



PICEANCE VLY NAD 83

PA 21-06S-095W

PA 22-21 Pad

PA 541-21 - Slot 2A4

Wellbore #1

Plan: Design #2 07Nov12 kjs

Standard Planning Report - Geographic

12 March, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 541-21 - Slot 2A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 541-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Project	PA 21-06S-095W, Garfield County, CO, 21-06S-095W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site	PA 22-21 Pad			
Site Position:		Northing:	1,620,701.00 usft	Latitude: 39.51079
From: Map		Easting:	2,292,437.50 usft	Longitude: -108.00815
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.58 °

Well	PA 541-21 - Slot 2A4			
Well Position	+N/-S	0.00 usft	Northing:	1,620,599.80 usft
	+E/-W	0.00 usft	Easting:	2,292,487.00 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	6,030.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/6/2012	10.23	65.72	52,157

Design	Design #2 07Nov12 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	69.46

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	
1,549.09	38.59	69.46	1,443.49	162.58	433.83	2.70	2.70	0.00	69.46	
5,871.57	38.59	69.46	4,822.29	1,108.63	2,958.23	0.00	0.00	0.00	0.00	
7,800.85	0.00	0.00	6,609.00	1,328.11	3,543.90	2.00	-2.00	0.00	180.00	
7,900.85	0.00	0.00	6,709.00	1,328.11	3,543.90	0.00	0.00	0.00	0.00	Top Gas (25' Radius)
10,000.85	0.00	0.00	8,809.00	1,328.11	3,543.90	0.00	0.00	0.00	0.00	

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Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 541-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 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	1,620,599.80	2,292,487.00	39.51051	-108.00797	
120.00	0.00	0.00	120.00	0.00	0.00	1,620,599.80	2,292,487.00	39.51051	-108.00797	
Start Build 2.70										
500.00	10.26	69.46	497.97	11.91	31.77	1,620,610.82	2,292,519.09	39.51055	-108.00785	
1,000.00	23.76	69.46	974.99	63.12	168.43	1,620,658.24	2,292,657.10	39.51069	-108.00737	
1,500.00	37.26	69.46	1,404.77	151.99	405.58	1,620,740.53	2,292,896.60	39.51093	-108.00653	
1,549.09	38.59	69.46	1,443.49	162.58	433.83	1,620,750.33	2,292,925.13	39.51096	-108.00643	
Hold 38.59 Inclination										
1,650.00	38.59	69.46	1,522.37	184.67	492.76	1,620,770.78	2,292,984.65	39.51102	-108.00622	
9 5/8"										
2,000.00	38.59	69.46	1,795.96	261.27	697.17	1,620,841.71	2,293,191.09	39.51123	-108.00550	
2,500.00	38.59	69.46	2,186.80	370.70	989.17	1,620,943.04	2,293,485.99	39.51153	-108.00446	
3,000.00	38.59	69.46	2,577.64	480.14	1,281.18	1,621,044.37	2,293,780.90	39.51183	-108.00343	
3,385.53	38.59	69.46	2,879.00	564.52	1,506.34	1,621,122.50	2,294,008.29	39.51206	-108.00263	
Top of "G" Sand										
3,500.00	38.59	69.46	2,968.48	589.57	1,573.19	1,621,145.69	2,294,075.81	39.51213	-108.00239	
3,513.46	38.59	69.46	2,979.00	592.52	1,581.05	1,621,148.42	2,294,083.75	39.51214	-108.00236	
Base of "G" Sand										
4,000.00	38.59	69.46	3,359.32	699.00	1,865.20	1,621,247.02	2,294,370.71	39.51243	-108.00136	
4,500.00	38.59	69.46	3,750.16	808.44	2,157.21	1,621,348.35	2,294,665.62	39.51273	-108.00032	
5,000.00	38.59	69.46	4,141.00	917.87	2,449.22	1,621,449.68	2,294,960.53	39.51303	-107.99929	
5,500.00	38.59	69.46	4,531.84	1,027.30	2,741.23	1,621,551.00	2,295,255.43	39.51333	-107.99825	
5,871.57	38.59	69.46	4,822.29	1,108.63	2,958.23	1,621,626.30	2,295,474.59	39.51356	-107.99748	
Start Drop -2.00										
6,000.00	36.02	69.46	4,924.44	1,135.94	3,031.10	1,621,651.59	2,295,548.19	39.51363	-107.99722	
6,303.61	29.94	69.46	5,179.00	1,193.91	3,185.79	1,621,705.27	2,295,704.41	39.51379	-107.99668	
Mesaverde										
6,500.00	26.02	69.46	5,352.40	1,226.24	3,272.06	1,621,735.20	2,295,791.53	39.51388	-107.99637	
7,000.00	16.02	69.46	5,818.55	1,289.08	3,439.76	1,621,793.40	2,295,960.90	39.51405	-107.99578	
7,500.00	6.02	69.46	6,308.71	1,322.57	3,529.12	1,621,824.40	2,296,051.15	39.51414	-107.99546	
7,800.85	0.00	0.00	6,609.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
Vertical										
7,900.85	0.00	0.00	6,709.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
Top Gas - Approx. Top Gas										
8,000.00	0.00	0.00	6,808.16	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
8,500.00	0.00	0.00	7,308.16	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
9,000.00	0.00	0.00	7,808.16	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
9,130.85	0.00	0.00	7,939.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
Cameo Coals										
9,500.00	0.00	0.00	8,308.16	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
9,900.85	0.00	0.00	8,709.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
Rollins SS										
10,000.00	0.00	0.00	8,808.16	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
10,000.85	0.00	0.00	8,809.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541	
TD at 10000.84 - TD										



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Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
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Well:	PA 541-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Top Gas (25' Radius) P/	0.00	0.00	6,709.00	1,328.11	3,543.90	1,621,829.53	2,296,066.07	39.51416	-107.99541
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,650.00	1,522.37	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(usft)	(usft)				(°)	(°)
3,385.53	2,879.00	Top of "G" Sand				
3,513.46	2,979.00	Base of "G" Sand				
6,303.61	5,179.00	Mesaverde				
7,900.85	6,709.00	Approx. Top Gas				
9,130.85	7,939.00	Cameo Coals				
9,900.85	8,709.00	Rollins SS				
10,000.85	8,809.00	TD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
120.00	120.00	0.00	0.00	Start Build 2.70	
1,549.09	1,443.49	162.58	433.83	Hold 38.59 Inclination	
5,871.57	4,822.29	1,108.63	2,958.23	Start Drop -2.00	
7,800.85	6,609.00	1,328.11	3,543.90	Vertical	
7,900.85	6,709.00	1,328.11	3,543.90	Top Gas	
10,000.85	8,809.00	1,328.11	3,543.90	TD at 10000.84	