32.268095 °N</p> <p>LONG. = 103.618200 °W</p> <p><b>BHL (NAD27 NME)</b></p> <p>Y = 462,037.1</p> <p>X = 721,042.4</p> <p>LAT. = 32.268232 °N</p> <p>LONG. = 103.618200 °W</p> <p><b>CORNER COORDINATES (NAD83 NME)</b></p> <p>A - Y = 456,864.3 N X = 761,923.5 E</p> <p>B - Y = 459,504.3 N X = 761,906.6 E</p> <p>C - Y = 462,143.8 N X = 761,895.7 E</p> <p>D - Y = 456,870.3 N X = 763,185.1 E</p> <p>E - Y = 459,510.5 N X = 763,165.8 E</p> <p>F - Y = 462,151.3 N X = 763,149.5 E</p> <p><b>CORNER COORDINATES (NAD27 NME)</b></p> <p>A - Y = 456,805.7 N X = 720,739.8 E</p> <p>B - Y = 459,445.6 N X = 720,723.0 E</p> <p>C - Y = 462,085.1 N X = 720,712.2 E</p> <p>D - Y = 456,811.7 N X = 722,001.4 E</p> <p>E - Y = 459,451.9 N X = 721,982.2 E</p> <p>F - Y = 462,092.7 N X = 721,966.0 E</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><i>Cassie Evans</i> 06/04/21</p> <p>Signature Date</p> <p>Cassie Evans</p> <p>Printed Name</p> <p>cassie.evans@exxonmobil.com</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>5-20-2021</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p><i>Mark Dillon Harp</i></p> <p>MARK DILLON HARP 23786</p> <p>Certificate Number LM 2018112874</p>
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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
Latitude					Longitude				NAD

## First Take Point (FTP)

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

## Last Take Point (LTP)

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

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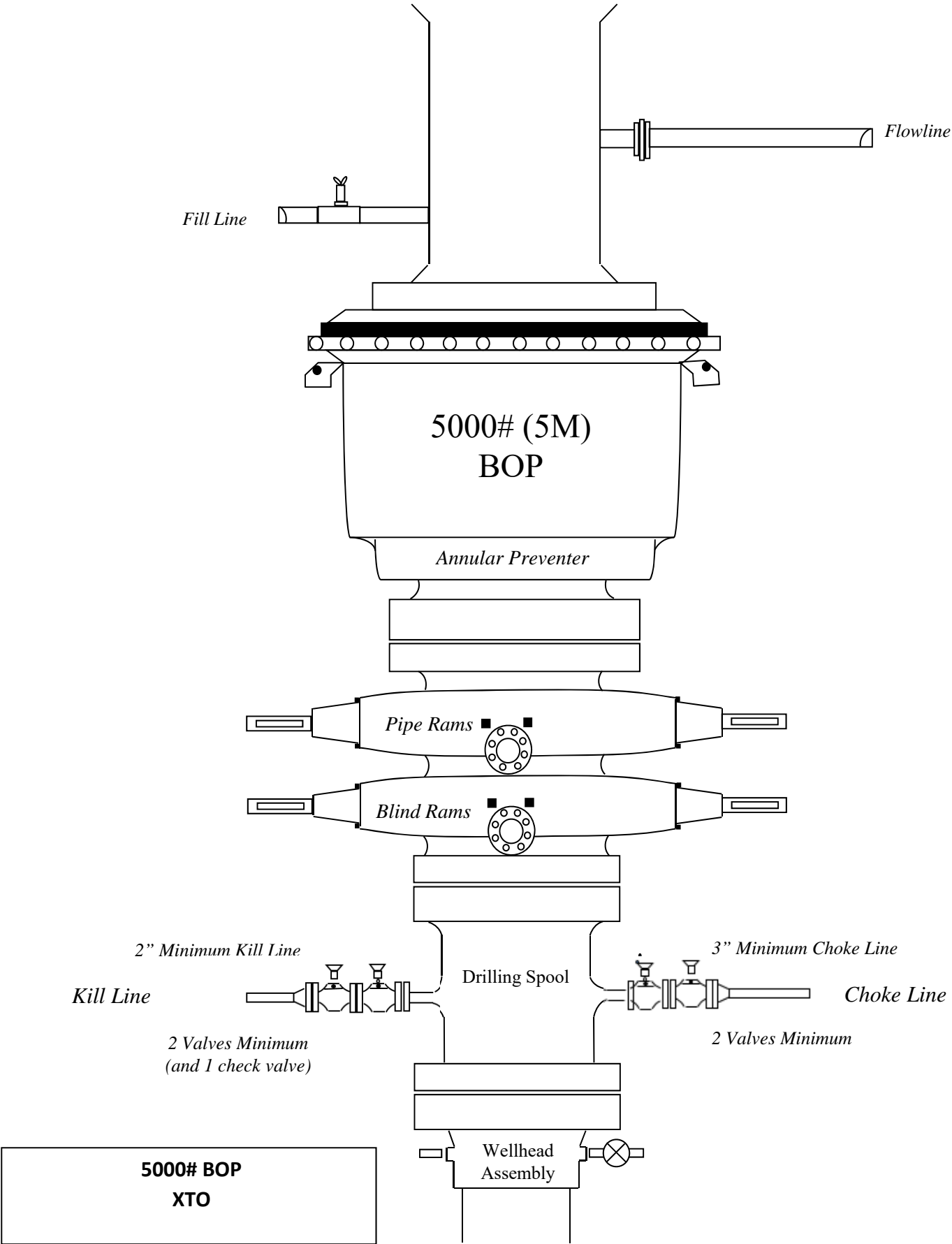
Form APD Conditions

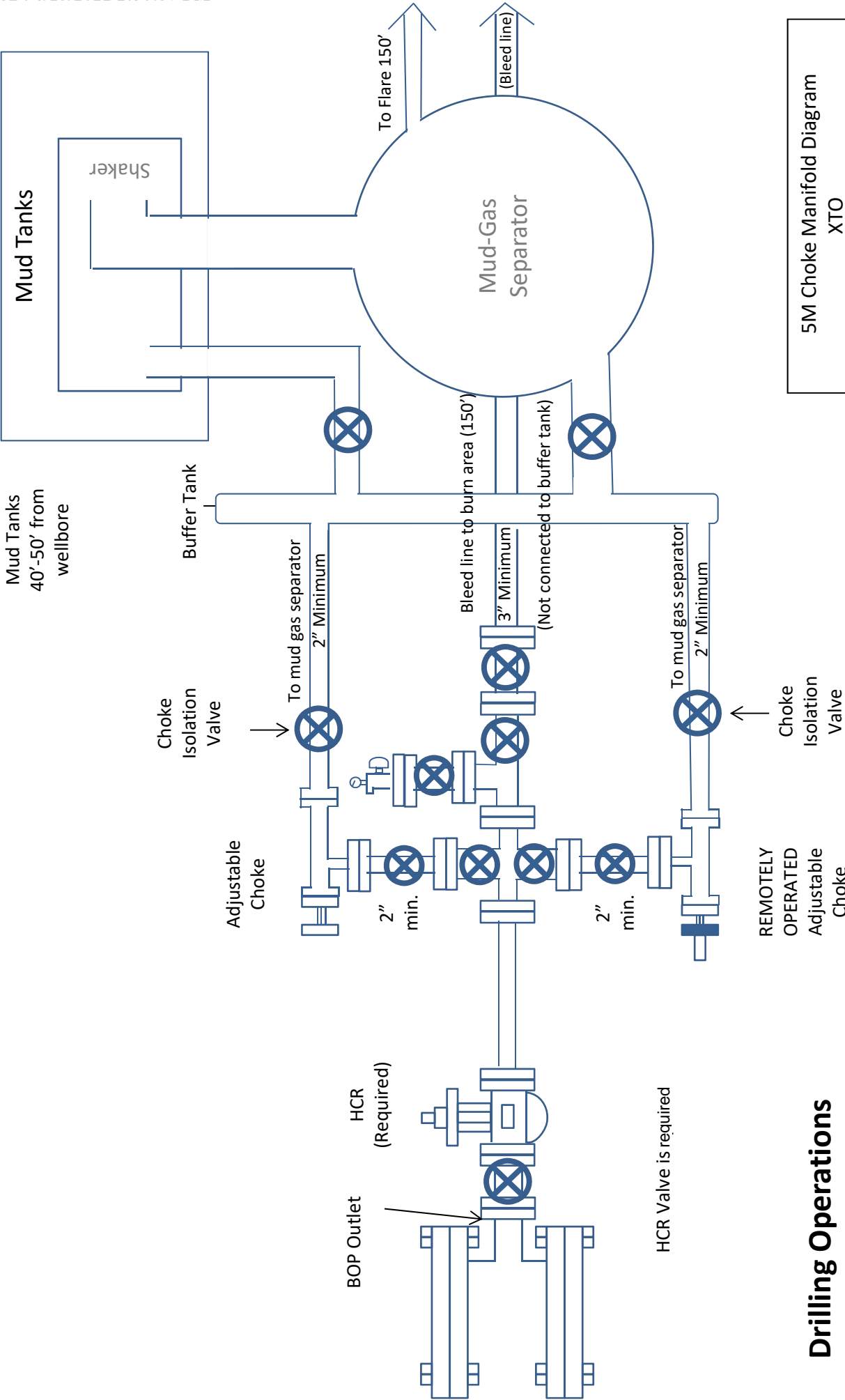
Permit 296936

**PERMIT CONDITIONS OF APPROVAL**

Operator Name and Address: XTO ENERGY, INC [5380] 6401 Holiday Hill Road Midland, TX 79707	API Number: 30-025-49030
	Well: ESTANCIA SED STATE #101H

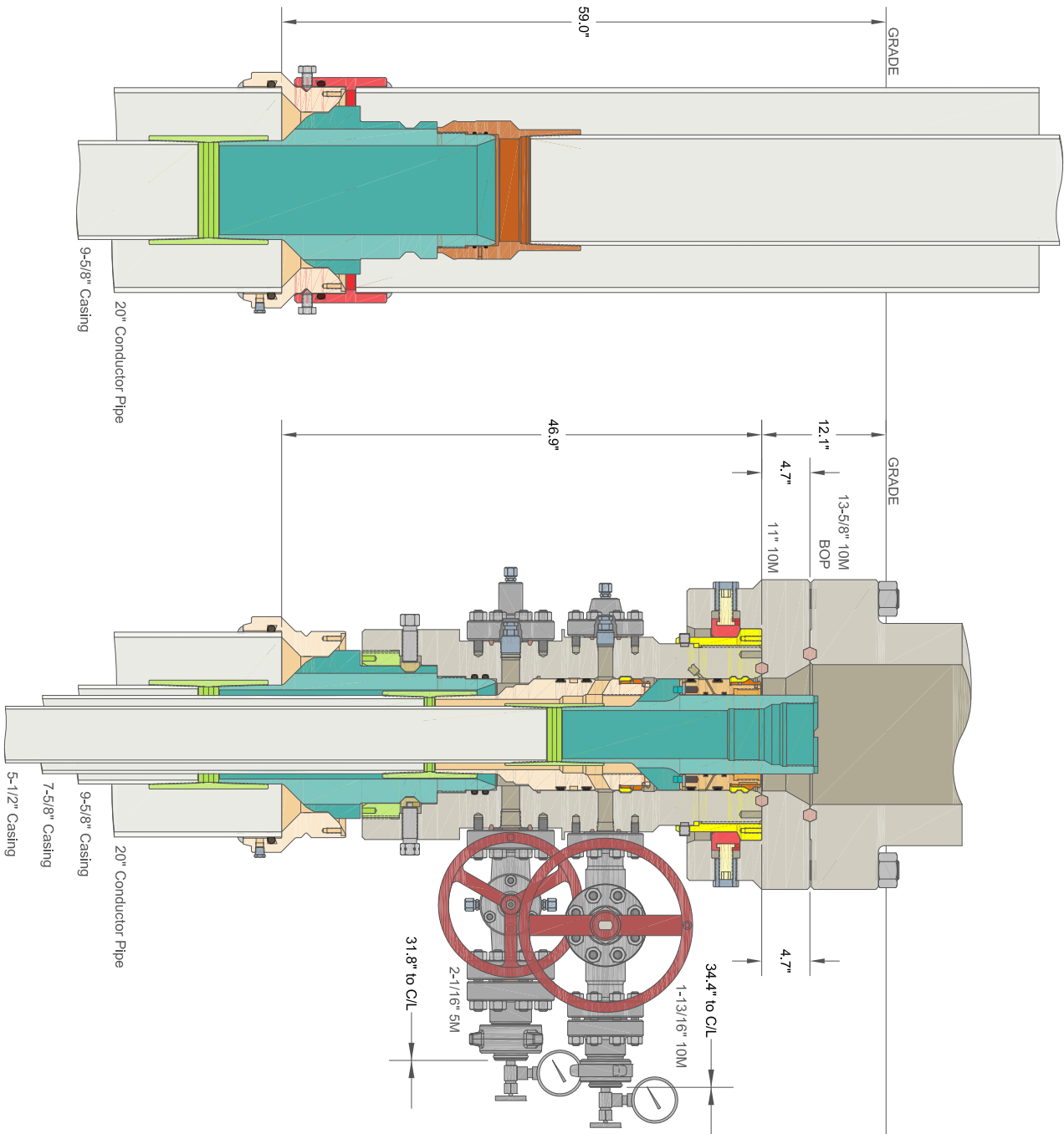
OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
pkautz	Will require a administrative order for non-standard location prior to placing the well on production
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.





5M Choke Manifold Diagram  
XTO

**Drilling Operations  
Choke Manifold  
5M Service**



<b>CACTUS WELLHEAD LLC</b>  20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers	<b>XTO ENERGY INC</b> <b>ICARUS PAD</b>		
	DRAWN	DLE	18JAN21
	APPRV		
	DRAWING NO. <b>HBE0000479</b>		

## **Delaware Basin Asset (Plans)**

**Lea County**

**Estancia Sed**

**Estancia Sed 101H**

**Estancia Sed 101H - OH**

**Plan: Estancia Sed 101H - OH Plan rev1**

## **Standard Planning Report**

**21 May, 2021**



## ExxonMobil

### Planning Report

<b>Database:</b>	LMRKPROD3.xtonet.com	<b>Local Co-ordinate Reference:</b>	Well Estancia Sed 101H
<b>Company:</b>	Delaware Basin Asset (Plans)	<b>TVD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Project:</b>	Lea County	<b>MD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	Estancia Sed 101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Estancia Sed 101H - OH		
<b>Design:</b>	Estancia Sed 101H - OH Plan rev1		

<b>Project</b>	Lea County, New Mexico, Well Plans for the wells in Lea County		
<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:	457,220.60 usft	Latitude:	32° 15' 17.914 N	
From:	Map	Easting:	721,946.40 usft	Longitude:	103° 36' 55.365 W	
Position Uncertainty:		3.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 °

Well	Estancia Sed 101H					
Well Position	+N/-S	0.0 usft	Northing:	457,220.60 usft	Latitude:	32° 15' 17.914 N
	+E/-W	0.0 usft	Easting:	721,946.40 usft	Longitude:	103° 36' 55.365 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,644.0 usft

<b>Wellbore</b>	Estancia Sed 101H - OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	4/26/2021	6.58	59.93	47,520.25210890

<b>Design</b>	Estancia Sed 101H - OH Plan rev1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	349.37

<b>Plan Survey Tool Program</b>	<b>Date</b>	5/20/2021		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	17,533.0	Estancia Sed 101H - OH Plan rev1	MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,842.7	12.85	247.68	1,837.3	-27.3	-66.4	2.00	2.00	0.00	247.68	
5,458.7	12.85	247.68	5,362.7	-332.7	-810.6	0.00	0.00	0.00	0.00	
6,101.4	0.00	0.00	6,000.0	-360.0	-877.0	2.00	-2.00	0.00	180.00	
12,029.4	0.00	0.00	11,928.0	-360.0	-877.0	0.00	0.00	0.00	0.00	KOP 101H
12,929.4	90.00	359.70	12,501.0	212.9	-880.0	10.00	10.00	0.00	359.70	
17,483.0	90.00	359.70	12,501.0	4,766.5	-903.8	0.00	0.00	0.00	0.00	LTP 101H
17,533.0	90.00	359.84	12,501.0	4,816.5	-904.0	0.28	0.00	0.28	90.00	BHL 101H

# ExxonMobil

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<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	Estancia Sed 101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Estancia Sed 101H - OH		
<b>Design:</b>	Estancia Sed 101H - OH Plan rev1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	2.00	247.68	1,300.0	-0.7	-1.6	-0.4	2.00	2.00	0.00
1,400.0	4.00	247.68	1,399.8	-2.7	-6.5	-1.4	2.00	2.00	0.00
1,500.0	6.00	247.68	1,499.5	-6.0	-14.5	-3.2	2.00	2.00	0.00
1,600.0	8.00	247.68	1,598.7	-10.6	-25.8	-5.6	2.00	2.00	0.00
1,700.0	10.00	247.68	1,697.5	-16.5	-40.3	-8.8	2.00	2.00	0.00
1,800.0	12.00	247.68	1,795.6	-23.8	-57.9	-12.7	2.00	2.00	0.00
1,842.7	12.85	247.68	1,837.3	-27.3	-66.4	-14.5	2.00	2.00	0.00
1,900.0	12.85	247.68	1,893.2	-32.1	-78.2	-17.1	0.00	0.00	0.00
2,000.0	12.85	247.68	1,990.7	-40.6	-98.8	-21.6	0.00	0.00	0.00
2,100.0	12.85	247.68	2,088.2	-49.0	-119.4	-26.1	0.00	0.00	0.00
2,200.0	12.85	247.68	2,185.7	-57.4	-139.9	-30.6	0.00	0.00	0.00
2,300.0	12.85	247.68	2,283.2	-65.9	-160.5	-35.2	0.00	0.00	0.00
2,400.0	12.85	247.68	2,380.7	-74.3	-181.1	-39.7	0.00	0.00	0.00
2,500.0	12.85	247.68	2,478.2	-82.8	-201.7	-44.2	0.00	0.00	0.00
2,600.0	12.85	247.68	2,575.6	-91.2	-222.3	-48.7	0.00	0.00	0.00
2,700.0	12.85	247.68	2,673.1	-99.7	-242.8	-53.2	0.00	0.00	0.00
2,800.0	12.85	247.68	2,770.6	-108.1	-263.4	-57.7	0.00	0.00	0.00
2,900.0	12.85	247.68	2,868.1	-116.6	-284.0	-62.2	0.00	0.00	0.00
3,000.0	12.85	247.68	2,965.6	-125.0	-304.6	-66.7	0.00	0.00	0.00
3,100.0	12.85	247.68	3,063.1	-133.5	-325.2	-71.2	0.00	0.00	0.00
3,200.0	12.85	247.68	3,160.6	-141.9	-345.7	-75.7	0.00	0.00	0.00
3,300.0	12.85	247.68	3,258.1	-150.4	-366.3	-80.2	0.00	0.00	0.00
3,400.0	12.85	247.68	3,355.6	-158.8	-386.9	-84.7	0.00	0.00	0.00
3,500.0	12.85	247.68	3,453.1	-167.3	-407.5	-89.2	0.00	0.00	0.00
3,600.0	12.85	247.68	3,550.6	-175.7	-428.1	-93.7	0.00	0.00	0.00
3,700.0	12.85	247.68	3,648.1	-184.2	-448.6	-98.2	0.00	0.00	0.00
3,800.0	12.85	247.68	3,745.6	-192.6	-469.2	-102.8	0.00	0.00	0.00
3,900.0	12.85	247.68	3,843.1	-201.1	-489.8	-107.3	0.00	0.00	0.00
4,000.0	12.85	247.68	3,940.6	-209.5	-510.4	-111.8	0.00	0.00	0.00
4,100.0	12.85	247.68	4,038.1	-218.0	-531.0	-116.3	0.00	0.00	0.00
4,200.0	12.85	247.68	4,135.5	-226.4	-551.5	-120.8	0.00	0.00	0.00
4,300.0	12.85	247.68	4,233.0	-234.9	-572.1	-125.3	0.00	0.00	0.00
4,400.0	12.85	247.68	4,330.5	-243.3	-592.7	-129.8	0.00	0.00	0.00
4,500.0	12.85	247.68	4,428.0	-251.7	-613.3	-134.3	0.00	0.00	0.00
4,600.0	12.85	247.68	4,525.5	-260.2	-633.9	-138.8	0.00	0.00	0.00
4,700.0	12.85	247.68	4,623.0	-268.6	-654.5	-143.3	0.00	0.00	0.00
4,800.0	12.85	247.68	4,720.5	-277.1	-675.0	-147.8	0.00	0.00	0.00
4,900.0	12.85	247.68	4,818.0	-285.5	-695.6	-152.3	0.00	0.00	0.00
5,000.0	12.85	247.68	4,915.5	-294.0	-716.2	-156.8	0.00	0.00	0.00
5,100.0	12.85	247.68	5,013.0	-302.4	-736.8	-161.3	0.00	0.00	0.00
5,200.0	12.85	247.68	5,110.5	-310.9	-757.4	-165.8	0.00	0.00	0.00

## ExxonMobil

## Planning Report

<b>Database:</b>	LMRKPROD3.xtonet.com	<b>Local Co-ordinate Reference:</b>	Well Estancia Sed 101H
<b>Company:</b>	Delaware Basin Asset (Plans)	<b>TVD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Project:</b>	Lea County	<b>MD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	Estancia Sed 101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Estancia Sed 101H - OH		
<b>Design:</b>	Estancia Sed 101H - OH Plan rev1		

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)	
5,300.0	12.85	247.68	5,208.0	-319.3	-777.9	-170.4	0.00	0.00	0.00	
5,400.0	12.85	247.68	5,305.5	-327.8	-798.5	-174.9	0.00	0.00	0.00	
5,458.7	12.85	247.68	5,362.7	-332.7	-810.6	-177.5	0.00	0.00	0.00	
5,500.0	12.03	247.68	5,403.0	-336.1	-818.8	-179.3	2.00	-2.00	0.00	
5,600.0	10.03	247.68	5,501.2	-343.4	-836.5	-183.2	2.00	-2.00	0.00	
5,700.0	8.03	247.68	5,599.9	-349.3	-851.0	-186.4	2.00	-2.00	0.00	
5,800.0	6.03	247.68	5,699.2	-354.0	-862.3	-188.8	2.00	-2.00	0.00	
5,900.0	4.03	247.68	5,798.8	-357.3	-870.5	-190.6	2.00	-2.00	0.00	
6,000.0	2.03	247.68	5,898.7	-359.3	-875.3	-191.7	2.00	-2.00	0.00	
6,100.0	0.03	247.68	5,998.6	-360.0	-877.0	-192.0	2.00	-2.00	0.00	
6,101.4	0.00	0.00	6,000.0	-360.0	-877.0	-192.0	2.00	-2.00	0.00	
6,200.0	0.00	0.00	6,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,998.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,998.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	8,998.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
10,100.0	0.00	0.00	9,998.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00	

## ExxonMobil

## Planning Report

<b>Database:</b>	LMRKPROD3.xtonet.com	<b>Local Co-ordinate Reference:</b>	Well Estancia Sed 101H
<b>Company:</b>	Delaware Basin Asset (Plans)	<b>TVD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Project:</b>	Lea County	<b>MD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	Estancia Sed 101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Estancia Sed 101H - OH		
<b>Design:</b>	Estancia Sed 101H - OH Plan rev1		

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)
10,400.0	0.00	0.00	10,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
10,700.0	0.00	0.00	10,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,000.0	0.00	0.00	10,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,100.0	0.00	0.00	10,998.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,098.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,198.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,298.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,398.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,600.0	0.00	0.00	11,498.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,700.0	0.00	0.00	11,598.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,800.0	0.00	0.00	11,698.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
11,900.0	0.00	0.00	11,798.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
12,000.0	0.00	0.00	11,898.6	-360.0	-877.0	-192.0	0.00	0.00	0.00
12,029.4	0.00	0.00	11,928.0	-360.0	-877.0	-192.0	0.00	0.00	0.00
12,100.0	7.06	359.70	11,998.5	-355.7	-877.0	-187.8	10.00	10.00	0.00
12,200.0	17.06	359.70	12,096.1	-334.8	-877.1	-167.2	10.00	10.00	0.00
12,300.0	27.06	359.70	12,188.7	-297.3	-877.3	-130.3	10.00	10.00	0.00
12,400.0	37.06	359.70	12,273.3	-244.2	-877.6	-78.2	10.00	10.00	0.00
12,500.0	47.06	359.70	12,347.5	-177.3	-878.0	-12.3	10.00	10.00	0.00
12,600.0	57.06	359.70	12,408.9	-98.6	-878.4	65.1	10.00	10.00	0.00
12,700.0	67.06	359.70	12,455.7	-10.3	-878.8	152.0	10.00	10.00	0.00
12,800.0	77.06	359.70	12,486.4	84.7	-879.3	245.4	10.00	10.00	0.00
12,900.0	87.06	359.70	12,500.2	183.6	-879.8	342.7	10.00	10.00	0.00
12,929.4	90.00	359.70	12,501.0	212.9	-880.0	371.6	10.00	10.00	0.00
13,000.0	90.00	359.70	12,501.0	283.6	-880.4	441.1	0.00	0.00	0.00
13,100.0	90.00	359.70	12,501.0	383.6	-880.9	539.5	0.00	0.00	0.00
13,200.0	90.00	359.70	12,501.0	483.6	-881.4	637.9	0.00	0.00	0.00
13,300.0	90.00	359.70	12,501.0	583.6	-881.9	736.2	0.00	0.00	0.00
13,400.0	90.00	359.70	12,501.0	683.6	-882.5	834.6	0.00	0.00	0.00
13,500.0	90.00	359.70	12,501.0	783.6	-883.0	933.0	0.00	0.00	0.00
13,600.0	90.00	359.70	12,501.0	883.6	-883.5	1,031.4	0.00	0.00	0.00
13,700.0	90.00	359.70	12,501.0	983.6	-884.0	1,129.8	0.00	0.00	0.00
13,800.0	90.00	359.70	12,501.0	1,083.6	-884.6	1,228.1	0.00	0.00	0.00
13,900.0	90.00	359.70	12,501.0	1,183.6	-885.1	1,326.5	0.00	0.00	0.00
14,000.0	90.00	359.70	12,501.0	1,283.6	-885.6	1,424.9	0.00	0.00	0.00
14,100.0	90.00	359.70	12,501.0	1,383.6	-886.1	1,523.3	0.00	0.00	0.00
14,200.0	90.00	359.70	12,501.0	1,483.6	-886.7	1,621.7	0.00	0.00	0.00
14,300.0	90.00	359.70	12,501.0	1,583.6	-887.2	1,720.0	0.00	0.00	0.00
14,400.0	90.00	359.70	12,501.0	1,683.6	-887.7	1,818.4	0.00	0.00	0.00
14,500.0	90.00	359.70	12,501.0	1,783.6	-888.2	1,916.8	0.00	0.00	0.00
14,600.0	90.00	359.70	12,501.0	1,883.6	-888.7	2,015.2	0.00	0.00	0.00
14,700.0	90.00	359.70	12,501.0	1,983.6	-889.3	2,113.6	0.00	0.00	0.00
14,800.0	90.00	359.70	12,501.0	2,083.6	-889.8	2,211.9	0.00	0.00	0.00
14,900.0	90.00	359.70	12,501.0	2,183.6	-890.3	2,310.3	0.00	0.00	0.00
15,000.0	90.00	359.70	12,501.0	2,283.6	-890.8	2,408.7	0.00	0.00	0.00
15,100.0	90.00	359.70	12,501.0	2,383.6	-891.4	2,507.1	0.00	0.00	0.00
15,200.0	90.00	359.70	12,501.0	2,483.5	-891.9	2,605.5	0.00	0.00	0.00
15,300.0	90.00	359.70	12,501.0	2,583.5	-892.4	2,703.8	0.00	0.00	0.00
15,400.0	90.00	359.70	12,501.0	2,683.5	-892.9	2,802.2	0.00	0.00	0.00

# ExxonMobil

## Planning Report

<b>Database:</b>	LMRKPROD3.xtonet.com	<b>Local Co-ordinate Reference:</b>	Well Estancia Sed 101H
<b>Company:</b>	Delaware Basin Asset (Plans)	<b>TVD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Project:</b>	Lea County	<b>MD Reference:</b>	RKB = 33 @ 3677.0usft
<b>Site:</b>	Estancia Sed	<b>North Reference:</b>	Grid
<b>Well:</b>	Estancia Sed 101H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Estancia Sed 101H - OH		
<b>Design:</b>	Estancia Sed 101H - OH Plan rev1		

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)	
15,500.0	90.00	359.70	12,501.0	2,783.5	-893.5	2,900.6	0.00	0.00	0.00	
15,600.0	90.00	359.70	12,501.0	2,883.5	-894.0	2,999.0	0.00	0.00	0.00	
15,700.0	90.00	359.70	12,501.0	2,983.5	-894.5	3,097.3	0.00	0.00	0.00	
15,800.0	90.00	359.70	12,501.0	3,083.5	-895.0	3,195.7	0.00	0.00	0.00	
15,900.0	90.00	359.70	12,501.0	3,183.5	-895.6	3,294.1	0.00	0.00	0.00	
16,000.0	90.00	359.70	12,501.0	3,283.5	-896.1	3,392.5	0.00	0.00	0.00	
16,100.0	90.00	359.70	12,501.0	3,383.5	-896.6	3,490.9	0.00	0.00	0.00	
16,200.0	90.00	359.70	12,501.0	3,483.5	-897.1	3,589.2	0.00	0.00	0.00	
16,300.0	90.00	359.70	12,501.0	3,583.5	-897.6	3,687.6	0.00	0.00	0.00	
16,400.0	90.00	359.70	12,501.0	3,683.5	-898.2	3,786.0	0.00	0.00	0.00	
16,500.0	90.00	359.70	12,501.0	3,783.5	-898.7	3,884.4	0.00	0.00	0.00	
16,600.0	90.00	359.70	12,501.0	3,883.5	-899.2	3,982.8	0.00	0.00	0.00	
16,700.0	90.00	359.70	12,501.0	3,983.5	-899.7	4,081.1	0.00	0.00	0.00	
16,800.0	90.00	359.70	12,501.0	4,083.5	-900.3	4,179.5	0.00	0.00	0.00	
16,900.0	90.00	359.70	12,501.0	4,183.5	-900.8	4,277.9	0.00	0.00	0.00	
17,000.0	90.00	359.70	12,501.0	4,283.5	-901.3	4,376.3	0.00	0.00	0.00	
17,100.0	90.00	359.70	12,501.0	4,383.5	-901.8	4,474.7	0.00	0.00	0.00	
17,200.0	90.00	359.70	12,501.0	4,483.5	-902.4	4,573.0	0.00	0.00	0.00	
17,300.0	90.00	359.70	12,501.0	4,583.5	-902.9	4,671.4	0.00	0.00	0.00	
17,400.0	90.00	359.70	12,501.0	4,683.5	-903.4	4,769.8	0.00	0.00	0.00	
17,483.0	90.00	359.70	12,501.0	4,766.5	-903.8	4,851.4	0.00	0.00	0.00	
17,500.0	90.00	359.75	12,501.0	4,783.5	-903.9	4,868.2	0.28	0.00	0.28	
17,533.0	90.00	359.84	12,501.0	4,816.5	-904.0	4,900.6	0.28	0.00	0.28	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
KOP 101H - plan misses target center by 576.3usft at 12029.4usft MD (11928.0 TVD, -360.0 N, -877.0 E) - Point	0.00	0.00	11,928.0	-936.2	-873.9	456,284.35	721,072.50	32° 15' 8.707 N	103° 37' 5.614 W	
BHL 101H - plan hits target center - Point	0.00	0.00	12,501.0	4,816.5	-904.0	462,037.10	721,042.40	32° 16' 5.636 N	103° 37' 5.518 W	
LTP 101H - plan hits target center - Point	0.00	0.00	12,501.0	4,766.5	-903.8	461,987.10	721,042.60	32° 16' 5.141 N	103° 37' 5.520 W	
FTP 101 - plan misses target center by 240.1usft at 12489.4usft MD (12340.2 TVD, -185.0 N, -877.9 E) - Point	0.00	0.00	12,501.0	-363.3	-876.9	456,857.30	721,069.50	32° 15' 14.377 N	103° 37' 5.604 W	

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

XTO Energy Inc.  
Estancia Sed State 101H  
Projected TD: 17533' MD / 12501' TVD  
SHL: 409' FSL & 1209' FWL , Section 31, T23S, R33E  
BHL: 50' FNL & 330' FWL , Section 31, T23S, R33E  
Lea 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	1227'	Water
Salado	1677'	Water
Delaware	5027'	Water
Brushy Canyon	7434'	Water/Oil/Gas
Bone Spring	8927'	Water
1st Bone Spring Ss	10052'	Water/Oil/Gas
2nd Bone Spring Ss	10702'	Water/Oil/Gas
3rd Bone Spring Ss	11927'	Water/Oil/Gas
Wolfcamp	12302'	Water/Oil/Gas
Wolfcamp X	12347'	Water/Oil/Gas
Wolfcamp A	12487'	Water/Oil/Gas
Target/Land Curve	12501'	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 9-5/8" casing @ 1577' (100' above the salt) and circulating cement back to surface. The 7-5/8" intermediate casing will be set at 11829' 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
12-1/4"	0' – 1577'	9-5/8"	40	BTC	J-55	New	1.17	3.60	9.99
8-3/4"	0' – 4000'	7-5/8"	29.7	Liberty FJ	HPP-110	New	2.34	3.60	1.80
8-3/4"	4000' – 11829'	7-5/8"	29.7	Liberty FJ	HCL-80	New	1.50	1.69	1.75
6-3/4"	0' – 11729'	5-1/2"	20	Semi-Premium	P-110	New	1.26	1.61	2.24
6-3/4"	11729' – 12400'	5-1/2"	20	Semi-Flush	P-110	New	1.26	1.52	12.34
6-3/4"	12400' - 17533'	5"	18	Semi-Premium	P-110	New	1.16	1.83	15.05

· 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 9-5/8" 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: 9-5/8", 40 New J-55, BTC casing to be set at +/- 1577**

Lead: 420 sxs Halcem-C + 2% CaCl (mixed at 12.8 ppg, 1.87 ft3/sx, 10.13 gal/sx water

Tail: 130 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 +/- 11829**

###### 1st Stage

Optional Lead: 400 sxs NeoCem (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water

TOC: Surface

Tail: 390 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 (7434')

###### 2nd Stage

Tail: 670 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

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 (7434') 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 procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

##### **Production Casing: 5-1/2", 20 x 5", 18 New casing to be set at +/- 17533**

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

Tail: 490 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 9-5/8" 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 4595 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 9-5/8", 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' - 1577'	12-1/4"	FW / Native	8.4-8.8	35-40	NC
1577' - 11829'	8-3/4"	Brine / Cut Brine / Direct Emulsion	8.5-10.2	30-32	NC
11829' to 17533'	6-3/4"	Cut Brine / WBM / OBM	10.3-12.3	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 9-5/8" surface casing, isolating the fresh water aquifer. Drill out from under 9-5/8" 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 9-5/8" 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 7346 psi



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

Estancia Sed State 101H 17,533 ft TD 5/25/2021

= Calculated from BLM Drilling Program Page

9-5/8" 1577 MD/TVD 8.7 # mud

40, J-55, BTC collapse = 2570 Burst = 3950 Tension = 630000  
(8.7)(0.052)(1577) = 713 psi 2570/713= 3.60 SF for collapse  
Max exp. surf pressure = 3364 psi 3950/3364.167 1.17 SF for burst  
(1577)(40)= 63080 lb 630/63.1 = 9.99 SF for tension

BLM Min. Burst: 1  
BLM Min. Collapse: 1.125  
BLM Min. Tension (Dry): 1.6  
BLM Min. Tension (Buoyed): 1.8

Burst Assumes MASP Equation (11829)(0.052)(9.7) - (.22)(11829)

7-5/8" 4,000 MD/TVD 9.7 # mud

29.7, HPP-110, Liberty FJ collapse = 7260 burst = 10750 tension = 634000  
(9.7)(0.052)(4000) = 2018 psi 7260/2018= 3.60 SF for collapse  
Less internal fluid height  
Max expected surf pressure = 4595 psi 10750/4595.36 2.34 SF for burst  
(11829)(29.7)= 351321.3 lb 634/351.3213= 1.80 SF for tension

Collapse Assumes Full evacuation

Burst Assumes MASP Equation (11.3)(0.052)(12501) - (.22)(12501)

7-5/8" 11,829 MD/TVD 9.7 # mud

29.7, HCL-80, Liberty FJ collapse = 5780 burst = 6880 tension = 406000  
(9.7)(0.052)(11829) - (5914.5)(8.3)(0.052)= 3414 psi 5780/3414= 1.69 SF for collapse  
Less internal fluid height  
Max expected surf pressure = 4595 psi 6880/4595.367 1.50 SF for burst  
(7829)(29.7)= 232521.3 lb 406/232.5213= 1.75 SF for tension

Collapse Assumes 1/2 evacuation & FW internal

Fluid Top: 5915 MD/TVD

Burst Assumes MASP Equation (11.3)(0.052)(12501) - (.22)(12501)

5-1/2" 0 Top 11,729 TD (MD) 11,729 TVD (max) 11.3 # mud  
0.35 FF 11,729 X-over

20, P-110, Semi-Premium collapse= 11100 burst= 12640 tension= 641000  
(11.3)(0.052)(11729) = 6892 psi 11100/6892= 1.61 SF for collapse  
Max expected surf pressure = 10000 psi \*for frac 12640/10000= 1.26 SF for burst  
(11729\*20) + (51947.2)= 286527 lb 641/286.5272= 2.24 SF for tension

5-1/2" 11,729 Top 12,400 TD (MD) 12,400 TVD (max) 11.3 # mud  
0.35 FF 12,400 X-over

20, P-110, Semi-Flush collapse= 11100 burst= 12640 tension= 641000  
(11.3)(0.052)(12400) = 7286 psi 11100/7286= 1.52 SF for collapse  
Max expected surf pressure = 10000 psi \*for frac 12640/10000= 1.26 SF for burst  
((12400-11729)\*20) + (38527.2)= 51947 lb 641/51.9472= 12.34 SF for tension


5" 12,400 Top 17,533 TD (MD) 12501 TVD (max) 11.3 # mud  
0.35 FF 12,929 LP (MD) 4,604 Lat Length

18, P-110, Semi-Premium collapse= 13470 burst= 13950 tension= 580000  
(11.3)(0.052)(12501) = 7346 psi 13470/7346= 1.83 SF for collapse  
Max expected surf pressure = 12000 psi \*for frac 13950/12000= 1.16 SF for burst  
(529\*18)+(4604\*0.35\*18)= 38527 lb 580/38.5272= 15.05 SF for tension

Surface Cement		Intermediate, 1st Stage	
Top of Cement:	0 ft, MD	Top of Cement:	0
Casing Shoe:	1577 ft, MD	Casing Shoe:	11,829
Hole Size:	12.25 in	Hole Size:	8.75
Casing Size:	9.625 in	Casing Size:	7.625
<u>Lead</u>		<u>Lead</u>	
% Excess, OH	100 %	% Excess, OH	50
yield	1.87 ft <sup>3</sup> / sack	yield	2.77
TOC for Lead	0 ft, MD	TOC for Lead	0
<u>Tail</u>		<u>Tail</u>	
% Excess, OH	100 %	% Excess, OH	20
yield	1.35 ft <sup>3</sup> / sack	yield	1.35
TOC for Tail	1277 ft, MD	TOC for Tail	7434
<u>Lead Calcs</u>		<u>Lead Calcs</u>	
Annular Volume:	799.93 ft <sup>3</sup> (w/ excess)	Annular Volume:	1120.47
Cement Volume:	427.8 sacks	Cement Volume:	404.5
<u>Tail Calcs</u>		<u>Tail Calcs</u>	
Annular Volume:	187.92 ft <sup>3</sup> (w/ excess)	Annular Volume:	529.94
Cement Volume:	139.2 sacks	Cement Volume:	392.5

	Intermediate, 2nd Stage	Production Ceme
ft, MD	Top of Cement: 0 ft, MD	Top of Cen
ft, MD	Bottom of Cement: 7434 ft, MD	Casing Sho
		Kick Off Pc
in	Hole Size: 8.75 in	Landing Pc
in	Casing Size: 7.625 in	Hole Size '
		Hole Size 2
		Casing Siz
		Casing Siz
%		<u>Lead</u>
ft <sup>3</sup> / sack		% Excess,
ft, MD		yield
		TOC for Le
	<u>Tail</u>	
%	% Excess, OH 20 %	<u>Tail</u>
ft <sup>3</sup> / sack	yield 1.33 ft <sup>3</sup> / sack	% Excess,
ft, MD	TOC for Tail 0 ft, MD	yield
		TOC for Te
		<u>Lead Calcs</u>
ft <sup>3</sup> (w/ excess)		Annular Vc
sacks		Cement Vc
	<u>Tail Calcs</u>	<u>Tail Calcs</u>
ft <sup>3</sup> (w/ excess)	Annular Volume: 896.37 ft <sup>3</sup> (w/ excess)	Annular Vc
sacks	Cement Volume: 674.0 sacks	Cement Vc

nt	
nent:	11,529 ft, MD
oe:	17,533 ft, MD
oint:	12,029 ft, MD
oint:	12,929 ft, MD
1:	6.75 in
2:	6.75
e:1	5.5 in
e: 2	5 in
OH	20 %
	2.69 ft <sup>3</sup> / sack
ad	11,529 ft, MD
OH	20 %
	1.51 ft <sup>3</sup> / sack
ail	12,029 ft, MD
olume:	67.29 ft <sup>3</sup> (w/ excess)
olume:	25.0 sacks
olume:	740.78 ft <sup>3</sup> (w/ excess)
olume:	490.6 sacks

 = Calculate

Prod MW =	11.3 ppg
Max TVD =	12501 ft

BHP = 7346 psi

**MASP = 4595 psi**

Permit for =	5M
	5000

= Calculate  
3M system if MASP <  
5M system if 3000 < M  
10M system if MASP :



## HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN

### Assumed 100 ppm ROE = 3000'

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

#### Emergency Procedures

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

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

#### Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

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

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

#### Contacting Authorities

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).



**CARLSBAD OFFICE – EDDY & LEA COUNTIES**

3104 E. Greene St., Carlsbad, NM 88220  
Carlsbad, NM

575-887-7329

**XTO PERSONNEL:**

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

**SHERIFF DEPARTMENTS:**

Eddy County	575-887-7551
Lea County	575-396-3611

**NEW MEXICO STATE POLICE:**

575-392-5588

**FIRE DEPARTMENTS:**

	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

**HOSPITALS:**

	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

**AGENT NOTIFICATIONS:****For Lea County:**

Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161

**For Eddy County:**

Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

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

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

**I. Operator:** XTO Energy, Inc. **OGRID:** 005380 **Date:** 06 / 04 / 2021

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: \_\_\_\_\_

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Estancia SED State 101H		4-31-23S-33E	409' FSL & 1209 FWL	1500	2500	1000
Estancia SED State 102H		4-31-23S-33E	409' FSL & 1239 FWL	1500	2500	1000
Estancia SED State 103H		4-31-23S-33E	409' FSL & 1269 FWL	1500	2500	1000
Estancia SED State 104H		4-31-23S-33E	409' FSL & 1299 FWL	1500	2500	1000

**IV. Central Delivery Point Name:** Mis Amigos TB [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Estancia SED State 101H		6/28/2021	07/07/2021	Not Yet Scheduled	Not Yet Scheduled	Not Yet Scheduled
Estancia SED State 102H		07/07/2021	07/16/2021	Not Yet Scheduled	Not Yet Scheduled	Not Yet Scheduled
Estancia SED State 103H		07/16/2021	07/25/2021	Not Yet Scheduled	Not Yet Scheduled	Not Yet Scheduled
Estancia SED State 104H		07/25/2021	08/03/2021	Not Yet Scheduled	Not Yet Scheduled	Not Yet Scheduled

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

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

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## **Section 2 – Enhanced Plan**

### **EFFECTIVE APRIL 1, 2022**

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

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

#### **IX. Anticipated Natural Gas Production:**

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

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

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

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

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

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

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

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

### **Section 3 - Certifications**

**Effective May 25, 2021**

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

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

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

***If Operator checks this box, Operator will select one of the following:***

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

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

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

### **Section 4 - Notices**

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

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

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

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

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

Signature:
Printed Name: Cassie Evans
Title: Regulatory Analyst
E-mail Address: cassie.evans@exxonmobil.com
Date: 06/04/2021
Phone: 432.218.3671
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:

**VI. Separation Equipment:**

XTO Permian Operating, LLC. production tank batteries include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool in conjunction with the total number of wells planned to or existing within the facility. Separation equipment is upgraded prior to well being drilled or completed, if determined to be undersized or needed. The separation equipment is designed and built according to the relevant industry specifications (API Specification 12J and ASME Sec VIII Div I). Other recognized industry publications such as the Gas Processors Suppliers Association (GPSA) are referenced when designing separation equipment to optimize gas capture.

**VII. Operational Practices:****1. Subsection B.**

- During drilling, flare stacks will be located a minimum of 150 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

**2. Subsection C.**

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.

For emergencies, equipment malfunction, or if the operator decides to produce oil and gas during well completion:

- Flowlines will be routed for flowback fluids into a completion or storage tank and, if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

**3. Subsection D.**

- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.

- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- 4. Subsection E.
  - All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
  - Flare stack was installed prior to May 25, 2021 but has been designed for proper size and combustion efficiency. Flare currently has a continuous pilot and is located more than 100 feet from any known well and storage tanks.
  - At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- 5. Subsection F.
  - Measurement equipment is installed to measure the volume of natural gas flared from process piping or a flowline piped from the equipment associated with a well and facility associated with the approved application for permit to drill that has an average daily production greater than 60 mcf of natural gas.
  - Measurement equipment installed is not designed or equipped with a manifold to allow diversion of natural gas around the metering equipment, except for the sole purpose of inspecting and servicing the measurement equipment, as noted in NMAC 19.15.27.8 Subsection G.

#### **VIII. Best Management Practices:**

1. During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
2. Operator does not flow well (well shut in) during initial production until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.
3. Operator equips storage tanks with an automatic gauging system to reduce venting of natural gas.
4. Operator reduces the number of blowdowns by looking for opportunities to coordinate repair and maintenance activities.
5. Operator combusts natural gas that would otherwise be vented or flared, when feasible.
6. Operator has a flare stack designed in accordance with need and to handle sufficient volume to ensure proper combustion efficiency. Flare stacks are equipped with continuous pilots and securely anchored at least 100 feet (at minimum) from storage tanks and wells.
7. Operator minimizes venting (when feasible) through pump downs of vessels and reducing time required to purge equipment before returning equipment to service.
8. Operator will shut in wells (when feasible) in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.