

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

**LaPlata County (NAD83)**

**Burkett #4-24**

**Burkett #4-24**

**Burkett #4-24 -- Lower Lat**

**Plan: Burkett #4-24 -- Lower Lat**

## **Standard Planning Report**

**19 June, 2013**

# XTO Energy, Inc.

## Planning Report

<b>Database:</b>	LMRKPROD	<b>Local Co-ordinate Reference:</b>	Site Burkett #4-24
<b>Company:</b>	XTO Energy - Western Div. (NM, CO, UT)	<b>TVD Reference:</b>	WELL @ 7582.00ft (Original Well Elev)
<b>Project:</b>	LaPlata County (NAD83)	<b>MD Reference:</b>	WELL @ 7582.00ft (Original Well Elev)
<b>Site:</b>	Burkett #4-24	<b>North Reference:</b>	True
<b>Well:</b>	Burkett #4-24	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Burkett #4-24 -- Lower Lat		
<b>Design:</b>	Burkett #4-24 -- Lower Lat		

<b>Project</b>	LaPlata County (NAD83), 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>	Burkett #4-24, T35N, R8W		
<b>Site Position:</b>		<b>Northing:</b>	1,232,049.87 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,363,296.24 usft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0"
		<b>Latitude:</b>	37° 17' 0.492000 N
		<b>Longitude:</b>	107° 41' 19.032000 W
		<b>Grid Convergence:</b>	-1.34 °

<b>Well</b>	Burkett #4-24		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	7,570.00 ft
		<b>Latitude:</b>	37° 17' 0.491949 N
		<b>Longitude:</b>	107° 41' 19.032000 W
		<b>Ground Level:</b>	7,570.00 ft

<b>Wellbore</b>	Burkett #4-24 -- Lower Lat		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>
	IGRF200510	6/14/2013	9.67
			<b>Dip Angle (°)</b>
			63.91
			<b>Field Strength (nT)</b>
			50,891

<b>Design</b>	Burkett #4-24 -- Lower Lat		
<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>
			1,724.24
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			<b>Direction (°)</b>
			264.15

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
1,724.24	11.84	229.48	1,699.53	-163.66	-191.48	0.00	0.00	0.00	0.00	
1,739.24	13.68	225.91	1,714.16	-165.89	-193.93	13.33	12.25	-23.83	-25.00	
1,744.24	13.68	225.91	1,719.02	-166.71	-194.78	0.00	0.00	0.00	0.00	
2,275.83	90.00	267.02	2,029.00	-235.77	-567.56	15.00	14.36	7.74	41.94	
5,795.00	90.00	267.02	2,029.00	-418.42	-4,081.99	0.00	0.00	0.00	0.00	Burkett #4-24 -- Lowe

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<b>Project:</b>	LaPlata County (NAD83)	<b>MD Reference:</b>	WELL @ 7582.00ft (Original Well Elev)
<b>Site:</b>	Burkett #4-24	<b>North Reference:</b>	True
<b>Well:</b>	Burkett #4-24	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Burkett #4-24 -- Lower Lat		
<b>Design:</b>	Burkett #4-24 -- Lower Lat		

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	3.00	229.48	399.95	-1.70	-1.99	2.15	3.00	3.00	0.00
500.00	6.00	229.48	499.63	-6.80	-7.95	8.61	3.00	3.00	0.00
600.00	9.00	229.48	598.77	-15.28	-17.87	19.34	3.00	3.00	0.00
694.69	11.84	229.48	691.89	-26.40	-30.89	33.42	3.00	3.00	0.00
700.00	11.84	229.48	697.08	-27.11	-31.72	34.32	0.00	0.00	0.00
800.00	11.84	229.48	794.96	-40.44	-47.32	51.20	0.00	0.00	0.00
900.00	11.84	229.48	892.83	-53.77	-62.92	68.07	0.00	0.00	0.00
1,000.00	11.84	229.48	990.70	-67.11	-78.52	84.95	0.00	0.00	0.00
1,100.00	11.84	229.48	1,088.57	-80.44	-94.11	101.83	0.00	0.00	0.00
1,200.00	11.84	229.48	1,186.44	-93.77	-109.71	118.70	0.00	0.00	0.00
1,300.00	11.84	229.48	1,284.32	-107.10	-125.31	135.58	0.00	0.00	0.00
1,400.00	11.84	229.48	1,382.19	-120.43	-140.91	152.45	0.00	0.00	0.00
1,500.00	11.84	229.48	1,480.06	-133.76	-156.51	169.33	0.00	0.00	0.00
1,600.00	11.84	229.48	1,577.93	-147.09	-172.11	186.21	0.00	0.00	0.00
1,700.00	11.84	229.48	1,675.81	-160.42	-187.70	203.08	0.00	0.00	0.00
1,724.24	11.84	229.48	1,699.53	-163.66	-191.48	207.17	0.00	0.00	0.00
1,739.24	13.68	225.91	1,714.16	-165.89	-193.93	209.83	13.33	12.25	-23.83
1,744.24	13.68	225.91	1,719.02	-166.71	-194.78	210.76	0.00	0.00	0.00
1,750.00	14.33	228.24	1,724.61	-167.66	-195.80	211.87	15.00	11.36	40.51
1,775.00	17.38	236.27	1,748.65	-171.80	-201.21	217.68	15.00	12.19	32.14
1,800.00	20.66	241.90	1,772.29	-175.95	-208.21	225.07	15.00	13.10	22.52
1,825.00	24.06	246.02	1,795.41	-180.10	-216.76	234.00	15.00	13.63	16.48
1,850.00	27.56	249.16	1,817.91	-184.23	-226.83	244.43	15.00	13.97	12.56
1,875.00	31.11	251.64	1,839.70	-188.32	-238.37	256.33	15.00	14.19	9.91
1,900.00	34.69	253.66	1,860.69	-192.36	-251.33	269.63	15.00	14.35	8.06
1,908.96	35.99	254.29	1,868.00	-193.79	-256.31	274.73	15.00	14.43	7.09
Upper Fruitland Coal									
1,925.00	38.31	255.34	1,880.78	-196.32	-265.66	284.29	15.00	14.48	6.51
1,950.00	41.94	256.77	1,899.90	-200.20	-281.29	300.24	15.00	14.54	5.72
1,975.00	45.59	258.01	1,917.95	-203.97	-298.17	317.41	15.00	14.60	4.96
2,000.00	49.26	259.10	1,934.86	-207.62	-316.21	335.73	15.00	14.65	4.38
2,025.00	52.93	260.08	1,950.56	-211.13	-335.34	355.12	15.00	14.69	3.92
2,050.00	56.61	260.97	1,964.98	-214.48	-355.48	375.49	15.00	14.72	3.56
2,075.00	60.29	261.79	1,978.06	-217.68	-376.54	396.77	15.00	14.74	3.27
2,100.00	63.98	262.54	1,989.74	-220.69	-398.43	418.86	15.00	14.76	3.04
2,112.40	65.81	262.90	1,995.00	-222.11	-409.57	430.08	15.00	14.77	2.89
Target Interval 2									
2,125.00	67.68	263.26	1,999.97	-223.50	-421.06	441.65	15.00	14.78	2.81
2,150.00	71.37	263.93	2,008.72	-226.11	-444.33	465.07	15.00	14.78	2.70
2,175.00	75.07	264.58	2,015.93	-228.51	-468.14	489.00	15.00	14.79	2.59
2,200.00	78.77	265.20	2,021.59	-230.67	-492.39	513.35	15.00	14.80	2.50
2,213.58	80.78	265.54	2,024.00	-231.75	-505.71	526.71	15.00	14.81	2.45
Lower Fruitland Coal									
2,225.00	82.47	265.81	2,025.66	-232.60	-516.98	538.00	15.00	14.81	2.42
2,250.00	86.17	266.41	2,028.14	-234.29	-541.79	562.86	15.00	14.81	2.39
2,275.83	90.00	267.02	2,029.00	-235.77	-567.56	588.64	15.00	14.81	2.37
Target Interval 1									
2,300.00	90.00	267.02	2,029.00	-237.02	-591.70	612.78	0.00	0.00	0.00
2,400.00	90.00	267.02	2,029.00	-242.21	-691.56	712.66	0.00	0.00	0.00
2,500.00	90.00	267.02	2,029.00	-247.40	-791.43	812.53	0.00	0.00	0.00

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<b>Site:</b>	Burkett #4-24	<b>North Reference:</b>	True
<b>Well:</b>	Burkett #4-24	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Burkett #4-24 -- Lower Lat		
<b>Design:</b>	Burkett #4-24 -- Lower Lat		

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)
2,600.00	90.00	267.02	2,029.00	-252.59	-891.29	912.40	0.00	0.00	0.00
2,700.00	90.00	267.02	2,029.00	-257.78	-991.16	1,012.28	0.00	0.00	0.00
2,800.00	90.00	267.02	2,029.00	-262.97	-1,091.02	1,112.15	0.00	0.00	0.00
2,900.00	90.00	267.02	2,029.00	-268.16	-1,190.89	1,212.03	0.00	0.00	0.00
3,000.00	90.00	267.02	2,029.00	-273.35	-1,290.75	1,311.90	0.00	0.00	0.00
3,100.00	90.00	267.02	2,029.00	-278.55	-1,390.62	1,411.77	0.00	0.00	0.00
3,200.00	90.00	267.02	2,029.00	-283.74	-1,490.48	1,511.65	0.00	0.00	0.00
3,300.00	90.00	267.02	2,029.00	-288.93	-1,590.35	1,611.52	0.00	0.00	0.00
3,400.00	90.00	267.02	2,029.00	-294.12	-1,690.21	1,711.40	0.00	0.00	0.00
3,500.00	90.00	267.02	2,029.00	-299.31	-1,790.08	1,811.27	0.00	0.00	0.00
3,600.00	90.00	267.02	2,029.00	-304.50	-1,889.95	1,911.14	0.00	0.00	0.00
3,700.00	90.00	267.02	2,029.00	-309.69	-1,989.81	2,011.02	0.00	0.00	0.00
3,800.00	90.00	267.02	2,029.00	-314.88	-2,089.68	2,110.89	0.00	0.00	0.00
3,900.00	90.00	267.02	2,029.00	-320.07	-2,189.54	2,210.77	0.00	0.00	0.00
4,000.00	90.00	267.02	2,029.00	-325.26	-2,289.41	2,310.64	0.00	0.00	0.00
4,100.00	90.00	267.02	2,029.00	-330.45	-2,389.27	2,410.51	0.00	0.00	0.00
4,200.00	90.00	267.02	2,029.00	-335.64	-2,489.14	2,510.39	0.00	0.00	0.00
4,300.00	90.00	267.02	2,029.00	-340.83	-2,589.00	2,610.26	0.00	0.00	0.00
4,400.00	90.00	267.02	2,029.00	-346.02	-2,688.87	2,710.13	0.00	0.00	0.00
4,500.00	90.00	267.02	2,029.00	-351.21	-2,788.73	2,810.01	0.00	0.00	0.00
4,600.00	90.00	267.02	2,029.00	-356.40	-2,888.60	2,909.88	0.00	0.00	0.00
4,700.00	90.00	267.02	2,029.00	-361.59	-2,988.46	3,009.76	0.00	0.00	0.00
4,800.00	90.00	267.02	2,029.00	-366.78	-3,088.33	3,109.63	0.00	0.00	0.00
4,900.00	90.00	267.02	2,029.00	-371.97	-3,188.19	3,209.50	0.00	0.00	0.00
5,000.00	90.00	267.02	2,029.00	-377.16	-3,288.06	3,309.38	0.00	0.00	0.00
5,100.00	90.00	267.02	2,029.00	-382.35	-3,387.92	3,409.25	0.00	0.00	0.00
5,200.00	90.00	267.02	2,029.00	-387.54	-3,487.79	3,509.13	0.00	0.00	0.00
5,300.00	90.00	267.02	2,029.00	-392.73	-3,587.65	3,609.00	0.00	0.00	0.00
5,400.00	90.00	267.02	2,029.00	-397.92	-3,687.52	3,708.87	0.00	0.00	0.00
5,500.00	90.00	267.02	2,029.00	-403.11	-3,787.38	3,808.75	0.00	0.00	0.00
5,600.00	90.00	267.02	2,029.00	-408.30	-3,887.25	3,908.62	0.00	0.00	0.00
5,700.00	90.00	267.02	2,029.00	-413.49	-3,987.11	4,008.50	0.00	0.00	0.00
5,795.00	90.00	267.02	2,029.00	-418.42	-4,081.99	4,103.38	0.00	0.00	0.00
4 1/2"									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Burkett #4-24 -- Lower L	0.00	0.00	2,029.00	-418.42	-4,081.99	1,231,727.19	2,359,205.57	37° 16' 56.351949 N	107° 42' 9.540000 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
5,795.00	2,029.00	4 1/2"	4-1/2	6-1/8	

# XTO Energy, Inc.

## Planning Report

<b>Database:</b>	LMRKPROD	<b>Local Co-ordinate Reference:</b>	Site Burkett #4-24
<b>Company:</b>	XTO Energy - Western Div. (NM, CO, UT)	<b>TVD Reference:</b>	WELL @ 7582.00ft (Original Well Elev)
<b>Project:</b>	LaPlata County (NAD83)	<b>MD Reference:</b>	WELL @ 7582.00ft (Original Well Elev)
<b>Site:</b>	Burkett #4-24	<b>North Reference:</b>	True
<b>Well:</b>	Burkett #4-24	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Burkett #4-24 -- Lower Lat		
<b>Design:</b>	Burkett #4-24 -- Lower Lat		

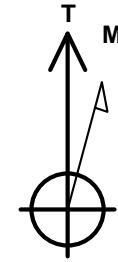
Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,057.52	1,047.00	Kirtland Shale		0.00		
1,536.72	1,516.00	Fruitland Formation		0.00		
1,908.96	1,868.00	Upper Fruitland Coal		0.00		
2,112.40	1,995.00	Target Interval 2		0.00		
2,213.58	2,024.00	Lower Fruitland Coal		0.00		
2,275.83	2,029.00	Target Interval 1		0.00		



## Well Name: Burkett #4-24

San Juan Division  
Drilling Department

Calculation Method: Minimum Curvature  
Geodetic Datum: North American Datum 1983  
Lat: 37° 17' 0.492000 N  
Long: 107° 41' 19.032000 W



Azimuths to True North  
Magnetic North: 9.66°

Magnetic Field  
Strength: 50890.6snT  
Dip Angle: 63.91°  
Date: 6/14/2013  
Model: IGRF200510

### CASING DETAILS

TVD	MD	Name
225.00	225.00	9 5/8"
2099.59	2133.00	7"

### FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation
1047.00	1057.52	Kirtland Shale
1516.00	1536.72	Fruitland Formation
1868.00	1896.37	Upper Fruitland Coal
1995.00	2026.13	Target Interval 2
2024.00	2055.76	Lower Fruitland Coal
2029.00	2060.87	Target Interval 1
2047.00	2079.26	Upper Pictured Cliffs

West(-)/East(+) (800 ft/in)

