

# **XTO Energy**

**LaPlata County Directionals**

**Ute Government #101**

**Ute Government #101**

**Ute Government #101**

**Plan: Ute Government #101--Permitted BHL**

## **Standard Planning Report**

**28 January, 2010**

# XTO Energy Inc.

## Planning Report

<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Ute Government #101
<b>Company:</b>	XTO Energy	<b>TVD Reference:</b>	Rig KB @ 6424.0ft (Aztec)
<b>Project:</b>	LaPlata County Directionals	<b>MD Reference:</b>	Rig KB @ 6424.0ft (Aztec)
<b>Site:</b>	Ute Government #101	<b>North Reference:</b>	True
<b>Well:</b>	Ute Government #101	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Ute Government #101		
<b>Design:</b>	Ute Government #101--Permitted BHL		

<b>Project</b>	LaPlata County Directionals, LaPlata County, Colorado, Directional Fruitland Coal Wells		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Southern Zone		

<b>Site</b>	Ute Government #101, T33N, R7W		
<b>Site Position:</b>		<b>Northing:</b>	350,168.54 m
<b>From:</b>	Lat/Long	<b>Easting:</b>	730,791.99 m
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	37° 3' 25.776 N
		<b>Longitude:</b>	107° 33' 51.840 W
		<b>Grid Convergence:</b>	-1.27 °

<b>Well</b>	Ute Government #101, S-well to top of FC		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 350,168.54 m
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 730,791.99 m
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	6,412.0 ft
		<b>Latitude:</b>	37° 3' 25.776 N
		<b>Longitude:</b>	107° 33' 51.840 W
		<b>Ground Level:</b>	6,412.0 ft

<b>Wellbore</b>	Ute Government #101				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	12/31/2009	10.01	63.82	51,117

<b>Design</b>	Ute Government #101--Permitted BHL			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	12.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	12.0	0.0	0.0	64.26

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
12.0	0.00	0.00	12.0	0.0	0.0	0.00	0.00	0.00	0.00	
312.0	0.00	0.00	312.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,597.7	45.00	64.26	1,469.5	208.2	431.9	3.50	3.50	0.00	64.26	
2,020.4	45.00	64.26	1,768.4	338.0	701.1	0.00	0.00	0.00	0.00	
3,020.4	10.00	64.26	2,641.7	535.4	1,110.6	3.50	-3.50	0.00	180.00	
3,308.0	10.00	64.26	2,925.0	557.1	1,155.6	0.00	0.00	0.00	0.00	Ute Government #101

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<b>Site:</b>	Ute Government #101	<b>North Reference:</b>	True
<b>Well:</b>	Ute Government #101	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Ute Government #101		
<b>Design:</b>	Ute Government #101--Permitted BHL		

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)
12.0	0.00	0.00	12.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
225.0	0.00	0.00	225.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>8 5/8"</b>									
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
312.0	0.00	0.00	312.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	3.08	64.26	400.0	1.0	2.1	2.4	3.50	3.50	0.00
500.0	6.58	64.26	499.6	4.7	9.7	10.8	3.50	3.50	0.00
600.0	10.08	64.26	598.5	11.0	22.8	25.3	3.50	3.50	0.00
700.0	13.58	64.26	696.4	19.9	41.2	45.8	3.50	3.50	0.00
800.0	17.08	64.26	792.8	31.4	65.0	72.2	3.50	3.50	0.00
900.0	20.58	64.26	887.4	45.4	94.1	104.5	3.50	3.50	0.00
1,000.0	24.08	64.26	979.9	61.9	128.3	142.5	3.50	3.50	0.00
1,100.0	27.58	64.26	1,069.9	80.8	167.6	186.0	3.50	3.50	0.00
1,200.0	31.08	64.26	1,157.1	102.1	211.7	235.0	3.50	3.50	0.00
1,300.0	34.58	64.26	1,241.1	125.6	260.5	289.2	3.50	3.50	0.00
1,382.7	37.48	64.26	1,308.0	146.7	304.3	337.9	3.50	3.50	0.00
<b>Ojo Alamo</b>									
1,400.0	38.08	64.26	1,321.7	151.3	313.9	348.4	3.50	3.50	0.00
1,500.0	41.58	64.26	1,398.4	179.1	371.6	412.5	3.50	3.50	0.00
1,516.9	42.17	64.26	1,411.0	184.0	381.7	423.7	3.50	3.50	0.00
<b>Kirtland Shale</b>									
1,597.7	45.00	64.26	1,469.5	208.2	431.9	479.5	3.50	3.50	0.00
1,600.0	45.00	64.26	1,471.2	208.9	433.4	481.1	0.00	0.00	0.00
1,700.0	45.00	64.26	1,541.9	239.6	497.1	551.8	0.00	0.00	0.00
1,800.0	45.00	64.26	1,612.6	270.3	560.7	622.5	0.00	0.00	0.00
1,900.0	45.00	64.26	1,683.3	301.0	624.4	693.2	0.00	0.00	0.00
2,000.0	45.00	64.26	1,754.0	331.8	688.1	763.9	0.00	0.00	0.00
2,020.4	45.00	64.26	1,768.4	338.0	701.1	778.3	0.00	0.00	0.00
2,100.0	42.21	64.26	1,826.1	361.9	750.6	833.3	3.50	-3.50	0.00
2,200.0	38.71	64.26	1,902.1	390.0	809.0	898.1	3.50	-3.50	0.00
2,300.0	35.21	64.26	1,982.0	416.1	863.2	958.3	3.50	-3.50	0.00
2,400.0	31.71	64.26	2,065.4	440.1	912.8	1,013.4	3.50	-3.50	0.00
2,500.0	28.21	64.26	2,152.1	461.8	957.8	1,063.3	3.50	-3.50	0.00
2,578.4	25.47	64.26	2,222.0	477.1	989.7	1,098.7	3.50	-3.50	0.00
<b>Fruitland Formation</b>									
2,600.0	24.71	64.26	2,241.6	481.1	998.0	1,107.9	3.50	-3.50	0.00
2,700.0	21.21	64.26	2,333.6	498.1	1,033.1	1,146.9	3.50	-3.50	0.00
2,800.0	17.71	64.26	2,427.9	512.5	1,063.1	1,180.2	3.50	-3.50	0.00
2,841.9	16.25	64.26	2,468.0	517.8	1,074.1	1,192.4	3.50	-3.50	0.00
<b>Upper Fruitland Coal</b>									
2,900.0	14.21	64.26	2,524.0	524.5	1,087.9	1,207.7	3.50	-3.50	0.00
2,902.0	14.14	64.26	2,526.0	524.7	1,088.3	1,208.2	3.50	-3.50	0.00
<b>Middle Fruitland Coal</b>									
3,000.0	10.71	64.26	2,621.7	533.8	1,107.3	1,229.3	3.50	-3.50	0.00
3,003.4	10.59	64.26	2,625.0	534.1	1,107.9	1,229.9	3.50	-3.50	0.00
<b>Pictured Cliffs Tongue</b>									
3,020.4	10.00	64.26	2,641.7	535.4	1,110.6	1,232.9	3.50	-3.50	0.00
3,100.0	10.00	64.26	2,720.1	541.4	1,123.1	1,246.8	0.00	0.00	0.00
3,187.2	10.00	64.26	2,806.0	548.0	1,136.7	1,261.9	0.00	0.00	0.00
<b>Lower Fruitland Coal</b>									
3,197.4	10.00	64.26	2,816.0	548.8	1,138.3	1,263.7	0.00	0.00	0.00

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<b>Wellbore:</b>	Ute Government #101		
<b>Design:</b>	Ute Government #101--Permitted BHL		

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)
Pictured Cliffs									
3,200.0	10.00	64.26	2,818.6	549.0	1,138.7	1,264.1	0.00	0.00	0.00
3,308.0	10.00	64.26	2,925.0	557.1	1,155.6	1,282.9	0.00	0.00	0.00
5 1/2"									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude
Ute Government #101-- - plan hits target - Rectangle (sides W10.0 H10.0 D0.0)	0.00	0.00	2,925.0	557.1	1,155.6	350,330.52	731,147.89	37° 3' 31.284 N	107° 33' 37.584 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
225.0	225.0	8 5/8"	8.625	12.250	
3,308.0	2,925.0	5 1/2"	5.500	7.875	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,382.7	1,308.0	Ojo Alamo		0.00	
1,516.9	1,411.0	Kirtland Shale		0.00	
2,578.4	2,222.0	Fruitland Formation		0.00	
2,841.9	2,468.0	Upper Fruitland Coal		0.00	
2,902.0	2,526.0	Middle Fruitland Coal		0.00	
3,003.4	2,625.0	Pictured Cliffs Tongue		0.00	
3,187.2	2,806.0	Lower Fruitland Coal		0.00	
3,197.4	2,816.0	Pictured Cliffs		0.00	



# Well Name: Ute Government #101

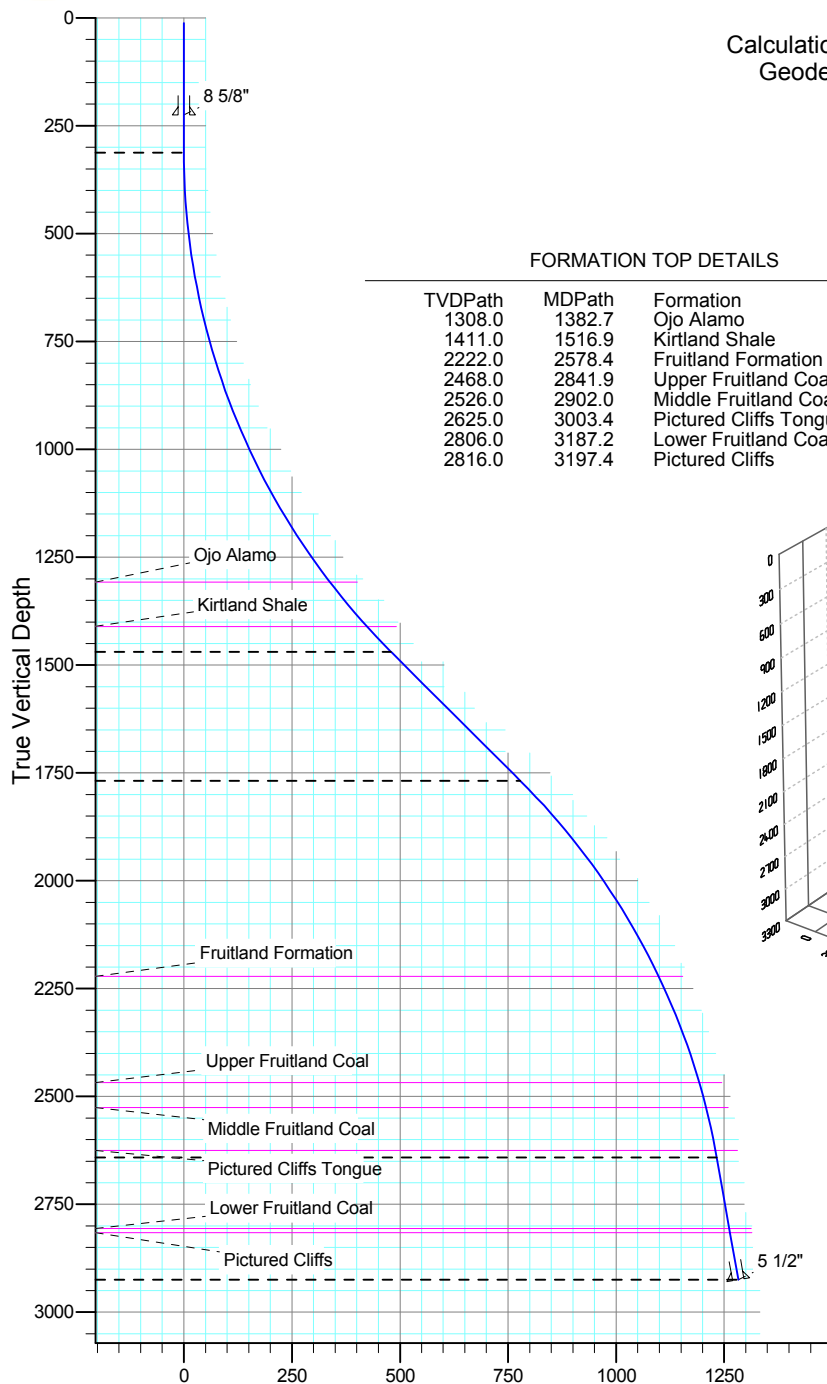
San Juan Division  
Drilling Department

Calculation Method: Minimum Curvature  
Geodetic Datum: North American Datum 1983  
Lat: 37° 3' 25.776 N  
Long: 107° 33' 51.840 W



Azimuths to True North  
Magnetic North: 10.01°

Magnetic Field  
Strength: 51117.5snT  
Dip Angle: 63.82°  
Date: 12/31/2009  
Model: IGRF200510

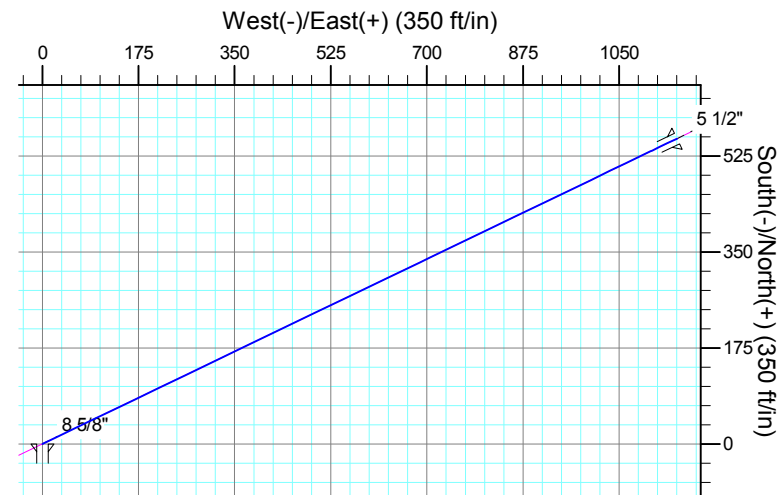
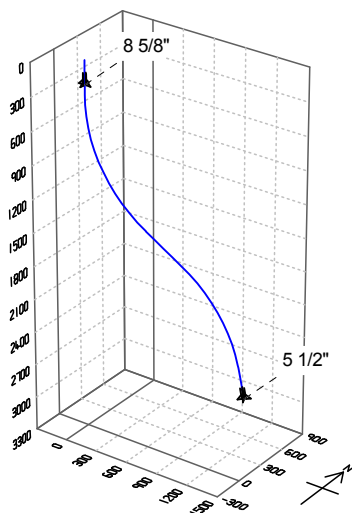


FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1308.0	1382.7	Ojo Alamo
1411.0	1516.9	Kirtland Shale
2222.0	2578.4	Fruitland Formation
2468.0	2841.9	Upper Fruitland Coal
2526.0	2902.0	Middle Fruitland Coal
2625.0	3003.4	Pictured Cliffs Tongue
2806.0	3187.2	Lower Fruitland Coal
2816.0	3197.4	Pictured Cliffs

CASING DETAILS

TVD	MD	Name	Size
225.0	225.0	8 5/8"	8.625
2925.0	3308.0	5 1/2"	5.500



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	12.0	0.00	0.00	12.0	0.0	0.0	0.00	0.00	0.0	
2	312.0	0.00	0.00	312.0	0.0	0.0	0.00	0.00	0.0	
3	1597.7	45.00	64.26	1469.5	208.2	431.9	3.50	64.26	479.5	
4	2020.4	45.00	64.26	1768.4	338.0	701.1	0.00	0.00	778.3	
5	3020.4	10.00	64.26	2641.7	535.4	1110.6	3.50	180.00	1232.9	
6	3308.0	10.00	64.26	2925.0	557.1	1155.6	0.00	0.00	1282.9	Ute Government #101-- Proposed BHL