

Survey Report

30-015-44231

Company: XTO Energy	Local Co-ordinate Reference: Well Remuda North 25 State 902H - Slot N-25_902H	NM OIL CONSERVATION ARTESIA DISTRICT
Project: Eddy County, NM (NAD27) NMEZ	TVD Reference: 3065+24 @ 3089.00usft (Herc)	
Site: Remuda North 25 State Pad	MD Reference: 3065+24 @ 3089.00usft (Herc)	
Well: Remuda North 25 State 902H	North Reference: Grid	
Wellbore: Lateral	Survey Calculation Method: Minimum Curvature	
Design: Lateral	Database: TRUEPERF_EDM	

DEC 03 2018

Project	Eddy County, NM (NAD27) NMEZ		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)	RECEIVED	
Map Zone:	New Mexico East 3001		

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 902H - Slot N-25_902H				
Well Position	+N/-S	0.00 usft	Northing:	463,886.50 ft	
	+E/-W	0.00 usft	Easting:	620,278.40 ft	
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,065.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	03/14/18	7.05	60.04	47,855

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	2.07	

Survey Program	Date	04/24/18			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
110.00	18,329.00	Survey #1 (Lateral)	MWD	MWD v3:standard declination	
18,380.00	18,380.00	Survey #2 (Lateral)	Projection	Projection	

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
N-25_902H_SL									
110.00	0.20	239.00	110.00	-0.10	-0.16	-0.10	0.18	0.18	0.00
219.00	0.50	239.00	219.00	-0.44	-0.74	-0.47	0.28	0.28	0.00
317.00	0.70	177.00	316.99	-1.26	-1.07	-1.30	0.65	0.20	-63.27
480.00	0.70	244.90	479.98	-2.68	-1.92	-2.74	0.48	0.00	41.66
511.00	0.60	238.30	510.98	-2.84	-2.23	-2.92	0.40	-0.32	-21.29
602.00	0.50	244.70	601.98	-3.26	-2.99	-3.37	0.13	-0.11	7.03
692.00	0.80	223.00	691.97	-3.89	-3.78	-4.02	0.43	0.33	-24.11

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Well:	Remuda North 25 State 902H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	TRUEPERF_EDM

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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)
783.00	0.80	216.50	782.96	-4.86	-4.59	-5.03	0.10	0.00	-7.14
880.00	0.70	115.30	879.96	-5.66	-4.46	-5.82	1.20	-0.10	-104.33
974.00	0.90	120.10	973.95	-6.28	-3.30	-6.39	0.22	0.21	5.11
1,069.00	1.00	118.30	1,068.94	-7.05	-1.92	-7.11	0.11	0.11	-1.89
1,163.00	1.20	123.80	1,162.92	-7.98	-0.38	-7.99	0.24	0.21	5.85
1,258.00	1.40	134.30	1,257.89	-9.35	1.27	-9.29	0.33	0.21	11.05
1,352.00	1.60	147.80	1,351.86	-11.26	2.80	-11.15	0.43	0.21	14.36
1,447.00	1.60	204.40	1,446.83	-13.59	2.95	-13.47	1.60	0.00	59.58
1,541.00	2.00	214.90	1,540.78	-16.13	1.47	-16.06	0.55	0.43	11.17
1,634.00	0.50	187.00	1,633.76	-17.86	0.50	-17.83	1.69	-1.61	-30.00
1,729.00	0.80	86.10	1,728.76	-18.23	1.11	-18.18	1.07	0.32	-106.21
1,822.00	1.20	80.60	1,821.74	-18.03	2.72	-17.92	0.44	0.43	-5.91
1,916.00	0.50	38.30	1,915.73	-17.54	3.94	-17.39	0.95	-0.74	-45.00
2,011.00	0.50	292.20	2,010.73	-17.06	3.81	-16.91	0.84	0.00	-111.68
2,105.00	2.00	238.30	2,104.71	-17.77	2.04	-17.68	1.86	1.60	-57.34
2,200.00	1.00	289.40	2,199.68	-18.36	-0.15	-18.36	1.66	-1.05	53.79
2,295.00	1.20	280.60	2,294.66	-17.91	-1.91	-17.96	0.27	0.21	-9.26
2,389.00	0.90	308.60	2,388.64	-17.26	-3.46	-17.38	0.62	-0.32	29.79
2,483.00	0.20	33.90	2,482.64	-16.67	-3.94	-16.80	0.96	-0.74	90.74
2,578.00	1.60	126.30	2,577.63	-17.31	-2.78	-17.40	1.71	1.47	97.26
2,672.00	1.80	132.20	2,671.59	-19.08	-0.63	-19.09	0.28	0.21	6.28
2,767.00	1.70	139.10	2,766.54	-21.15	1.40	-21.09	0.25	-0.11	7.26
2,861.00	0.30	213.00	2,860.53	-22.41	2.18	-22.32	1.75	-1.49	78.62
2,955.00	0.70	235.80	2,954.52	-22.94	1.57	-22.87	0.47	0.43	24.26
3,050.00	1.10	197.20	3,049.51	-24.14	0.82	-24.09	0.74	0.42	-40.63
3,146.00	0.80	205.80	3,145.50	-25.62	0.25	-25.60	0.35	-0.31	8.96
3,240.00	0.90	228.50	3,239.49	-26.70	-0.58	-26.70	0.37	0.11	24.15
3,334.00	0.70	237.70	3,333.48	-27.50	-1.62	-27.54	0.25	-0.21	9.79
3,428.00	1.00	265.80	3,427.47	-27.86	-2.93	-27.95	0.54	0.32	29.89
3,522.00	1.30	272.60	3,521.45	-27.88	-4.81	-28.03	0.35	0.32	7.23
3,617.00	1.30	279.60	3,616.43	-27.65	-6.95	-27.88	0.17	0.00	7.37
3,712.00	1.10	304.60	3,711.41	-26.95	-8.76	-27.25	0.58	-0.21	26.32
3,807.00	1.30	327.10	3,806.38	-25.53	-10.10	-25.88	0.53	0.21	23.68
3,902.00	1.40	22.90	3,901.36	-23.55	-10.23	-23.91	1.33	0.11	58.74
3,996.00	1.90	47.80	3,995.32	-21.45	-8.63	-21.75	0.92	0.53	26.49
4,091.00	1.50	77.10	4,090.28	-20.11	-6.25	-20.33	0.99	-0.42	30.84
4,185.00	1.40	110.10	4,184.26	-20.23	-3.97	-20.36	0.88	-0.11	35.11
4,279.00	0.70	99.10	4,278.24	-20.72	-2.33	-20.79	0.77	-0.74	-11.70
4,373.00	0.30	351.50	4,372.24	-20.57	-1.80	-20.62	0.89	-0.43	-114.47
4,467.00	0.60	322.70	4,466.23	-19.93	-2.13	-19.99	0.39	0.32	-30.64
4,561.00	0.90	264.60	4,560.23	-19.61	-3.17	-19.71	0.82	0.32	-61.81
4,654.00	1.60	251.50	4,653.20	-20.09	-5.12	-20.26	0.81	0.75	-14.09

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4,749.00	1.40	261.60	4,748.17	-20.68	-7.53	-20.94	0.35	-0.21	10.63
4,842.00	1.20	275.20	4,841.15	-20.76	-9.62	-21.09	0.39	-0.22	14.62
4,935.00	1.10	263.90	4,934.13	-20.76	-11.48	-21.17	0.27	-0.11	-12.15
5,029.00	1.10	256.40	5,028.11	-21.07	-13.26	-21.54	0.15	0.00	-7.98
5,123.00	1.10	264.20	5,122.09	-21.38	-15.03	-21.90	0.16	0.00	8.30
5,219.00	1.20	263.60	5,218.08	-21.58	-16.95	-22.18	0.10	0.10	-0.62
5,312.00	1.40	255.30	5,311.05	-21.98	-19.01	-22.65	0.29	0.22	-8.92
5,406.00	1.50	250.60	5,405.02	-22.68	-21.28	-23.43	0.17	0.11	-5.00
5,500.00	1.60	247.20	5,498.99	-23.59	-23.65	-24.43	0.14	0.11	-3.62
5,594.00	1.90	243.60	5,592.94	-24.80	-26.26	-25.73	0.34	0.32	-3.83
5,688.00	1.60	246.60	5,686.90	-26.01	-28.86	-27.04	0.33	-0.32	3.19
5,783.00	1.40	256.00	5,781.87	-26.82	-31.20	-27.93	0.33	-0.21	9.89
5,876.00	1.50	250.90	5,874.84	-27.49	-33.46	-28.68	0.18	0.11	-5.48
5,970.00	1.50	253.40	5,968.80	-28.25	-35.80	-29.52	0.07	0.00	2.66
6,063.00	1.40	230.60	6,061.78	-29.31	-37.84	-30.66	0.63	-0.11	-24.52
6,158.00	0.90	205.20	6,156.76	-30.73	-39.06	-32.12	0.74	-0.53	-26.74
6,251.00	0.70	153.60	6,249.75	-31.90	-39.11	-33.29	0.77	-0.22	-55.48
6,347.00	1.40	113.40	6,345.73	-32.89	-37.78	-34.23	1.02	0.73	-41.87
6,441.00	1.70	112.40	6,439.70	-33.87	-35.43	-35.13	0.32	0.32	-1.06
6,536.00	1.70	117.50	6,534.66	-35.06	-32.88	-36.23	0.16	0.00	5.37
6,630.00	1.80	113.20	6,628.61	-36.29	-30.29	-37.36	0.18	0.11	-4.57
6,726.00	1.60	118.60	6,724.57	-37.52	-27.73	-38.50	0.27	-0.21	5.62
6,820.00	1.50	134.30	6,818.54	-39.01	-25.69	-39.91	0.46	-0.11	16.70
6,914.00	1.40	137.40	6,912.51	-40.71	-24.04	-41.56	0.14	-0.11	3.30
7,009.00	1.40	140.50	7,007.48	-42.46	-22.51	-43.25	0.08	0.00	3.26
7,103.00	1.10	128.50	7,101.46	-43.91	-21.07	-44.64	0.42	-0.32	-12.77
7,197.00	1.00	134.20	7,195.44	-45.05	-19.78	-45.73	0.15	-0.11	6.06
7,273.00	0.90	151.70	7,271.43	-46.03	-19.02	-46.69	0.40	-0.13	23.03
7,386.00	1.50	170.10	7,384.41	-48.27	-18.35	-48.90	0.62	0.53	16.28
7,487.00	2.50	127.90	7,485.35	-50.93	-16.38	-51.49	1.70	0.99	-41.78
7,581.00	2.50	121.90	7,579.26	-53.27	-13.02	-53.71	0.28	0.00	-6.38
7,675.00	3.00	102.30	7,673.15	-54.88	-8.88	-55.16	1.13	0.53	-20.85
7,768.00	1.50	88.90	7,766.08	-55.37	-5.28	-55.53	1.70	-1.61	-14.41
7,864.00	1.00	103.60	7,862.06	-55.55	-3.21	-55.63	0.61	-0.52	15.31
7,959.00	0.90	104.00	7,957.04	-55.92	-1.68	-55.95	0.11	-0.11	0.42
8,055.00	0.50	95.90	8,053.03	-56.15	-0.54	-56.13	0.43	-0.42	-8.44
8,149.00	0.60	122.10	8,147.03	-56.45	0.29	-56.40	0.28	0.11	27.87
8,243.00	0.80	156.30	8,241.02	-57.31	0.97	-57.24	0.48	0.21	36.38
8,337.00	0.80	179.60	8,335.02	-58.57	1.24	-58.49	0.34	0.00	24.79
8,431.00	0.70	126.20	8,429.01	-59.56	1.71	-59.46	0.72	-0.11	-56.81
8,526.00	0.60	253.80	8,524.01	-60.05	1.70	-59.95	1.23	-0.11	134.32
8,620.00	2.00	232.10	8,617.98	-61.19	-0.07	-61.15	1.55	1.49	-23.09
8,715.00	2.80	228.10	8,712.90	-63.76	-3.11	-63.83	0.86	0.84	-4.21

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Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
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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)
8,810.00	2.40	218.60	8,807.80	-66.86	-6.07	-67.04	0.62	-0.42	-10.00
8,904.00	2.80	213.90	8,901.70	-70.31	-8.58	-70.57	0.48	0.43	-5.00
8,999.00	1.90	192.40	8,996.62	-73.77	-10.21	-74.09	1.31	-0.95	-22.63
9,093.00	2.70	174.40	9,090.55	-77.50	-10.33	-77.82	1.14	0.85	-19.15
9,187.00	3.00	172.70	9,184.43	-82.14	-9.80	-82.44	0.33	0.32	-1.81
9,281.00	2.80	164.10	9,278.31	-86.79	-8.86	-87.05	0.51	-0.21	-9.15
9,363.00	2.30	163.80	9,360.23	-90.29	-7.86	-90.52	0.61	-0.61	-0.37
9,385.00	1.60	173.30	9,382.22	-91.02	-7.70	-91.24	3.49	-3.18	43.18
9,448.00	4.70	159.50	9,445.11	-94.32	-6.69	-94.50	5.03	4.92	-21.90
9,479.00	9.10	149.10	9,475.88	-97.61	-4.98	-97.73	14.70	14.19	-33.55
9,511.00	12.00	143.60	9,507.34	-102.46	-1.71	-102.46	9.58	9.06	-17.19
9,542.00	15.00	136.60	9,537.48	-107.97	2.96	-107.79	11.00	9.68	-22.58
9,573.00	17.00	132.60	9,567.28	-113.95	9.05	-113.55	7.36	6.45	-12.90
9,605.00	16.70	124.80	9,597.91	-119.74	16.27	-119.08	7.12	-0.94	-24.37
9,637.00	17.20	117.20	9,628.52	-124.53	24.26	-123.57	7.09	1.56	-23.75
9,668.00	17.90	109.00	9,658.08	-128.18	32.84	-126.91	8.28	2.26	-26.45
9,699.00	18.80	100.20	9,687.51	-130.62	42.26	-129.00	9.39	2.90	-28.39
9,731.00	19.40	90.90	9,717.76	-131.61	52.65	-129.62	9.68	1.87	-29.06
9,763.00	21.20	86.00	9,747.77	-131.29	63.74	-128.90	7.73	5.62	-15.31
9,794.00	23.30	80.50	9,776.47	-129.89	75.38	-127.08	9.53	6.77	-17.74
9,825.00	25.50	76.50	9,804.70	-127.32	87.92	-124.06	8.87	7.10	-12.90
9,857.00	28.00	74.40	9,833.27	-123.69	101.85	-119.93	8.35	7.81	-6.56
9,888.00	30.90	72.90	9,860.26	-119.39	116.48	-115.11	9.65	9.35	-4.84
9,919.00	31.20	68.20	9,886.83	-114.07	131.54	-109.24	7.88	0.97	-15.16
9,950.00	30.50	61.00	9,913.45	-107.27	145.88	-101.93	12.12	-2.26	-23.23
9,982.00	32.10	55.70	9,940.80	-98.54	160.01	-92.70	9.95	5.00	-16.56
10,013.00	34.70	51.70	9,966.68	-88.43	173.74	-82.09	10.99	8.39	-12.90
10,045.00	36.20	47.90	9,992.75	-76.44	187.91	-69.61	8.33	4.69	-11.87
10,077.00	38.00	43.20	10,018.27	-62.92	201.67	-55.60	10.49	5.62	-14.69
10,108.00	40.60	39.50	10,042.26	-48.18	214.62	-40.40	11.29	8.39	-11.94
10,140.00	45.40	37.20	10,065.66	-31.06	228.14	-22.80	15.78	15.00	-7.19
10,171.00	50.50	36.00	10,086.42	-12.58	241.85	-3.84	16.70	16.45	-3.87
10,203.00	54.90	33.20	10,105.81	8.38	256.28	17.63	15.41	13.75	-8.75
10,235.00	58.80	28.90	10,123.31	31.33	270.07	41.06	16.58	12.19	-13.44
10,266.00	61.80	23.90	10,138.67	55.44	282.02	65.59	17.02	9.68	-16.13
10,297.00	65.00	19.10	10,152.56	81.22	292.16	91.72	17.27	10.32	-15.48
10,329.00	69.20	14.90	10,165.01	109.40	300.76	120.19	17.84	13.12	-13.12
10,361.00	72.70	10.80	10,175.46	138.88	307.47	149.90	16.32	10.94	-12.81
10,395.00	75.00	9.70	10,184.92	171.02	313.28	182.22	7.44	6.76	-3.24
10,427.00	77.50	7.80	10,192.52	201.73	318.01	213.09	9.71	7.81	-5.94
10,458.00	79.20	4.30	10,198.78	231.92	321.20	243.37	12.34	5.48	-11.29
10,489.00	80.00	0.80	10,204.38	262.38	322.56	273.86	11.40	2.58	-11.29

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Company: XTO Energy	Local Co-ordinate Reference: Well Remuda North 25 State 902H - Slot N-25_902H
Project: Eddy County, NM (NAD27) NMEZ	TVD Reference: 3065+24 @ 3089.00usft (Herc)
Site: Remuda North 25 State Pad	MD Reference: 3065+24 @ 3089.00usft (Herc)
Well: Remuda North 25 State 902H	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)
10,521.00	80.60	358.90	10,209.77	293.92	322.48	305.37	6.15	1.87	-5.94
10,552.00	81.70	358.20	10,214.54	324.54	321.70	335.95	4.19	3.55	-2.26
10,564.51	82.87	358.40	10,216.22	336.93	321.33	348.31	9.49	9.35	1.62
N-25_902H_LP p3									
10,583.00	84.60	358.70	10,218.24	355.30	320.87	366.66	9.49	9.36	1.61
10,601.00	85.76	358.47	10,219.75	373.23	320.43	384.56	6.58	6.45	-1.29
Wellpath Crosses Section Line @ Heel									
10,614.00	86.60	358.30	10,220.62	386.20	320.06	397.51	6.58	6.45	-1.29
10,646.00	88.00	358.50	10,222.13	418.15	319.17	429.40	4.42	4.37	0.62
10,718.46	89.08	358.35	10,223.97	490.56	317.17	501.69	1.50	1.49	-0.21
N-25_902H_LP p2									
10,722.70	89.14	358.34	10,224.04	494.79	317.05	505.92	1.50	1.49	-0.21
N-25_902H_LP									
10,740.00	89.40	358.30	10,224.26	512.09	316.54	523.19	1.50	1.49	-0.21
10,834.00	88.10	358.90	10,226.31	606.03	314.25	616.99	1.52	-1.38	0.64
10,928.00	89.40	358.80	10,228.36	699.99	312.36	710.82	1.39	1.38	-0.11
10,932.00	89.34	358.80	10,228.40	703.99	312.28	714.81	1.49	-1.49	0.00
Wellpath Crosses FTP									
10,932.18	89.34	358.80	10,228.41	704.17	312.27	714.99	0.00	0.00	0.00
N-25_902H_FTP									
11,022.00	88.00	358.80	10,230.49	793.94	310.39	804.64	1.49	-1.49	0.00
11,116.00	88.90	358.00	10,233.03	887.87	307.77	898.41	1.28	0.96	-0.85
11,212.00	89.80	357.20	10,234.12	983.78	303.75	994.11	1.25	0.94	-0.83
11,307.00	91.10	359.00	10,233.38	1,078.72	300.60	1,088.87	2.34	1.37	1.89
11,401.00	92.00	0.50	10,230.83	1,172.68	300.19	1,182.76	1.86	0.96	1.60
11,494.00	92.00	2.60	10,227.59	1,265.58	302.70	1,275.69	2.26	0.00	2.26
11,588.00	90.30	0.60	10,225.70	1,359.52	305.33	1,369.66	2.79	-1.81	-2.13
11,681.00	90.00	359.30	10,225.46	1,452.52	305.25	1,462.59	1.43	-0.32	-1.40
11,776.00	88.30	359.90	10,226.87	1,547.50	304.58	1,557.49	1.90	-1.79	0.63
11,871.00	89.40	359.80	10,228.77	1,642.48	304.33	1,652.40	1.16	1.16	-0.11
11,966.00	87.60	359.90	10,231.26	1,737.44	304.09	1,747.29	1.90	-1.89	0.11
12,061.00	88.00	358.90	10,234.91	1,832.36	303.09	1,842.12	1.13	0.42	-1.05
12,156.00	89.80	358.60	10,236.73	1,927.32	301.02	1,936.94	1.92	1.89	-0.32
12,250.00	89.40	356.20	10,237.39	2,021.21	296.76	2,030.61	2.59	-0.43	-2.55
12,344.00	92.50	357.30	10,235.83	2,115.04	291.43	2,124.18	3.50	3.30	1.17
12,438.00	92.70	359.50	10,231.57	2,208.90	288.81	2,217.89	2.35	0.21	2.34
12,533.00	91.50	1.90	10,228.08	2,303.82	289.97	2,312.79	2.82	-1.26	2.53
12,627.00	90.40	0.60	10,226.52	2,397.78	292.02	2,406.76	1.81	-1.17	-1.38
12,721.00	91.30	0.30	10,225.13	2,491.77	292.75	2,500.71	1.01	0.96	-0.32
12,815.00	92.30	359.50	10,222.18	2,585.72	292.59	2,594.60	1.36	1.06	-0.85
12,908.00	89.90	0.30	10,220.39	2,678.69	292.43	2,687.51	2.72	-2.58	0.86
13,002.00	89.80	2.50	10,220.64	2,772.66	294.73	2,781.49	2.34	-0.11	2.34
13,097.00	89.80	1.30	10,220.97	2,867.60	297.88	2,876.49	1.26	0.00	-1.26
13,191.00	90.30	0.10	10,220.89	2,961.59	299.02	2,970.46	1.38	0.53	-1.28

Survey Report

Company: XTO Energy	Local Co-ordinate Reference: Well Remuda North 25 State 902H - Slot N-25_902H
Project: Eddy County, NM (NAD27) NMEZ	TVD Reference: 3065+24 @ 3089.00usft (Herc)
Site: Remuda North 25 State Pad	MD Reference: 3065+24 @ 3089.00usft (Herc)
Well: Remuda North 25 State 902H	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)
13,286.00	87.40	0.20	10,222.79	3,056.56	299.27	3,065.38	3.05	-3.05	0.11
13,380.00	87.80	359.40	10,226.73	3,150.48	298.94	3,159.22	0.95	0.43	-0.85
13,475.00	88.80	358.80	10,229.55	3,245.43	297.45	3,254.05	1.23	1.05	-0.63
13,570.00	90.10	358.30	10,230.46	3,340.39	295.05	3,348.87	1.47	1.37	-0.53
13,665.00	91.50	357.70	10,229.13	3,435.32	291.73	3,443.61	1.60	1.47	-0.63
13,758.00	90.80	358.80	10,227.27	3,528.25	288.89	3,536.39	1.40	-0.75	1.18
13,853.00	90.10	0.30	10,226.52	3,623.24	288.15	3,631.29	1.74	-0.74	1.58
13,946.00	91.80	2.00	10,224.98	3,716.21	290.01	3,724.26	2.58	1.83	1.83
14,041.00	92.80	1.30	10,221.17	3,811.09	292.75	3,819.18	1.28	1.05	-0.74
14,134.00	91.20	0.90	10,217.92	3,904.01	294.53	3,912.10	1.77	-1.72	-0.43
14,228.00	88.80	0.70	10,217.92	3,998.00	295.84	4,006.07	2.56	-2.55	-0.21
14,323.00	90.90	1.00	10,218.17	4,092.98	297.25	4,101.05	2.23	2.21	0.32
14,417.00	92.00	0.30	10,215.79	4,186.94	298.32	4,194.98	1.39	1.17	-0.74
14,510.00	90.40	358.80	10,213.84	4,279.91	297.59	4,287.87	2.36	-1.72	-1.61
14,606.00	90.50	357.80	10,213.09	4,375.87	294.74	4,383.66	1.05	0.10	-1.04
14,699.00	88.90	357.80	10,213.58	4,468.79	291.17	4,476.39	1.72	-1.72	0.00
14,794.00	89.80	357.50	10,214.66	4,563.71	287.28	4,571.10	1.00	0.95	-0.32
14,888.00	90.70	357.30	10,214.25	4,657.61	283.01	4,664.79	0.98	0.96	-0.21
14,981.00	89.30	359.20	10,214.25	4,750.56	280.17	4,757.58	2.54	-1.51	2.04
15,077.00	89.10	1.00	10,215.59	4,846.54	280.34	4,853.51	1.89	-0.21	1.87
15,172.00	89.80	0.00	10,216.50	4,941.53	281.17	4,948.47	1.28	0.74	-1.05
15,267.00	88.40	1.30	10,217.99	5,036.51	282.25	5,043.42	2.01	-1.47	1.37
15,362.00	88.60	0.30	10,220.48	5,131.47	283.57	5,138.36	1.07	0.21	-1.05
15,457.00	90.80	1.20	10,220.97	5,226.45	284.82	5,233.33	2.50	2.32	0.95
15,551.00	92.40	1.10	10,218.35	5,320.39	286.70	5,327.28	1.71	1.70	-0.11
15,646.00	91.30	359.90	10,215.28	5,415.34	287.53	5,422.19	1.71	-1.16	-1.26
15,740.00	89.10	359.20	10,214.95	5,509.33	286.79	5,516.09	2.46	-2.34	-0.74
15,834.00	89.70	359.00	10,215.94	5,603.31	285.31	5,609.96	0.67	0.64	-0.21
15,929.00	87.70	358.00	10,218.09	5,698.25	282.83	5,704.75	2.35	-2.11	-1.05
16,023.00	88.50	357.80	10,221.21	5,792.13	279.39	5,798.44	0.88	0.85	-0.21
16,118.00	89.20	357.30	10,223.12	5,887.03	275.33	5,893.13	0.91	0.74	-0.53
16,212.00	89.80	356.40	10,223.94	5,980.88	270.16	5,986.73	1.15	0.64	-0.96
16,306.00	89.60	358.00	10,224.43	6,074.76	265.57	6,080.39	1.72	-0.21	1.70
16,400.00	90.80	0.80	10,224.10	6,168.74	264.59	6,174.28	3.24	1.28	2.98
16,495.00	91.70	2.30	10,222.03	6,263.68	267.15	6,269.25	1.84	0.95	1.58
16,588.00	91.20	2.70	10,219.68	6,356.57	271.21	6,362.21	0.69	-0.54	0.43
16,683.00	90.90	1.20	10,217.93	6,451.49	274.44	6,457.19	1.61	-0.32	-1.58
16,778.00	91.90	1.40	10,215.61	6,546.44	276.60	6,552.16	1.07	1.05	0.21
16,871.00	89.60	0.30	10,214.40	6,639.41	277.97	6,645.12	2.74	-2.47	-1.18
16,966.00	90.00	359.10	10,214.73	6,734.41	277.48	6,740.04	1.33	0.42	-1.26
17,061.00	88.40	358.80	10,216.05	6,829.38	275.74	6,834.88	1.71	-1.68	-0.32
17,155.00	89.40	358.30	10,217.86	6,923.33	273.36	6,928.69	1.19	1.06	-0.53

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda North 25 State 902H - Slot N-25_902H
Project:	Eddy County, NM (NAD27) NMEZ	TVD Reference:	3065+24 @ 3089.00usft (Herc)
Site:	Remuda North 25 State Pad	MD Reference:	3065+24 @ 3089.00usft (Herc)
Well:	Remuda North 25 State 902H	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)	Bulld Rate (°/100ft)	Turn Rate (°/100ft)
17,249.00	89.90	0.00	10,218.43	7,017.31	271.96	7,022.56	1.89	0.53	1.81
17,343.00	89.50	1.30	10,218.93	7,111.30	273.03	7,116.53	1.45	-0.43	1.38
17,437.00	90.70	1.20	10,218.76	7,205.28	275.08	7,210.51	1.28	1.28	-0.11
17,532.00	91.10	2.50	10,217.27	7,300.22	278.15	7,305.50	1.43	0.42	1.37
17,627.00	92.00	1.60	10,214.70	7,395.12	281.54	7,400.46	1.34	0.95	-0.95
17,722.00	90.80	1.80	10,212.38	7,490.05	284.36	7,495.43	1.28	-1.26	0.21
17,817.00	89.70	1.80	10,211.96	7,585.00	287.35	7,590.43	1.16	-1.16	0.00
17,912.00	87.50	0.50	10,214.28	7,679.94	289.25	7,685.38	2.69	-2.32	-1.37
18,006.00	86.80	0.30	10,218.96	7,773.82	289.91	7,779.22	0.77	-0.74	-0.21
18,101.00	86.90	359.00	10,224.18	7,868.68	289.33	7,873.99	1.37	0.11	-1.37
18,194.00	88.70	358.60	10,227.75	7,961.58	287.38	7,966.77	1.98	1.94	-0.43
18,247.67	90.17	359.16	10,228.28	8,015.24	286.34	8,020.35	2.93	2.74	1.05
N-25_902H_LTP									
18,249.00	90.21	359.18	10,228.27	8,016.57	286.32	8,021.68	2.93	2.74	1.05
Wellpath Crosses LTP									
18,289.00	91.30	359.60	10,227.75	8,056.56	285.89	8,061.63	2.93	2.74	1.05
18,329.00	91.20	359.10	10,226.88	8,096.55	285.44	8,101.58	1.27	-0.25	-1.25
18,377.00	91.20	359.10	10,225.87	8,144.53	284.68	8,149.50	0.00	0.00	0.00
Wellpath Crosses PBHL - N-25_902H_PBHL p3 - N-25_902H_PBHL									
18,380.00	91.20	359.10	10,225.81	8,147.53	284.64	8,152.49	0.00	0.00	0.00
TD @ 197°FNL,346°FEL - N-25_902H_BHL									

Survey Report

Company: XTO Energy	Local Co-ordinate Reference: Well Remuda North 25 State 902H - Slot N-25_902H
Project: Eddy County, NM (NAD27) NMEZ	TVD Reference: 3065+24 @ 3089.00usft (Herc)
Site: Remuda North 25 State Pad	MD Reference: 3065+24 @ 3089.00usft (Herc)
Well: Remuda North 25 State 902H	North Reference: Grid
Wellbore: Lateral	Survey Calculation Method: Minimum Curvature
Design: Lateral	Database: TRUEPERF_EDM

Design Targets

Target Name

- hi/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (ft)	Easting (ft)	Latitude	Longitude
N-25_902H_SL - actual wellpath misses target center by 1.00usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	-1.00	0.00	0.00	463,886.50	620,278.40	32° 16' 29.059 N	103° 56' 39.020 W
N-25_902H_PBHL p3 - actual wellpath misses target center by 17.14usft at 18377.00usft MD (10225.87 TVD, 8144.53 N, 284.68 E) - Rectangle (sides W50.00 H7,442.00 D0.00)	0.00	0.00	10,212.0 0	8,145.48	294.70	472,032.00	620,573.10	32° 17' 49.657 N	103° 56' 35.243 W
N-25_902H_FTP - actual wellpath misses target center by 34.48usft at 10932.18usft MD (10228.41 TVD, 704.17 N, 312.27 E) - Point	0.00	0.00	10,222.0 0	705.03	346.14	464,591.53	620,624.55	32° 16' 36.024 N	103° 56' 34.959 W
N-25_902H_LTP - actual wellpath misses target center by 11.53usft at 18247.80usft MD (10228.28 TVD, 8015.36 N, 286.33 E) - Point	0.00	0.00	10,222.0 0	8,015.48	296.00	471,902.00	620,574.40	32° 17' 48.370 N	103° 56' 35.233 W
N-25_902H_BHL - actual wellpath hits target center - Point	0.00	0.00	10,225.8 1	8,147.53	284.64	472,034.05	620,563.04	32° 17' 49.677 N	103° 56' 35.360 W
N-25_902H_LP p3 - actual wellpath misses target center by 26.67usft at 10564.51usft MD (10216.22 TVD, 336.93 N, 321.33 E) - Point	0.00	0.00	10,232.0 0	335.61	342.80	464,222.11	620,621.20	32° 16' 32.368 N	103° 56' 35.013 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,601.00	10,219.75	373.23	320.43	Wellpath Crosses Section Line @ Heel
10,932.00	10,228.40	703.99	312.28	Wellpath Crosses FTP
18,249.00	10,228.27	8,016.57	286.32	Wellpath Crosses LTP
18,377.00	10,225.87	8,144.53	284.68	Wellpath Crosses PBHL
18,380.00	10,225.81	8,147.53	284.64	TD @ 197°FNL,346°FEL

Checked By: _____ Approved By: _____ Date: _____

XTO Energy

Project: Eddy County, NM (NAD27) NMEZ
 Site: Remuda North 25 State Pad
 Well: Remuda North 25 State 902H
 Wellbore: Lateral
 Design: Lateral

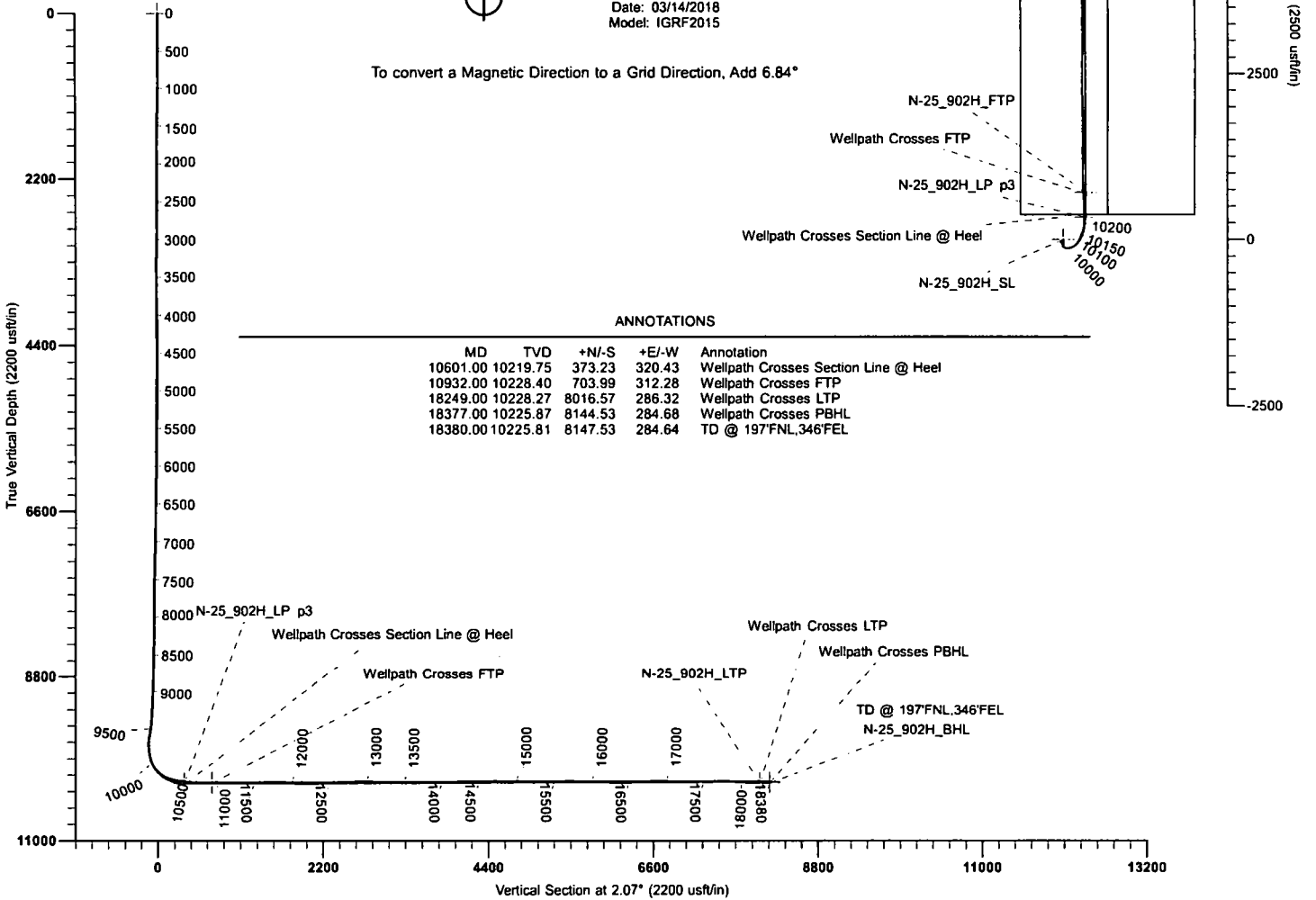
3065+24 @ 3089.00usft (Herc)
 D 1927 (NADCON CONUS)



Azimuths to Grid North
 True North: -0.21°
 Magnetic North: 6.84°

Magnetic Field
 Strength: 47855.2snT
 Dip Angle: 60.04°
 Date: 03/14/2018
 Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.84°



ANNOTATIONS

MD	TVD	+N/-S	+E/-W	Annotation
10601.00	10219.75	373.23	320.43	Wellpath Crosses Section Line @ Heel
10932.00	10228.40	703.99	312.28	Wellpath Crosses FTP
18249.00	10228.27	8016.57	286.32	Wellpath Crosses LTP
18377.00	10225.87	8144.53	284.68	Wellpath Crosses PBHL
18380.00	10225.81	8147.53	284.64	TD @ 197°FNL,346°FEL

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
N-25_902H_SL	-1.00	0.00	0.00	463886.50	620278.40	Point
N-25_902H_PBHL p3	10212.00	8145.48	294.70	472032.00	620573.10	Rectangle (Sides: L7442.00 W50.00)
N-25_902H_FTP	10222.00	705.03	346.14	464591.53	620624.54	Point
N-25_902H_LTP	10222.00	8015.48	296.00	471902.00	620574.40	Point
N-25_902H_BHL	10225.81	8147.53	284.64	472034.05	620563.04	Point
N-25_902H_LP p3	10232.00	335.61	342.80	464222.11	620621.20	Point

Design: Lateral (Remuda North 25 State 902H/Lateral)
 Created By: Mekka Williams
 eSomina Well Design
 mekka@esominawelldesign.com
 22:48, April 24 2018

TRUE PERFORMANCE DIRECTIONAL DRILLING
 5075 E 52nd Street, Odessa, Texas 79762
 281.222.8366

