

Provide Signature Page for Directional Survey

Survey Report

30-015-44359

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 25 State 103H - Slot S 103H
Project:	Eddy County, NM (NAD27) NMEZ	TVD Reference:	3075+30 @ 3105.00usft (Cactus118)
Site:	Remuda South 25 State Pad	MD Reference:	3075+30 @ 3105.00usft (Cactus118)
Well:	Remuda South 25 State 103H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	TRUEPERF_EDM

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)		
Map Zone:	New Mexico East 3001		

Site	Remuda South 25 State Pad, Centered on 904H				
Site Position:		Northing:	464,640.20 ft	Latitude:	32° 16' 36.472 N
From:	Map	Easting:	621,538.20 ft	Longitude:	103° 56' 24.314 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.21 °

Well	Remuda South 25 State 103H - Slot S 103H					
Well Position	+N/-S	0.00 usft	Northing:	464,640.30 ft	Latitude:	32° 16' 36.472 N
	+E/-W	0.00 usft	Easting:	621,568.10 ft	Longitude:	103° 56' 23.966 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,075.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	03/16/18	7.05	60.04	47,856

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	181.74	

Survey Program	Date 04/16/18				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
209.00	18,188.00	Survey #1 (Lateral)	MWD	MWD v3: standard declination	
18,213.00	18,263.00	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
Remuda South 123H SL - Remuda South 124H SL - Remuda South 103H SL - Remuda South 704H SL									
5.02	0.04	231.00	5.02	0.00	0.00	0.00	0.81	0.81	0.00
Remuda South 904H SL									
12.38	0.10	231.00	12.38	-0.01	-0.01	0.01	0.81	0.81	0.00
Remuda North 904H SL									
209.00	1.70	231.00	208.97	-1.95	-2.41	2.02	0.81	0.81	0.00
302.00	1.70	304.00	301.94	-2.05	-4.63	2.19	2.17	0.00	78.49
365.00	1.30	314.00	364.92	-1.03	-5.91	1.21	0.76	-0.63	15.87

Survey Report

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 Site: Remuda South 25 State Pad
 Well: Remuda South 25 State 103H
 Wellbore: Lateral
 Design: Lateral

Local Co-ordinate Reference: Well Remuda South 25 State 103H - Slot S 103H
 TVD Reference: 3075+30 @ 3105.00usft (Cactus118)
 MD Reference: 3075+30 @ 3105.00usft (Cactus118)
 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)
428.00	0.30	51.40	427.91	-0.43	-6.30	0.62	2.18	-1.59	154.60
522.00	0.50	88.80	521.91	-0.27	-5.70	0.44	0.34	0.21	39.79
616.00	1.20	80.10	615.90	-0.09	-4.32	0.22	0.76	0.74	-9.26
710.00	1.10	72.40	709.88	0.35	-2.49	-0.28	0.20	-0.11	-8.19
809.00	0.90	80.90	808.86	0.76	-0.81	-0.74	0.25	-0.20	8.59
887.00	0.70	71.90	886.85	1.01	0.24	-1.01	0.30	-0.26	-11.54
981.00	0.50	53.30	980.85	1.43	1.12	-1.46	0.29	-0.21	-19.79
1,075.00	0.50	27.80	1,074.85	2.04	1.64	-2.09	0.23	0.00	-27.13
1,169.00	0.30	18.50	1,168.84	2.64	1.91	-2.69	0.22	-0.21	-9.89
1,262.00	0.50	318.60	1,261.84	3.17	1.72	-3.22	0.47	0.22	-64.41
1,356.00	0.30	282.40	1,355.84	3.53	1.21	-3.57	0.33	-0.21	-38.51
1,450.00	0.70	241.70	1,449.83	3.31	0.46	-3.32	0.54	0.43	-43.30
1,544.00	0.80	233.70	1,543.83	2.65	-0.58	-2.63	0.15	0.11	-8.51
1,638.00	0.50	56.90	1,637.83	2.49	-0.76	-2.46	1.38	-0.32	-188.08
1,732.00	1.10	162.00	1,731.82	1.85	-0.14	-1.85	1.41	0.64	111.81
1,826.00	0.90	155.60	1,825.81	0.32	0.45	-0.34	0.24	-0.21	-6.81
1,920.00	0.50	142.30	1,919.80	-0.67	1.00	0.64	0.46	-0.43	-14.15
2,014.00	0.50	147.20	2,013.80	-1.34	1.47	1.30	0.05	0.00	5.21
2,107.00	0.30	42.10	2,106.79	-1.50	1.86	1.45	0.70	-0.22	-113.01
2,201.00	0.40	32.50	2,200.79	-1.05	2.20	0.98	0.12	0.11	-10.21
2,295.00	0.20	121.70	2,294.79	-0.85	2.51	0.78	0.47	-0.21	94.89
2,389.00	0.90	130.80	2,388.79	-1.42	3.21	1.33	0.75	0.74	9.68
2,482.00	1.70	133.80	2,481.76	-2.86	4.76	2.71	0.86	0.86	3.23
2,576.00	1.60	140.40	2,575.72	-4.83	6.60	4.63	0.23	-0.11	7.02
2,670.00	0.40	171.70	2,669.71	-6.17	7.49	5.94	1.36	-1.28	33.30
2,764.00	0.40	246.70	2,763.71	-6.62	7.23	6.40	0.52	0.00	79.79
2,858.00	0.60	255.60	2,857.70	-6.87	6.46	6.68	0.23	0.21	9.47
2,952.00	1.10	263.90	2,951.69	-7.09	5.08	6.93	0.55	0.53	8.83
3,045.00	1.00	279.90	3,044.68	-7.05	3.40	6.94	0.33	-0.11	17.20
3,139.00	1.10	23.30	3,138.67	-6.08	2.94	5.99	1.75	0.11	110.00
3,233.00	1.60	36.50	3,232.64	-4.19	4.08	4.07	0.62	0.53	14.04
3,327.00	1.20	359.10	3,326.61	-2.16	4.85	2.01	1.04	-0.43	-39.79
3,421.00	1.20	359.20	3,420.59	-0.19	4.82	0.04	0.00	0.00	0.11
3,514.00	1.30	11.40	3,513.57	1.82	5.01	-1.97	0.30	0.11	13.12
3,608.00	1.60	332.50	3,607.54	4.03	4.62	-4.17	1.07	0.32	-41.38
3,702.00	1.50	334.10	3,701.51	6.30	3.47	-6.40	0.12	-0.11	1.70
3,796.00	1.90	331.70	3,795.47	8.78	2.20	-8.84	0.43	0.43	-2.55
3,889.00	1.00	321.40	3,888.44	10.77	0.96	-10.80	1.00	-0.97	-11.08
3,983.00	1.10	292.20	3,982.42	11.75	-0.39	-11.74	0.57	0.11	-31.06
4,077.00	1.00	307.20	4,076.41	12.59	-1.88	-12.53	0.31	-0.11	15.96
4,171.00	1.30	278.50	4,170.39	13.24	-3.58	-13.13	0.68	0.32	-30.53
4,265.00	0.90	258.70	4,264.37	13.26	-5.36	-13.09	0.58	-0.43	-21.06
4,358.00	0.70	244.70	4,357.36	12.87	-6.59	-12.66	0.30	-0.22	-15.05
4,452.00	0.70	275.30	4,451.36	12.68	-7.68	-12.44	0.39	0.00	32.55

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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)
4,546.00	0.70	155.80	4,545.35	12.21	-8.02	-11.96	1.29	0.00	-127.13
4,640.00	0.90	144.30	4,639.34	11.08	-7.35	-10.86	0.27	0.21	-12.23
4,734.00	1.00	148.30	4,733.33	9.79	-6.49	-9.59	0.13	0.11	4.26
4,828.00	1.10	152.50	4,827.31	8.29	-5.64	-8.11	0.13	0.11	4.47
4,922.00	0.90	113.40	4,921.30	7.20	-4.55	-7.05	0.74	-0.21	-41.60
5,015.00	1.30	38.00	5,014.29	7.74	-3.23	-7.64	1.49	0.43	-81.08
5,109.00	1.80	40.70	5,108.25	9.70	-1.61	-9.64	0.54	0.53	2.87
5,203.00	0.90	19.70	5,202.23	11.51	-0.40	-11.49	1.08	-0.96	-22.34
5,297.00	0.80	344.70	5,296.22	12.84	-0.32	-12.82	0.55	-0.11	-37.23
5,390.00	0.90	350.50	5,389.21	14.19	-0.61	-14.16	0.14	0.11	6.24
5,484.00	1.10	348.80	5,483.19	15.80	-0.91	-15.76	0.22	0.21	-1.81
5,576.00	1.00	338.80	5,575.18	17.41	-1.37	-17.36	0.23	-0.11	-10.87
5,672.00	1.20	17.30	5,671.16	19.15	-1.38	-19.10	0.78	0.21	40.10
5,766.00	1.30	14.80	5,765.14	21.12	-0.81	-21.09	0.12	0.11	-2.66
5,859.00	1.20	14.80	5,858.12	23.09	-0.29	-23.07	0.11	-0.11	0.00
5,953.00	1.20	10.30	5,952.10	25.01	0.13	-25.00	0.10	0.00	-4.79
6,047.00	0.40	42.30	6,046.09	26.22	0.53	-26.22	0.94	-0.85	34.04
6,141.00	0.50	47.80	6,140.08	26.74	1.05	-26.76	0.12	0.11	5.85
6,235.00	0.40	76.90	6,234.08	27.09	1.68	-27.12	0.26	-0.11	30.96
6,329.00	0.10	20.20	6,328.08	27.24	2.03	-27.29	0.38	-0.32	-60.32
6,423.00	0.40	358.50	6,422.08	27.64	2.05	-27.69	0.33	0.32	-23.09
6,516.00	0.40	4.10	6,515.08	28.29	2.06	-28.34	0.04	0.00	6.02
6,610.00	0.10	66.20	6,609.07	28.65	2.16	-28.70	0.39	-0.32	66.06
6,704.00	0.40	9.60	6,703.07	29.01	2.29	-29.06	0.38	0.32	-60.21
6,798.00	0.30	315.10	6,797.07	29.50	2.17	-29.56	0.35	-0.11	-57.98
6,892.00	0.10	226.50	6,891.07	29.62	1.94	-29.67	0.33	-0.21	-94.26
6,985.00	0.60	161.50	6,984.07	29.11	2.03	-29.15	0.61	0.54	-69.89
7,079.00	1.20	182.50	7,078.06	27.66	2.15	-27.71	0.72	0.64	22.34
7,173.00	1.40	186.00	7,172.03	25.53	1.98	-25.58	0.23	0.21	3.72
7,267.00	1.40	197.90	7,266.01	23.29	1.51	-23.33	0.31	0.00	12.66
7,361.00	1.80	193.00	7,359.97	20.76	0.82	-20.78	0.45	0.43	-5.21
7,450.00	1.80	190.70	7,448.93	18.03	0.25	-18.03	0.08	0.00	-2.58
7,539.00	1.90	172.30	7,537.88	15.19	0.19	-15.19	0.67	0.11	-20.67
7,634.00	1.10	136.90	7,632.85	12.97	1.02	-12.99	1.25	-0.84	-37.26
7,727.00	1.10	92.90	7,725.83	12.27	2.52	-12.34	0.89	0.00	-47.31
7,821.00	0.70	59.70	7,819.82	12.51	3.92	-12.63	0.68	-0.43	-35.32
7,915.00	1.50	15.40	7,913.81	13.99	4.74	-14.13	1.18	0.85	-47.13
8,009.00	1.60	7.90	8,007.77	16.48	5.25	-16.63	0.24	0.11	-7.98
8,103.00	2.00	344.60	8,101.73	19.36	5.00	-19.50	0.88	0.43	-24.79
8,196.00	2.20	342.00	8,194.66	22.62	4.01	-22.73	0.24	0.22	-2.80
8,290.00	3.10	341.90	8,288.56	26.75	2.67	-26.82	0.96	0.96	-0.11
8,384.00	3.90	334.90	8,382.39	32.06	0.52	-32.06	0.96	0.85	-7.45
8,478.00	3.50	319.30	8,476.19	37.13	-2.71	-37.03	1.15	-0.43	-16.60

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Local Co-ordinate Reference: Well Remuda South 25 State 103H - Slot S 103H
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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)
8,571.00	4.00	315.40	8,568.99	41.59	-6.84	-41.37	0.60	0.54	-4.19
8,665.00	3.70	299.60	8,662.78	45.43	-11.78	-45.05	1.17	-0.32	-16.81
8,759.00	4.00	297.00	8,756.57	48.41	-17.33	-47.86	0.37	0.32	-2.77
8,773.18	3.96	295.25	8,770.72	48.85	-18.22	-48.27	0.91	-0.29	-12.37
Remuda North 704H FTP									
8,853.00	3.80	284.80	8,850.35	50.70	-23.27	-49.97	0.91	-0.20	-13.09
8,947.00	3.90	286.60	8,944.14	52.41	-29.34	-51.49	0.17	0.11	1.91
8,997.16	3.63	286.60	8,994.19	53.35	-32.50	-52.34	0.53	-0.53	0.00
Remuda South 704H FTP									
9,041.00	3.40	286.60	9,037.95	54.12	-35.08	-53.03	0.53	-0.53	0.00
9,135.00	4.10	292.60	9,131.75	56.20	-40.85	-54.94	0.85	0.74	6.38
9,229.00	3.90	292.70	9,225.52	58.73	-46.90	-57.28	0.21	-0.21	0.11
9,322.00	4.20	291.30	9,318.29	61.19	-52.99	-59.55	0.34	0.32	-1.51
9,416.00	4.20	295.60	9,412.04	63.92	-59.30	-62.09	0.33	0.00	4.57
9,510.00	5.00	287.00	9,505.73	66.61	-66.33	-64.56	1.12	0.85	-9.15
9,603.00	5.30	275.10	9,598.36	68.18	-74.48	-65.88	1.19	0.32	-12.80
9,705.00	5.40	265.40	9,699.92	68.21	-83.96	-65.63	0.89	0.10	-9.51
9,736.00	5.80	256.50	9,730.77	67.73	-86.93	-65.06	3.08	1.29	-28.71
9,767.00	8.00	238.10	9,761.55	66.22	-90.29	-63.45	9.98	7.10	-59.35
Remuda North 904H PBHL (copy) - Remuda North 904H PBHL									
9,796.00	10.90	228.90	9,790.15	63.35	-94.07	-60.47	11.24	10.00	-31.72
9,830.00	14.40	226.80	9,823.32	58.34	-99.57	-55.29	10.38	10.29	-6.18
9,861.00	17.40	222.00	9,853.14	52.26	-105.49	-49.03	10.56	9.68	-15.48
9,892.00	19.70	214.60	9,882.53	44.51	-111.56	-41.10	10.60	7.42	-23.87
9,923.00	22.10	206.80	9,911.49	35.00	-117.16	-31.43	11.84	7.74	-25.16
9,954.00	24.80	199.40	9,939.93	23.66	-121.95	-19.94	12.87	8.71	-23.87
9,986.00	27.20	192.10	9,968.70	10.17	-125.71	-6.35	12.49	7.50	-22.81
10,017.00	28.80	184.40	9,996.08	-4.21	-127.77	8.08	12.74	5.16	-24.84
10,048.00	31.70	182.50	10,022.86	-19.79	-128.70	23.69	9.85	9.35	-6.13
10,079.00	35.90	183.70	10,048.61	-37.01	-129.64	40.93	13.72	13.55	3.87
10,126.00	42.80	185.40	10,084.94	-66.69	-132.03	70.67	14.86	14.68	3.62
10,173.00	48.30	189.20	10,117.84	-99.94	-136.35	104.03	13.04	11.70	8.09
10,220.00	53.70	190.20	10,147.41	-135.93	-142.51	140.19	11.61	11.49	2.13
10,267.00	58.60	190.20	10,173.58	-174.33	-149.42	178.79	10.43	10.43	0.00
10,309.22	61.83	189.93	10,194.55	-210.40	-155.82	215.04	7.68	7.66	-0.64
Remuda North 904H LP									
10,314.00	62.20	189.90	10,196.79	-214.56	-156.55	219.22	7.68	7.66	-0.62
10,361.00	65.00	189.60	10,217.69	-256.05	-163.68	260.90	5.98	5.96	-0.64
10,408.00	67.60	189.60	10,236.58	-298.48	-170.85	303.53	5.53	5.53	0.00
10,455.00	68.90	189.30	10,254.00	-341.54	-178.02	346.79	2.83	2.77	-0.64
10,497.00	70.15	189.03	10,268.69	-380.39	-184.29	385.81	3.04	2.98	-0.64
Wellpath Crosses Section Line @ Heel									
10,502.00	70.30	189.00	10,270.38	-385.03	-185.02	390.47	3.04	2.98	-0.63
10,533.37	71.57	188.80	10,280.63	-414.33	-189.61	419.89	4.09	4.04	-0.64

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 Well: Remuda South 25 State 103H
 Wellbore: Lateral
 Design: Lateral

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 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)
Remuda South 904H LP									
10,549.00	72.20	188.70	10,285.49	-429.01	-191.87	434.63	4.09	4.04	-0.63
10,596.00	73.70	187.50	10,299.27	-473.49	-198.20	479.29	4.02	3.19	-2.55
10,631.10	75.45	187.04	10,308.60	-507.05	-202.48	512.96	5.16	5.00	-1.31
Remuda South 103H LP p3									
10,642.00	76.00	186.90	10,311.29	-517.54	-203.76	523.49	5.16	5.00	-1.29
10,646.81	76.07	186.91	10,312.45	-522.18	-204.32	528.14	1.50	1.49	0.21
Remuda South 103H LP p2									
10,689.00	76.70	187.00	10,322.38	-562.87	-209.29	568.97	1.50	1.49	0.21
10,716.11	77.97	187.69	10,328.32	-589.11	-212.67	595.29	5.30	4.68	2.56
Remuda South 103H LP									
10,736.00	78.90	188.20	10,332.31	-608.41	-215.37	614.66	5.30	4.68	2.54
10,742.78	79.15	188.21	10,333.60	-614.99	-216.32	621.28	3.62	3.62	0.21
Remuda South 904H FTP									
10,783.00	80.60	188.30	10,340.67	-654.18	-222.00	660.61	3.62	3.62	0.21
10,790.67	81.22	188.10	10,341.88	-661.67	-223.08	668.14	8.47	8.08	-2.57
Remuda South 124H FTP									
10,830.00	84.40	187.10	10,346.81	-700.34	-228.24	706.95	8.47	8.09	-2.55
10,845.43	85.81	187.03	10,348.12	-715.60	-230.13	722.26	9.14	9.13	-0.44
Remuda South 103H FTP									
10,851.45	86.36	187.01	10,348.54	-721.56	-230.87	728.24	9.14	9.13	-0.43
Remuda South 103H LP p4									
10,861.03	87.23	186.96	10,349.07	-731.06	-232.03	737.77	9.14	9.13	-0.43
Remuda South 123H FTP									
10,876.00	88.60	186.90	10,349.62	-745.91	-233.84	752.66	9.14	9.13	-0.43
10,924.00	91.20	187.70	10,349.70	-793.51	-239.94	800.43	5.67	5.42	1.67
11,018.00	94.10	187.80	10,345.35	-886.54	-252.60	893.81	3.09	3.09	0.11
11,111.00	91.50	187.10	10,340.81	-978.64	-264.64	986.22	2.89	-2.80	-0.75
11,205.00	90.80	185.30	10,338.92	-1,072.07	-274.79	1,079.92	2.05	-0.74	-1.91
11,299.00	91.20	180.70	10,337.28	-1,165.90	-279.71	1,173.85	4.91	0.43	-4.89
11,393.00	90.00	177.50	10,336.30	-1,259.87	-278.23	1,267.74	3.64	-1.28	-3.40
11,487.00	88.60	175.90	10,337.45	-1,353.70	-272.82	1,361.36	2.26	-1.49	-1.70
11,580.00	89.50	175.20	10,338.99	-1,446.41	-265.60	1,453.80	1.23	0.97	-0.75
11,674.00	89.40	175.60	10,339.89	-1,540.10	-258.07	1,547.22	0.44	-0.11	0.43
11,768.00	88.50	176.60	10,341.61	-1,633.86	-251.67	1,640.75	1.43	-0.96	1.06
11,862.00	91.00	176.90	10,342.02	-1,727.70	-246.35	1,734.39	2.68	2.66	0.32
11,956.00	86.30	178.50	10,344.24	-1,821.57	-242.57	1,828.10	5.28	-5.00	1.70
12,050.00	88.60	178.10	10,348.42	-1,915.43	-239.79	1,921.83	2.48	2.45	-0.43
12,144.00	87.10	180.40	10,351.95	-2,009.35	-238.56	2,015.66	2.92	-1.60	2.45
12,237.00	89.00	180.40	10,355.11	-2,102.29	-239.21	2,108.58	2.04	2.04	0.00
12,331.00	91.90	180.10	10,354.37	-2,196.27	-239.62	2,202.54	3.10	3.09	-0.32
12,425.00	91.70	180.90	10,351.42	-2,290.22	-240.44	2,296.47	0.88	-0.21	0.85
12,519.00	90.20	180.40	10,349.86	-2,384.20	-241.50	2,390.43	1.68	-1.60	-0.53
12,612.00	92.90	180.20	10,347.35	-2,477.16	-241.99	2,483.36	2.91	2.90	-0.22
12,706.00	91.20	179.60	10,343.98	-2,571.09	-241.83	2,577.25	1.92	-1.81	-0.64

Survey Report

Company: XTO Energy
Project: Eddy County, NM (NAD27) NMEZ
Site: Remuda South 25 State Pad
Well: Remuda South 25 State 103H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Remuda South 25 State 103H - Slot S 103H
TVD Reference: 3075+30 @ 3105.00usft (Cactus118)
MD Reference: 3075+30 @ 3105.00usft (Cactus118)
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)
12,800.00	90.30	179.30	10,342.75	-2,665.08	-240.92	2,671.17	1.01	-0.96	-0.32
12,893.00	89.50	179.90	10,342.92	-2,758.08	-240.27	2,764.10	1.08	-0.86	0.65
12,987.00	89.10	180.80	10,344.06	-2,852.07	-240.85	2,858.06	1.05	-0.43	0.96
13,081.00	87.40	179.70	10,346.93	-2,946.02	-241.26	2,951.98	2.15	-1.81	-1.17
13,175.00	89.40	179.00	10,349.56	-3,039.97	-240.19	3,045.86	2.25	2.13	-0.74
13,269.00	89.00	179.60	10,350.87	-3,133.95	-239.04	3,139.76	0.77	-0.43	0.64
13,363.00	88.90	181.20	10,352.59	-3,227.93	-239.70	3,233.72	1.71	-0.11	1.70
13,456.00	90.80	180.90	10,352.84	-3,320.91	-241.40	3,326.71	2.07	2.04	-0.32
13,550.00	92.20	180.00	10,350.38	-3,414.87	-242.14	3,420.65	1.77	1.49	-0.96
13,644.00	92.70	179.30	10,346.36	-3,508.78	-241.57	3,514.50	0.91	0.53	-0.74
13,738.00	90.80	179.10	10,343.49	-3,602.73	-240.26	3,608.36	2.03	-2.02	-0.21
13,832.00	88.50	179.20	10,344.06	-3,696.71	-238.86	3,702.26	2.45	-2.45	0.11
13,962.00	89.10	178.80	10,346.78	-3,826.66	-236.59	3,832.08	0.55	0.46	-0.31
14,056.00	89.30	178.60	10,348.10	-3,920.62	-234.46	3,925.94	0.30	0.21	-0.21
14,150.00	89.30	179.90	10,349.25	-4,014.61	-233.23	4,019.84	1.38	0.00	1.38
14,243.00	89.70	181.60	10,350.06	-4,107.59	-234.45	4,112.82	1.88	0.43	1.83
14,337.00	88.70	181.40	10,351.37	-4,201.55	-236.91	4,206.81	1.08	-1.06	-0.21
14,431.00	90.40	181.60	10,352.11	-4,295.51	-239.37	4,300.80	1.82	1.81	0.21
14,525.00	90.60	179.50	10,351.29	-4,389.50	-240.27	4,394.77	2.24	0.21	-2.23
14,619.00	88.30	177.70	10,352.19	-4,483.46	-237.98	4,488.61	3.11	-2.45	-1.91
14,712.00	87.10	177.90	10,355.92	-4,576.31	-234.41	4,581.32	1.31	-1.29	0.22
14,806.00	87.80	177.90	10,360.10	-4,670.15	-230.97	4,675.01	0.74	0.74	0.00
14,900.00	88.60	176.40	10,363.06	-4,763.99	-226.30	4,768.66	1.81	0.85	-1.60
14,994.00	88.70	178.00	10,365.27	-4,857.85	-221.71	4,862.34	1.70	0.11	1.70
15,088.00	90.80	179.10	10,365.68	-4,951.81	-219.33	4,956.18	2.52	2.23	1.17
15,182.00	91.90	178.90	10,363.47	-5,045.77	-217.69	5,050.05	1.19	1.17	-0.21
15,276.00	92.50	180.80	10,359.86	-5,139.69	-217.44	5,143.92	2.12	0.64	2.02
15,370.00	92.10	181.10	10,356.09	-5,233.60	-219.00	5,237.84	0.53	-0.43	0.32
15,463.00	90.40	181.60	10,354.06	-5,326.55	-221.19	5,330.81	1.91	-1.83	0.54
15,557.00	89.10	180.40	10,354.47	-5,420.53	-222.83	5,424.80	1.88	-1.38	-1.28
15,654.00	89.40	181.70	10,355.74	-5,517.51	-224.61	5,521.78	1.38	0.31	1.34
15,748.00	87.50	181.20	10,358.28	-5,611.44	-226.98	5,615.74	2.09	-2.02	-0.53
15,842.00	86.90	180.50	10,362.87	-5,705.31	-228.38	5,709.62	0.98	-0.64	-0.74
15,936.00	87.60	180.40	10,367.38	-5,799.20	-229.11	5,803.48	0.75	0.74	-0.11
16,029.00	88.30	180.30	10,370.71	-5,892.14	-229.68	5,896.40	0.76	0.75	-0.11
16,123.00	90.30	180.20	10,371.86	-5,986.13	-230.09	5,990.35	2.13	2.13	-0.11
16,217.00	91.70	180.30	10,370.22	-6,080.11	-230.50	6,084.30	1.49	1.49	0.11
16,311.00	93.10	180.30	10,366.28	-6,174.02	-230.99	6,178.19	1.49	1.49	0.00
16,405.00	90.30	179.90	10,363.49	-6,267.97	-231.16	6,272.10	3.01	-2.98	-0.43
16,499.00	91.00	179.60	10,362.43	-6,361.96	-230.75	6,366.04	0.81	0.74	-0.32
16,592.00	90.00	179.40	10,361.61	-6,454.96	-229.94	6,458.96	1.10	-1.08	-0.22
16,686.00	90.90	179.30	10,360.88	-6,548.95	-228.87	6,552.88	0.96	0.96	-0.11
16,780.00	90.00	178.80	10,360.14	-6,642.93	-227.31	6,646.77	1.10	-0.96	-0.53

Survey Report

Company: XTO Energy
Project: Eddy County, NM (NAD27) NMEZ
Site: Remuda South 25 State Pad
Well: Remuda South 25 State 103H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Remuda South 25 State 103H - Slot S 103H
TVD Reference: 3075+30 @ 3105.00usft (Cactus118)
MD Reference: 3075+30 @ 3105.00usft (Cactus118)
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)
16,874.00	88.60	178.10	10,361.29	-6,736.88	-224.77	6,740.60	1.67	-1.49	-0.74
16,968.00	87.10	178.50	10,364.81	-6,830.77	-221.98	6,834.36	1.65	-1.60	0.43
17,062.00	87.60	178.50	10,369.16	-6,924.64	-219.52	6,928.11	0.53	0.53	0.00
17,156.00	87.80	178.30	10,372.93	-7,018.53	-216.90	7,021.88	0.30	0.21	-0.21
17,249.00	87.60	178.40	10,376.66	-7,111.42	-214.23	7,114.64	0.24	-0.22	0.11
17,343.00	89.30	179.20	10,379.21	-7,205.36	-212.26	7,208.48	2.00	1.81	0.85
17,437.00	89.40	180.10	10,380.27	-7,299.35	-211.68	7,302.41	0.96	0.11	0.96
17,531.00	89.00	178.60	10,381.58	-7,393.33	-210.62	7,396.32	1.65	-0.43	-1.60
17,624.00	89.50	180.30	10,382.80	-7,486.31	-209.73	7,489.23	1.91	0.54	1.83
17,719.00	92.50	183.70	10,381.14	-7,581.22	-213.04	7,584.19	4.77	3.16	3.58
17,812.00	92.90	183.40	10,376.76	-7,673.93	-218.79	7,677.04	0.54	0.43	-0.32
17,907.00	93.50	183.10	10,371.46	-7,768.63	-224.17	7,771.86	0.71	0.63	-0.32
18,000.00	92.20	183.10	10,366.84	-7,861.38	-229.19	7,864.71	1.40	-1.40	0.00
18,094.00	92.00	183.50	10,363.39	-7,955.16	-234.60	7,958.62	0.48	-0.21	0.43
18,116.41	92.05	183.33	10,362.60	-7,977.51	-235.93	7,981.00	0.77	0.21	-0.74
Remuda South 124H LTP									
18,128.66	92.07	183.24	10,362.16	-7,989.74	-236.64	7,993.24	0.77	0.21	-0.74
Remuda South 904H LTP									
18,163.00	92.15	182.99	10,360.89	-8,024.01	-238.50	8,027.55	0.77	0.21	-0.74
Wellpath Crosses LTP									
18,163.82	92.15	182.98	10,360.86	-8,024.83	-238.54	8,028.37	0.77	0.21	-0.74
Remuda South 103H LTP									
18,180.05	92.18	182.86	10,360.25	-8,041.02	-239.37	8,044.58	0.77	0.21	-0.74
Remuda South 704H LTP									
18,188.00	92.20	182.80	10,359.95	-8,048.96	-239.76	8,052.52	0.77	0.21	-0.74
18,213.00	92.50	182.80	10,358.92	-8,073.90	-240.98	8,077.50	1.20	1.20	0.00
18,250.69	92.50	182.80	10,357.28	-8,111.51	-242.82	8,115.14	0.00	0.00	0.00
Remuda South 124H PBHL									
18,263.00	92.50	182.80	10,356.74	-8,123.80	-243.42	8,127.44	0.00	0.00	0.00

TD @ 230'FSL335'FWL - Remuda South 904H PBHL - Remuda South 103H BHL - Remuda South 103H PBHL - Remuda South 103H PBHL

Survey Report

Company: XTO Energy
Project: Eddy County, NM (NAD27) NMEZ
Site: Remuda South 25 State Pad
Well: Remuda South 25 State 103H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Remuda South 25 State 103H - Slot S 103H
TVD Reference: 3075+30 @ 3105.00usft (Cactus118)
MD Reference: 3075+30 @ 3105.00usft (Cactus118)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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 South 103H SL - actual wellpath hits target center - Point	0.00	0.01	0.00	0.00	0.00	464,640.30	621,568.10	32° 16' 36.472 N	103° 56' 23.966 W
Remuda South 103H FT - actual wellpath misses target center by 48.47usft at 10845.45usft MD (10348.13 TVD, -715.62 N, -230.14 E) - Point	0.00	0.00	10,344.0 0	-710.00	-278.10	463,930.30	621,290.00	32° 16' 29.456 N	103° 56' 27.236 W
Remuda South 103H BF - actual wellpath hits target center - Point	0.00	0.00	10,356.7 4	-8,123.80	-243.42	456,516.48	621,324.68	32° 15' 16.087 N	103° 56' 27.147 W
Remuda South 103H LT - actual wellpath misses target center by 10.49usft at 18163.82usft MD (10360.86 TVD, -8024.83 N, -238.54 E) - Point	0.00	0.00	10,363.0 0	-8,024.38	-248.80	456,615.90	621,319.30	32° 15' 17.071 N	103° 56' 27.206 W
Remuda South 103H PE - actual wellpath misses target center by 31.57usft at 18263.00usft MD (10356.74 TVD, -8123.80 N, -243.42 E) - Rectangle (sides W50.00 H7,440.00 D0.00)	0.00	0.00	10,363.0 0	-8,154.38	-248.10	456,485.90	621,320.00	32° 15' 15.785 N	103° 56' 27.203 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,497.00	10,268.69	-380.39	-184.29	Wellpath Crosses Section Line @ Heel
18,163.00	10,360.89	-8,024.01	-238.50	Wellpath Crosses LTP
18,263.00	10,356.74	-8,123.80	-243.42	TD @ 230'FSL335'FWL

Checked By: _____ Approved By: _____ Date: _____

XTO Energy

Project: Eddy County, NM (NAD27) NMEZ
 Site: Remuda South 25 State Pad
 Well: Remuda South 25 State 103H
 Wellbore: Lateral
 Design: Lateral
 3075+30 @ 3105.00usft (Cactus118)
 NAD 1927 (NADCON CONUS)

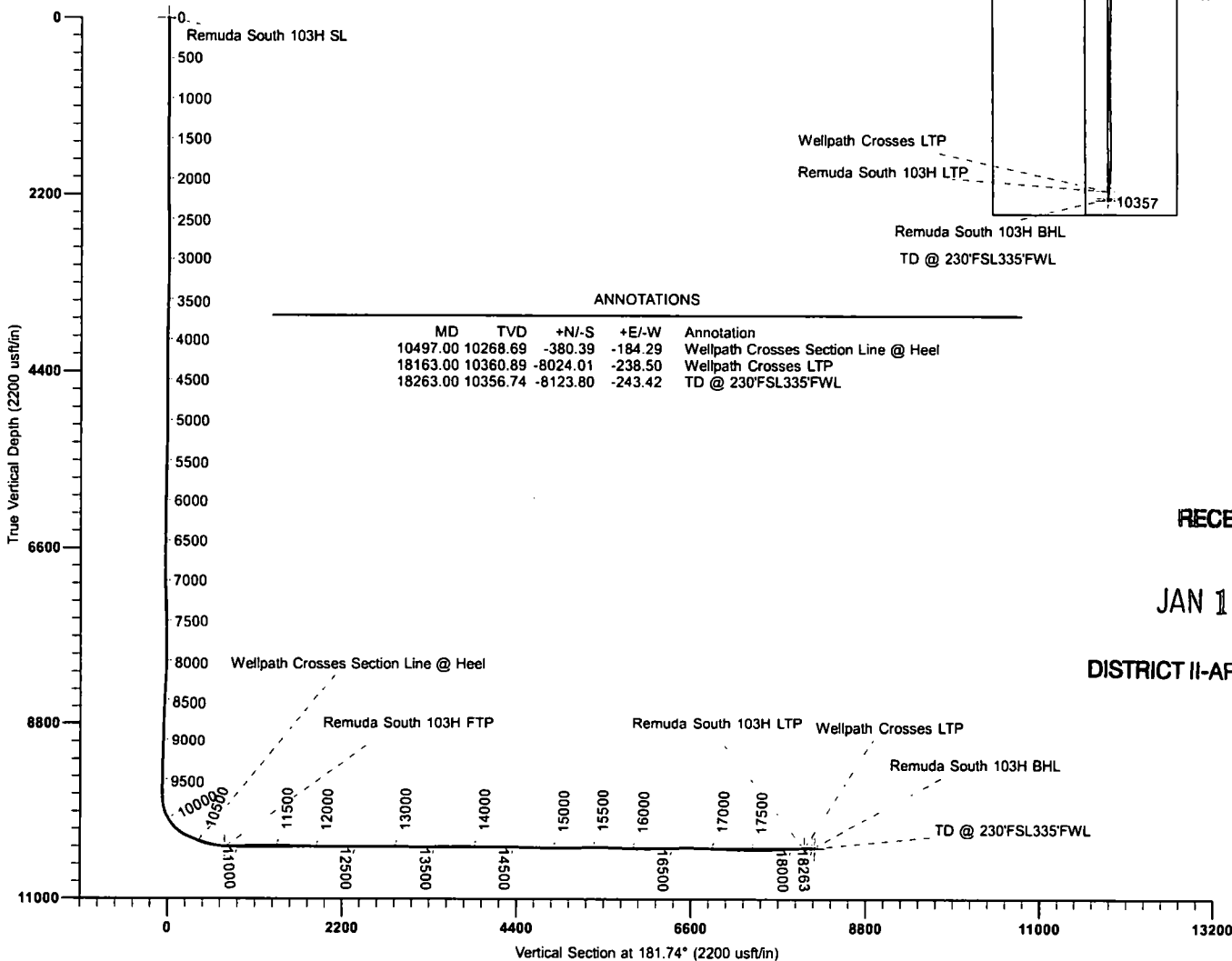
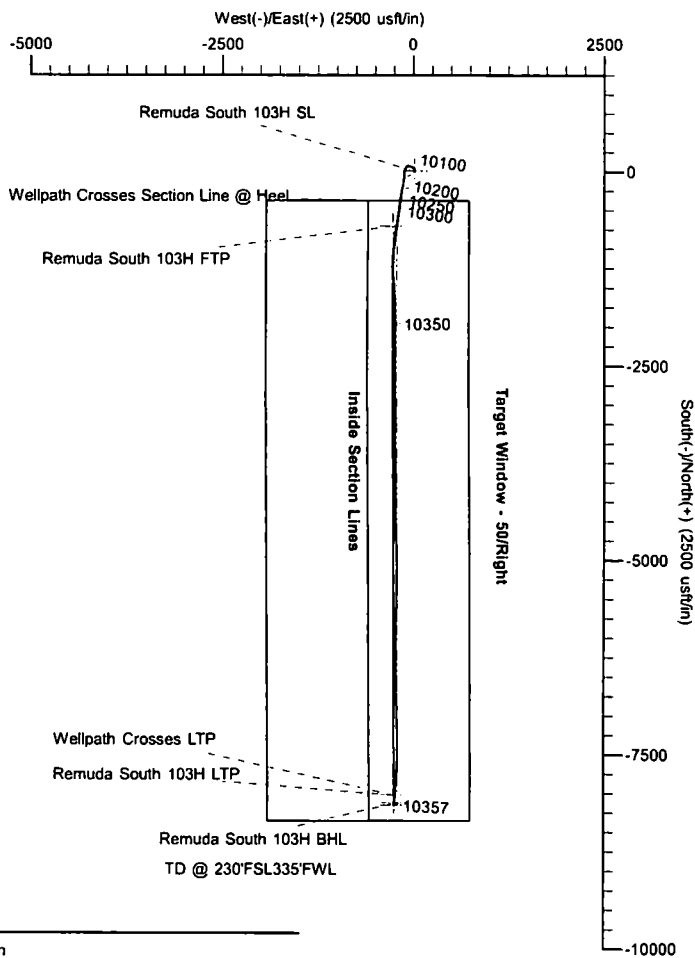


To convert a Magnetic Direction to a Grid Direction, Add 6.84°



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

Magnetic Field
 Strength: 47856.2snT
 Dip Angle: 60.04°
 Date: 03/16/2018
 Model: IGRF2015



ANNOTATIONS

MD	TVD	+N/-S	+E/-W	Annotation
10497.00	10268.69	-380.39	-184.29	Wellpath Crosses Section Line @ Heel
18163.00	10360.89	-8024.01	-238.50	Wellpath Crosses LTP
18263.00	10356.74	-8123.80	-243.42	TD @ 230°FSL335FWL

RECEIVED

JAN 11 2019

DISTRICT II-ARTESIA O.C.D.

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Remuda South 103H SL	0.00	0.00	0.00	464640.30	621568.10	Point
Remuda South 103H FTP	10344.00	-710.00	-278.10	463930.30	621290.00	Point
Remuda South 103H BHL	10356.74	-8123.80	-243.42	456516.48	621324.68	Point
Remuda South 103H LTP	10363.00	-8024.38	-248.80	456615.90	621319.30	Point
Remuda South 103H PBHL p4	10363.00	-8154.38	-248.10	456485.90	621320.00	Point
Rectangle (Sides: L7440.00 W50.00)						