

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

LaPlata County (NAD83)

Anderson 02-05H

Anderson 2-05H

Slant Well

Plan: Slant Design #1

Standard Planning Report

20 March, 2015

XTO Energy, Inc.

Planning Report

Database:	LMRKPROD	Local Co-ordinate Reference:	Site Anderson 02-05H
Company:	XTO Energy - Western Div. (NM, CO, UT)	TVD Reference:	WELL @ 6447.00ft (Original Well Elev)
Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6447.00ft (Original Well Elev)
Site:	Anderson 02-05H	North Reference:	True
Well:	Anderson 2-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Slant Well		
Design:	Slant Design #1		

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	Anderson 02-05H		
Site Position:		Northing:	1,142,088.56 usft
From:	Lat/Long	Easting:	2,411,784.11 usft
Position Uncertainty:	0.00 ft	Slot Radius:	0 "
		Latitude:	37° 2' 22.056000 N
		Longitude:	107° 30' 55.188000 W
		Grid Convergence:	-1.24 °

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
470.54	0.00	0.00	470.54	0.00	0.00	0.00	0.00	0.00	0.00	
1,595.54	45.00	329.06	1,483.39	359.83	-215.71	4.00	4.00	0.00	329.06	
2,891.82	45.00	329.06	2,400.00	1,146.00	-687.00	0.00	0.00	0.00	0.00	Slant AZ Target
3,775.70	45.00	329.06	3,025.00	1,682.06	-1,008.35	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)
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
225.00	0.00	0.00	225.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
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
470.54	0.00	0.00	470.54	0.00	0.00	0.00	0.00	0.00	0.00
500.00	1.18	329.06	500.00	0.26	-0.16	0.30	4.00	4.00	0.00
600.00	5.18	329.06	599.82	5.01	-3.01	5.85	4.00	4.00	0.00
700.00	9.18	329.06	699.02	15.73	-9.43	18.34	4.00	4.00	0.00
800.00	13.18	329.06	797.10	32.35	-19.40	37.72	4.00	4.00	0.00
900.00	17.18	329.06	893.59	54.81	-32.86	63.90	4.00	4.00	0.00
1,000.00	21.18	329.06	988.03	82.98	-49.74	96.74	4.00	4.00	0.00
1,100.00	25.18	329.06	1,079.94	116.73	-69.98	136.10	4.00	4.00	0.00
1,200.00	29.18	329.06	1,168.88	155.90	-93.46	181.76	4.00	4.00	0.00
1,300.00	33.18	329.06	1,254.41	200.29	-120.07	233.52	4.00	4.00	0.00
1,400.00	37.18	329.06	1,336.13	249.70	-149.69	291.12	4.00	4.00	0.00
1,500.00	41.18	329.06	1,413.64	303.87	-182.16	354.29	4.00	4.00	0.00
1,595.54	45.00	329.06	1,483.39	359.83	-215.71	419.54	4.00	4.00	0.00
1,600.00	45.00	329.06	1,486.55	362.54	-217.33	422.69	0.00	0.00	0.00
1,700.00	45.00	329.06	1,557.26	423.19	-253.69	493.40	0.00	0.00	0.00
1,800.00	45.00	329.06	1,627.97	483.84	-290.05	564.12	0.00	0.00	0.00
1,900.00	45.00	329.06	1,698.68	544.48	-326.41	634.83	0.00	0.00	0.00
1,932.98	45.00	329.06	1,722.00	564.49	-338.40	658.15	0.00	0.00	0.00
Ojo Alamo									
2,000.00	45.00	329.06	1,769.39	605.13	-362.76	705.54	0.00	0.00	0.00
2,100.00	45.00	329.06	1,840.10	665.78	-399.12	776.25	0.00	0.00	0.00
2,152.18	45.00	329.06	1,877.00	697.43	-418.09	813.15	0.00	0.00	0.00
Kirtland									
2,200.00	45.00	329.06	1,910.81	726.43	-435.48	846.96	0.00	0.00	0.00
2,300.00	45.00	329.06	1,981.52	787.08	-471.83	917.67	0.00	0.00	0.00
2,400.00	45.00	329.06	2,052.23	847.72	-508.19	988.38	0.00	0.00	0.00
2,500.00	45.00	329.06	2,122.94	908.37	-544.55	1,059.09	0.00	0.00	0.00
2,600.00	45.00	329.06	2,193.66	969.02	-580.90	1,129.80	0.00	0.00	0.00
2,700.00	45.00	329.06	2,264.37	1,029.67	-617.26	1,200.51	0.00	0.00	0.00
2,800.00	45.00	329.06	2,335.08	1,090.32	-653.62	1,271.22	0.00	0.00	0.00
2,891.82	45.00	329.06	2,400.00	1,146.00	-687.00	1,336.15	0.00	0.00	0.00
2,900.00	45.00	329.06	2,405.79	1,150.96	-689.98	1,341.93	0.00	0.00	0.00
3,000.00	45.00	329.06	2,476.50	1,211.61	-726.33	1,412.64	0.00	0.00	0.00
3,078.49	45.00	329.06	2,532.00	1,259.22	-754.87	1,468.15	0.00	0.00	0.00
Fruitland									
3,100.00	45.00	329.06	2,547.21	1,272.26	-762.69	1,483.35	0.00	0.00	0.00
3,200.00	45.00	329.06	2,617.92	1,332.91	-799.05	1,554.07	0.00	0.00	0.00
3,300.00	45.00	329.06	2,688.63	1,393.56	-835.40	1,624.78	0.00	0.00	0.00
3,400.00	45.00	329.06	2,759.34	1,454.20	-871.76	1,695.49	0.00	0.00	0.00
3,441.94	45.00	329.06	2,789.00	1,479.64	-887.01	1,725.15	0.00	0.00	0.00
Upper Fruitland Coal									
3,500.00	45.00	329.06	2,830.05	1,514.85	-908.12	1,766.20	0.00	0.00	0.00
3,577.71	45.00	329.06	2,885.00	1,561.98	-936.37	1,821.15	0.00	0.00	0.00
Middle Fruitland Coal									
3,600.00	45.00	329.06	2,900.76	1,575.50	-944.47	1,836.91	0.00	0.00	0.00
3,639.93	45.00	329.06	2,929.00	1,599.72	-958.99	1,865.15	0.00	0.00	0.00

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Well:	Anderson 2-05H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Slant Well		
Design:	Slant Design #1		

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)
Lower Fruitland Coal									
3,700.00	45.00	329.06	2,971.47	1,636.15	-980.83	1,907.62	0.00	0.00	0.00
3,704.99	45.00	329.06	2,975.00	1,639.17	-982.65	1,911.15	0.00	0.00	0.00
Upper Pictured Cliffs									
3,755.00	45.00	329.06	3,010.36	1,669.50	-1,000.83	1,946.51	0.00	0.00	0.00
4 1/2"									
3,775.70	45.00	329.06	3,025.00	1,682.06	-1,008.35	1,961.15	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Slant AZ Target	0.00	0.00	2,400.00	1,146.00	-687.00	1,143,249.11	2,411,122.00	37° 2' 33.386282 N	107° 31' 3.661295 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
225.00	225.00	9 5/8"	9-5/8	12-1/4	
3,755.00	3,010.36	4 1/2"	7	8-3/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,932.98	1,722.00	Ojo Alamo		0.00	
2,152.18	1,877.00	Kirtland		0.00	
3,078.49	2,532.00	Fruitland		0.00	
3,441.94	2,789.00	Upper Fruitland Coal		0.00	
3,577.71	2,885.00	Middle Fruitland Coal		0.00	
3,639.93	2,929.00	Lower Fruitland Coal		0.00	
3,704.99	2,975.00	Upper Pictured Cliffs		0.00	

XTO Energy - Western Division

Well Name: Anderson 2-05H

Geodetic Datum: NAD 1983

Latitude: 37° 2' 22.056000 N

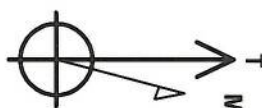
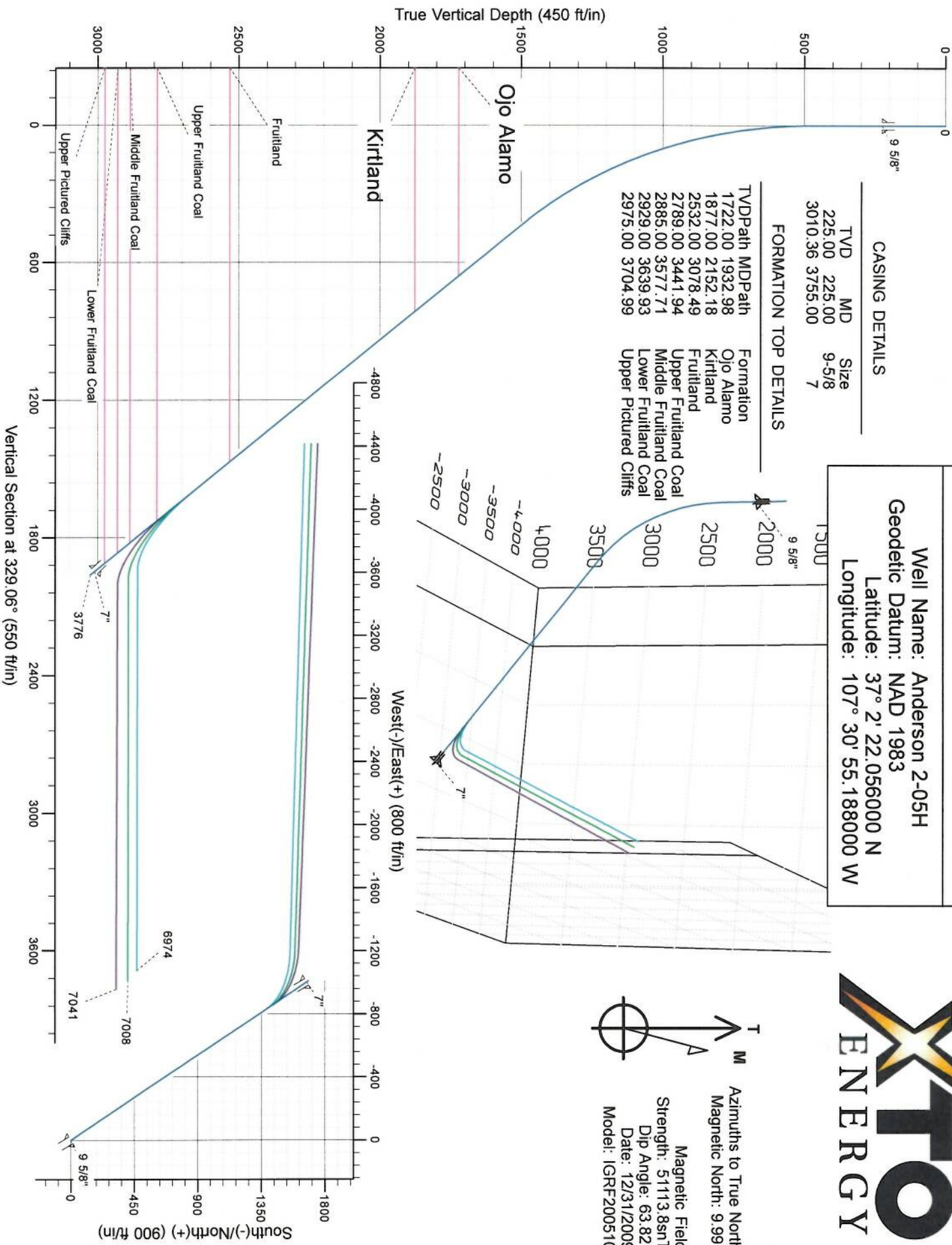
Longitude: 107° 30' 55.188000 W

CASING DETAILS

TVD	MD	Size
225.00	225.00	9-5/8
3010.36	3755.00	7

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1722.00	1932.98	Ojo Alamo
1877.00	2152.18	Kirtland
2532.00	3078.49	Fruitland
2789.00	3441.94	Upper Fruitland Coal
2885.00	3577.71	Middle Fruitland Coal
2929.00	3639.93	Lower Fruitland Coal
2975.00	3704.99	Upper Pictured Cliffs



Azimuths to True North
Magnetic North: 9.99°

Magnetic Field
Strength: 51113.8nT
Dip Angle: 63.82°
Date: 12/31/2009
Model: IGRF200510

