

XTO Energy - Western Div. (NM, CO, UT)

LaPlata County (NAD83)

Southern Ute 3-35H

Well #1

Pilot Hole

Plan: Pilot Plan #1

Standard Survey Report

03 December, 2015

XTO Energy, Inc.

Survey Report

Company:	XTO Energy - Western Div. (NM, CO, UT)	Local Co-ordinate Reference:	Site Southern Ute 3-35H
Project:	LaPlata County (NAD83)	TVD Reference:	WELL @ 7353.00ft (Original Well Elev)
Site:	Southern Ute 3-35H	MD Reference:	WELL @ 7353.00ft (Original Well Elev)
Well:	Well #1	North Reference:	True
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Plan #1	Database:	LMRKPROD

Project	LaPlata County (NAD83), LaPlata County, Colorado, Directional Fruitland Coal Wells		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Southern Zone		

Site	Southern Ute 3-35H		
Site Position:		Northing:	1,149,196.78 usft
From:	Lat/Long	Easting:	2,332,022.80 usft
Position Uncertainty:	0.00 ft	Slot Radius:	0 "
		Latitude:	37° 3' 14.148000 N
		Longitude:	107° 47' 20.760000 W
		Grid Convergence:	-1.40 °

Well	Well #1		
Well Position	+N/-S	0.00 ft	Northing:
	+E/-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	7,337.00 ft
		Latitude:	37° 3' 14.147948 N
		Longitude:	107° 47' 20.760000 W
		Ground Level:	7,337.00 ft

Wellbore	Pilot Hole		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF200510	12/31/2009	10.11
			Dip Angle (°)
			63.78
			Field Strength (nT)
			51,078

Design	Pilot Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)
	0.00	0.00	0.00
			Direction (°)
			301.00

Survey Tool Program	Date	12/2/2015		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	4,503.40	Pilot Plan #1 (Pilot Hole)	MWD	MWD - Standard

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Casing									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00

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Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,964.73	0.00	0.00	1,964.73	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	1.06	301.00	2,000.00	0.17	-0.28	0.33	3.00	3.00	0.00
2,100.00	4.06	301.00	2,099.89	2.47	-4.10	4.79	3.00	3.00	0.00
2,200.00	7.06	301.00	2,199.41	7.45	-12.41	14.47	3.00	3.00	0.00
2,300.00	10.06	301.00	2,298.28	15.12	-25.16	29.35	3.00	3.00	0.00
2,400.00	13.06	301.00	2,396.24	25.43	-42.33	49.39	3.00	3.00	0.00
2,500.00	16.06	301.00	2,493.02	38.38	-63.88	74.52	3.00	3.00	0.00
2,600.00	19.06	301.00	2,588.35	53.91	-89.73	104.68	3.00	3.00	0.00
2,700.00	22.06	301.00	2,681.97	71.99	-119.83	139.79	3.00	3.00	0.00
2,800.00	25.06	301.00	2,773.63	92.57	-154.09	179.76	3.00	3.00	0.00
2,900.00	28.06	301.00	2,863.06	115.60	-192.41	224.46	3.00	3.00	0.00
3,000.00	31.06	301.00	2,950.04	141.00	-234.69	273.79	3.00	3.00	0.00
3,100.00	34.06	301.00	3,034.31	168.71	-280.82	327.60	3.00	3.00	0.00
3,200.00	37.06	301.00	3,115.66	198.65	-330.66	385.74	3.00	3.00	0.00
3,300.00	40.06	301.00	3,193.85	230.75	-384.08	448.07	3.00	3.00	0.00
3,400.00	43.06	301.00	3,268.67	264.91	-440.94	514.40	3.00	3.00	0.00
3,464.73	45.00	301.00	3,315.20	288.07	-479.50	559.38	3.00	3.00	0.00
3,500.00	45.00	301.00	3,340.14	300.92	-500.88	584.32	0.00	0.00	0.00
3,600.00	45.00	301.00	3,410.85	337.33	-561.50	655.04	0.00	0.00	0.00
3,700.00	45.00	301.00	3,481.57	373.75	-622.11	725.75	0.00	0.00	0.00
3,800.00	45.00	301.00	3,552.28	410.16	-682.72	796.46	0.00	0.00	0.00
3,900.00	45.00	301.00	3,622.99	446.58	-743.33	867.17	0.00	0.00	0.00
4,000.00	45.00	301.00	3,693.70	483.00	-803.95	937.88	0.00	0.00	0.00
4,100.00	45.00	301.00	3,764.41	519.41	-864.56	1,008.59	0.00	0.00	0.00
4,200.00	45.00	301.00	3,835.12	555.83	-925.17	1,079.30	0.00	0.00	0.00
4,300.00	45.00	301.00	3,905.83	592.25	-985.78	1,150.01	0.00	0.00	0.00
4,400.00	45.00	301.00	3,976.54	628.67	-1,046.39	1,220.72	0.00	0.00	0.00
4,500.00	45.00	301.00	4,047.25	665.09	-1,107.00	1,291.43	0.00	0.00	0.00
4,503.89	45.00	301.00	4,050.00	666.50	-1,109.36	1,294.18	0.01	0.00	0.01

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Well:	Well #1	North Reference:	True
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Plan #1	Database:	LMRKPROD

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
Pilot Hole BHL	0.00	0.00	4,050.00	666.50	-1,109.40	1,149,890.26	2,330,930.06	37° 3' 20.737369 N	107° 47' 34.445481 W
- plan misses target center by 0.04ft at 4503.89ft MD (4050.00 TVD, 666.50 N, -1109.36 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(")	(")	
400.00	400.00	Surface Casing	9-5/8	12-1/4	
4,503.89	4,050.00	Intermediate Casing	7	8-3/4	

Checked By: _____	Approved By: _____	Date: _____
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