

Survey Report

30-015-44310

Company: XTO Energy
Project: Eddy County, NM (NAD27) NMEZ
Site: Remuda North 25 State Pad
Well: Remuda North 25 State 124H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Remuda North 25 State 124H - Slot N 124H
TVD Reference: 3070+30 @ 3100.00usft (Akita90Act)
MD Reference: 3070+30 @ 3100.00usft (Akita90Act)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: TRUEPERF_EDIT

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 17 2018

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Project Eddy County, NM (NAD27) NMEZ

Map System: US State Plane 1927 (Exact solution)

Geo Datum: NAD 1927 (NADCON CONUS)

Map Zone: New Mexico East 3001

System Datum:

Mean Sea Level

Site Remuda North 25 State Pad, Centered on 904H

Site Position: Northing: 463,887.20 ft Latitude: 32° 16' 29.021 N
From: Map Easting: 621,538.10 ft Longitude: 103° 56' 24.348 W
Position Uncertainty: 0.00 usft Slot Radius: 13.20 in Grid Convergence: 0.21 °

Well Remuda North 25 State 124H - Slot N 124H

Well Position +N/-S 0.00 usft Northing: 463,887.20 ft Latitude: 32° 16' 29.017 N
+E/-W 0.00 usft Easting: 621,628.10 ft Longitude: 103° 56' 23.299 W
Position Uncertainty 0.00 usft Wellhead Elevation: usft Ground Level: 3,070.00 usft

Wellbore Lateral

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	02/11/18	7.06	60.04	47,864

Design Lateral

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	99.93

Survey Program Date 06/09/18

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
193.00	18,500.00	Survey #1 (Lateral)	MWD	MWD v3:standard declination
18,550.00	18,550.00	Survey #2 (Lateral)	Projection	Projection

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Remuda North 124H SL - Remuda North 904H SL									
0.51	0.00	298.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00
Remuda North 103H SL									
193.00	1.10	298.00	192.99	0.87	-1.64	-1.76	0.57	0.57	0.00
319.00	3.00	316.00	318.90	3.81	-4.99	-5.58	1.57	1.51	14.29
399.00	2.90	306.20	398.80	6.51	-8.08	-9.08	0.64	-0.12	-12.25
490.00	2.20	323.10	489.71	9.27	-10.99	-12.42	1.12	-0.77	18.57
581.00	1.00	18.30	580.68	11.42	-11.79	-13.58	2.00	-1.32	60.66

Provide Signature Page for Directional Survey

Survey Report

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Project:	Eddy County, NM (NAD27) NMEZ	TVD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Site:	Remuda North 25 State Pad	MD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Well:	Remuda North 25 State 124H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	TRUEPERF_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
672.00	2.50	100.50	671.64	11.81	-9.59	-11.48	2.82	1.65	90.33
770.00	2.30	113.90	769.55	10.62	-5.69	-7.43	0.61	-0.20	13.67
863.00	2.40	128.00	862.48	8.67	-2.45	-3.90	0.63	0.11	15.16
958.00	2.40	112.30	957.40	6.69	0.96	-0.21	0.69	0.00	-16.53
1,051.00	2.20	119.20	1,050.32	5.08	4.32	3.38	0.37	-0.22	7.42
1,146.00	1.20	167.30	1,145.28	3.22	6.13	5.48	1.75	-1.05	50.63
1,240.00	1.50	188.80	1,239.26	1.04	6.16	5.89	0.62	0.32	22.87
1,333.00	1.60	185.60	1,332.22	-1.45	5.85	6.01	0.14	0.11	-3.44
1,427.00	1.90	190.40	1,426.18	-4.29	5.44	6.10	0.35	0.32	5.11
1,521.00	1.00	207.20	1,520.15	-6.55	4.78	5.84	1.05	-0.96	17.87
1,613.00	0.90	217.10	1,612.13	-7.84	3.98	5.27	0.21	-0.11	10.76
1,706.00	0.40	54.70	1,705.13	-8.24	3.80	5.17	1.38	-0.54	-174.62
1,800.00	1.10	55.00	1,799.12	-7.53	4.81	6.04	0.74	0.74	0.32
1,892.00	1.60	58.00	1,891.10	-6.34	6.62	7.62	0.55	0.54	3.26
1,986.00	1.70	54.00	1,985.06	-4.83	8.86	9.56	0.16	0.11	-4.26
2,082.00	1.50	73.50	2,081.02	-3.63	11.22	11.68	0.60	-0.21	20.31
2,177.00	1.80	71.20	2,175.98	-2.80	13.82	14.10	0.32	0.32	-2.42
2,272.00	1.10	110.20	2,270.95	-2.63	16.09	16.31	1.23	-0.74	41.05
2,365.00	2.40	106.70	2,363.91	-3.50	18.80	19.12	1.40	1.40	-3.76
2,459.00	3.10	108.40	2,457.80	-4.87	23.09	23.59	0.75	0.74	1.81
2,553.00	3.30	112.00	2,551.65	-6.69	28.01	28.75	0.30	0.21	3.83
2,646.00	2.80	106.90	2,644.52	-8.35	32.67	33.62	0.61	-0.54	-5.48
2,740.00	2.60	96.30	2,738.42	-9.25	36.98	38.03	0.57	-0.21	-11.28
2,835.00	2.60	99.50	2,833.32	-9.84	41.25	42.33	0.15	0.00	3.37
2,930.00	3.10	107.90	2,928.20	-10.99	45.82	47.03	0.68	0.53	8.84
3,023.00	2.30	114.30	3,021.10	-12.53	49.91	51.33	0.92	-0.86	6.88
3,118.00	1.10	56.60	3,116.06	-12.81	52.41	53.84	2.05	-1.26	-60.74
3,212.00	1.40	27.90	3,210.04	-11.30	53.70	54.85	0.73	0.32	-30.53
3,306.00	2.60	55.70	3,303.98	-9.08	56.00	56.73	1.61	1.28	29.57
3,399.00	3.00	60.30	3,396.87	-6.69	59.86	60.12	0.49	0.43	4.95
3,493.00	3.30	76.10	3,490.73	-4.82	64.62	64.49	0.97	0.32	16.81
3,587.00	3.40	76.30	3,584.57	-3.51	69.96	69.51	0.11	0.11	0.21
3,682.00	2.50	91.90	3,679.44	-2.91	74.76	74.15	1.26	-0.95	16.42
3,776.00	1.90	143.60	3,773.38	-4.23	77.74	77.30	2.12	-0.64	55.00
3,870.00	2.00	170.50	3,867.33	-7.11	78.93	78.98	0.97	0.11	28.62
3,963.00	1.90	167.70	3,960.28	-10.21	79.53	80.10	0.15	-0.11	-3.01
4,056.00	0.80	197.40	4,053.25	-12.34	79.67	80.60	1.36	-1.18	31.94
4,150.00	0.80	273.30	4,147.24	-12.93	78.81	79.86	1.05	0.00	80.74
4,245.00	0.70	267.70	4,242.24	-12.91	77.57	78.64	0.13	-0.11	-5.89
4,338.00	0.70	260.00	4,335.23	-13.03	76.44	77.55	0.10	0.00	-8.28
4,433.00	0.60	263.00	4,430.22	-13.19	75.38	76.53	0.11	-0.11	3.16
4,526.00	0.60	273.50	4,523.22	-13.22	74.41	75.58	0.12	0.00	11.29
4,619.00	0.60	274.40	4,616.21	-13.16	73.44	74.61	0.01	0.00	0.97

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,713.00	0.70	277.90	4,710.21	-13.04	72.38	73.54	0.11	0.11	3.72
4,808.00	0.80	270.90	4,805.20	-12.95	71.14	72.31	0.14	0.11	-7.37
4,902.00	0.80	266.50	4,899.19	-12.98	69.83	71.02	0.07	0.00	-4.68
4,996.00	0.70	278.10	4,993.18	-12.94	68.61	69.81	0.19	-0.11	12.34
5,090.00	0.70	273.00	5,087.17	-12.83	67.46	68.67	0.07	0.00	-5.43
5,183.00	0.70	256.30	5,180.17	-12.93	66.35	67.58	0.22	0.00	-17.96
5,276.00	0.80	252.10	5,273.16	-13.27	65.18	66.49	0.12	0.11	-4.52
5,370.00	0.80	260.70	5,367.15	-13.58	63.90	65.29	0.13	0.00	9.15
5,465.00	0.90	263.30	5,462.14	-13.77	62.51	63.95	0.11	0.11	2.74
5,559.00	1.00	256.10	5,556.13	-14.05	60.98	62.49	0.17	0.11	-7.66
5,654.00	0.90	259.10	5,651.11	-14.39	59.44	61.03	0.12	-0.11	3.16
5,749.00	0.50	244.70	5,746.11	-14.71	58.33	60.00	0.46	-0.42	-15.16
5,844.00	0.50	338.90	5,841.10	-14.50	57.81	59.44	0.77	0.00	99.16
5,939.00	0.70	345.00	5,936.10	-13.55	57.51	58.99	0.22	0.21	6.42
6,032.00	0.60	348.70	6,029.09	-12.53	57.27	58.57	0.12	-0.11	3.98
6,126.00	0.30	337.50	6,123.09	-11.82	57.08	58.26	0.33	-0.32	-11.91
6,221.00	0.40	333.60	6,218.09	-11.29	56.83	57.93	0.11	0.11	-4.11
6,314.00	0.40	329.40	6,311.09	-10.72	56.53	57.53	0.03	0.00	-4.52
6,408.00	0.20	327.30	6,405.08	-10.30	56.27	57.20	0.21	-0.21	-2.23
6,503.00	0.30	271.80	6,500.08	-10.15	55.93	56.84	0.26	0.11	-58.42
6,597.00	0.40	273.20	6,594.08	-10.13	55.36	56.27	0.11	0.11	1.49
6,691.00	0.30	294.40	6,688.08	-10.01	54.81	55.71	0.17	-0.11	22.55
6,784.00	0.50	295.00	6,781.08	-9.74	54.22	55.08	0.22	0.22	0.65
6,879.00	0.40	269.80	6,876.07	-9.56	53.51	54.36	0.23	-0.11	-26.53
6,975.00	0.80	287.60	6,972.07	-9.36	52.54	53.36	0.45	0.42	18.54
7,068.00	0.90	292.90	7,065.06	-8.88	51.24	52.01	0.14	0.11	5.70
7,162.00	1.10	287.40	7,159.04	-8.32	49.70	50.39	0.24	0.21	-5.85
7,257.00	1.30	277.00	7,254.02	-7.92	47.76	48.41	0.31	0.21	-10.95
7,351.00	0.80	290.40	7,348.01	-7.56	46.09	46.70	0.59	-0.53	14.26
7,446.00	1.40	258.70	7,442.99	-7.56	44.33	44.97	0.88	0.63	-33.37
7,541.00	1.00	261.40	7,537.97	-7.91	42.37	43.10	0.43	-0.42	2.84
7,634.00	0.80	254.70	7,630.96	-8.20	40.94	41.74	0.24	-0.22	-7.20
7,728.00	1.20	297.60	7,724.95	-7.92	39.44	40.21	0.87	0.43	45.64
7,822.00	2.20	323.40	7,818.90	-6.01	37.49	37.97	1.31	1.06	27.45
7,916.00	1.60	283.70	7,912.86	-4.25	35.14	35.35	1.50	-0.64	-42.23
8,012.00	1.50	251.20	8,008.82	-4.34	32.65	32.91	0.91	-0.10	-33.85
8,106.00	1.60	246.40	8,102.79	-5.26	30.28	30.73	0.17	0.11	-5.11
8,200.00	1.80	250.70	8,196.75	-6.28	27.68	28.35	0.25	0.21	4.57
8,294.00	1.90	251.00	8,290.70	-7.27	24.82	25.70	0.11	0.11	0.32
8,389.00	2.80	254.50	8,385.62	-8.40	21.09	22.23	0.96	0.95	3.68
8,484.00	1.90	256.60	8,480.54	-9.39	17.32	18.68	0.95	-0.95	2.21
8,578.00	0.60	245.20	8,574.51	-9.96	15.36	16.85	1.40	-1.38	-12.13
8,673.00	1.10	116.20	8,669.51	-10.57	15.73	17.32	1.63	0.53	-135.79
8,768.00	1.60	112.10	8,764.48	-11.47	17.78	19.49	0.54	0.53	-4.32

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8,796.62	1.75	112.25	8,793.08	-11.79	18.55	20.30	0.53	0.53	0.51
Remuda North 704H FTP									
8,862.00	2.10	112.50	8,858.43	-12.62	20.58	22.45	0.53	0.53	0.39
8,955.00	2.60	106.70	8,951.35	-13.88	24.18	26.21	0.59	0.54	-6.24
9,049.00	3.00	104.90	9,045.24	-15.13	28.60	30.78	0.44	0.43	-1.91
9,143.00	2.90	115.10	9,139.12	-16.77	33.13	35.52	0.57	-0.11	10.85
9,237.00	2.80	123.60	9,233.00	-19.05	37.19	39.92	0.46	-0.11	9.04
9,340.00	2.80	135.50	9,335.88	-22.23	41.05	44.27	0.56	0.00	11.55
9,435.00	2.80	134.80	9,430.76	-25.52	44.32	48.06	0.04	0.00	-0.74
9,529.00	3.80	132.00	9,524.61	-29.22	48.27	52.58	1.08	1.06	-2.98
9,624.00	3.20	134.60	9,619.43	-33.19	52.50	57.43	0.65	-0.63	2.74
9,718.00	3.30	154.90	9,713.28	-37.49	55.51	61.14	1.22	0.11	21.60
9,813.00	2.70	151.90	9,808.15	-41.94	57.73	64.09	0.65	-0.63	-3.16
9,827.00	2.70	151.50	9,822.14	-42.52	58.04	64.50	0.13	0.00	-2.86
9,858.00	3.20	138.50	9,853.09	-43.81	58.96	65.63	2.68	1.61	-41.94
9,889.00	4.80	128.00	9,884.02	-45.25	60.56	67.45	5.66	5.16	-33.87
9,920.00	6.40	121.10	9,914.87	-46.94	63.06	70.21	5.59	5.16	-22.26
9,951.00	7.40	108.60	9,945.65	-48.47	66.43	73.79	5.80	3.23	-40.32
9,982.00	9.50	100.90	9,976.31	-49.59	70.83	78.32	7.68	6.77	-24.84
10,014.00	11.20	98.60	10,007.79	-50.56	76.50	84.07	5.47	5.31	-7.19
10,045.00	13.40	96.00	10,038.07	-51.38	83.05	90.67	7.32	7.10	-8.39
10,076.00	15.60	96.00	10,068.09	-52.19	90.77	98.41	7.10	7.10	0.00
10,107.00	18.30	92.60	10,097.74	-52.85	99.78	107.40	9.27	8.71	-10.97
10,138.00	22.30	84.60	10,126.81	-52.52	110.50	117.90	15.68	12.90	-25.81
10,169.00	26.80	74.20	10,155.01	-50.06	123.09	129.88	20.08	14.52	-33.55
10,200.00	30.60	64.90	10,182.21	-44.80	136.98	142.65	18.88	12.26	-30.00
10,231.00	36.30	59.10	10,208.08	-36.74	152.01	156.07	21.06	18.39	-18.71
10,262.00	42.40	56.20	10,232.04	-26.20	168.59	170.58	20.55	19.68	-9.35
10,294.00	46.50	51.00	10,254.89	-12.88	186.59	186.01	17.13	12.81	-16.25
10,325.00	47.90	42.20	10,275.97	2.73	203.07	199.55	21.30	4.52	-28.39
10,356.00	49.10	33.70	10,296.53	21.02	217.31	210.43	20.89	3.87	-27.42
10,387.00	51.30	27.60	10,316.38	41.50	229.42	218.83	16.70	7.10	-19.68
10,418.00	56.50	24.30	10,334.65	64.02	240.35	225.72	18.85	16.77	-10.65
10,450.00	60.60	26.70	10,351.34	88.64	252.11	233.05	14.32	12.81	7.50
10,481.00	60.80	28.50	10,366.51	112.60	264.64	241.26	5.10	0.65	5.81
10,513.00	62.80	26.20	10,381.64	137.65	277.59	249.70	8.90	6.25	-7.19
10,544.00	65.70	23.20	10,395.10	163.01	289.24	256.80	12.79	9.35	-9.68
10,576.00	67.50	19.50	10,407.82	190.36	299.93	262.61	12.01	5.62	-11.56
10,607.00	67.40	15.50	10,419.71	217.66	308.53	266.38	11.92	-0.32	-12.90
10,638.00	68.90	11.20	10,431.25	245.64	315.17	268.09	13.75	4.84	-13.87
10,669.00	70.40	10.00	10,442.03	274.21	320.52	268.43	6.05	4.84	-3.87
10,700.00	71.10	7.40	10,452.25	303.14	324.94	267.80	8.23	2.26	-8.39
10,731.00	70.70	5.10	10,462.40	332.26	328.13	265.93	7.13	-1.29	-7.42

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Design:	Lateral	Database:	TRUEPERF_EDM

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,762.00	69.30	3.00	10,473.00	361.31	330.19	262.94	7.80	-4.52	-6.77	
10,774.00	68.95	2.04	10,477.28	372.51	330.68	261.50	8.06	-2.94	-8.03	
Wellpath Crosses Section Line @ Heel										
10,793.00	68.40	0.50	10,484.19	390.20	331.07	258.83	8.06	-2.88	-8.08	
10,809.92	68.92	359.01	10,490.34	405.96	331.01	256.05	8.74	3.09	-8.78	
Remuda North 904H LP										
10,825.00	69.40	357.70	10,495.71	420.05	330.60	253.22	8.74	3.16	-8.72	
10,856.00	70.70	356.60	10,506.29	449.15	329.15	246.78	5.36	4.19	-3.55	
10,887.00	71.30	356.10	10,516.38	478.41	327.29	239.90	2.46	1.94	-1.61	
10,918.00	72.90	356.50	10,525.91	507.84	325.38	232.94	5.31	5.16	1.29	
10,950.00	74.60	357.20	10,534.86	538.52	323.70	225.99	5.71	5.31	2.19	
10,981.00	76.40	357.70	10,542.62	568.50	322.36	219.51	6.01	5.81	1.61	
10,986.65	76.56	357.66	10,543.94	573.99	322.14	218.34	2.88	2.81	-0.63	
Remuda North 124H LP p3										
11,013.00	77.30	357.50	10,549.90	599.63	321.06	212.86	2.88	2.81	-0.62	
11,041.18	77.66	357.05	10,556.01	627.11	319.75	206.83	2.04	1.29	-1.61	
Remuda North 124H LP										
11,044.00	77.70	357.00	10,556.61	629.86	319.60	206.21	2.04	1.29	-1.61	
11,054.98	77.91	356.82	10,558.93	640.57	319.03	203.80	2.50	1.93	-1.62	
Remuda North 904H FTP										
11,075.00	78.30	356.50	10,563.06	660.13	317.88	199.30	2.50	1.94	-1.61	
11,106.00	78.60	356.30	10,569.26	690.45	315.98	192.19	1.16	0.97	-0.65	
11,119.00	78.22	357.05	10,571.88	703.16	315.24	189.28	6.38	-2.91	5.80	
Wellpath Crosses 330°FSL,340°FEL										
11,120.26	78.18	357.13	10,572.13	704.39	315.18	189.00	6.38	-2.91	5.80	
Remuda North 124H FTP										
11,137.00	77.70	358.10	10,575.63	720.75	314.50	185.51	6.38	-2.89	5.82	
11,168.00	79.20	359.10	10,581.84	751.11	313.75	179.54	5.78	4.84	3.23	
11,199.00	82.50	359.50	10,586.77	781.71	313.38	173.90	10.72	10.65	1.29	
11,230.00	84.80	359.80	10,590.20	812.52	313.19	168.40	7.48	7.42	0.97	
11,261.00	87.30	358.90	10,592.33	843.44	312.84	162.73	8.57	8.06	-2.90	
11,293.00	90.00	358.20	10,593.08	875.42	312.03	156.41	8.72	8.44	-2.19	
11,324.00	92.20	357.90	10,592.49	906.39	310.98	150.03	7.16	7.10	-0.97	
11,418.00	91.20	359.10	10,589.70	1,000.31	308.52	131.42	1.66	-1.06	1.28	
11,512.00	86.20	357.70	10,591.83	1,094.22	305.90	112.64	5.52	-5.32	-1.49	
11,605.00	86.20	357.00	10,598.00	1,186.92	301.61	92.43	0.75	0.00	-0.75	
11,700.00	88.50	358.80	10,602.39	1,281.74	298.13	72.66	3.07	2.42	1.89	
11,793.00	91.80	358.40	10,602.15	1,374.70	295.86	54.39	3.57	3.55	-0.43	
11,887.00	93.30	358.40	10,597.96	1,468.57	293.24	35.63	1.60	1.60	0.00	
11,980.00	91.70	359.60	10,593.91	1,561.46	291.62	18.01	2.15	-1.72	1.29	
12,073.00	92.40	358.60	10,590.58	1,654.39	290.16	0.55	1.31	0.75	-1.08	
12,168.00	88.70	0.00	10,589.67	1,749.36	289.00	-16.97	4.16	-3.89	1.47	
12,264.00	89.50	1.20	10,591.18	1,845.34	290.00	-32.53	1.50	0.83	1.25	
12,360.00	90.80	359.80	10,590.92	1,941.33	290.84	-48.25	1.99	1.35	-1.46	
12,454.00	88.10	358.60	10,591.83	2,035.30	289.53	-65.75	3.14	-2.87	-1.28	

Survey Report

Company: XTO Energy
 Project: Eddy County, NM (NAD27) NMEZ
 Site: Remuda North 25 State Pad
 Well: Remuda North 25 State 124H
 Wellbore: Lateral
 Design: Lateral

Local Co-ordinate Reference: Well Remuda North 25 State 124H - Slot N 124H
 TVD Reference: 3070+30 @ 3100.00usft (Akita90Act)
 MD Reference: 3070+30 @ 3100.00usft (Akita90Act)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: TRUEPERF_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,549.00	87.80	357.70	10,595.23	2,130.19	286.46	-85.13	1.00	-0.32	-0.95
12,642.00	89.50	357.00	10,597.42	2,223.06	282.16	-105.38	1.98	1.83	-0.75
12,736.00	88.80	0.20	10,598.81	2,317.01	279.87	-123.84	3.48	-0.74	3.40
12,831.00	88.50	359.50	10,601.05	2,411.99	279.62	-140.46	0.80	-0.32	-0.74
12,926.00	88.60	359.60	10,603.45	2,506.95	278.87	-157.57	0.15	0.11	0.11
13,020.00	91.90	0.30	10,603.04	2,600.94	278.79	-173.85	3.59	3.51	0.74
13,114.00	93.60	358.80	10,598.53	2,694.82	278.05	-190.77	2.41	1.81	-1.60
13,207.00	91.90	0.30	10,594.07	2,787.70	277.33	-207.50	2.44	-1.83	1.61
13,299.00	93.40	0.00	10,589.82	2,879.60	277.57	-223.11	1.66	1.63	-0.33
13,396.00	88.60	0.30	10,588.13	2,976.56	277.82	-239.58	4.96	-4.95	0.31
13,487.00	89.00	359.30	10,590.03	3,067.54	277.50	-255.58	1.18	0.44	-1.10
13,581.00	92.10	359.50	10,589.13	3,161.52	276.52	-272.75	3.30	3.30	0.21
13,675.00	89.60	358.40	10,587.73	3,255.48	274.80	-290.65	2.91	-2.66	-1.17
13,769.00	91.10	358.40	10,587.16	3,349.44	272.17	-309.43	1.60	1.60	0.00
13,863.00	92.80	357.70	10,583.96	3,443.33	268.97	-328.77	1.96	1.81	-0.74
13,957.00	89.70	359.30	10,581.91	3,537.26	266.52	-347.39	3.71	-3.30	1.70
14,050.00	88.30	359.30	10,583.53	3,630.24	265.38	-364.54	1.51	-1.51	0.00
14,178.00	88.00	358.60	10,587.67	3,758.15	263.04	-388.90	0.59	-0.23	-0.55
14,271.00	89.10	359.10	10,590.02	3,851.10	261.17	-406.77	1.30	1.18	0.54
14,365.00	90.20	0.70	10,590.59	3,945.09	261.01	-423.14	2.07	1.17	1.70
14,459.00	90.40	0.70	10,590.10	4,039.08	262.15	-438.21	0.21	0.21	0.00
14,552.00	89.40	0.00	10,590.26	4,132.08	262.72	-453.69	1.31	-1.08	-0.75
14,646.00	91.40	0.70	10,589.61	4,226.07	263.30	-469.33	2.25	2.13	0.74
14,739.00	90.90	0.20	10,587.74	4,319.05	264.03	-484.64	0.76	-0.54	-0.54
14,833.00	90.30	359.60	10,586.76	4,413.04	263.86	-501.01	0.90	-0.64	-0.64
14,927.00	90.90	359.10	10,585.77	4,507.03	262.80	-518.27	0.83	0.64	-0.53
15,020.00	91.70	359.10	10,583.66	4,599.99	261.34	-535.73	0.86	0.86	0.00
15,114.00	90.40	1.00	10,581.94	4,693.97	261.42	-551.86	2.45	-1.38	2.02
15,208.00	91.10	1.80	10,580.71	4,787.93	263.71	-565.80	1.13	0.74	0.85
15,302.00	90.90	1.60	10,579.07	4,881.88	266.50	-579.25	0.30	-0.21	-0.21
15,395.00	90.40	1.20	10,578.01	4,974.84	268.77	-593.04	0.69	-0.54	-0.43
15,489.00	90.70	0.20	10,577.11	5,068.83	269.92	-608.12	1.11	0.32	-1.06
15,586.00	90.40	359.50	10,576.18	5,165.82	269.67	-625.09	0.79	-0.31	-0.72
15,679.00	88.60	359.50	10,576.99	5,258.81	268.86	-641.92	1.94	-1.94	0.00
15,773.00	89.30	359.80	10,578.71	5,352.79	268.28	-658.69	0.81	0.74	0.32
15,867.00	88.50	358.60	10,580.52	5,446.77	266.97	-676.19	1.53	-0.85	-1.28
15,961.00	88.60	358.20	10,582.90	5,540.70	264.35	-694.97	0.44	0.11	-0.43
16,054.00	89.40	0.20	10,584.52	5,633.67	263.05	-712.28	2.32	0.86	2.15
16,149.00	90.40	0.50	10,584.69	5,728.67	263.63	-728.09	1.10	1.05	0.32
16,242.00	91.60	0.90	10,583.06	5,821.64	264.77	-743.00	1.36	1.29	0.43
16,336.00	92.50	359.60	10,579.70	5,915.58	265.18	-758.79	1.68	0.96	-1.38
16,429.00	90.60	0.20	10,577.19	6,008.54	265.01	-774.98	2.14	-2.04	0.65
16,523.00	89.30	1.20	10,577.27	6,102.53	266.16	-790.06	1.74	-1.38	1.06

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda North 25 State 124H - Slot N 124H
Project:	Eddy County, NM (NAD27) NMEZ	TVD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Site:	Remuda North 25 State Pad	MD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Well:	Remuda North 25 State 124H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	TRUEPERF_EDM

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
16,617.00	87.80	0.30	10,579.65	6,196.49	267.39	-805.05	1.86	-1.60	-0.96
16,712.00	89.30	0.90	10,582.05	6,291.45	268.39	-820.44	1.70	1.58	0.63
16,805.00	91.30	1.60	10,581.56	6,384.42	270.42	-834.47	2.28	2.15	0.75
16,897.00	90.00	0.70	10,580.52	6,476.39	272.26	-848.51	1.72	-1.41	-0.98
16,990.00	92.20	359.30	10,578.73	6,569.37	272.26	-864.54	2.80	2.37	-1.51
17,083.00	91.10	358.80	10,576.06	6,662.32	270.72	-882.09	1.30	-1.18	-0.54
17,174.00	89.30	358.10	10,575.74	6,753.28	268.26	-900.20	2.12	-1.98	-0.77
17,265.00	89.00	356.30	10,577.09	6,844.16	263.82	-920.24	2.01	-0.33	-1.98
17,358.00	89.10	355.80	10,578.63	6,936.92	257.41	-942.55	0.55	0.11	-0.54
17,449.00	89.40	357.90	10,579.82	7,027.77	252.41	-963.14	2.33	0.33	2.31
17,540.00	87.50	359.80	10,582.28	7,118.71	250.58	-980.62	2.95	-2.09	2.09
17,632.00	88.20	359.80	10,585.74	7,210.65	250.26	-996.79	0.76	0.76	0.00
17,722.00	89.30	358.60	10,587.70	7,300.61	249.01	-1,013.54	1.81	1.22	-1.33
17,814.00	89.70	359.60	10,588.50	7,392.60	247.56	-1,030.82	1.17	0.43	1.09
17,908.00	91.50	359.50	10,587.52	7,486.58	246.82	-1,047.75	1.92	1.91	-0.11
18,001.00	89.40	359.80	10,586.79	7,579.57	246.26	-1,064.35	2.28	-2.26	0.32
18,095.00	90.80	0.20	10,586.62	7,673.57	246.26	-1,080.55	1.55	1.49	0.43
18,188.00	90.80	359.50	10,585.32	7,766.56	246.01	-1,096.83	0.75	0.00	-0.75
18,281.00	91.10	358.90	10,583.78	7,859.54	244.71	-1,114.14	0.72	0.32	-0.65
18,375.00	92.20	358.80	10,581.08	7,953.48	242.83	-1,132.19	1.18	1.17	-0.11
18,434.03	93.41	358.99	10,578.19	8,012.43	241.69	-1,143.48	2.07	2.04	0.32
Remuda North 124H LTP									
18,435.00	93.43	358.99	10,578.13	8,013.39	241.67	-1,143.66	2.07	2.04	0.32
Wellpath Crosses 330°FNL, 365°FEL									
18,468.00	94.10	359.10	10,575.97	8,046.32	241.13	-1,149.88	2.07	2.04	0.32
18,500.00	94.70	359.30	10,573.51	8,078.22	240.68	-1,155.82	1.98	1.87	0.62
18,550.00	94.70	359.30	10,569.41	8,128.05	240.07	-1,165.01	0.00	0.00	0.00
TD @ 215°FNL,366°FEL - Remuda North 124H PBHL p3 - Remuda North 124H BHL - Remuda North 124H PBHL - Remuda North 704H PBHL									

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda North 25 State 124H - Slot N 124H
Project:	Eddy County, NM (NAD27) NMEZ	TVD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Site:	Remuda North 25 State Pad	MD Reference:	3070+30 @ 3100.00usft (Akita90Act)
Well:	Remuda North 25 State 124H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	TRUEPERF_EDM

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Remuda North 124H SL - actual wellpath hits target center - Point	0.00	0.00	0.00	0.00	0.00	463,887.20	621,628.10	32° 16' 29.017 N	103° 56' 23.299 W
Remuda North 124H BH - actual wellpath hits target center - Point	0.00	0.00	10,569.4 1	8,128.05	240.07	472,015.27	621,868.17	32° 17' 49.444 N	103° 56' 20.155 W
Remuda North 124H LTI - actual wellpath misses target center by 24.38usft at 18434.05usft MD (10578.19 TVD, 8012.45 N, 241.69 E) - Point	0.00	0.00	10,580.0 0	8,012.98	266.00	471,900.20	621,894.10	32° 17' 48.305 N	103° 56' 19.858 W
Remuda North 124H FTI - actual wellpath misses target center by 8.06usft at 11120.23usft MD (10572.13 TVD, 704.36 N, 315.18 E) - Point	0.00	0.00	10,580.0 0	702.70	314.80	464,589.90	621,942.90	32° 16' 35.960 N	103° 56' 19.603 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,774.00	10,477.28	372.51	330.68	Wellpath Crosses Section Line @ Heel
11,119.00	10,571.88	703.16	315.24	Wellpath Crosses 330°FSL,340°FEL
18,435.00	10,578.13	8,013.39	241.67	Wellpath Crosses 330°FNL, 365°FEL
18,550.00	10,569.41	8,128.05	240.07	TD @ 215°FNL,366°FEL

Checked By: _____	Approved By: _____	Date: _____
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XTO Energy

Project: Eddy County, NM (NAD27) NMEZ
 Site: Remuda North 25 State Pad
 Well: Remuda North 25 State 124H
 Wellbore: Lateral
 Design: Lateral

3070+30 @ 3100.00usft (Akita90Act)
 NAD 1927 (NADCON CONUS)



To convert a Magnetic Direction to a Grid Direction, Add 6.85°

ANNOTATIONS

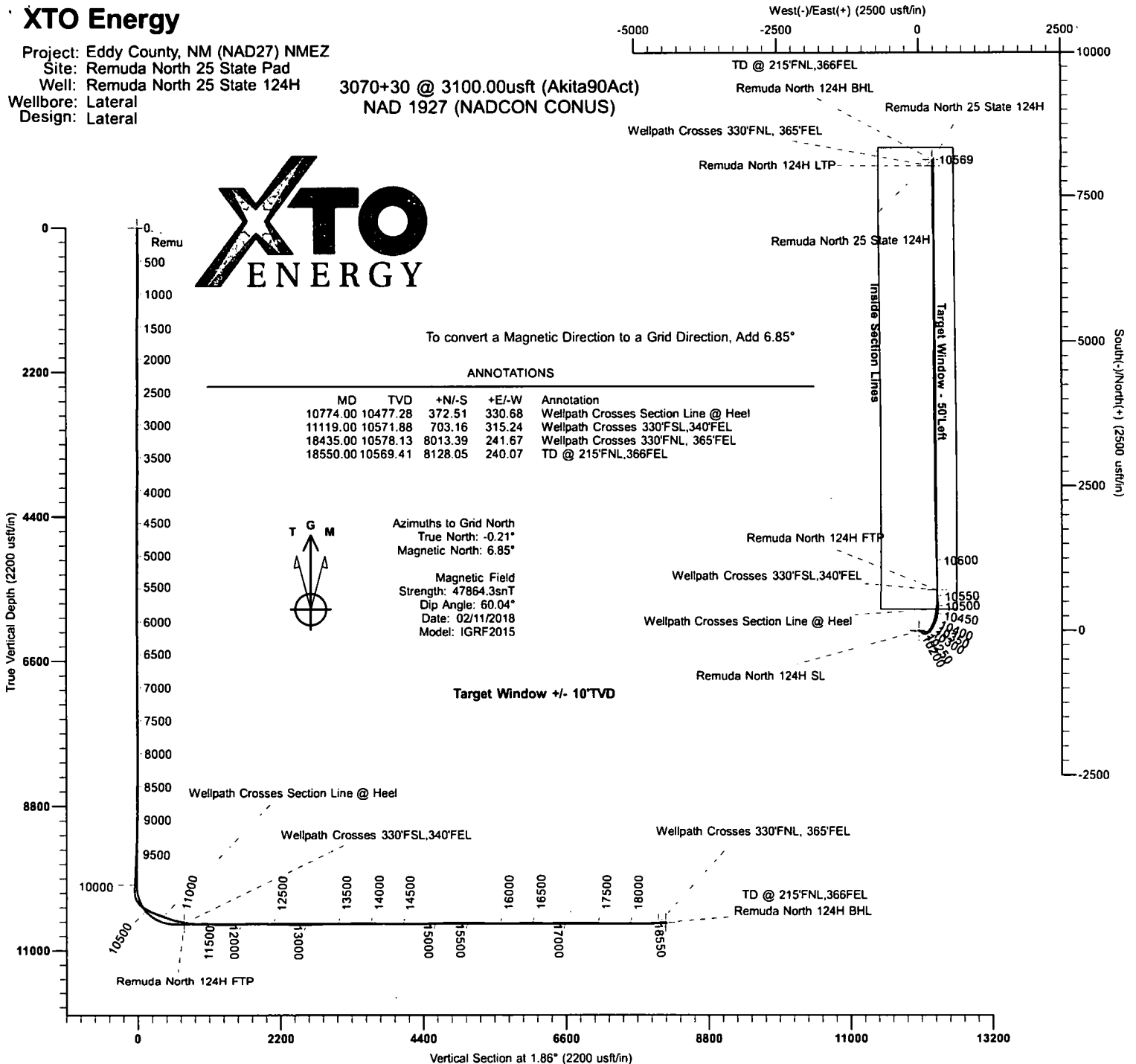
MD	TVD	+N/-S	+E/-W	Annotation
10774.00	10477.28	372.51	330.68	Wellpath Crosses Section Line @ Heel
11119.00	10571.88	703.16	315.24	Wellpath Crosses 330°FSL, 340°FEL
18435.00	10578.13	8013.39	241.67	Wellpath Crosses 330°FNL, 365°FEL
18550.00	10569.41	8128.05	240.07	TD @ 215°FNL, 366°FEL



Azimuths to Grid North
 True North: -0.21°
 Magnetic North: 6.85°

Magnetic Field
 Strength: 47864.3snT
 Dip Angle: 60.04°
 Date: 02/11/2018
 Model: IGRF2015

Target Window +/- 10°TVD



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Remuda North 124H SL	0.00	0.00	0.00	463887.20	621628.10	Point
Remuda North 124H BHL	10569.41	8128.05	240.07	472015.27	621868.17	Point
Remuda North 124H FTP	10580.00	702.70	314.80	464589.90	621942.90	Point
Remuda North 124H LTP	10580.00	8012.98	266.00	471900.20	621894.10	Point