

NM STATE DRILLING PERMITTING

Estancia SED State 103H

		Deepest TVD	12473	KOP		11893	End of Curve		12845	Measured depth		17977
Casing Type	Fluid Type	Mud Weight	Hole Size	Casing Size	Casing Grade	Casing Weight	Top MD	Setting Depth	Lead Cement	Tail Cement	Total Sks Cement	TOC
Surface	FW/Native	8.5 - 10.0	17.5	13.375	J-55 LTC	54.5	0	1250	743	289	1032	0
Intermediate	Brine / OBM	9.0-10.3	12.25	9.625	J-55 LTC	40	0	5039	776	488	1264	1710
DV Tool								1710	394	17	411	0
Production	FW/Cut Brine / OBM	9.0-10.5	8-3/4" to EOC	5.5	P110 BTC	17	0	17977	1341	1134	2474	4539
	Cut Brine / OBM	9.3	8-1/2" to TD									

1st Stage
2nd Stage

Max Expected Surface Pressure
3288

BOP -
Cameron 5M Double Ram BOP
Test Pressure 5000

Total Vertical Section 5132

Contingencies

1. XTO Requests option to use OBM in intermediate hole section
2. Should losses be seen from 9-5/8" shoe to landing point, 4-string contingency may be utilized
3. XTO requests variance to have the option to batch drill this well. XTO will set intermediate csg, ensure cement is circulated to surface and well is dead. With floats holding, and no flow on annulus, a TA cap will be installed as per GE recommendations. XTO will contact the state before skidding to the other well. Once all surface and intermediate are completed on the pad, XTO will begin drilling the production hole of each well.
4. DV Tool may be set in intermediate fr/ 1300' - 5000'
5. OBM may be used in production hole
6. If cmt is not circulated to surface on 5.5" casing, it will be brought at least 500' into intermediate shoe
7. 8.5" lateral may be drilled if no issues in 8.75" hole



XTO Energy

Lea County, NM (NAD-27)

Estancia Sed

#103H

OH

Plan: PERMIT

HOBBS OCD

JUL 01 2019

RECEIVED

Standard Planning Report

11 June, 2019



Project: Lea County, NM (NAD-27)
Site: Estancia Sed
Well: #103H
Wellbore: OH
Design: PERMIT

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

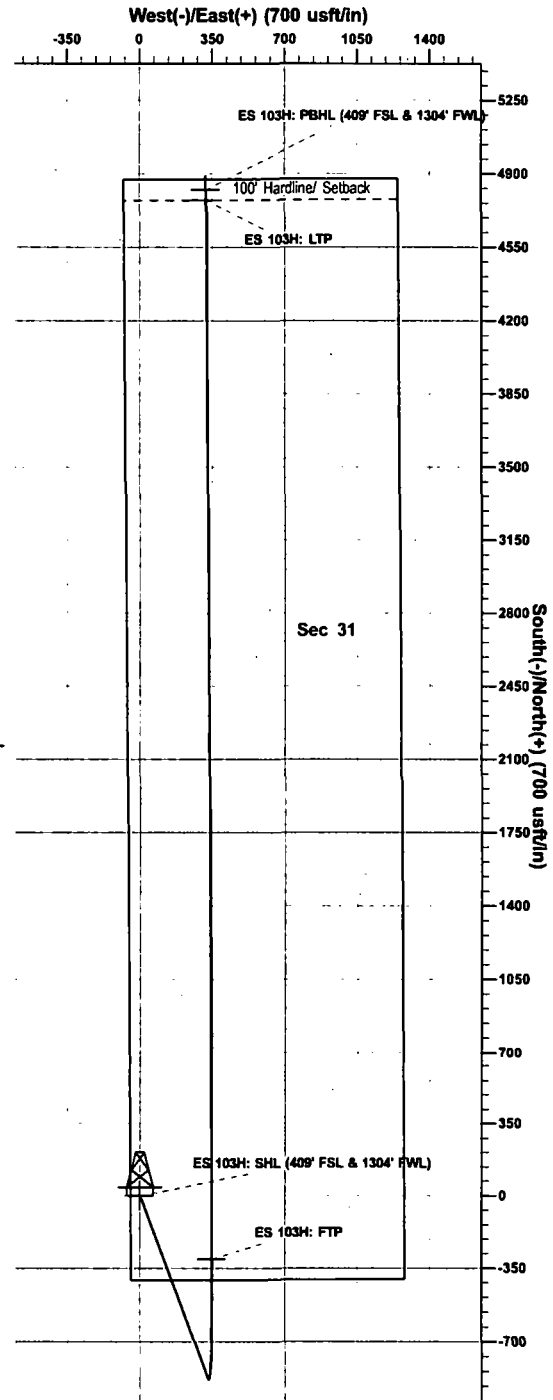
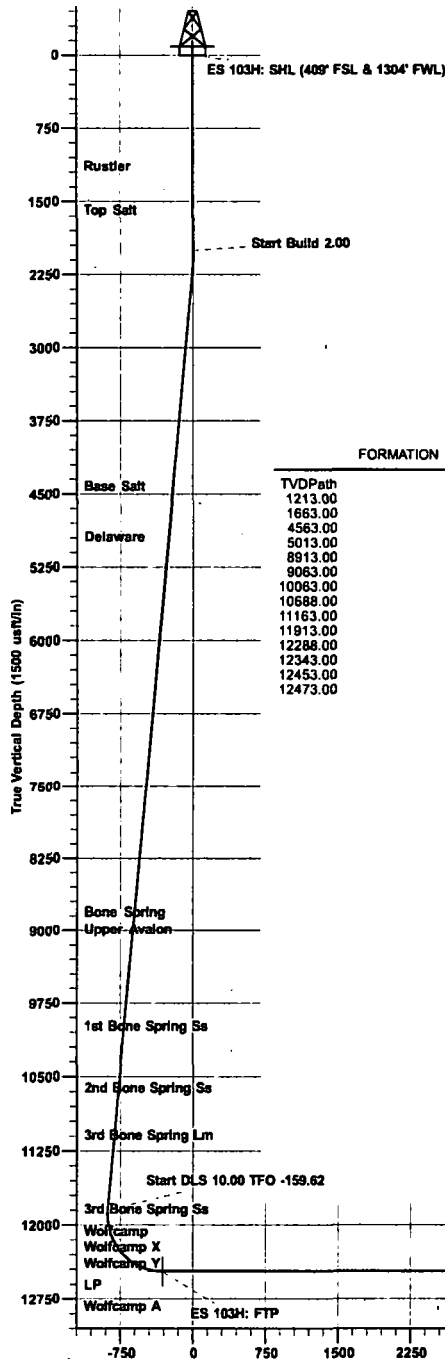
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
ES 103H: SHL (409' FSL & 1304' FWL)	0.00	0.00	0.00	457220.60	722041.20	32.2549745	-103.6150728	Point
ES 103H: FTP	12473.00	-307.20	347.80	456913.40	722389.00	32.2541238	-103.6139542	Point
ES 103H: LTP	12473.00	4774.20	321.20	461894.80	722382.40	32.2680917	-103.6139301	Point
ES 103H: PBHL (409' FSL & 1304' FWL)	12473.00	4824.40	321.10	462045.00	722362.30	32.2682287	-103.6139283	Point

WELL DETAILS: #103H

Rig Name:					
RKB = 17' @ 3663.00usft					
Ground Level: 3846.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	457220.60	722041.20	32.2549745	-103.8150728

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2275.82	5.52	159.41	2275.40	-12.42	4.67	2.00	159.41	-12.44
4	11893.70	5.52	159.41	11848.73	-877.93	329.86	0.00	0.00	-879.64
5	12845.43	90.00	359.70	12473.00	-307.20	347.80	10.00	-159.62	-309.02
6	17826.90	90.00	359.70	12473.00	4774.20	321.36	0.00	0.00	4772.45
7	17977.10	90.00	359.70	12473.00	4824.40	321.10	0.00	0.00	4822.65



FORMATION TOP DETAILS

TVDPPath	Formation
1213.00	Rustler
1663.00	Top Salt
4563.00	Base Salt
5013.00	Delaware
8913.00	Bone Spring
9063.00	Upper Avalon
10063.00	1st Bone Spring Ss
10688.00	2nd Bone Spring Ss
11163.00	3rd Bone Spring Lm
11913.00	3rd Bone Spring Ss
12288.00	Wolfcamp
12343.00	Wolfcamp X
12453.00	Wolfcamp Y
12473.00	LP

The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Prototype are at the sole risk and responsibility of the user.

Plan: PERMIT (#103H/OH)

Created By: Matthew May Date: 12:32, June 11 2019

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 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

¹ API Number 30-025-	² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name ESTANCIA SED	⁶ Well Number 103H
⁷ OGRID No. 005380	⁸ Operator Name XTO ENERGY, INC.	⁹ Elevation 3,646'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	31	23 S	33 E		409	SOUTH	1,304	WEST	LEA

¹¹ 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
C	31	23 S	33 E		50	NORTH	1,650	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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.

¹⁶				¹⁷ OPERATOR CERTIFICATION 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. Signature _____ Date _____ Printed Name _____ E-mail Address _____	
¹⁸ SURVEYOR CERTIFICATION 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. 05-21-2019 Date of Survey Signature and Seal of Professional Surveyor: _____ MARK DILLON HARP 23786 Certificate Number				RR 2018112879	



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #103H
Company:	XTO Energy	TVD Reference:	RKB = 17' @ 3663.00usft
Project:	Lea County, NM (NAD-27)	MD Reference:	RKB = 17' @ 3663.00usft
Site:	Estancia Sed	North Reference:	Grid
Well:	#103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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

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

Well	#103H		
Well Position	+N/-S	65.60 usft	Northing: 457,220.60 usft
	+E/-W	767.90 usft	Easting: 722,041.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32.2549745
		Longitude:	-103.6150725
		Ground Level:	3,646.00 usft

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

Design	PERMIT		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,275.82	5.52	159.41	2,275.40	-12.42	4.67	2.00	2.00	0.00	159.41	
11,893.70	5.52	159.41	11,848.73	-877.93	329.86	0.00	0.00	0.00	0.00	
12,845.43	90.00	359.70	12,473.00	-307.20	347.80	10.00	8.88	-16.78	-159.62	ES 103H: FTP
17,926.90	90.00	359.70	12,473.00	4,774.20	321.36	0.00	0.00	0.00	0.00	ES 103H: LTP
17,977.10	90.00	359.70	12,473.00	4,824.40	321.10	0.00	0.00	0.00	0.00	ES 103H: PBHL (40



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Project: Lea County, NM (NAD-27)
Site: Estancia Sed
Well: #103H
Wellbore: OH
Design: PERMIT

Local Co-ordinate Reference: Well #103H
TVD Reference: RKB = 17' @ 3663.00usft
MD Reference: RKB = 17' @ 3663.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
1,213.00	0.00	0.00	1,213.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
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
1,663.00	0.00	0.00	1,663.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
2,100.00	2.00	159.41	2,099.98	-1.63	0.61	-1.64	2.00	2.00	0.00
2,200.00	4.00	159.41	2,199.84	-6.53	2.45	-6.55	2.00	2.00	0.00
2,275.82	5.52	159.41	2,275.40	-12.42	4.67	-12.44	2.00	2.00	0.00
2,300.00	5.52	159.41	2,299.46	-14.60	5.48	-14.62	0.00	0.00	0.00
2,400.00	5.52	159.41	2,399.00	-23.59	8.87	-23.64	0.00	0.00	0.00
2,500.00	5.52	159.41	2,498.54	-32.59	12.25	-32.66	0.00	0.00	0.00
2,600.00	5.52	159.41	2,598.07	-41.59	15.63	-41.67	0.00	0.00	0.00
2,700.00	5.52	159.41	2,697.61	-50.59	19.01	-50.69	0.00	0.00	0.00
2,800.00	5.52	159.41	2,797.15	-59.59	22.39	-59.71	0.00	0.00	0.00
2,900.00	5.52	159.41	2,896.68	-68.59	25.77	-68.72	0.00	0.00	0.00
3,000.00	5.52	159.41	2,996.22	-77.59	29.15	-77.74	0.00	0.00	0.00
3,100.00	5.52	159.41	3,095.76	-86.59	32.53	-86.76	0.00	0.00	0.00
3,200.00	5.52	159.41	3,195.29	-95.59	35.91	-95.77	0.00	0.00	0.00
3,300.00	5.52	159.41	3,294.83	-104.59	39.30	-104.79	0.00	0.00	0.00
3,400.00	5.52	159.41	3,394.37	-113.58	42.68	-113.81	0.00	0.00	0.00
3,500.00	5.52	159.41	3,493.90	-122.58	46.06	-122.82	0.00	0.00	0.00
3,600.00	5.52	159.41	3,593.44	-131.58	49.44	-131.84	0.00	0.00	0.00
3,700.00	5.52	159.41	3,692.98	-140.58	52.82	-140.86	0.00	0.00	0.00
3,800.00	5.52	159.41	3,792.52	-149.58	56.20	-149.87	0.00	0.00	0.00
3,900.00	5.52	159.41	3,892.05	-158.58	59.58	-158.89	0.00	0.00	0.00
4,000.00	5.52	159.41	3,991.59	-167.58	62.96	-167.90	0.00	0.00	0.00
4,100.00	5.52	159.41	4,091.13	-176.58	66.34	-176.92	0.00	0.00	0.00
4,200.00	5.52	159.41	4,190.66	-185.58	69.73	-185.94	0.00	0.00	0.00
4,300.00	5.52	159.41	4,290.20	-194.57	73.11	-194.95	0.00	0.00	0.00
4,400.00	5.52	159.41	4,389.74	-203.57	76.49	-203.97	0.00	0.00	0.00
4,500.00	5.52	159.41	4,489.27	-212.57	79.87	-212.99	0.00	0.00	0.00
4,574.07	5.52	159.41	4,563.00	-219.24	82.37	-219.67	0.00	0.00	0.00
Base Salt									



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Survey Calculation Method: Minimum Curvature

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)
4,600.00	5.52	159.41	4,588.81	-221.57	83.25	-222.00	0.00	0.00	0.00
4,700.00	5.52	159.41	4,688.35	-230.57	86.63	-231.02	0.00	0.00	0.00
4,800.00	5.52	159.41	4,787.88	-239.57	90.01	-240.04	0.00	0.00	0.00
4,900.00	5.52	159.41	4,887.42	-248.57	93.39	-249.05	0.00	0.00	0.00
5,000.00	5.52	159.41	4,986.96	-257.57	96.77	-258.07	0.00	0.00	0.00
5,026.16	5.52	159.41	5,013.00	-259.92	97.66	-260.43	0.00	0.00	0.00
Delaware									
5,100.00	5.52	159.41	5,086.49	-266.57	100.16	-267.09	0.00	0.00	0.00
5,200.00	5.52	159.41	5,186.03	-275.56	103.54	-276.10	0.00	0.00	0.00
5,300.00	5.52	159.41	5,285.57	-284.56	106.92	-285.12	0.00	0.00	0.00
5,400.00	5.52	159.41	5,385.11	-293.56	110.30	-294.14	0.00	0.00	0.00
5,500.00	5.52	159.41	5,484.64	-302.56	113.68	-303.15	0.00	0.00	0.00
5,600.00	5.52	159.41	5,584.18	-311.56	117.06	-312.17	0.00	0.00	0.00
5,700.00	5.52	159.41	5,683.72	-320.56	120.44	-321.19	0.00	0.00	0.00
5,800.00	5.52	159.41	5,783.25	-329.56	123.82	-330.20	0.00	0.00	0.00
5,900.00	5.52	159.41	5,882.79	-338.56	127.20	-339.22	0.00	0.00	0.00
6,000.00	5.52	159.41	5,982.33	-347.56	130.59	-348.23	0.00	0.00	0.00
6,100.00	5.52	159.41	6,081.86	-356.55	133.97	-357.25	0.00	0.00	0.00
6,200.00	5.52	159.41	6,181.40	-365.55	137.35	-366.27	0.00	0.00	0.00
6,300.00	5.52	159.41	6,280.94	-374.55	140.73	-375.28	0.00	0.00	0.00
6,400.00	5.52	159.41	6,380.47	-383.55	144.11	-384.30	0.00	0.00	0.00
6,500.00	5.52	159.41	6,480.01	-392.55	147.49	-393.32	0.00	0.00	0.00
6,600.00	5.52	159.41	6,579.55	-401.55	150.87	-402.33	0.00	0.00	0.00
6,700.00	5.52	159.41	6,679.08	-410.55	154.25	-411.35	0.00	0.00	0.00
6,800.00	5.52	159.41	6,778.62	-419.55	157.63	-420.37	0.00	0.00	0.00
6,900.00	5.52	159.41	6,878.16	-428.55	161.02	-429.38	0.00	0.00	0.00
7,000.00	5.52	159.41	6,977.69	-437.54	164.40	-438.40	0.00	0.00	0.00
7,100.00	5.52	159.41	7,077.23	-446.54	167.78	-447.42	0.00	0.00	0.00
7,200.00	5.52	159.41	7,176.77	-455.54	171.16	-456.43	0.00	0.00	0.00
7,300.00	5.52	159.41	7,276.31	-464.54	174.54	-465.45	0.00	0.00	0.00
7,400.00	5.52	159.41	7,375.84	-473.54	177.92	-474.47	0.00	0.00	0.00
7,500.00	5.52	159.41	7,475.38	-482.54	181.30	-483.48	0.00	0.00	0.00
7,600.00	5.52	159.41	7,574.92	-491.54	184.68	-492.50	0.00	0.00	0.00
7,700.00	5.52	159.41	7,674.45	-500.54	188.06	-501.52	0.00	0.00	0.00
7,800.00	5.52	159.41	7,773.99	-509.54	191.45	-510.53	0.00	0.00	0.00
7,900.00	5.52	159.41	7,873.53	-518.54	194.83	-519.55	0.00	0.00	0.00
8,000.00	5.52	159.41	7,973.06	-527.53	198.21	-528.56	0.00	0.00	0.00
8,100.00	5.52	159.41	8,072.60	-536.53	201.59	-537.58	0.00	0.00	0.00
8,200.00	5.52	159.41	8,172.14	-545.53	204.97	-546.60	0.00	0.00	0.00
8,300.00	5.52	159.41	8,271.67	-554.53	208.35	-555.61	0.00	0.00	0.00
8,400.00	5.52	159.41	8,371.21	-563.53	211.73	-564.63	0.00	0.00	0.00
8,500.00	5.52	159.41	8,470.75	-572.53	215.11	-573.65	0.00	0.00	0.00
8,600.00	5.52	159.41	8,570.28	-581.53	218.49	-582.66	0.00	0.00	0.00
8,700.00	5.52	159.41	8,669.82	-590.53	221.88	-591.68	0.00	0.00	0.00
8,800.00	5.52	159.41	8,769.36	-599.53	225.26	-600.70	0.00	0.00	0.00
8,900.00	5.52	159.41	8,868.90	-608.52	228.64	-609.71	0.00	0.00	0.00
8,944.31	5.52	159.41	8,913.00	-612.51	230.14	-613.71	0.00	0.00	0.00
Bone Spring									
9,000.00	5.52	159.41	8,968.43	-617.52	232.02	-618.73	0.00	0.00	0.00
9,095.01	5.52	159.41	9,063.00	-626.07	235.23	-627.30	0.00	0.00	0.00
Upper Avalon									
9,100.00	5.52	159.41	9,067.97	-626.52	235.40	-627.75	0.00	0.00	0.00
9,200.00	5.52	159.41	9,167.51	-635.52	238.78	-636.76	0.00	0.00	0.00



Planning Report

Database: EDM 5000.1.13 Single User Db
 Company: XTO Energy
 Project: Lea County, NM (NAD-27)
 Site: Estancia Sed
 Well: #103H
 Wellbore: OH
 Design: PERMIT

Local Co-ordinate Reference: Well #103H
 TVD Reference: RKB = 17' @ 3663.00usft
 MD Reference: RKB = 17' @ 3663.00usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
9,300.00	5.52	159.41	9,267.04	-644.52	242.16	-645.78	0.00	0.00	0.00
9,400.00	5.52	159.41	9,366.58	-653.52	245.54	-654.80	0.00	0.00	0.00
9,500.00	5.52	159.41	9,466.12	-662.52	248.92	-663.81	0.00	0.00	0.00
9,600.00	5.52	159.41	9,565.65	-671.52	252.31	-672.83	0.00	0.00	0.00
9,700.00	5.52	159.41	9,665.19	-680.52	255.69	-681.85	0.00	0.00	0.00
9,800.00	5.52	159.41	9,764.73	-689.51	259.07	-690.86	0.00	0.00	0.00
9,900.00	5.52	159.41	9,864.26	-698.51	262.45	-699.88	0.00	0.00	0.00
10,000.00	5.52	159.41	9,963.80	-707.51	265.83	-708.89	0.00	0.00	0.00
10,099.66	5.52	159.41	10,063.00	-716.48	269.20	-717.88	0.00	0.00	0.00
1st Bone Spring Ss									
10,100.00	5.52	159.41	10,063.34	-716.51	269.21	-717.91	0.00	0.00	0.00
10,200.00	5.52	159.41	10,162.87	-725.51	272.59	-726.93	0.00	0.00	0.00
10,300.00	5.52	159.41	10,262.41	-734.51	275.97	-735.94	0.00	0.00	0.00
10,400.00	5.52	159.41	10,361.95	-743.51	279.35	-744.96	0.00	0.00	0.00
10,500.00	5.52	159.41	10,461.49	-752.51	282.74	-753.98	0.00	0.00	0.00
10,600.00	5.52	159.41	10,561.02	-761.51	286.12	-762.99	0.00	0.00	0.00
10,700.00	5.52	159.41	10,660.56	-770.50	289.50	-772.01	0.00	0.00	0.00
10,727.57	5.52	159.41	10,688.00	-772.99	290.43	-774.50	0.00	0.00	0.00
2nd Bone Spring Ss									
10,800.00	5.52	159.41	10,760.10	-779.50	292.88	-781.03	0.00	0.00	0.00
10,900.00	5.52	159.41	10,859.63	-788.50	296.26	-790.04	0.00	0.00	0.00
11,000.00	5.52	159.41	10,959.17	-797.50	299.64	-799.06	0.00	0.00	0.00
11,100.00	5.52	159.41	11,058.71	-806.50	303.02	-808.08	0.00	0.00	0.00
11,200.00	5.52	159.41	11,158.24	-815.50	306.40	-817.09	0.00	0.00	0.00
11,204.78	5.52	159.41	11,163.00	-815.93	306.56	-817.52	0.00	0.00	0.00
3rd Bone Spring Lm									
11,300.00	5.52	159.41	11,257.78	-824.50	309.78	-826.11	0.00	0.00	0.00
11,400.00	5.52	159.41	11,357.32	-833.50	313.17	-835.13	0.00	0.00	0.00
11,500.00	5.52	159.41	11,456.85	-842.50	316.55	-844.14	0.00	0.00	0.00
11,600.00	5.52	159.41	11,556.39	-851.50	319.93	-853.16	0.00	0.00	0.00
11,700.00	5.52	159.41	11,655.93	-860.49	323.31	-862.18	0.00	0.00	0.00
11,800.00	5.52	159.41	11,755.46	-869.49	326.69	-871.19	0.00	0.00	0.00
11,893.70	5.52	159.41	11,848.73	-877.93	329.86	-879.64	0.00	0.00	0.00
11,900.00	4.93	156.86	11,855.00	-878.46	330.07	-880.17	10.00	-9.30	-40.53
11,950.00	1.97	76.31	11,904.93	-880.23	331.75	-881.96	10.00	-5.92	-161.10
11,958.08	2.30	56.30	11,913.00	-880.11	332.02	-881.83	10.00	4.03	-247.65
3rd Bone Spring Ss									
12,000.00	5.78	19.02	11,954.82	-877.64	333.41	-879.38	10.00	8.31	-88.95
12,050.00	10.63	9.98	12,004.29	-870.72	335.03	-872.46	10.00	9.69	-18.06
12,100.00	15.57	6.61	12,052.98	-859.50	336.60	-861.25	10.00	9.89	-6.76
12,150.00	20.54	4.83	12,100.50	-844.08	338.12	-845.84	10.00	9.94	-3.55
12,200.00	25.52	3.72	12,146.50	-824.58	339.55	-826.35	10.00	9.96	-2.21
12,250.00	30.51	2.96	12,190.63	-801.14	340.91	-802.91	10.00	9.97	-1.53
12,300.00	35.50	2.39	12,232.54	-773.94	342.17	-775.72	10.00	9.98	-1.13
12,350.00	40.49	1.95	12,271.93	-743.19	343.33	-744.98	10.00	9.99	-0.89
12,371.48	42.64	1.79	12,288.00	-728.95	343.80	-730.74	10.00	9.99	-0.76
Wolfcamp									
12,400.00	45.49	1.59	12,308.49	-709.12	344.38	-710.92	10.00	9.99	-0.69
12,450.00	50.48	1.29	12,341.95	-672.00	345.31	-673.80	10.00	9.99	-0.61
12,451.66	50.65	1.28	12,343.00	-670.72	345.34	-672.52	10.00	9.99	-0.56
Wolfcamp X									
12,500.00	55.48	1.02	12,372.04	-632.10	346.11	-633.90	10.00	9.99	-0.52
12,550.00	60.47	0.79	12,398.55	-589.72	346.78	-591.53	10.00	9.99	-0.47



Planning Report

Database: EDM 5000.1.13 Single User Db
Company: XTO Energy
Project: Lea County, NM (NAD-27)
Site: Estancia Sed
Well: #103H
Wellbore: OH
Design: PERMIT

Local Co-ordinate Reference: Well #103H
TVD Reference: RKB = 17' @ 3663.00usft
MD Reference: RKB = 17' @ 3663.00usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
12,600.00	65.47	0.58	12,421.26	-545.20	347.31	-547.01	10.00	9.99	-0.42
12,650.00	70.47	0.38	12,440.01	-498.87	347.69	-500.68	10.00	9.99	-0.39
12,693.56	74.82	0.22	12,453.00	-457.30	347.91	-459.12	10.00	9.99	-0.37
Wolfcamp Y									
12,700.00	75.47	0.20	12,454.65	-451.08	347.93	-452.89	10.00	9.99	-0.36
12,750.00	80.46	0.02	12,465.08	-402.19	348.03	-404.01	10.00	9.99	-0.35
12,800.00	85.46	359.85	12,471.20	-352.58	347.98	-354.40	10.00	9.99	-0.34
12,845.43	90.00	359.70	12,473.00	-307.20	347.80	-309.02	10.00	9.99	-0.34
LP									
12,900.00	90.00	359.70	12,473.00	-252.63	347.52	-254.45	0.00	0.00	0.00
13,000.00	90.00	359.70	12,473.00	-152.63	347.00	-154.45	0.00	0.00	0.00
13,100.00	90.00	359.70	12,473.00	-52.64	346.48	-54.45	0.00	0.00	0.00
13,200.00	90.00	359.70	12,473.00	47.36	345.96	45.55	0.00	0.00	0.00
13,300.00	90.00	359.70	12,473.00	147.36	345.43	145.55	0.00	0.00	0.00
13,400.00	90.00	359.70	12,473.00	247.36	344.91	245.55	0.00	0.00	0.00
13,500.00	90.00	359.70	12,473.00	347.36	344.39	345.55	0.00	0.00	0.00
13,600.00	90.00	359.70	12,473.00	447.36	343.87	445.55	0.00	0.00	0.00
13,700.00	90.00	359.70	12,473.00	547.36	343.35	545.55	0.00	0.00	0.00
13,800.00	90.00	359.70	12,473.00	647.35	342.83	645.55	0.00	0.00	0.00
13,900.00	90.00	359.70	12,473.00	747.35	342.31	745.55	0.00	0.00	0.00
14,000.00	90.00	359.70	12,473.00	847.35	341.79	845.55	0.00	0.00	0.00
14,100.00	90.00	359.70	12,473.00	947.35	341.27	945.55	0.00	0.00	0.00
14,200.00	90.00	359.70	12,473.00	1,047.35	340.75	1,045.55	0.00	0.00	0.00
14,300.00	90.00	359.70	12,473.00	1,147.35	340.23	1,145.55	0.00	0.00	0.00
14,400.00	90.00	359.70	12,473.00	1,247.35	339.71	1,245.55	0.00	0.00	0.00
14,500.00	90.00	359.70	12,473.00	1,347.35	339.19	1,345.55	0.00	0.00	0.00
14,600.00	90.00	359.70	12,473.00	1,447.34	338.67	1,445.55	0.00	0.00	0.00
14,700.00	90.00	359.70	12,473.00	1,547.34	338.15	1,545.55	0.00	0.00	0.00
14,800.00	90.00	359.70	12,473.00	1,647.34	337.63	1,645.55	0.00	0.00	0.00
14,900.00	90.00	359.70	12,473.00	1,747.34	337.11	1,745.55	0.00	0.00	0.00
15,000.00	90.00	359.70	12,473.00	1,847.34	336.59	1,845.55	0.00	0.00	0.00
15,100.00	90.00	359.70	12,473.00	1,947.34	336.07	1,945.55	0.00	0.00	0.00
15,200.00	90.00	359.70	12,473.00	2,047.34	335.55	2,045.55	0.00	0.00	0.00
15,300.00	90.00	359.70	12,473.00	2,147.33	335.03	2,145.55	0.00	0.00	0.00
15,400.00	90.00	359.70	12,473.00	2,247.33	334.51	2,245.55	0.00	0.00	0.00
15,500.00	90.00	359.70	12,473.00	2,347.33	333.99	2,345.55	0.00	0.00	0.00
15,600.00	90.00	359.70	12,473.00	2,447.33	333.47	2,445.55	0.00	0.00	0.00
15,700.00	90.00	359.70	12,473.00	2,547.33	332.95	2,545.55	0.00	0.00	0.00
15,800.00	90.00	359.70	12,473.00	2,647.33	332.43	2,645.55	0.00	0.00	0.00
15,900.00	90.00	359.70	12,473.00	2,747.33	331.91	2,745.55	0.00	0.00	0.00
16,000.00	90.00	359.70	12,473.00	2,847.33	331.39	2,845.55	0.00	0.00	0.00
16,100.00	90.00	359.70	12,473.00	2,947.32	330.87	2,945.55	0.00	0.00	0.00
16,200.00	90.00	359.70	12,473.00	3,047.32	330.35	3,045.55	0.00	0.00	0.00
16,300.00	90.00	359.70	12,473.00	3,147.32	329.83	3,145.55	0.00	0.00	0.00
16,400.00	90.00	359.70	12,473.00	3,247.32	329.31	3,245.55	0.00	0.00	0.00
16,500.00	90.00	359.70	12,473.00	3,347.32	328.79	3,345.55	0.00	0.00	0.00
16,600.00	90.00	359.70	12,473.00	3,447.32	328.27	3,445.55	0.00	0.00	0.00
16,700.00	90.00	359.70	12,473.00	3,547.32	327.74	3,545.55	0.00	0.00	0.00
16,800.00	90.00	359.70	12,473.00	3,647.31	327.22	3,645.55	0.00	0.00	0.00
16,900.00	90.00	359.70	12,473.00	3,747.31	326.70	3,745.55	0.00	0.00	0.00
17,000.00	90.00	359.70	12,473.00	3,847.31	326.18	3,845.55	0.00	0.00	0.00
17,100.00	90.00	359.70	12,473.00	3,947.31	325.66	3,945.55	0.00	0.00	0.00
17,200.00	90.00	359.70	12,473.00	4,047.31	325.14	4,045.55	0.00	0.00	0.00
17,300.00	90.00	359.70	12,473.00	4,147.31	324.62	4,145.55	0.00	0.00	0.00



Planning Report

Database:	EDM 5000.1.13 Single User Db	Local Co-ordinate Reference:	Well #103H
Company:	XTO Energy	TVD Reference:	RKB = 17' @ 3663.00usft
Project:	Lea County, NM (NAD-27)	MD Reference:	RKB = 17' @ 3663.00usft
Site:	Estancia Sed	North Reference:	Grid
Well:	#103H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

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)
17,400.00	90.00	359.70	12,473.00	4,247.31	324.10	4,245.55	0.00	0.00	0.00
17,500.00	90.00	359.70	12,473.00	4,347.30	323.58	4,345.55	0.00	0.00	0.00
17,600.00	90.00	359.70	12,473.00	4,447.30	323.06	4,445.55	0.00	0.00	0.00
17,700.00	90.00	359.70	12,473.00	4,547.30	322.54	4,545.55	0.00	0.00	0.00
17,800.00	90.00	359.70	12,473.00	4,647.30	322.02	4,645.55	0.00	0.00	0.00
17,900.00	90.00	359.70	12,473.00	4,747.30	321.50	4,745.55	0.00	0.00	0.00
17,926.90	90.00	359.70	12,473.00	4,774.20	321.36	4,772.45	0.00	0.00	0.00
17,977.10	90.00	359.70	12,473.00	4,824.40	321.10	4,822.65	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
- hit/miss target									
- Shape									
ES 103H: SHL (409' F	0.00	0.00	0.00	0.00	0.00	457,220.60	722,041.20	32.2549745	-103.6150725
- plan hits target center									
- Point									
ES 103H: LTP	0.00	0.00	12,473.00	4,774.20	321.20	461,994.80	722,362.40	32.2680917	-103.6139301
- plan misses target center by 0.16usft at 17926.90usft MD (12473.00 TVD, 4774.20 N, 321.36 E)									
- Point									
ES 103H: PBHL (409'	0.00	0.00	12,473.00	4,824.40	321.10	462,045.00	722,362.30	32.2682297	-103.6139293
- plan hits target center									
- Point									
ES 103H: FTP	0.00	0.00	12,473.00	-307.20	347.80	456,913.40	722,389.00	32.2541237	-103.6139542
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,213.00	1,213.00	Rustler			
1,663.00	1,663.00	Top Salt			
4,574.07	4,563.00	Base Salt			
5,026.16	5,013.00	Delaware			
8,944.31	8,913.00	Bone Spring			
9,095.01	9,063.00	Upper Avalon			
10,099.66	10,063.00	1st Bone Spring Ss			
10,727.57	10,688.00	2nd Bone Spring Ss			
11,204.78	11,163.00	3rd Bone Spring Lm			
11,958.08	11,913.00	3rd Bone Spring Ss			
12,371.48	12,288.00	Wolfcamp			
12,451.66	12,343.00	Wolfcamp X			
12,693.56	12,453.00	Wolfcamp Y			
12,845.43	12,473.00	LP			