

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

LaPlata County (NAD83)

Penrose 3-08H 2/23/2015

Penrose 3-08H

Penrose 3-08H Slant

Plan: Slant Design #1

Standard Planning Report

04 March, 2015

XTO Energy, Inc.

Planning Report

Database:	LMRKPROD	Local Co-ordinate Reference:	Site Penrose 3-08H 2/23/2015
Company:	XTO Energy - Western Div. (NM, CO, UT)	TVD Reference:	WELL @ 6404.00ft (Original Well Elev)
Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6404.00ft (Original Well Elev)
Site:	Penrose 3-08H 2/23/2015	North Reference:	True
Well:	Penrose 3-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Penrose 3-08H Slant		
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	Penrose 3-08H 2/23/2015		
Site Position:		Northing:	1,137,544.88 usft
From:	Lat/Long	Easting:	2,407,507.39 usft
Position Uncertainty:	0.00 ft	Slot Radius:	0 "
		Latitude:	37° 1' 36.228000 N
		Longitude:	107° 31' 46.704000 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	
1,020.16	0.00	0.00	1,020.16	0.00	0.00	0.00	0.00	0.00	0.00	
2,520.16	45.00	71.72	2,370.64	175.43	531.16	3.00	3.00	0.00	71.72	
2,703.11	45.00	71.72	2,500.00	216.00	654.00	0.00	0.00	0.00	0.00	AJ Penrose 3-08H Slk
3,195.26	45.00	71.72	2,848.00	325.14	984.44	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
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
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,020.16	0.00	0.00	1,020.16	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	2.40	71.72	1,099.98	0.52	1.58	1.67	3.00	3.00	0.00
1,200.00	5.40	71.72	1,199.73	2.65	8.03	8.46	3.00	3.00	0.00
1,300.00	8.40	71.72	1,299.00	6.42	19.43	20.46	3.00	3.00	0.00
1,400.00	11.40	71.72	1,397.50	11.81	35.75	37.65	3.00	3.00	0.00
1,500.00	14.40	71.72	1,494.97	18.80	56.94	59.96	3.00	3.00	0.00
1,556.00	16.08	71.72	1,549.00	23.42	70.91	74.68	3.00	3.00	0.00
Ojo Alamo									
1,600.00	17.40	71.72	1,591.13	27.39	82.94	87.35	3.00	3.00	0.00
1,651.43	18.94	71.72	1,640.00	32.42	98.17	103.38	3.00	3.00	0.00
Kirtland									
1,700.00	20.40	71.72	1,685.73	37.55	113.69	119.73	3.00	3.00	0.00
1,800.00	23.40	71.72	1,778.51	49.24	149.09	157.01	3.00	3.00	0.00
1,900.00	26.40	71.72	1,869.21	62.44	189.06	199.10	3.00	3.00	0.00
2,000.00	29.40	71.72	1,957.58	77.11	233.48	245.88	3.00	3.00	0.00
2,100.00	32.40	71.72	2,043.38	93.21	282.23	297.22	3.00	3.00	0.00
2,200.00	35.40	71.72	2,126.38	110.70	335.18	352.99	3.00	3.00	0.00
2,300.00	38.40	71.72	2,206.34	129.53	392.18	413.01	3.00	3.00	0.00
2,400.00	41.40	71.72	2,283.05	149.64	453.07	477.14	3.00	3.00	0.00
2,500.00	44.40	71.72	2,356.31	170.98	517.70	545.20	3.00	3.00	0.00
2,520.16	45.00	71.72	2,370.64	175.43	531.16	559.38	3.00	3.00	0.00
2,556.03	45.00	71.72	2,396.00	183.38	555.25	584.75	0.00	0.00	0.00
Fruitland									
2,600.00	45.00	71.72	2,427.09	193.13	584.77	615.84	0.00	0.00	0.00
2,700.00	45.00	71.72	2,497.80	215.31	651.91	686.55	0.00	0.00	0.00
2,703.11	45.00	71.72	2,500.00	216.00	654.00	688.75	0.00	0.00	0.00
2,800.00	45.00	71.72	2,568.51	237.49	719.06	757.26	0.00	0.00	0.00
2,899.68	45.00	71.72	2,639.00	259.59	785.99	827.75	0.00	0.00	0.00
Upper Fruitland Coal									
2,900.00	45.00	71.72	2,639.22	259.66	786.20	827.97	0.00	0.00	0.00
2,991.61	45.00	71.72	2,704.00	279.98	847.71	892.75	0.00	0.00	0.00
Middle Fruitland Coal									
3,000.00	45.00	71.72	2,709.93	281.84	853.34	898.68	0.00	0.00	0.00
3,100.00	45.00	71.72	2,780.64	304.01	920.49	969.39	0.00	0.00	0.00
3,152.83	45.00	71.72	2,818.00	315.73	955.96	1,006.75	0.00	0.00	0.00
Upper Pictured Cliffs									
3,175.00	45.00	71.72	2,833.68	320.65	970.84	1,022.42	0.00	0.00	0.00
7"									
3,195.26	45.00	71.72	2,848.00	325.14	984.44	1,036.75	0.00	0.00	0.00

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Project:	LaPlata County (NAD83)	MD Reference:	WELL @ 6404.00ft (Original Well Elev)
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Well:	Penrose 3-08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Penrose 3-08H Slant		
Design:	Slant Design #1		

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									
AJ Penrose 3-08H Slant	0.00	358.76	2,500.00	216.00	654.00	1,137,746.62	2,408,165.93	37° 1' 38.363445 N 107° 31' 38.639365 W	
- plan hits target center									
- Point									
AJ Penrose 3-08H Slant	0.00	0.00	2,858.00	307.00	993.00	1,137,830.23	2,408,506.82	37° 1' 39.263053 N 107° 31' 34.459032 W	
- plan misses target center by 22.41ft at 3195.26ft MD (2848.00 TVD, 325.14 N, 984.44 E)									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
225.00	225.00	9 5/8"		9-5/8	9-5/8
3,175.00	2,833.68	7"		7	8-3/4

Formations					
Measured Depth	Vertical Depth	Name		Lithology	Dip
(ft)	(ft)				(°)
1,556.00	1,549.00	Ojo Alamo			0.00
1,651.43	1,640.00	Kirtland			0.00
2,556.03	2,396.00	Fruitland			0.00
2,899.68	2,639.00	Upper Fruitland Coal			0.00
2,991.61	2,704.00	Middle Fruitland Coal			0.00
3,152.83	2,818.00	Upper Pictured Cliffs			0.00



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