

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

LaPlata County (NAD83)

Smith 1H

Smith 1H

Smith 1H -- Slant well

Plan: Smith 1H -- Slant well

Standard Planning Report

10 July, 2013

XTO Energy, Inc.

Planning Report

Database:	LMRKPROD	Local Co-ordinate Reference:	Site Smith 1H
Company:	XTO Energy - Western Div. (NM, CO, UT)	TVD Reference:	WELL @ 6327.00ft (Original Well Elev)
Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6327.00ft (Original Well Elev)
Site:	Smith 1H	North Reference:	True
Well:	Smith 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Smith 1H -- Slant well		
Design:	Smith 1H -- Slant well		

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	Smith 1H, Sec 2, T32N, R7W				
Site Position:		Northing:	1,142,558.64 usft	Latitude:	37° 2' 22.416000 N
From:	Lat/Long	Easting:	2,392,019.74 usft	Longitude:	107° 34' 59.016000 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.28 °

Well	Smith 1H, Horizontal FC					
Well Position	+N/-S	0.00 ft	Northing:	1,142,558.64 usft	Latitude:	37° 2' 22.415948 N
	+E/-W	0.00 ft	Easting:	2,392,019.74 usft	Longitude:	107° 34' 59.016000 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	6,315.00 ft	Ground Level:	6,315.00 ft

Wellbore	Smith 1H -- Slant well				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	3/13/2013	9.62	63.73	50,800

Design	Smith 1H -- Slant well			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	334.18

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.00	0.00	0.00	0.00	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	
704.53	12.14	334.18	701.51	38.42	-18.59	3.00	3.00	0.00	334.18	
2,733.36	12.14	334.18	2,685.00	422.38	-204.32	0.00	0.00	0.00	0.00	Smith 1H -- Slant well
2,902.13	12.14	334.18	2,850.00	454.32	-219.77	0.00	0.00	0.00	0.00	

XTO Energy, Inc.

Planning Report

Database:	LMRKPROD	Local Co-ordinate Reference:	Site Smith 1H
Company:	XTO Energy - Western Div. (NM, CO, UT)	TVD Reference:	WELL @ 6327.00ft (Original Well Elev)
Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6327.00ft (Original Well Elev)
Site:	Smith 1H	North Reference:	True
Well:	Smith 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Smith 1H -- Slant well		
Design:	Smith 1H -- Slant well		

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	3.00	334.18	399.95	2.36	-1.14	2.62	3.00	3.00	0.00
500.00	6.00	334.18	499.63	9.42	-4.56	10.46	3.00	3.00	0.00
600.00	9.00	334.18	598.77	21.17	-10.24	23.51	3.00	3.00	0.00
704.53	12.14	334.18	701.51	38.42	-18.59	42.68	3.00	3.00	0.00
800.00	12.14	334.18	794.85	56.49	-27.33	62.75	0.00	0.00	0.00
900.00	12.14	334.18	892.61	75.42	-36.48	83.78	0.00	0.00	0.00
1,000.00	12.14	334.18	990.38	94.34	-45.64	104.80	0.00	0.00	0.00
1,100.00	12.14	334.18	1,088.14	113.26	-54.79	125.82	0.00	0.00	0.00
1,200.00	12.14	334.18	1,185.91	132.19	-63.95	146.84	0.00	0.00	0.00
1,300.00	12.14	334.18	1,283.67	151.11	-73.10	167.87	0.00	0.00	0.00
1,400.00	12.14	334.18	1,381.44	170.04	-82.26	188.89	0.00	0.00	0.00
1,500.00	12.14	334.18	1,479.20	188.96	-91.41	209.91	0.00	0.00	0.00
1,562.18	12.14	334.18	1,540.00	200.73	-97.10	222.99	0.00	0.00	0.00
Ojo Alamo									
1,600.00	12.14	334.18	1,576.97	207.89	-100.57	230.94	0.00	0.00	0.00
1,609.24	12.14	334.18	1,586.00	209.64	-101.41	232.88	0.00	0.00	0.00
Kirtland Shale									
1,700.00	12.14	334.18	1,674.74	226.81	-109.72	251.96	0.00	0.00	0.00
1,800.00	12.14	334.18	1,772.50	245.74	-118.88	272.98	0.00	0.00	0.00
1,900.00	12.14	334.18	1,870.27	264.66	-128.03	294.00	0.00	0.00	0.00
2,000.00	12.14	334.18	1,968.03	283.59	-137.18	315.03	0.00	0.00	0.00
2,100.00	12.14	334.18	2,065.80	302.51	-146.34	336.05	0.00	0.00	0.00
2,200.00	12.14	334.18	2,163.56	321.44	-155.49	357.07	0.00	0.00	0.00
2,300.00	12.14	334.18	2,261.33	340.36	-164.65	378.10	0.00	0.00	0.00
2,400.00	12.14	334.18	2,359.09	359.29	-173.80	399.12	0.00	0.00	0.00
2,434.68	12.14	334.18	2,393.00	365.85	-176.98	406.41	0.00	0.00	0.00
Fruitland Formation									
2,500.00	12.14	334.18	2,456.86	378.21	-182.96	420.14	0.00	0.00	0.00
2,600.00	12.14	334.18	2,554.62	397.14	-192.11	441.17	0.00	0.00	0.00
2,699.60	12.14	334.18	2,652.00	415.99	-201.23	462.10	0.00	0.00	0.00
Upper Fruitland Coal									
2,700.00	12.14	334.18	2,652.39	416.06	-201.27	462.19	0.00	0.00	0.00
2,733.36	12.14	334.18	2,685.00	422.38	-204.32	469.20	0.00	0.00	0.00
Middle Fruitland Coal									
2,800.00	12.14	334.18	2,750.15	434.99	-210.42	483.21	0.00	0.00	0.00
2,828.48	12.14	334.18	2,778.00	440.38	-213.03	489.20	0.00	0.00	0.00
Upper Pictured Cliffs									
2,902.13	12.14	334.18	2,850.00	454.32	-219.77	504.68	0.00	0.00	0.00
7"									

XTO Energy, Inc.

Planning Report

Database:	LMRKPROD	Local Co-ordinate Reference:	Site Smith 1H
Company:	XTO Energy - Western Div. (NM, CO, UT)	TVD Reference:	WELL @ 6327.00ft (Original Well Elev)
Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6327.00ft (Original Well Elev)
Site:	Smith 1H	North Reference:	True
Well:	Smith 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Smith 1H -- Slant well		
Design:	Smith 1H -- Slant well		

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									
Smith 1H -- Slant well BI	0.00	0.00	2,685.00	422.38	-204.32	1,142,985.46	2,391,824.88	37° 2' 26.591948 N	107° 35' 1.536000 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
225.00	225.00	9 5/8"		9-5/8	12-1/4
2,902.13	2,850.00	7"		7	8-3/4

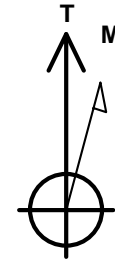
Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(ft)	(ft)				(°)	(°)
1,562.18	1,540.00	Ojo Alamo			0.00	
1,609.24	1,586.00	Kirtland Shale			0.00	
2,434.68	2,393.00	Fruitland Formation			0.00	
2,699.60	2,652.00	Upper Fruitland Coal			0.00	
2,733.36	2,685.00	Middle Fruitland Coal			0.00	
2,828.48	2,778.00	Upper Pictured Cliffs			0.00	



Well Name: Smith 1H

San Juan Division
Drilling Department

Calculation Method: Minimum Curvature
Geodetic Datum: North American Datum 1983
Lat: 37° 2' 22.416000 N
Long: 107° 34' 59.016000 W

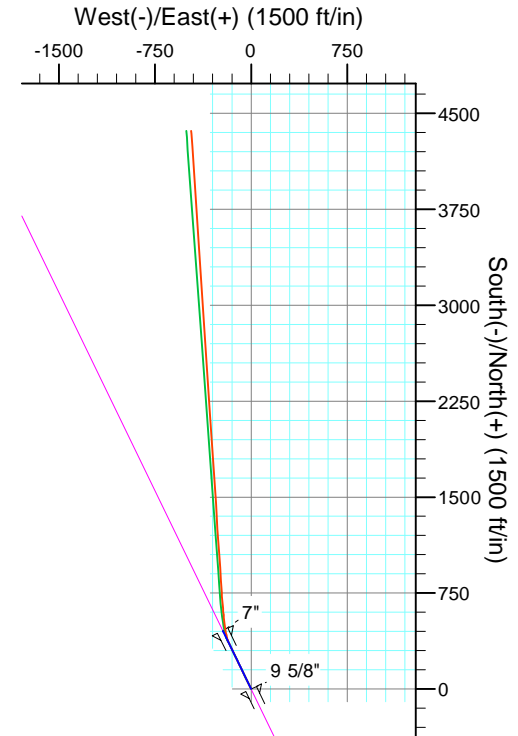
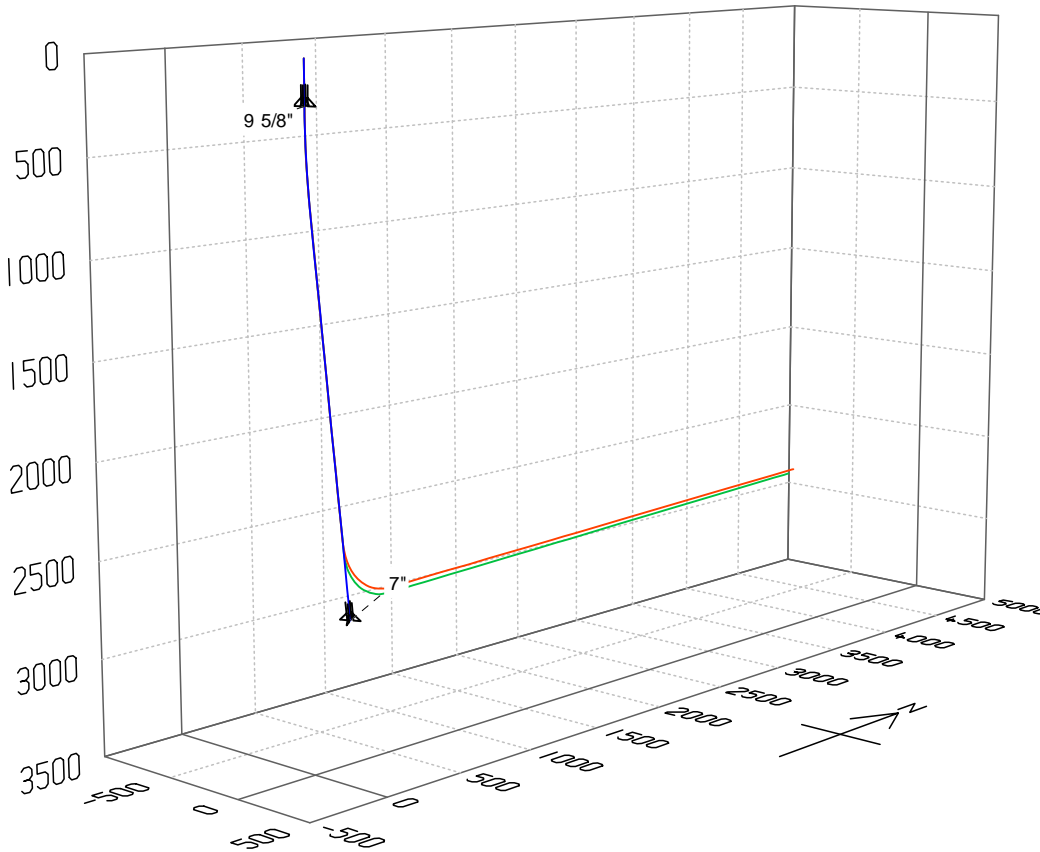
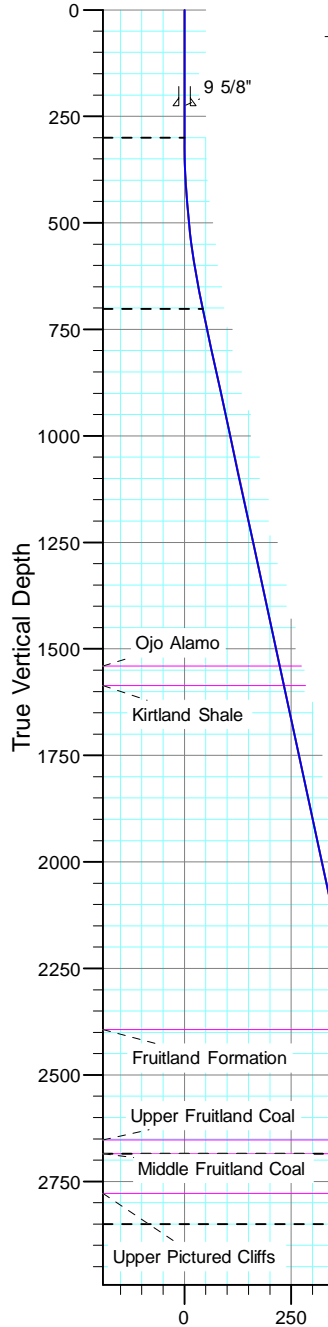


Azimuths to True North
Magnetic North: 9.62°

Magnetic Field
Strength: 50800.4snT
Dip Angle: 63.73°
Date: 3/13/2013
Model: IGRF200510

CASING DETAILS

TVD	MD	Name
225.00	225.00	9 5/8"
2850.00	2902.13	7"



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1540.00	1562.18	Ojo Alamo
1586.00	1609.24	Kirtland Shale
2393.00	2434.68	Fruitland Formation
2652.00	2699.60	Upper Fruitland Coal
2685.00	2733.36	Middle Fruitland Coal
2778.00	2828.48	Upper Pictured Cliffs

TD at 6620.07

TD at 6650.77