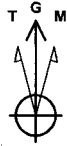


XTO Energy

Project: Eddy County, NM (NAD27) NMEZ US
 Site: Remuda North_South 31 State Pad
 Well: Remuda South 30 State 112H
 Wellbore: South 30 State 112H Lateral
 Design: South 30 State 112H Lateral (AsC)



3112+22 @ 3134.00usft (Orion Perseus)
 NAD 1927 (NADCON CONUS)

Azimuths to Grid North
 True North: -0.22°
 Magnetic North: 6.79°

Magnetic Field
 Strength: 47821.4nT
 Dip Angle: 60.04°
 Date: 2018/07/22
 Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.79°

Wellpath is Planned Outside 330' Hard Lines

100 Window
 50' Left/ 50' Right

Wellpath Crosses Unit Line @ Heel

REMUDA SOUTH 30 STATE_112H_FTP (339°FNL,40°FEL)

Wellpath Crosses FTP @ 330°FNL/51°FEL

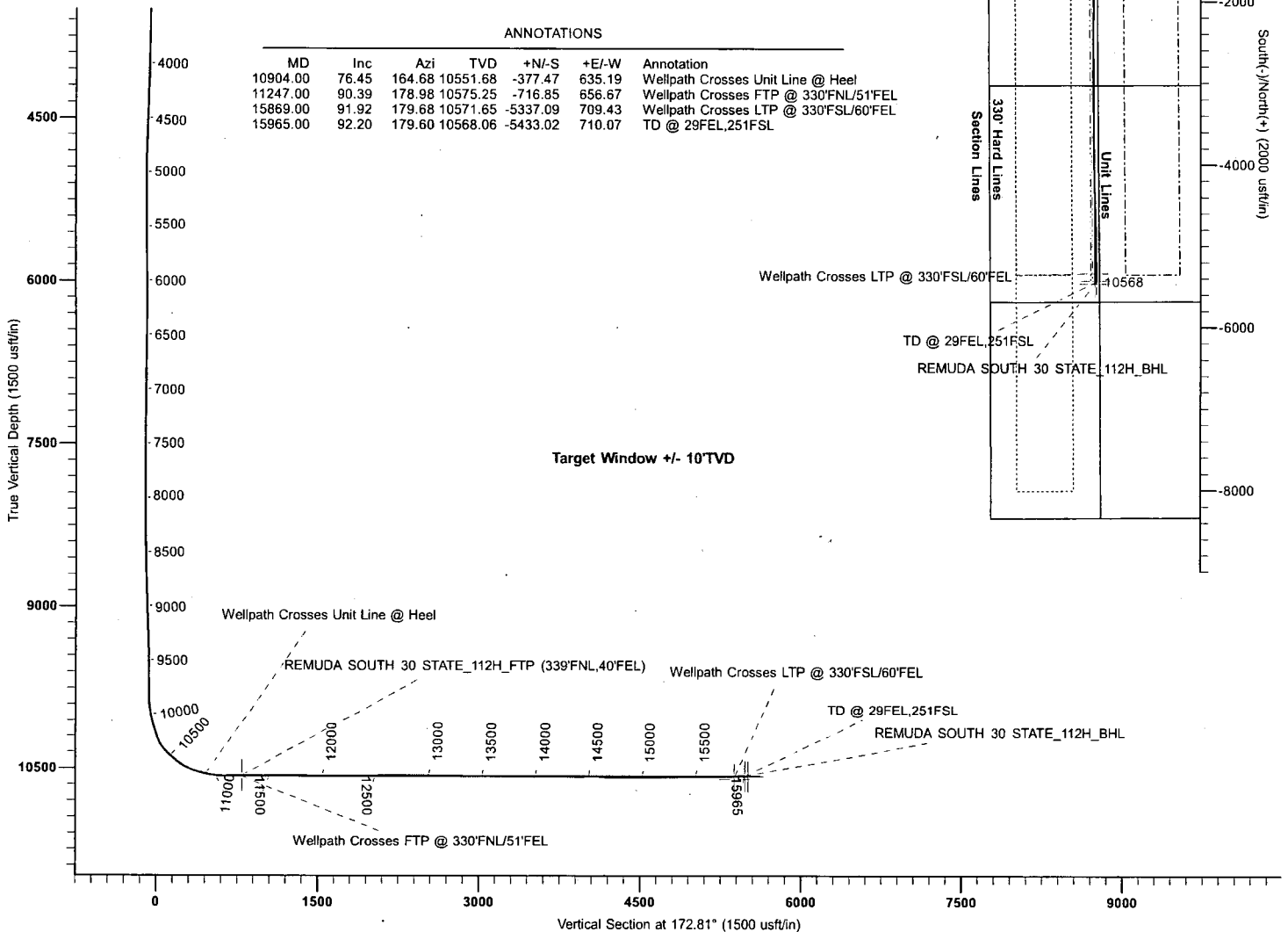
Wellpath Crosses LTP @ 330°FSL/60°FEL

TD @ 29FEL,251FSL

REMUDA SOUTH 30 STATE_112H_BHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Annotation
10904.00	76.45	164.68	10551.68	-377.47	635.19	Wellpath Crosses Unit Line @ Heel
11247.00	90.39	178.98	10575.25	-716.85	656.67	Wellpath Crosses FTP @ 330°FNL/51°FEL
15869.00	91.92	179.68	10571.65	-5337.09	709.43	Wellpath Crosses LTP @ 330°FSL/60°FEL
15965.00	92.20	179.60	10568.06	-5433.02	710.07	TD @ 29FEL,251FSL



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
REMUDA SOUTH 30 STATE_112H_SHL	0.00	0.00	0.00	464641.40	625579.90
REMUDA SOUTH 30 STATE_112H_FTP (339°FNL,40°FEL)	10564.00	-716.20	667.80	463925.20	626247.70
REMUDA SOUTH 30 STATE_112H_BHL	10568.06	-5433.02	710.07	459208.38	626289.97
REMUDA SOUTH 30 STATE_112H_PBHL(200°FSL,40°FEL) p4	10575.00	-5466.00	690.00	459175.40	626269.90
REMUDA SOUTH 30 STATE_112H_LTP(330°FSL,40°FEL)	10597.00	-5336.00	689.30	459305.40	626269.20

Design: South 30 State 112H Lateral (AsDrilled) (Remuda South 30 State 112H/South 30 State 112H Lateral)

Created By: Mekka Williams
 eSomina Well Design
 mekka@esominawelldesign.com
 17:47, October 22 2018

TRUE PERFORMANCE DIRECTIONAL DRILLING

5075 E 52nd Street, Odessa, Texas 79762

281.222.8366



Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Site:	Remuda North_South 31 State Pad	MD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Well:	Remuda South 30 State 112H	North Reference:	Grid
Wellbore:	South 30 State 112H Lateral	Survey Calculation Method:	Minimum Curvature
Design:	South 30 State 112H Lateral (AsDrilled)	Database:	TP_EDM

Project	Eddy County, NM (NAD27) NMEZ US		
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 North_South 31 State Pad, centered on 123H				
Site Position:	Northing:	458,327.40 usft	Latitude:	32.2593878	
From:	Map	Easting:	627,293.40 usft	Longitude:	
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.22 °

Well	Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL					
Well Position	+N/-S	0.00 usft	Northing:	464,641.40 usft	Latitude:	32.2767623
	+E/-W	0.00 usft	Easting:	625,579.90 usft	Longitude:	-103.9270062
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,112.00 usft	

Wellbore	South 30 State 112H Lateral				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	07/22/18	7.00	60.04	47,821

Design	South 30 State 112H Lateral (AsDrilled)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	172.81	

Survey Program	Date 10/21/18			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
139.00	15,907.00	Survey #1 (South 30 State 112H Lateral)	MWD	MWD v3:standard declination
15,965.00	15,965.00	Survey #2 (South 30 State 112H Lateral)	Projection	Projection

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100ft)	(°/100ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
REMUDA SOUTH 30 STATE_122H_SHL - REMUDA SOUTH 30 STATE_112H_SHL										
0.07	0.00	339.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	
REMUDA SOUTH 30 STATE_121H_SHL										
139.00	0.80	339.00	139.00	0.91	-0.35	-0.94	0.58	0.58	0.00	
168.00	0.50	331.00	167.99	1.21	-0.48	-1.26	1.08	-1.03	-27.59	
249.00	1.20	341.00	248.98	2.32	-0.93	-2.41	0.88	0.86	12.35	
331.00	0.20	224.00	330.98	3.03	-1.31	-3.17	1.59	-1.22	-142.68	
401.00	0.30	130.80	400.98	2.82	-1.25	-2.95	0.53	0.14	-133.14	

Survey Report

Company: XTO Energy

Local Co-ordinate Reference:

Well Remuda South 30 State 112H - Slot
REMUDA SOUTH 30 STATE_112H_SHL

Project: Eddy County, NM (NAD27) NMEZ US

TVD Reference:

3112+22 @ 3134.00usft (Orion Perseus)

Site: Remuda North_South 31 State Pad

MD Reference:

3112+22 @ 3134.00usft (Orion Perseus)

Well: Remuda South 30 State 112H

North Reference:

Grid

Wellbore: South 30 State 112H Lateral

Survey Calculation Method:

Minimum Curvature

Design: South 30 State 112H Lateral (AsDrilled)

Database:

TP_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)
498.00	0.50	148.20	497.98	2.29	-0.84	-2.38	0.24	0.21	17.94
578.00	0.60	110.80	577.97	1.85	-0.26	-1.87	0.46	0.12	-46.75
676.00	1.10	63.40	675.96	2.09	1.06	-1.94	0.84	0.51	-48.37
771.00	1.50	48.50	770.94	3.32	2.80	-2.94	0.55	0.42	-15.68
868.00	1.80	50.40	867.90	5.13	4.93	-4.47	0.31	0.31	1.96
962.00	1.60	40.50	961.86	7.07	6.92	-6.15	0.38	-0.21	-10.53
1,058.00	1.20	356.50	1,057.83	9.09	7.73	-8.05	1.16	-0.42	-45.83
1,153.00	1.50	326.30	1,152.80	11.12	6.98	-10.16	0.80	0.32	-31.79
1,249.00	1.70	341.80	1,248.77	13.52	5.83	-12.68	0.49	0.21	16.15
1,344.00	1.90	349.20	1,343.72	16.40	5.10	-15.64	0.32	0.21	7.79
1,440.00	2.00	357.70	1,439.67	19.64	4.73	-18.89	0.32	0.10	8.85
1,535.00	2.40	4.00	1,534.60	23.28	4.81	-22.50	0.49	0.42	6.63
1,630.00	2.30	2.40	1,629.52	27.17	5.03	-26.33	0.13	-0.11	-1.68
1,726.00	2.40	2.80	1,725.43	31.10	5.20	-30.21	0.11	0.10	0.42
1,821.00	2.00	14.90	1,820.37	34.69	5.73	-33.70	0.64	-0.42	12.74
1,916.00	1.60	40.70	1,915.32	37.30	7.02	-36.13	0.94	-0.42	27.16
2,011.00	1.70	40.10	2,010.28	39.38	8.79	-37.97	0.11	0.11	-0.63
2,107.00	1.20	51.40	2,106.25	41.10	10.49	-39.46	0.60	-0.52	11.77
2,202.00	1.20	45.90	2,201.23	42.41	11.99	-40.58	0.12	0.00	-5.79
2,297.00	1.70	42.10	2,296.20	44.15	13.64	-42.09	0.54	0.53	-4.00
2,392.00	1.60	28.00	2,391.16	46.37	15.21	-44.10	0.44	-0.11	-14.84
2,488.00	1.80	37.10	2,487.12	48.75	16.75	-46.27	0.35	0.21	9.48
2,583.00	2.00	57.60	2,582.07	50.83	19.05	-48.04	0.74	0.21	21.58
2,679.00	2.40	81.20	2,678.00	52.03	22.45	-48.81	1.02	0.42	24.58
2,774.00	2.40	98.60	2,772.91	52.04	26.38	-48.33	0.76	0.00	18.32
2,869.00	1.40	85.40	2,867.86	51.84	29.51	-47.73	1.14	-1.05	-13.89
2,964.00	1.30	88.00	2,962.84	51.97	31.74	-47.58	0.12	-0.11	2.74
3,059.00	1.90	76.30	3,057.80	52.38	34.35	-47.66	0.72	0.63	-12.32
3,156.00	2.60	68.30	3,154.72	53.57	37.95	-48.40	0.79	0.72	-8.25
3,252.00	2.70	68.80	3,250.62	55.20	42.09	-49.49	0.11	0.10	0.52
3,346.00	3.10	63.50	3,344.50	57.13	46.42	-50.87	0.51	0.43	-5.64
3,442.00	3.00	59.30	3,440.36	59.57	50.91	-52.73	0.25	-0.10	-4.37
3,538.00	3.00	55.30	3,536.23	62.28	55.13	-54.89	0.22	0.00	-4.17
3,633.00	2.70	59.90	3,631.11	64.82	59.11	-56.91	0.40	-0.32	4.84
3,728.00	2.50	63.70	3,726.02	66.86	62.91	-58.46	0.28	-0.21	4.00
3,823.00	2.80	64.20	3,820.92	68.79	66.85	-59.88	0.32	0.32	0.53
3,918.00	2.80	63.10	3,915.80	70.85	71.01	-61.40	0.06	0.00	-1.16
4,013.00	3.10	64.90	4,010.68	72.99	75.41	-62.97	0.33	0.32	1.89
4,109.00	3.10	60.50	4,106.54	75.37	80.02	-64.75	0.25	0.00	-4.58
4,204.00	2.50	47.40	4,201.42	78.04	83.78	-66.93	0.92	-0.63	-13.79
4,299.00	2.60	40.70	4,296.33	81.07	86.71	-69.57	0.33	0.11	-7.05
4,394.00	2.50	38.20	4,391.23	84.33	89.39	-72.47	0.16	-0.11	-2.63
4,490.00	2.80	39.00	4,487.13	87.80	92.16	-75.57	0.31	0.31	0.83

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Site:	Remuda North_South 31 State Pad	MD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Well:	Remuda South 30 State 112H	North Reference:	Grid
Wellbore:	South 30 State 112H Lateral	Survey Calculation Method:	Minimum Curvature
Design:	South 30 State 112H Lateral (AsDrilled)	Database:	TP_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)
4,586.00	2.70	36.20	4,583.02	91.45	94.98	-78.83	0.17	-0.10	-2.92
4,681.00	2.80	34.70	4,677.91	95.16	97.62	-82.19	0.13	0.11	-1.58
4,776.00	2.50	38.30	4,772.81	98.69	100.22	-85.37	0.36	-0.32	3.79
4,872.00	1.30	53.00	4,868.76	100.99	102.39	-87.38	1.34	-1.25	15.31
4,968.00	0.80	83.60	4,964.74	101.72	103.93	-87.91	0.77	-0.52	31.87
5,062.00	0.90	82.10	5,058.73	101.90	105.31	-87.91	0.11	0.11	-1.60
5,158.00	1.00	83.10	5,154.72	102.10	106.89	-87.91	0.11	0.10	1.04
5,253.00	0.90	84.20	5,249.70	102.28	108.45	-87.89	0.11	-0.11	1.16
5,349.00	0.80	90.40	5,345.69	102.35	109.87	-87.78	0.14	-0.10	6.46
5,444.00	0.80	95.70	5,440.68	102.28	111.20	-87.55	0.08	0.00	5.58
5,540.00	0.80	95.70	5,536.68	102.14	112.53	-87.25	0.00	0.00	0.00
5,636.00	0.40	143.70	5,632.67	101.81	113.40	-86.81	0.64	-0.42	50.00
5,731.00	0.60	197.20	5,727.67	101.07	113.45	-86.06	0.51	0.21	56.32
5,827.00	0.60	190.80	5,823.66	100.09	113.20	-85.13	0.07	0.00	-6.67
5,923.00	0.70	190.60	5,919.66	99.02	113.00	-84.09	0.10	0.10	-0.21
6,019.00	0.60	240.80	6,015.65	98.20	112.45	-83.34	0.58	-0.10	52.29
6,113.00	0.90	263.30	6,109.64	97.87	111.29	-83.17	0.44	0.32	23.94
6,208.00	0.90	287.70	6,204.63	98.01	109.84	-83.49	0.40	0.00	25.68
6,304.00	1.00	303.70	6,300.62	98.71	108.42	-84.35	0.29	0.10	16.67
6,399.00	1.00	319.80	6,395.60	99.80	107.20	-85.59	0.29	0.00	16.95
6,494.00	1.00	351.70	6,490.59	101.25	106.54	-87.11	0.58	0.00	33.58
6,589.00	1.00	347.80	6,585.58	102.88	106.25	-88.77	0.07	0.00	-4.11
6,685.00	1.00	348.80	6,681.56	104.53	105.91	-90.44	0.02	0.00	1.04
6,780.00	0.90	354.50	6,776.55	106.08	105.68	-92.01	0.14	-0.11	6.00
6,874.00	0.80	354.80	6,870.54	107.47	105.55	-93.41	0.11	-0.11	0.32
6,970.00	0.70	353.20	6,966.53	108.72	105.42	-94.66	0.11	-0.10	-1.67
7,066.00	0.60	335.50	7,062.52	109.76	105.14	-95.73	0.23	-0.10	-18.44
7,161.00	0.50	323.80	7,157.52	110.55	104.69	-96.57	0.16	-0.11	-12.32
7,256.00	0.80	12.20	7,252.51	111.53	104.58	-97.55	0.63	0.32	50.95
7,352.00	0.20	328.40	7,348.51	112.33	104.64	-98.34	0.70	-0.62	-45.62
7,447.00	0.30	281.90	7,443.51	112.52	104.31	-98.57	0.23	0.11	-48.95
7,542.00	0.20	246.80	7,538.51	112.51	103.91	-98.61	0.19	-0.11	-36.95
7,638.00	1.00	288.70	7,634.50	112.71	102.96	-98.93	0.90	0.83	43.65
7,734.00	0.30	351.10	7,730.50	113.22	102.13	-99.54	0.94	-0.73	65.00
7,829.00	0.80	55.50	7,825.49	113.85	102.64	-100.10	0.76	0.53	67.79
7,926.00	0.80	62.00	7,922.48	114.55	103.80	-100.65	0.09	0.00	6.70
8,021.00	1.90	89.80	8,017.46	114.86	105.96	-100.69	1.32	1.16	29.26
8,118.00	2.40	86.90	8,114.39	114.98	109.59	-100.35	0.53	0.52	-2.99
8,213.00	2.50	93.70	8,209.30	114.95	113.65	-99.82	0.32	0.11	7.16
8,308.00	2.20	104.10	8,304.22	114.38	117.48	-98.76	0.55	-0.32	10.95
8,403.00	2.00	110.00	8,399.16	113.36	120.81	-97.34	0.31	-0.21	6.21
8,498.00	2.60	105.00	8,494.08	112.24	124.45	-95.77	0.67	0.63	-5.26

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Site:	Remuda North_South 31 State Pad	MD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Well:	Remuda South 30 State 112H	North Reference:	Grid
Wellbore:	South 30 State 112H Lateral	Survey Calculation Method:	Minimum Curvature
Design:	South 30 State 112H Lateral (AsDrilled)	Database:	TP_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)
8,594.00	2.60	105.60	8,589.98	111.09	128.65	-94.11	0.03	0.00	0.62
8,689.00	2.40	118.80	8,684.89	109.55	132.47	-92.10	0.64	-0.21	13.89
8,785.00	3.10	114.10	8,780.78	107.52	136.60	-89.57	0.77	0.73	-4.90
8,881.00	3.70	111.60	8,876.61	105.32	141.85	-86.73	0.64	0.62	-2.60
8,977.00	2.70	120.60	8,972.46	103.03	146.67	-83.85	1.16	-1.04	9.37
9,071.00	1.80	171.40	9,066.40	100.45	148.80	-81.02	2.23	-0.96	54.04
9,165.00	1.90	192.80	9,160.35	97.47	148.67	-78.08	0.74	0.11	22.77
9,332.00	2.20	189.10	9,327.24	91.60	147.55	-72.40	0.20	0.18	-2.22
9,377.00	2.20	183.40	9,372.21	89.89	147.37	-70.72	0.49	0.00	-12.67
9,473.00	1.50	145.90	9,468.16	87.01	147.96	-67.79	1.42	-0.73	-39.06
9,568.00	1.90	66.60	9,563.13	86.60	150.10	-67.12	2.31	0.42	-83.47
9,663.00	1.90	73.20	9,658.08	87.68	153.06	-67.83	0.23	0.00	6.95
9,759.00	2.80	90.30	9,754.00	88.13	156.93	-67.79	1.18	0.94	17.81
9,788.00	2.90	97.10	9,782.96	88.04	158.36	-67.51	1.21	0.34	23.45
9,818.00	2.50	104.30	9,812.93	87.78	159.75	-67.09	1.75	-1.33	24.00
9,865.00	5.70	114.40	9,859.80	86.56	162.87	-65.49	6.95	6.81	21.49
9,913.00	11.80	111.80	9,907.22	83.75	169.60	-61.86	12.73	12.71	-5.42
9,926.31	12.77	112.23	9,920.22	82.69	172.23	-60.47	7.32	7.29	3.23
REMUDA NORTH 30 STATE_122H_PBHL (200'FNL,345'FEL)									
9,961.00	15.30	113.10	9,953.88	79.45	179.99	-56.28	7.32	7.29	2.51
REMUDA NORTH 30 STATE_122H_PBHL(200'FNL)									
10,009.00	17.30	117.20	9,999.95	73.70	192.16	-49.05	4.80	4.17	8.54
10,056.00	21.20	117.30	10,044.31	66.60	205.94	-40.29	8.30	8.30	0.21
10,104.00	25.60	116.20	10,088.35	58.04	222.96	-29.66	9.21	9.17	-2.29
10,152.00	30.40	114.60	10,130.72	48.40	243.32	-17.55	10.12	10.00	-3.33
10,199.00	32.80	113.80	10,170.75	38.31	265.78	-4.72	5.18	5.11	-1.70
10,246.00	36.00	114.40	10,209.53	27.46	290.02	9.07	6.85	6.81	1.28
10,293.00	40.20	116.70	10,246.51	14.94	316.16	24.77	9.43	8.94	4.89
10,341.00	44.70	119.40	10,281.92	-0.32	344.72	43.49	10.11	9.37	5.62
10,388.00	50.50	122.20	10,313.60	-18.11	374.50	64.87	13.10	12.34	5.96
10,436.00	52.00	127.10	10,343.65	-39.40	405.27	89.84	8.55	3.12	10.21
10,483.00	54.00	133.20	10,371.96	-63.60	433.91	117.44	11.20	4.26	12.98
10,531.00	54.90	138.30	10,399.87	-91.57	461.14	148.59	8.84	1.87	10.62
10,568.30	57.54	139.24	10,420.61	-114.88	481.57	174.29	7.38	7.08	2.52
REMUDA SOUTH 30 STATE_111H_LP(210'FNL,425'FWL)									
10,579.00	58.30	139.50	10,426.29	-121.76	487.48	181.85	7.38	7.09	2.43
10,626.00	61.00	139.60	10,450.04	-152.63	513.79	215.77	5.75	5.74	0.21
10,674.00	62.50	142.60	10,472.76	-185.53	540.33	251.74	6.33	3.12	6.25
10,720.00	65.10	147.10	10,493.08	-219.27	564.06	288.18	10.44	5.65	9.78
10,768.00	68.90	151.40	10,511.84	-257.24	586.62	328.68	11.43	7.92	8.96
10,815.00	72.40	156.00	10,527.42	-296.98	606.25	370.57	11.86	7.45	9.79
10,863.00	74.10	160.40	10,541.26	-339.65	623.30	415.03	9.46	3.54	9.17
10,904.00	76.45	164.68	10,551.68	-377.47	635.19	454.04	11.61	5.73	10.44

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Site:	Remuda North_South 31 State Pad	MD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Well:	Remuda South 30 State 112H	North Reference:	Grid
Wellbore:	South 30 State 112H Lateral	Survey Calculation Method:	Minimum Curvature
Design:	South 30 State 112H Lateral (AsDrilled)	Database:	TP_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)
Wellpath Crosses Unit Line @ Heel									
10,910.00	76.80	165.30	10,553.07	-383.10	636.70	459.82	11.61	5.84	10.32
10,958.00	80.40	170.30	10,562.56	-429.07	646.62	506.67	12.67	7.50	10.42
11,006.00	83.90	174.90	10,569.12	-476.21	652.74	554.20	11.97	7.29	9.58
11,054.00	86.20	177.60	10,573.26	-523.92	655.86	601.93	7.37	4.79	5.62
11,083.91	87.92	179.38	10,574.80	-553.78	656.65	631.65	8.27	5.74	5.96
REMUDA SOUTH 30 STATE_112H_LP p2 (126°FNL,40°FEL)									
11,101.00	88.90	180.40	10,575.27	-570.86	656.68	648.60	8.27	5.75	5.95
11,196.00	90.60	180.10	10,575.68	-665.85	656.27	742.80	1.82	1.79	-0.32
11,243.17	90.40	179.07	10,575.27	-713.02	656.61	789.63	2.23	-0.42	-2.19
REMUDA SOUTH 30 STATE_111H_FTP(338°FNL,440°FWL)									
11,243.78	90.40	179.05	10,575.27	-713.63	656.62	790.24	2.23	-0.42	-2.19
REMUDA SOUTH 30 STATE_122H_FTP(338°FNL,360°FEL)									
11,246.62	90.39	178.99	10,575.25	-716.47	656.67	793.06	2.23	-0.42	-2.19
REMUDA SOUTH 30 STATE_112H_FTP (339°FNL,40°FEL)									
11,247.00	90.39	178.98	10,575.25	-716.85	656.67	793.44	2.23	-0.42	-2.19
Wellpath Crosses FTP @ 330°FNL/51°FEL - REMUDA SOUTH 30 STATE_121H_FTP(338°FNL,330°FWL) - REMUDA SOUTH 30 STATE_121H									
11,254.61	90.36	178.82	10,575.20	-724.46	656.82	801.01	2.23	-0.42	-2.19
REMUDA SOUTH 30 STATE_122H_LP(354°FNL,360°FEL)									
11,292.00	90.20	178.00	10,575.01	-761.83	657.86	838.22	2.23	-0.42	-2.19
11,387.00	91.30	181.30	10,573.77	-856.81	658.44	932.52	3.66	1.16	3.47
11,482.00	90.90	181.90	10,571.95	-951.75	655.79	1,026.38	0.76	-0.42	0.63
11,578.00	90.60	180.50	10,570.69	-1,047.72	653.78	1,121.35	1.49	-0.31	-1.46
11,673.00	89.00	179.00	10,571.02	-1,142.71	654.19	1,215.64	2.31	-1.68	-1.58
11,769.00	89.80	178.40	10,572.03	-1,238.68	656.37	1,311.13	1.04	0.83	-0.62
11,865.00	89.00	177.50	10,573.03	-1,334.62	659.80	1,406.74	1.25	-0.83	-0.94
11,962.00	89.10	178.40	10,574.64	-1,431.54	663.27	1,503.33	0.93	0.10	0.93
12,057.00	89.80	178.00	10,575.55	-1,526.49	666.26	1,597.90	0.85	0.74	-0.42
12,152.00	89.80	177.60	10,575.88	-1,621.42	669.90	1,692.54	0.42	0.00	-0.42
12,248.00	89.50	179.50	10,576.47	-1,717.38	672.33	1,788.05	2.00	-0.31	1.98
12,344.00	91.10	179.60	10,575.97	-1,813.37	673.09	1,883.39	1.67	1.67	0.10
12,472.00	91.50	178.60	10,573.06	-1,941.32	675.10	2,010.58	0.84	0.31	-0.78
12,568.00	91.60	179.60	10,570.47	-2,037.27	676.60	2,105.97	1.05	0.10	1.04
12,664.00	90.50	181.50	10,568.71	-2,133.25	675.68	2,201.07	2.29	-1.15	1.98
12,760.00	89.70	182.00	10,568.54	-2,229.20	672.75	2,295.90	0.98	-0.83	0.52
12,855.00	89.90	181.30	10,568.87	-2,324.16	670.02	2,389.77	0.77	0.21	-0.74
12,949.00	89.10	181.30	10,569.69	-2,418.13	667.88	2,482.73	0.85	-0.85	0.00
13,044.00	89.60	180.80	10,570.77	-2,513.11	666.14	2,576.75	0.74	0.53	-0.53
13,140.00	89.50	180.80	10,571.52	-2,609.10	664.80	2,671.81	0.10	-0.10	0.00
13,234.00	89.80	179.40	10,572.10	-2,703.09	664.64	2,765.04	1.52	0.32	-1.49
13,329.00	88.30	178.70	10,573.67	-2,798.06	666.21	2,859.46	1.74	-1.58	-0.74
13,425.00	89.90	179.70	10,575.18	-2,894.04	667.55	2,954.85	1.97	1.67	1.04
13,519.00	89.20	179.60	10,575.92	-2,988.03	668.13	3,048.18	0.75	-0.74	-0.11
13,615.00	89.70	180.10	10,576.84	-3,084.03	668.38	3,143.45	0.74	0.52	0.52

Survey Report

Company:	XTO Energy	Local Co-ordinate Reference:	Well Remuda South 30 State 112H - Slot REMUDA SOUTH 30 STATE_112H_SHL
Project:	Eddy County, NM (NAD27) NMEZ US	TVD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Site:	Remuda North_South 31 State Pad	MD Reference:	3112+22 @ 3134.00usft (Orion Perseus)
Well:	Remuda South 30 State 112H	North Reference:	Grid
Wellbore:	South 30 State 112H Lateral	Survey Calculation Method:	Minimum Curvature
Design:	South 30 State 112H Lateral (AsDrilled)	Database:	TP_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)
13,710.00	91.20	180.80	10,576.10	-3,179.02	667.63	3,237.60	1.74	1.58	0.74
13,806.00	90.90	180.20	10,574.34	-3,275.00	666.79	3,332.72	0.70	-0.31	-0.62
13,901.00	89.50	179.60	10,574.00	-3,369.99	666.96	3,426.99	1.60	-1.47	-0.63
13,998.00	88.40	178.60	10,575.78	-3,466.96	668.48	3,523.38	1.53	-1.13	-1.03
14,093.00	89.10	178.30	10,577.85	-3,561.90	671.05	3,617.90	0.80	0.74	-0.32
14,188.00	90.40	178.10	10,578.27	-3,656.85	674.04	3,712.48	1.38	1.37	-0.21
14,284.00	90.70	179.50	10,577.35	-3,752.83	676.05	3,807.94	1.49	0.31	1.46
14,381.00	90.20	179.50	10,576.59	-3,849.82	676.89	3,904.28	0.52	-0.52	0.00
14,475.00	89.90	180.10	10,576.50	-3,943.82	677.22	3,997.58	0.71	-0.32	0.64
14,570.00	89.90	180.20	10,576.67	-4,038.82	676.97	4,091.80	0.11	0.00	0.11
14,666.00	88.30	178.30	10,578.18	-4,134.79	678.23	4,187.17	2.59	-1.67	-1.98
14,761.00	88.90	178.50	10,580.50	-4,229.72	680.88	4,281.69	0.67	0.63	0.21
14,857.00	89.80	177.80	10,581.59	-4,325.67	683.98	4,377.27	1.19	0.94	-0.73
14,953.00	90.00	177.50	10,581.75	-4,421.59	687.92	4,472.92	0.38	0.21	-0.31
15,049.00	90.00	176.70	10,581.75	-4,517.46	692.77	4,568.65	0.83	0.00	-0.83
15,144.00	91.90	178.70	10,580.18	-4,612.36	696.58	4,663.29	2.90	2.00	2.11
15,240.00	91.80	179.20	10,577.08	-4,708.30	698.34	4,758.68	0.53	-0.10	0.52
15,335.00	89.80	179.60	10,575.75	-4,803.28	699.34	4,853.04	2.15	-2.11	0.42
15,430.00	89.10	178.80	10,576.67	-4,898.26	700.66	4,947.45	1.12	-0.74	-0.84
15,526.00	89.80	178.40	10,577.59	-4,994.23	703.01	5,042.95	0.84	0.73	-0.42
15,622.00	90.60	178.70	10,577.25	-5,090.20	705.44	5,138.47	0.89	0.83	0.31
15,717.00	91.30	178.50	10,575.68	-5,185.15	707.76	5,232.97	0.77	0.74	-0.21
15,812.00	91.50	179.80	10,573.36	-5,280.11	709.17	5,327.36	1.38	0.21	1.37
15,867.07	91.91	179.68	10,571.72	-5,335.15	709.42	5,381.99	0.77	0.74	-0.21
REMUDA SOUTH 30 STATE_112H_LTP(330°FSL,40°FEL)									
15,869.00	91.92	179.68	10,571.66	-5,337.09	709.43	5,383.91	0.77	0.74	-0.21
Wellpath Crosses LTP @ 330°FSL/60°FEL									
15,907.00	92.20	179.60	10,570.29	-5,375.06	709.66	5,421.62	0.77	0.74	-0.21
15,965.00 ✓	92.20	179.60	10,568.06 ✓	-5,433.02	710.07	5,479.17	0.00	0.00	0.00
TD @ 29FEL,251FSL - REMUDA SOUTH 30 STATE_112H_BHL - REMUDA SOUTH 30 STATE_121H_PBHL(200°FSL,330°FWL) - REMUDA SO									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,904.00	10,551.68	-377.47	635.19	Wellpath Crosses Unit Line @ Heel
11,247.00	10,575.25	-716.85	656.67	Wellpath Crosses FTP @ 330°FNL/51°FEL
15,869.00	10,571.66	-5,337.09	709.43	Wellpath Crosses LTP @ 330°FSL/60°FEL
15,965.00	10,568.06	-5,433.02	710.07	TD @ 29FEL,251FSL

Checked By: _____	Approved By: _____	Date: _____
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