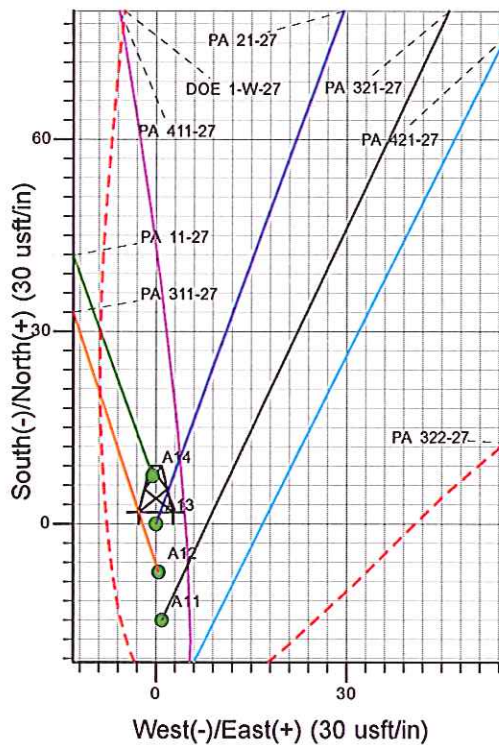
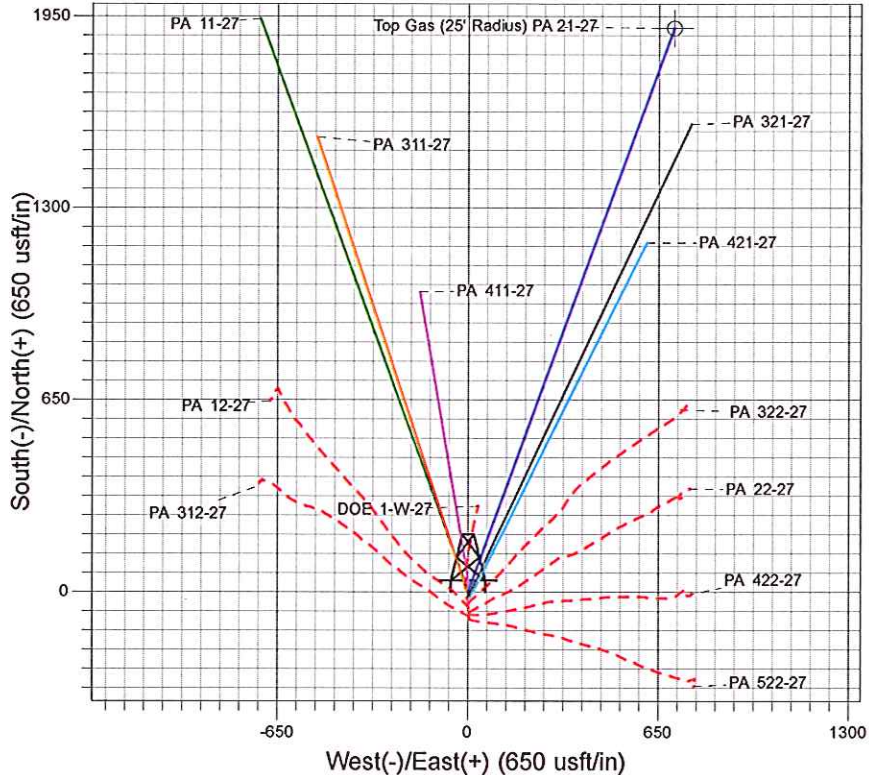
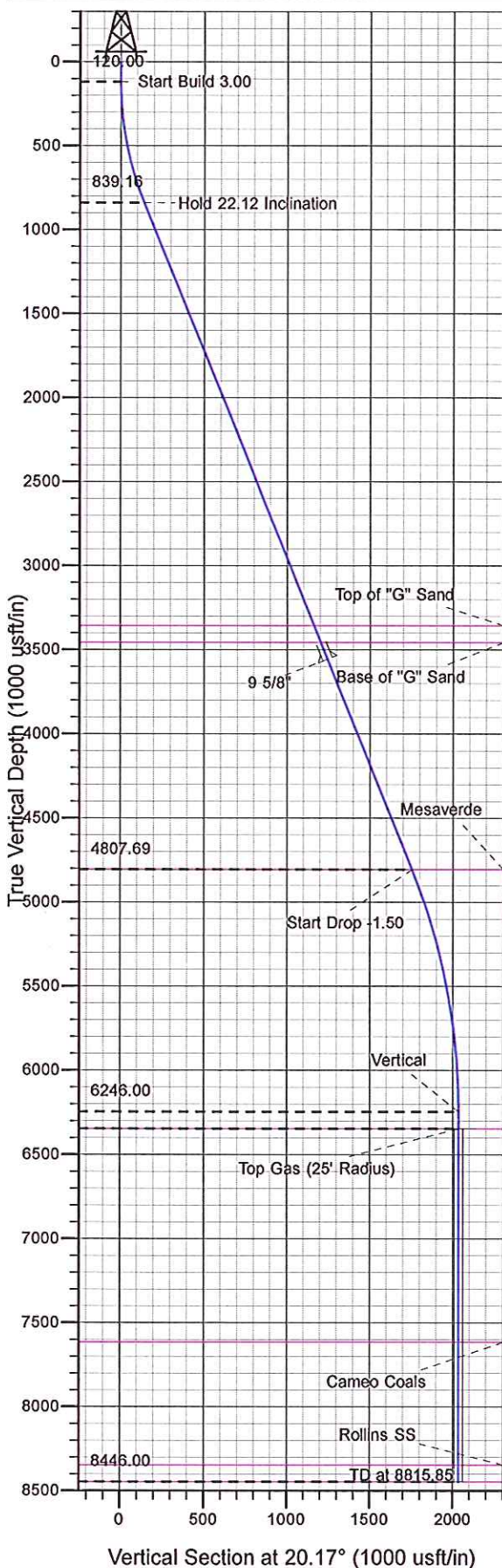




PA 21-27
Surface Location: DOE 1-W-27 Pad
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
Ground Elevation: 5840.00
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 1615450.90 2297660.40 39.49677 -107.98914 A13
KELLY BUSHING @ 5866.00usft (Nabors 577 (26' KB))



Project: PA 27-06S-095W
Site: DOE 1-W-27 Pad
Well: PA 21-27
Design #2 10Jan13 kjs



Azimuths to True North
Magnetic North: 11.45°
Magnetic Field
Strength: 53050.5nT
Dip Angle: 65.99°
Date: 12/31/2004
Model: IGRF2000

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	Start Build 3.00
857.34	22.12	20.17	839.16	131.95	48.48	140.57	140.57	Hold 22.12 Inclination
5141.17	22.12	20.17	4807.69	1646.05	604.81	1753.65	1753.65	Start Drop -1.50
6615.85	0.00	0.00	6246.00	1909.95	701.78	2034.80	2034.80	Vertical
6715.85	0.00	0.00	6346.00	1909.95	701.78	2034.80	2034.80	Top Gas
8815.85	0.00	0.00	8446.00	1909.95	701.78	2034.80	2034.80	TD at 8815.85



PICEANCE VLY NAD 83

PA 27-06S-095W

DOE 1-W-27 Pad

PA 21-27 - Slot A13

Wellbore #1

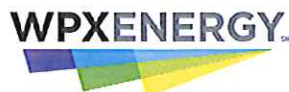
Plan: Design #2 10Jan13 kjs

Standard Planning Report - Geographic

10 January, 2013



Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
857.34	22.12	20.17	839.16	131.95	48.48	3.00	3.00	0.00	20.17	
5,141.17	22.12	20.17	4,807.69	1,646.05	604.81	0.00	0.00	0.00	0.00	
6,615.85	0.00	0.00	6,246.00	1,909.95	701.78	1.50	-1.50	0.00	180.00	
6,715.85	0.00	0.00	6,346.00	1,909.95	701.78	0.00	0.00	0.00	0.00	Top Gas (25' Radius)
8,815.85	0.00	0.00	8,446.00	1,909.95	701.78	0.00	0.00	0.00	0.00	



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 21-27 - Slot A13
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5866.00usft (Nabors 577 (26' KB))
Project:	PA 27-06S-095W	MD Reference:	KELLY BUSHING @ 5866.00usft (Nabors 577 (26' KB))
Site:	DOE 1-W-27 Pad	North Reference:	True
Well:	PA 21-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 10Jan13 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	1,615,450.90	2,297,660.40	39.49677	-107.98914
120.00	0.00	0.00	120.00	0.00	0.00	1,615,450.90	2,297,660.40	39.49677	-107.98914
Start Build 3.00									
500.00	11.40	20.17	497.50	35.37	13.00	1,615,485.89	2,297,674.36	39.49687	-107.98909
857.34	22.12	20.17	839.16	131.95	48.48	1,615,581.46	2,297,712.48	39.49714	-107.98897
Hold 22.12 Inclination									
1,000.00	22.12	20.17	971.32	182.37	67.01	1,615,631.36	2,297,732.38	39.49727	-107.98890
1,500.00	22.12	20.17	1,434.52	359.09	131.94	1,615,806.23	2,297,802.13	39.49776	-107.98867
2,000.00	22.12	20.17	1,897.72	535.82	196.88	1,615,981.10	2,297,871.87	39.49825	-107.98844
2,500.00	22.12	20.17	2,360.91	712.54	261.81	1,616,155.97	2,297,941.62	39.49873	-107.98821
3,000.00	22.12	20.17	2,824.11	889.26	326.74	1,616,330.84	2,298,011.37	39.49922	-107.98798
3,500.00	22.12	20.17	3,287.31	1,065.99	391.68	1,616,505.71	2,298,081.12	39.49970	-107.98775
3,574.15	22.12	20.17	3,356.00	1,092.19	401.31	1,616,531.64	2,298,091.46	39.49977	-107.98772
Top of "G" Sand									
3,682.09	22.12	20.17	3,456.00	1,130.35	415.33	1,616,569.40	2,298,106.52	39.49988	-107.98767
Base of "G" Sand									
3,790.04	22.12	20.17	3,556.00	1,168.50	429.34	1,616,607.15	2,298,121.58	39.49998	-107.98762
9 5/8"									
4,000.00	22.12	20.17	3,750.51	1,242.71	456.61	1,616,680.58	2,298,150.87	39.50019	-107.98752
4,500.00	22.12	20.17	4,213.71	1,419.43	521.54	1,616,855.45	2,298,220.61	39.50067	-107.98729
5,000.00	22.12	20.17	4,676.90	1,596.16	586.48	1,617,030.32	2,298,290.36	39.50116	-107.98706
5,139.35	22.12	20.17	4,806.00	1,645.41	604.58	1,617,079.06	2,298,309.80	39.50129	-107.98700
Mesaverde									
5,141.17	22.12	20.17	4,807.69	1,646.05	604.81	1,617,079.70	2,298,310.06	39.50129	-107.98699
Start Drop -1.50									
5,500.00	16.74	20.17	5,145.96	1,758.05	645.96	1,617,190.52	2,298,354.26	39.50160	-107.98685
6,000.00	9.24	20.17	5,632.82	1,863.45	684.69	1,617,294.81	2,298,395.86	39.50189	-107.98671
6,500.00	1.74	20.17	6,130.17	1,908.30	701.17	1,617,339.19	2,298,413.56	39.50201	-107.98665
6,615.85	0.00	0.00	6,246.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
Vertical									
6,715.85	0.00	0.00	6,346.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
Top Gas - Approx. Top Gas									
7,000.00	0.00	0.00	6,630.15	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
7,500.00	0.00	0.00	7,130.15	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
7,985.85	0.00	0.00	7,616.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
Cameo Coals									
8,000.00	0.00	0.00	7,630.15	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
8,500.00	0.00	0.00	8,130.15	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
8,715.85	0.00	0.00	8,346.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
Rollins SS									
8,815.85	0.00	0.00	8,446.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665
TD at 8815.85 - TD									



WPX Energy
Planning Report - Geographic

Database: COMPASS-PICEANCE
Company: PICEANCE VLY NAD 83

Project: PA 27-06S-095W

Site: DOE 1-W-27 Pad
Well: PA 21-27
Wellbore: PA 21-27
Design: Design #2 10Jan13 kjs

Local Co-ordinate Reference: Well PA 21-27 - Slot A13
TVD Reference: KELLY BUSHING @ 5866.00usft (Nabors 577 (26' KB))
MD Reference: KELLY BUSHING @ 5866.00usft (Nabors 577 (26' KB))
North Reference: True
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (25' Radius) P/ - plan hits target center - Circle (radius 25.00)	0.00	0.00	6,346.00	1,909.95	701.78	1,617,340.83	2,298,414.21	39.50202	-107.98665

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
3,790.04	3,556.00	9 5/8"	9.625	13.500

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,574.15	3,356.00	Top of "G" Sand			
3,682.09	3,456.00	Base of "G" Sand			
5,139.35	4,806.00	Mesaverde			
6,715.85	6,346.00	Approx. Top Gas			
7,985.85	7,616.00	Cameo Coals			
8,715.85	8,346.00	Rollins SS			
8,815.85	8,446.00	TD			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.00
857.34	839.16	131.95	48.48	Hold 22.12 Inclination
5,141.17	4,807.69	1,646.05	604.81	Start Drop -1.50
6,615.85	6,246.00	1,909.95	701.78	Vertical
6,715.85	6,346.00	1,909.95	701.78	Top Gas
8,815.85	8,446.00	1,909.95	701.78	TD at 8815.85