

30-015-42924

**XTOENERGY**

**XTO Energy Inc**

Eddy County, NM (NAD 27)

Corral Canyon Federal

Corral Canyon Federal 5H

Wellbore #1 /Job#1513572

Survey: Phoenix MWD Survey

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

OCT 28 2015

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**Standard Survey Report**

27 July, 2015

Provide signature page for Survey

<b>Company:</b>	XTO Energy Inc	<b>Local Co-ordinate Reference:</b>	Well Corral Canyon Federal 5H
<b>Project:</b>	Eddy County, NM (NAD 27)	<b>TVD Reference:</b>	RKB @ 2970.00usft (Noram 25)
<b>Site:</b>	Corral Canyon Federal	<b>MD Reference:</b>	RKB @ 2970.00usft (Noram 25)
<b>Well:</b>	Corral Canyon Federal 5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1 /Job#1513572	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys (Noram 25)	<b>Database:</b>	Compass 5000 GCR.

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

<b>Site:</b>	Corral Canyon Federal				
<b>Site Position:</b>		<b>Northing:</b>	419,285.50 usft	<b>Latitude:</b>	32° 9' 8.30126 N
<b>From:</b>	Map	<b>Easting:</b>	601,708.20 usft	<b>Longitude:</b>	104° 0' 16.89527 W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.17 °

<b>Well:</b>	Corral Canyon Federal 5H					
<b>Well Position</b>	+N/-S	0.00 usft	<b>Northing:</b>	419,280.00 usft	<b>Latitude:</b>	32° 9' 8.17408 N
	+E/-W	0.00 usft	<b>Easting:</b>	604,088.80 usft	<b>Longitude:</b>	103° 59' 49.20392 W
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	2,945.00 usft

<b>Wellbore:</b>	Wellbore #1 /Job#1513572				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	HDGM	5/15/2015	7.33	60.00	48,288

<b>Design:</b>	Surveys (Noram 25)				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	5.37	

<b>Survey Program:</b>	<b>Date</b>	7/27/2015			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.00	7,800.00	MS Surveys (Wellbore #1 /Job#1513572)	NS-GYRO-MS	North sensing gyrocompassing m/s	
7,857.00	13,270.00	Phoenix MWD Survey (Wellbore #1 /Job#1)	PHX+MWD+HDGM	PHX+OWSG MWD + HDGM	

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)	
7,800.00	2.56	301.88	7,798.95	-13.81	-29.46	-16.51	0.00	0.00	0.00	
<b>Tie In to MS Surveys</b>										
7,857.00	1.90	296.40	7,855.91	-12.72	-31.39	-15.60	1.22	-1.16	-9.61	
<b>First Phoenix MWD Survey</b>										
7,888.00	2.70	341.50	7,886.88	-11.80	-32.08	-14.75	6.17	2.58	145.48	
7,920.00	5.80	1.30	7,918.79	-9.47	-32.29	-12.45	10.58	9.69	61.88	
7,951.00	9.50	5.10	7,949.51	-5.35	-32.02	-8.33	12.04	11.94	12.26	
7,983.00	12.60	6.40	7,980.91	0.75	-31.40	-2.19	9.72	9.69	4.06	
8,013.00	14.60	8.20	8,010.07	7.74	-30.50	4.85	6.81	6.67	6.00	

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<b>Site:</b>	Corral Canyon Federal	<b>MD Reference:</b>	RKB @ 2970.00usft (Noram 25)
<b>Well:</b>	Corral Canyon Federal 5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1 /Job#1513572	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys (Noram 25)	<b>Database:</b>	Compass 5000 GCR

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)
8,045.00	16.10	10.10	8,040.93	16.10	-29.14	13.31	4.94	4.69	5.94
8,076.00	18.90	13.30	8,070.49	25.22	-27.23	22.56	9.55	9.03	10.32
8,108.00	21.60	18.10	8,100.51	35.87	-24.21	33.44	9.90	8.44	15.00
8,139.00	23.90	20.90	8,129.10	47.16	-20.20	45.06	8.20	7.42	9.03
8,171.00	26.10	21.80	8,158.10	59.75	-15.27	58.06	6.98	6.88	2.81
8,202.00	28.60	22.50	8,185.63	72.94	-9.90	71.69	8.13	8.06	2.26
8,234.00	31.20	21.60	8,213.37	87.73	-3.91	86.98	8.24	8.13	-2.81
8,265.00	33.50	20.70	8,239.56	103.20	2.07	102.94	7.58	7.42	-2.90
8,296.00	34.90	20.70	8,265.20	119.50	8.23	119.74	4.52	4.52	0.00
8,328.00	36.70	21.70	8,291.15	136.95	15.00	137.75	5.91	5.63	3.13
8,359.00	39.00	23.20	8,315.63	154.52	22.27	155.93	7.99	7.42	4.84
8,391.00	41.10	23.90	8,340.12	173.39	30.50	175.49	6.71	6.56	2.19
8,422.00	42.70	24.90	8,363.20	192.25	39.05	195.06	5.59	5.16	3.23
8,454.00	45.10	25.90	8,386.25	212.29	48.57	215.90	7.81	7.50	3.13
8,485.00	48.60	25.40	8,407.45	232.67	58.36	237.11	11.35	11.29	-1.61
8,517.00	52.30	24.40	8,427.82	255.05	68.74	260.36	11.81	11.56	-3.13
8,548.00	55.30	23.60	8,446.13	277.90	78.91	284.07	9.90	9.68	-2.58
8,580.00	57.40	23.30	8,463.86	302.34	89.51	309.39	6.61	6.56	-0.94
8,611.00	58.90	23.10	8,480.22	326.54	99.88	334.46	4.87	4.84	-0.65
8,643.00	60.50	22.40	8,496.36	352.02	110.56	360.82	5.34	5.00	-2.19
8,674.00	64.00	21.60	8,510.80	377.45	120.84	387.11	11.52	11.29	-2.58
8,706.00	66.90	22.00	8,524.09	404.48	131.65	415.02	9.13	9.06	1.25
8,737.00	69.10	21.00	8,535.70	431.22	142.18	442.63	7.70	7.10	-3.23
8,769.00	70.30	20.80	8,546.80	459.25	152.88	471.55	3.80	3.75	-0.63
8,800.00	71.10	21.30	8,557.05	486.56	163.39	499.71	3.00	2.58	1.61
8,832.00	72.40	20.40	8,567.07	514.96	174.21	529.00	4.86	4.06	-2.81
8,863.00	74.10	19.10	8,576.00	542.90	184.24	557.76	6.80	5.48	-4.19
8,894.00	76.00	17.30	8,584.00	571.35	193.59	586.96	8.31	6.13	-5.81
8,926.00	79.10	14.00	8,590.90	601.43	202.01	617.69	13.97	9.69	-10.31
8,957.00	81.10	10.40	8,596.23	631.27	208.46	648.01	13.13	6.45	-11.61
8,989.00	83.10	7.10	8,600.63	662.59	213.28	679.64	11.97	6.25	-10.31
9,021.00	84.20	5.00	8,604.17	694.22	216.63	711.44	7.37	3.44	-6.56
9,052.00	84.80	4.90	8,607.14	724.96	219.29	742.30	1.96	1.94	-0.32
9,083.00	85.60	3.50	8,609.74	755.77	221.55	773.18	5.19	2.58	-4.52
9,179.00	87.10	1.20	8,615.85	851.48	225.48	868.85	2.86	1.56	-2.40
9,274.00	86.80	0.60	8,620.90	946.34	226.97	963.42	0.71	-0.32	-0.63
9,369.00	87.80	0.30	8,625.38	1,041.23	227.72	1,057.97	1.10	1.05	-0.32
9,463.00	88.80	0.20	8,628.17	1,135.18	228.13	1,151.55	1.07	1.06	-0.11
9,557.00	91.10	0.20	8,628.25	1,229.18	228.45	1,245.16	2.45	2.45	0.00
9,651.00	91.70	359.30	8,625.95	1,323.14	228.04	1,338.88	1.15	0.64	-0.96
9,746.00	91.50	359.90	8,623.30	1,418.10	227.38	1,433.16	0.67	-0.21	0.63
9,840.00	92.70	359.80	8,619.86	1,512.04	227.13	1,526.66	1.28	1.28	-0.11
9,935.00	92.90	359.60	8,615.22	1,606.92	226.64	1,621.08	0.30	0.21	-0.21

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<b>Wellbore:</b>	Wellbore #1 /Job#1513572	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys (Noram 25)	<b>Database:</b>	Compass 5000 GCR

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)	
10,029.00	92.50	359.40	8,610.79	1,700.82	225.82	1,714.49	0.48	-0.43	-0.21	
10,123.00	91.70	1.50	8,607.34	1,794.74	226.56	1,808.07	2.39	-0.85	2.23	
10,218.00	91.30	1.20	8,604.86	1,889.69	228.79	1,902.80	0.53	-0.42	-0.32	
10,312.00	89.30	3.60	8,604.36	1,983.59	232.73	1,996.66	3.32	-2.13	2.55	
10,406.00	90.60	7.30	8,604.45	2,077.15	241.66	2,090.65	4.17	1.38	3.94	
10,501.00	91.10	8.80	8,603.04	2,171.20	254.96	2,185.53	1.66	0.53	1.58	
10,595.00	88.20	8.30	8,603.61	2,264.14	268.93	2,279.37	3.13	-3.09	-0.53	
10,690.00	87.30	8.10	8,607.34	2,358.10	282.47	2,374.18	0.97	-0.95	-0.21	
10,784.00	87.40	8.20	8,611.69	2,451.05	295.78	2,467.97	0.15	0.11	0.11	
10,878.00	87.80	6.60	8,615.62	2,544.18	307.88	2,561.83	1.75	0.43	-1.70	
10,973.00	87.70	6.40	8,619.35	2,638.50	318.62	2,656.73	0.24	-0.11	-0.21	
11,067.00	89.10	5.70	8,621.98	2,731.93	328.53	2,750.69	1.67	1.49	-0.74	
11,162.00	90.20	4.50	8,622.56	2,826.55	336.97	2,845.68	1.71	1.16	-1.26	
11,256.00	90.20	4.20	8,622.23	2,920.28	344.10	2,939.67	0.32	0.00	-0.32	
11,350.00	91.30	2.90	8,621.00	3,014.09	349.92	3,033.61	1.81	1.17	-1.38	
11,445.00	91.00	2.00	8,619.09	3,108.98	353.98	3,128.46	1.00	-0.32	-0.95	
11,539.00	91.00	2.00	8,617.45	3,202.91	357.26	3,222.29	0.00	0.00	0.00	
11,634.00	91.00	1.70	8,615.79	3,297.85	360.33	3,317.09	0.32	0.00	-0.32	
11,729.00	90.70	1.40	8,614.38	3,392.80	362.90	3,411.87	0.45	-0.32	-0.32	
11,823.00	89.40	358.80	8,614.30	3,486.79	363.06	3,505.46	3.09	-1.38	-2.77	
11,917.00	90.20	358.60	8,614.63	3,580.76	360.93	3,598.83	0.88	0.85	-0.21	
12,012.00	91.20	358.50	8,613.47	3,675.73	358.52	3,693.15	1.06	1.05	-0.11	
12,106.00	90.10	359.60	8,612.40	3,769.70	356.97	3,786.57	1.65	-1.17	1.17	
12,201.00	89.20	1.40	8,612.98	3,864.69	357.80	3,881.22	2.12	-0.95	1.89	
12,295.00	90.30	3.20	8,613.39	3,958.61	361.57	3,975.08	2.24	1.17	1.91	
12,390.00	90.50	3.00	8,612.73	4,053.47	366.70	4,070.00	0.30	0.21	-0.21	
12,484.00	90.40	2.80	8,611.99	4,147.35	371.46	4,163.91	0.24	-0.11	-0.21	
12,579.00	90.50	5.10	8,611.25	4,242.11	378.00	4,258.87	2.42	0.11	2.42	
12,673.00	90.20	4.00	8,610.67	4,335.81	385.46	4,352.86	1.21	-0.32	-1.17	
12,768.00	91.10	7.00	8,609.59	4,430.36	394.56	4,447.84	3.30	0.95	3.16	
12,862.00	91.30	7.10	8,607.63	4,523.63	406.10	4,541.78	0.24	0.21	0.11	
12,957.00	88.70	4.90	8,607.63	4,618.09	416.03	4,636.76	3.59	-2.74	-2.32	
13,051.00	88.70	4.60	8,609.76	4,711.74	423.81	4,730.73	0.32	0.00	-0.32	
13,146.00	88.80	4.50	8,611.83	4,806.42	431.34	4,825.70	0.15	0.11	-0.11	
13,214.00	89.80	7.00	8,612.66	4,874.07	438.16	4,893.68	3.96	1.47	3.68	
<b>Final Phoenix MWD Survey</b>										
13,270.00	89.80	7.00	8,612.86	4,929.65	444.98	4,949.66	0.00	0.00	0.00	
<b>Projection to TD</b>										

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<b>Well:</b>	Corral Canyon Federal 5H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1 /Job#1513572	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Surveys (Noram 25)	<b>Database:</b>	Compass 5000 GCR

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,800.00	7,798.95	-13.81	-29.46	Tie In to MS Surveys
7,857.00	7,855.91	-12.72	-31.39	First Phoenix MWD Survey
13,214.00	8,612.66	4,874.07	438.16	Final Phoenix MWD Survey
13,270.00	8,612.86	4,929.65	444.98	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_