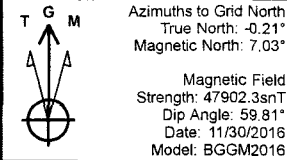


30-015-43579



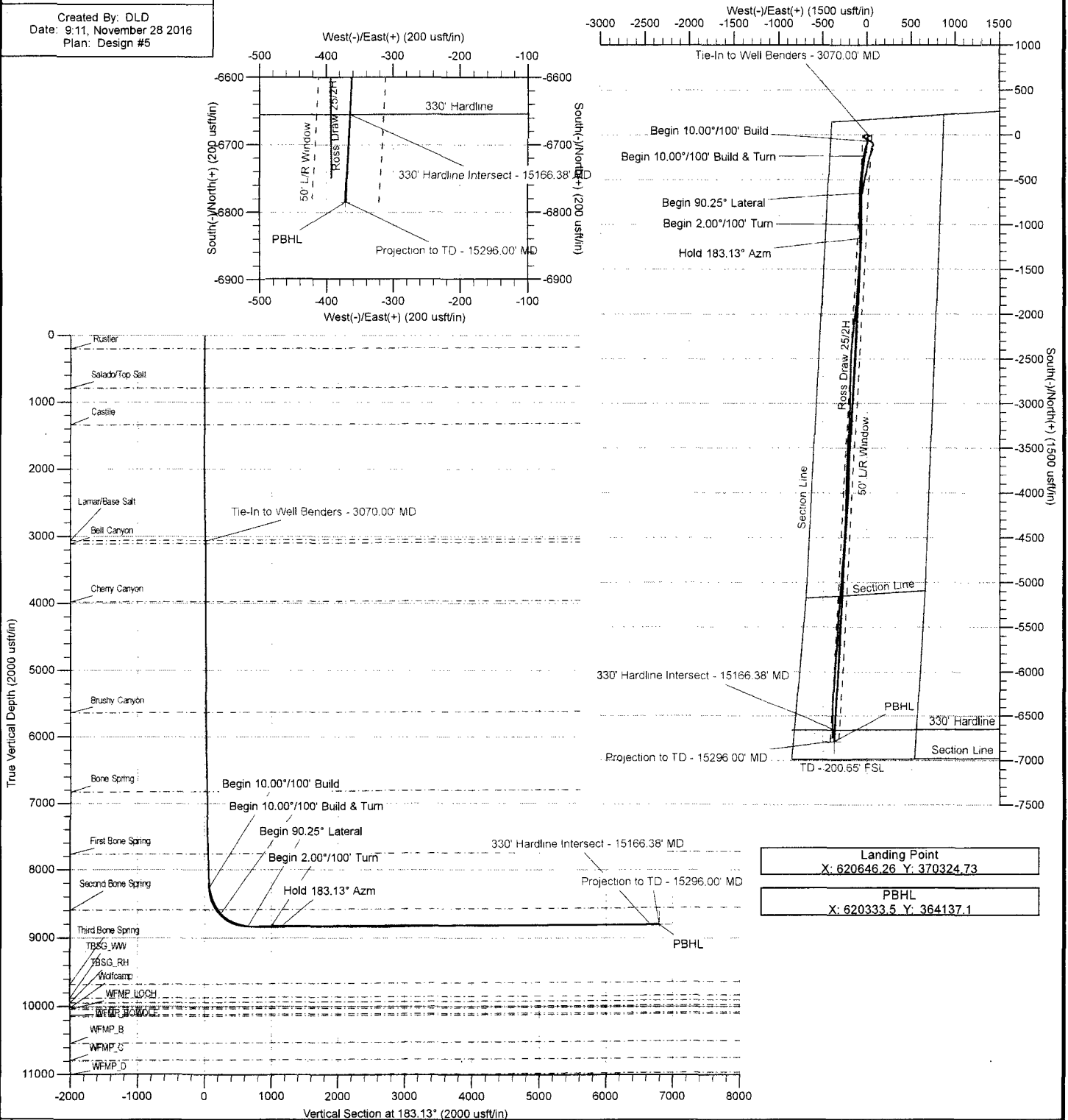
Company: XTO Energy
 Site: Ross Draw 25
 Well: 31H
 Project: Eddy County, New Mexico (NAD 27)
 Rig: Noram 25



US State Plane 1927 (Exact solution)
 New Mexico East 3001

Created By: DLD
 Date: 9:11, November 28 2016
 Plan: Design #5

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation	
8105.00	1.80	197.00	8103.23	-64.33	9.89	63.69	0.00	Last Survey	
8273.85	1.80	197.00	8272.00	-69.40	8.34	68.84	5.30	Begin 10.00°/100' Build	
8705.95	45.00	191.15	8659.24	-233.64	-24.77	234.64	172.85	Begin 10.00°/100' Build & Turn	
9168.93	90.25	180.10	8831.39	-648.55	-58.70	650.79	589.73	Begin 90.25° Lateral	
9518.93	90.25	180.10	8829.86	-998.55	-59.31	1000.30	939.73	Begin 2.00°/100' Turn	
9670.28	90.25	183.13	8829.21	-1149.81	-63.57	1151.57	1091.07	Hold 183.13° Azm	
15313.72	90.25	183.13	8804.86	-6784.80	-371.40	6794.95	6734.46	PBHL	



Landing Point
 X: 620646.26 Y: 370324.73

PBHL
 X: 620333.5 Y: 364137.1



NM OIL CONSERVATION
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XTO Energy

Eddy County, New Mexico (NAD 27)

Ross Draw 25

31H

30-015-43579

Wellbore #1

Design: Surveys

Standard Survey Report

28 November, 2016



MS Energy Services

Survey Report



Company: XTO Energy
Project: Eddy County, New Mexico (NAD 27)
Site: Ross Draw 25
Well: 31H
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well 31H
TVD Reference: Rig @ 2952.00usft (Noram 25)
MD Reference: Rig @ 2952.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Conroe Server

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

Well	31H				
Well Position	+N/-S	0.00 usft	Northing:	370,921.90 usft	Latitude: 32° 1' 9.050 N
	+E/-W	0.00 usft	Easting:	620,704.90 usft	Longitude: 103° 56' 37.954 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level: 2,927.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	11/30/2016	7.24	59.81	47,902

Design	Surveys				
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	183.13

Survey Program	Date 11/28/2016				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
121.00	3,070.00	Wellbenders Gyro (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro	
3,140.00	15,296.00	MS MWD (Wellbore #1)	MWD	OWSG MWD - Standard	

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121.00	0.50	4.10	121.00	0.53	0.04	-0.53	0.41	0.41	0.00
250.00	0.50	322.50	249.99	1.53	-0.26	-1.52	0.28	0.00	-32.25
342.00	0.70	318.90	341.99	2.28	-0.88	-2.23	0.22	0.22	-3.91
432.00	1.00	315.00	431.98	3.25	-1.80	-3.14	0.34	0.33	-4.33
562.00	0.90	312.40	561.96	4.74	-3.35	-4.55	0.08	-0.08	-2.00
657.00	0.90	327.40	656.95	5.87	-4.30	-5.62	0.25	0.00	15.79
751.00	0.80	313.00	750.94	6.94	-5.18	-6.64	0.25	-0.11	-15.32
845.00	0.60	231.90	844.93	7.08	-6.05	-6.74	0.98	-0.21	-86.28
940.00	0.80	232.80	939.93	6.37	-6.97	-5.98	0.21	0.21	0.95
1,034.00	0.90	229.40	1,033.92	5.50	-8.05	-5.05	0.12	0.11	-3.62
1,129.00	0.20	86.20	1,128.91	5.02	-8.45	-4.55	1.12	-0.74	-150.74
1,224.00	1.10	50.50	1,223.91	5.61	-7.58	-5.19	0.99	0.95	-37.58
1,318.00	1.30	58.80	1,317.89	6.74	-5.98	-6.40	0.28	0.21	8.83
1,420.00	1.20	69.90	1,419.86	7.71	-3.98	-7.48	0.26	-0.10	10.88



MS Energy Services
Survey Report



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Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well 31H
TVD Reference: Rig @ 2952.00usft (Noram 25)
MD Reference: Rig @ 2952.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Conroe Server

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,508.00	1.20	69.90	1,507.84	8.34	-2.25	-8.20	0.00	0.00	0.00
1,602.00	1.10	78.10	1,601.82	8.86	-0.45	-8.83	0.20	-0.11	8.72
1,697.00	0.90	84.00	1,696.81	9.13	1.19	-9.18	0.24	-0.21	6.21
1,791.00	0.90	96.20	1,790.80	9.13	2.66	-9.26	0.20	0.00	12.98
1,885.00	0.70	111.30	1,884.79	8.84	3.93	-9.04	0.31	-0.21	16.06
1,980.00	0.90	143.70	1,979.78	8.03	4.91	-8.28	0.51	0.21	34.11
2,075.00	0.80	155.00	2,074.77	6.82	5.63	-7.12	0.20	-0.11	11.89
2,169.00	0.90	175.00	2,168.76	5.49	5.97	-5.81	0.33	0.11	21.28
2,264.00	0.70	182.90	2,263.75	4.17	6.01	-4.49	0.24	-0.21	8.32
2,359.00	0.70	171.50	2,358.74	3.02	6.06	-3.34	0.15	0.00	-12.00
2,454.00	1.30	145.30	2,453.73	1.56	6.76	-1.92	0.78	0.63	-27.58
2,548.00	1.90	128.80	2,547.69	-0.30	8.59	-0.17	0.80	0.64	-17.55
2,643.00	2.30	119.40	2,642.63	-2.22	11.47	1.59	0.55	0.42	-9.89
2,737.00	3.20	117.40	2,736.52	-4.35	15.45	3.50	0.96	0.96	-2.13
2,832.00	3.50	117.10	2,831.36	-6.89	20.38	5.77	0.32	0.32	-0.32
2,923.00	2.50	126.00	2,922.23	-9.32	24.46	7.98	1.21	-1.10	9.78
3,017.00	2.40	128.60	3,016.14	-11.76	27.66	10.23	0.16	-0.11	2.77
3,070.00	2.20	128.60	3,069.10	-13.08	29.32	11.46	0.38	-0.38	0.00
Final Gyro - 3070.00' MD - Tie-In to Well Benders - 3070.00' MD									
3,140.00	1.70	123.50	3,139.06	-14.50	31.23	12.77	0.76	-0.71	-7.29
3,171.00	1.50	119.50	3,170.05	-14.95	31.97	13.18	0.74	-0.65	-12.90
3,266.00	1.70	26.50	3,265.03	-14.30	33.68	12.44	2.45	0.21	-97.89
3,360.00	0.40	323.80	3,359.01	-12.79	34.11	10.91	1.66	-1.38	-66.70
3,455.00	0.50	301.30	3,454.01	-12.30	33.56	10.45	0.21	0.11	-23.68
3,550.00	0.50	299.20	3,549.00	-11.89	32.84	10.08	0.02	0.00	-2.21
3,644.00	0.50	282.50	3,643.00	-11.60	32.09	9.83	0.15	0.00	-17.77
3,738.00	0.50	284.30	3,737.00	-11.41	31.29	9.68	0.02	0.00	1.91
3,833.00	0.60	281.30	3,831.99	-11.21	30.40	9.53	0.11	0.11	-3.16
3,927.00	0.70	283.10	3,925.99	-10.98	29.36	9.36	0.11	0.11	1.91
4,022.00	0.70	275.20	4,020.98	-10.80	28.21	9.24	0.10	0.00	-8.32
4,117.00	0.70	274.70	4,115.97	-10.70	27.06	9.20	0.01	0.00	-0.53
4,211.00	0.70	270.50	4,209.96	-10.65	25.91	9.21	0.05	0.00	-4.47
4,305.00	0.80	260.90	4,303.96	-10.74	24.69	9.38	0.17	0.11	-10.21
4,400.00	0.80	259.60	4,398.95	-10.97	23.38	9.68	0.02	0.00	-1.37
4,494.00	0.80	254.50	4,492.94	-11.26	22.10	10.04	0.08	0.00	-5.43
4,589.00	0.70	265.60	4,587.93	-11.48	20.89	10.33	0.19	-0.11	11.68
4,683.00	0.70	255.50	4,681.92	-11.67	19.76	10.58	0.13	0.00	-10.74
4,778.00	0.70	238.30	4,776.92	-12.12	18.70	11.08	0.22	0.00	-18.11
4,872.00	0.70	229.80	4,870.91	-12.79	17.78	11.81	0.11	0.00	-9.04
4,967.00	0.90	237.20	4,965.90	-13.57	16.71	12.64	0.24	0.21	7.79
5,062.00	0.90	240.20	5,060.89	-14.35	15.43	13.48	0.05	0.00	3.16
5,157.00	0.70	236.10	5,155.88	-15.04	14.30	14.24	0.22	-0.21	-4.32
5,251.00	0.80	226.80	5,249.87	-15.81	13.35	15.06	0.17	0.11	-9.89



MS Energy Services

Survey Report



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Design: Surveys

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,345.00	0.80	224.40	5,343.86	-16.73	12.41	16.03	0.04	0.00	-2.55
5,440.00	0.80	232.10	5,438.85	-17.61	11.42	16.96	0.11	0.00	8.11
5,535.00	0.80	224.60	5,533.84	-18.49	10.43	17.89	0.11	0.00	-7.89
5,629.00	0.90	213.00	5,627.83	-19.58	9.57	19.03	0.21	0.11	-12.34
5,724.00	1.00	216.50	5,722.82	-20.87	8.67	20.37	0.12	0.11	3.68
5,818.00	1.10	216.30	5,816.80	-22.26	7.65	21.81	0.11	0.11	-0.21
5,913.00	0.50	235.20	5,911.79	-23.23	6.77	22.82	0.68	-0.63	19.89
6,008.00	0.60	236.20	6,006.79	-23.74	6.01	23.38	0.11	0.11	1.05
6,103.00	0.60	219.80	6,101.78	-24.40	5.28	24.08	0.18	0.00	-17.26
6,197.00	0.60	217.20	6,195.78	-25.17	4.67	24.88	0.03	0.00	-2.77
6,292.00	0.70	218.50	6,290.77	-26.02	4.01	25.76	0.11	0.11	1.37
6,386.00	0.70	221.20	6,384.77	-26.90	3.27	26.68	0.04	0.00	2.87
6,481.00	0.70	218.60	6,479.76	-27.79	2.53	27.61	0.03	0.00	-2.74
6,575.00	0.80	212.30	6,573.75	-28.80	1.82	28.65	0.14	0.11	-6.70
6,669.00	0.80	203.20	6,667.74	-29.95	1.21	29.84	0.14	0.00	-9.68
6,762.00	0.90	200.50	6,760.73	-31.23	0.70	31.15	0.12	0.11	-2.90
6,857.00	0.90	196.70	6,855.72	-32.65	0.22	32.59	0.06	0.00	-4.00
6,951.00	1.10	169.80	6,949.71	-34.24	0.17	34.18	0.54	0.21	-28.62
7,046.00	1.40	148.80	7,044.68	-36.13	0.93	36.03	0.57	0.32	-22.11
7,140.00	1.80	147.60	7,138.65	-38.36	2.32	38.18	0.43	0.43	-1.28
7,235.00	1.90	146.00	7,233.60	-40.93	4.00	40.65	0.12	0.11	-1.68
7,329.00	1.80	151.60	7,327.55	-43.52	5.57	43.15	0.22	-0.11	5.96
7,424.00	1.50	149.70	7,422.51	-45.90	6.91	45.46	0.32	-0.32	-2.00
7,518.00	1.40	162.10	7,516.48	-48.06	7.88	47.56	0.35	-0.11	13.19
7,613.00	1.40	169.70	7,611.45	-50.30	8.45	49.77	0.20	0.00	8.00
7,707.00	2.00	157.00	7,705.41	-52.94	9.29	52.36	0.75	0.64	-13.51
7,802.00	1.90	154.70	7,800.35	-55.89	10.61	55.23	0.13	-0.11	-2.42
7,896.00	1.30	181.80	7,894.32	-58.37	11.25	57.67	1.01	-0.64	28.83
7,991.00	1.60	194.60	7,989.29	-60.73	10.88	60.05	0.46	0.32	13.47
8,085.00	1.80	197.70	8,083.25	-63.41	10.10	62.76	0.23	0.21	3.30
8,176.00	2.50	197.80	8,174.18	-66.66	9.06	66.06	0.77	0.77	0.11
8,208.00	5.50	197.70	8,206.10	-68.78	8.38	68.22	9.38	9.38	-0.31
8,239.00	6.40	202.90	8,236.93	-71.79	7.25	71.29	3.38	2.90	16.77
8,271.00	6.70	202.30	8,268.72	-75.16	5.85	74.73	0.96	0.94	-1.88
8,303.00	10.00	199.90	8,300.38	-79.50	4.20	79.15	10.37	10.31	-7.50
8,334.00	13.10	202.50	8,330.75	-85.28	1.94	85.05	10.14	10.00	8.39
8,365.00	15.60	202.40	8,360.78	-92.38	-1.00	92.30	8.06	8.06	-0.32
8,397.00	18.40	202.40	8,391.38	-101.03	-4.56	101.13	8.75	8.75	0.00
8,428.00	20.90	202.00	8,420.57	-110.68	-8.50	110.98	8.08	8.06	-1.29
8,460.00	22.60	199.50	8,450.29	-121.77	-12.69	122.28	6.05	5.31	-7.81
8,491.00	24.70	196.30	8,478.69	-133.60	-16.50	134.30	7.94	6.77	-10.32
8,523.00	27.10	194.40	8,507.47	-147.08	-20.19	147.96	7.93	7.50	-5.94
8,554.00	29.50	193.00	8,534.77	-161.36	-23.66	162.41	8.03	7.74	-4.52



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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,586.00	32.80	192.30	8,562.15	-177.51	-27.28	178.73	10.37	10.31	-2.19
8,617.00	36.10	192.40	8,587.71	-194.64	-31.03	196.04	10.65	10.65	0.32
8,648.00	38.60	192.00	8,612.35	-213.02	-35.00	214.61	8.10	8.06	-1.29
8,680.00	41.80	190.90	8,636.79	-233.26	-39.10	235.05	10.24	10.00	-3.44
8,711.00	44.70	191.10	8,659.37	-254.11	-43.15	256.09	9.37	9.35	0.65
8,743.00	47.70	189.60	8,681.51	-276.83	-47.29	279.00	9.97	9.38	-4.69
8,774.00	51.90	187.60	8,701.52	-300.23	-50.82	302.56	14.42	13.55	-6.45
8,805.00	55.90	186.70	8,719.78	-325.08	-53.93	327.54	13.11	12.90	-2.90
8,837.00	59.20	186.50	8,736.95	-351.90	-57.03	354.49	10.33	10.31	-0.63
8,869.00	63.30	186.20	8,752.34	-379.78	-60.13	382.50	12.84	12.81	-0.94
8,900.00	66.60	186.10	8,765.46	-407.70	-63.14	410.54	10.65	10.65	-0.32
8,932.00	68.90	185.90	8,777.58	-437.15	-66.24	440.12	7.21	7.19	-0.63
8,963.00	70.80	186.40	8,788.25	-466.08	-69.35	469.18	6.31	6.13	1.61
8,995.00	73.20	185.80	8,798.14	-496.34	-72.59	499.57	7.71	7.50	-1.88
9,026.00	75.50	185.10	8,806.50	-526.06	-75.42	529.39	7.73	7.42	-2.26
9,058.00	77.50	183.80	8,813.97	-557.08	-77.83	560.50	7.39	6.25	-4.06
9,089.00	79.80	182.50	8,820.07	-587.42	-79.50	590.89	8.48	7.42	-4.19
9,119.00	80.90	180.60	8,825.10	-616.99	-80.30	620.45	7.24	3.67	-6.33
9,148.00	81.70	180.10	8,829.49	-645.65	-80.48	649.08	3.24	2.76	-1.72
9,179.00	83.30	180.30	8,833.54	-676.38	-80.58	679.78	5.20	5.16	0.65
9,242.00	88.10	180.60	8,838.26	-739.19	-81.08	742.51	7.63	7.62	0.48
9,337.00	89.30	180.70	8,840.41	-834.15	-82.15	837.40	1.27	1.26	0.11
9,432.00	90.10	180.90	8,840.91	-929.14	-83.48	932.32	0.87	0.84	0.21
9,527.00	90.50	178.90	8,840.41	-1,024.14	-83.32	1,027.16	2.15	0.42	-2.11
9,621.00	92.10	178.40	8,838.28	-1,118.08	-81.10	1,120.84	1.78	1.70	-0.53
9,715.00	90.90	179.60	8,835.82	-1,212.03	-79.46	1,214.56	1.81	-1.28	1.28
9,809.00	90.10	179.90	8,835.00	-1,306.03	-79.05	1,308.40	0.91	-0.85	0.32
9,903.00	89.70	181.50	8,835.16	-1,400.02	-80.20	1,402.31	1.75	-0.43	1.70
9,998.00	90.60	181.60	8,834.92	-1,494.98	-82.77	1,497.27	0.95	0.95	0.11
10,093.00	90.20	182.30	8,834.25	-1,589.92	-86.00	1,592.25	0.85	-0.42	0.74
10,187.00	90.90	182.10	8,833.35	-1,683.85	-89.61	1,686.23	0.77	0.74	-0.21
10,282.00	89.10	182.90	8,833.35	-1,778.75	-93.75	1,781.22	2.07	-1.89	0.84
10,377.00	89.70	182.80	8,834.35	-1,873.63	-98.48	1,876.21	0.64	0.63	-0.11
10,471.00	90.60	182.40	8,834.10	-1,967.53	-102.74	1,970.21	1.05	0.96	-0.43
10,566.00	88.90	182.50	8,834.51	-2,062.44	-106.80	2,065.20	1.79	-1.79	0.11
10,660.00	89.70	182.10	8,835.66	-2,156.36	-110.57	2,159.18	0.95	0.85	-0.43
10,755.00	89.20	183.20	8,836.57	-2,251.25	-114.97	2,254.17	1.27	-0.53	1.16
10,850.00	90.00	182.50	8,837.24	-2,346.13	-119.69	2,349.16	1.12	0.84	-0.74
10,944.00	89.20	183.80	8,837.89	-2,439.98	-124.85	2,443.16	1.62	-0.85	1.38
11,039.00	89.70	183.70	8,838.81	-2,534.77	-131.07	2,538.15	0.54	0.53	-0.11
11,133.00	90.80	183.80	8,838.40	-2,628.57	-137.22	2,632.14	1.18	1.17	0.11
11,228.00	92.10	183.80	8,835.99	-2,723.33	-143.51	2,727.10	1.37	1.37	0.00
11,322.00	90.00	183.80	8,834.27	-2,817.10	-149.74	2,821.07	2.23	-2.23	0.00
11,417.00	90.40	183.50	8,833.94	-2,911.91	-155.79	2,916.07	0.53	0.42	-0.32



MS Energy Services
Survey Report



Company: XTO Energy
Project: Eddy County, New Mexico (NAD 27)
Site: Ross Draw 25
Well: 31H
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well 31H
TVD Reference: Rig @ 2952.00usft (Noram 25)
MD Reference: Rig @ 2952.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Conroe Server

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,512.00	91.30	183.30	8,832.53	-3,006.73	-161.42	3,011.06	0.97	0.95	-0.21
11,606.00	90.50	183.00	8,831.05	-3,100.57	-166.58	3,105.04	0.91	-0.85	-0.32
11,701.00	92.00	182.70	8,828.98	-3,195.43	-171.31	3,200.02	1.61	1.58	-0.32
11,796.00	90.30	183.30	8,827.07	-3,290.28	-176.28	3,294.99	1.90	-1.79	0.63
11,890.00	91.30	183.20	8,825.76	-3,384.12	-181.60	3,388.98	1.07	1.06	-0.11
11,985.00	92.10	182.80	8,822.94	-3,478.94	-186.57	3,483.94	0.94	0.84	-0.42
12,079.00	90.10	182.50	8,821.14	-3,572.82	-190.92	3,577.92	2.15	-2.13	-0.32
12,174.00	90.80	182.00	8,820.39	-3,667.74	-194.65	3,672.90	0.91	0.74	-0.53
12,269.00	91.90	181.80	8,818.15	-3,762.66	-197.80	3,767.85	1.18	1.16	-0.21
12,363.00	89.80	182.50	8,816.76	-3,856.58	-201.32	3,861.82	2.35	-2.23	0.74
12,458.00	90.70	181.70	8,816.34	-3,951.51	-204.81	3,956.80	1.27	0.95	-0.84
12,552.00	89.40	184.00	8,816.26	-4,045.39	-209.48	4,050.79	2.81	-1.38	2.45
12,647.00	90.50	184.40	8,816.35	-4,140.13	-216.44	4,145.77	1.23	1.16	0.42
12,741.00	91.50	184.00	8,814.70	-4,233.87	-223.32	4,239.74	1.15	1.06	-0.43
12,836.00	89.20	183.60	8,814.12	-4,328.65	-229.61	4,334.73	2.46	-2.42	-0.42
12,930.00	89.80	183.70	8,814.94	-4,422.45	-235.60	4,428.72	0.65	0.64	0.11
13,025.00	90.70	185.00	8,814.53	-4,517.18	-242.80	4,523.69	1.66	0.95	1.37
13,119.00	90.60	184.00	8,813.46	-4,610.88	-250.18	4,617.66	1.07	-0.11	-1.06
13,214.00	91.40	185.20	8,811.81	-4,705.56	-257.80	4,712.61	1.52	0.84	1.26
13,308.00	89.60	182.70	8,810.99	-4,799.32	-264.27	4,806.59	3.28	-1.91	-2.66
13,403.00	90.00	182.50	8,811.32	-4,894.22	-268.58	4,901.58	0.47	0.42	-0.21
13,497.00	90.40	182.30	8,810.99	-4,988.14	-272.52	4,995.57	0.48	0.43	-0.21
13,592.00	91.20	182.70	8,809.66	-5,083.04	-276.66	5,090.56	0.94	0.84	0.42
13,686.00	89.40	184.60	8,809.17	-5,176.84	-282.64	5,184.55	2.78	-1.91	2.02
13,781.00	89.90	184.70	8,809.75	-5,271.52	-290.34	5,279.51	0.54	0.53	0.11
13,876.00	90.90	184.40	8,809.09	-5,366.22	-297.88	5,374.48	1.10	1.05	-0.32
13,971.00	91.70	184.20	8,806.93	-5,460.92	-305.00	5,469.43	0.87	0.84	-0.21
14,066.00	89.60	182.50	8,805.85	-5,555.75	-310.55	5,564.42	2.84	-2.21	-1.79
14,160.00	89.80	182.30	8,806.35	-5,649.66	-314.49	5,658.41	0.30	0.21	-0.21
14,255.00	90.70	182.00	8,805.93	-5,744.59	-318.05	5,753.39	1.00	0.95	-0.32
14,349.00	89.70	182.50	8,805.60	-5,838.52	-321.74	5,847.38	1.19	-1.06	0.53
14,443.00	90.10	182.40	8,805.77	-5,932.43	-325.76	5,941.37	0.44	0.43	-0.11
14,538.00	90.80	182.00	8,805.02	-6,027.36	-329.41	6,036.35	0.85	0.74	-0.42
14,632.00	88.60	182.70	8,805.51	-6,121.27	-333.26	6,130.34	2.46	-2.34	0.74
14,727.00	89.80	183.10	8,806.84	-6,216.14	-338.07	6,225.33	1.33	1.26	0.42
14,821.00	91.00	183.50	8,806.18	-6,309.98	-343.48	6,319.32	1.35	1.28	0.43
14,916.00	90.60	183.80	8,804.86	-6,404.78	-349.52	6,414.31	0.53	-0.42	0.32
15,010.00	91.30	183.40	8,803.30	-6,498.58	-355.43	6,508.29	0.86	0.74	-0.43
15,105.00	91.70	183.20	8,800.81	-6,593.39	-360.89	6,603.26	0.47	0.42	-0.21
15,166.38	91.77	183.00	8,798.96	-6,654.65	-364.21	6,664.61	0.34	0.11	-0.32
330' Hardline Intersect - 15166.38' MD									
15,199.00	91.80	182.90	8,797.94	-6,687.21	-365.89	6,697.21	0.34	0.11	-0.32
15,245.00	92.20	182.70	8,796.34	-6,733.13	-368.14	6,743.19	0.97	0.87	-0.43



MS Energy Services
Survey Report



Company: XTO Energy
Project: Eddy County, New Mexico (NAD 27)
Site: Ross Draw 25
Well: 31H
Wellbore: Wellbore #1
Design: Surveys

Local Co-ordinate Reference: Well 31H
TVD Reference: Rig @ 2952.00usft (Noram 25)
MD Reference: Rig @ 2952.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Conroe Server

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,296.00	92.20	182.70	8,794.38	-6,784.03	-370.54	6,794.15	0.00	0.00	0.00
Projection to TD - 15296.00' MD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,070.00	3,069.10	-13.08	29.32	Final Gyro - 3070.00' MD
3,070.00	3,069.10	-13.08	29.32	Tie-In to Well Benders - 3070.00' MD
15,166.38	8,798.96	-6,654.65	-364.21	330' Hardline Intersect - 15166.38' MD
15,296.00	8,794.38	-6,784.03	-370.54	Projection to TD - 15296.00' MD