



PICEANCE VLY NAD 83

PA 21-06S-095W

PA 22-21 Pad

PA 341-21 - Slot 2A2

Wellbore #1

Plan: Design #2 07Nov12 kjs

Standard Planning Report - Geographic

19 March, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 341-21 - Slot 2A2
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 341-21	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 341-21 - Slot 2A2			
Well Position	+N/-S	0.00 usft	Northing:	1,620,599.40 usft
	+E/-W	0.00 usft	Easting:	2,292,502.00 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	60.84

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	
1,318.54	41.95	60.84	1,214.29	204.39	366.34	3.50	3.50	0.00	60.84	
5,273.34	41.95	60.84	4,155.65	1,492.45	2,674.98	0.00	0.00	0.00	0.00	
8,069.93	0.00	0.00	6,709.00	1,969.36	3,529.77	1.50	-1.50	0.00	180.00	
8,119.93	0.00	0.00	6,759.00	1,969.36	3,529.77	0.00	0.00	0.00	0.00	Top Gas (25' Radius)
10,219.93	0.00	0.00	8,859.00	1,969.36	3,529.77	0.00	0.00	0.00	0.00	



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Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 341-21	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	1,620,599.40	2,292,502.00	39.51051	-108.00791	
120.00	0.00	0.00	120.00	0.00	0.00	1,620,599.40	2,292,502.00	39.51051	-108.00791	
Start Build 3.50										
500.00	13.30	60.84	496.60	21.39	38.34	1,620,619.72	2,292,540.92	39.51057	-108.00778	
1,000.00	30.80	60.84	958.23	112.49	201.63	1,620,706.28	2,292,706.65	39.51082	-108.00720	
1,318.54	41.95	60.84	1,214.29	204.39	366.34	1,620,793.59	2,292,873.83	39.51108	-108.00662	
Hold 41.95 Inclination										
1,419.00	41.95	60.84	1,289.01	237.11	424.98	1,620,824.68	2,292,933.35	39.51117	-108.00641	
9 5/8"										
1,500.00	41.95	60.84	1,349.26	263.49	472.27	1,620,849.74	2,292,981.34	39.51124	-108.00624	
2,000.00	41.95	60.84	1,721.13	426.34	764.15	1,621,004.47	2,293,277.59	39.51168	-108.00521	
2,500.00	41.95	60.84	2,093.00	589.19	1,056.02	1,621,159.19	2,293,573.85	39.51213	-108.00417	
3,000.00	41.95	60.84	2,464.87	752.03	1,347.90	1,621,313.91	2,293,870.10	39.51258	-108.00314	
3,500.00	41.95	60.84	2,836.74	914.88	1,639.78	1,621,468.63	2,294,166.35	39.51303	-108.00210	
3,570.27	41.95	60.84	2,889.00	937.77	1,680.80	1,621,490.38	2,294,207.98	39.51309	-108.00196	
Top of "G" Sand										
3,704.72	41.95	60.84	2,989.00	981.56	1,759.29	1,621,531.98	2,294,287.64	39.51321	-108.00168	
Base of "G" Sand										
4,000.00	41.95	60.84	3,208.61	1,077.73	1,931.66	1,621,623.36	2,294,462.60	39.51347	-108.00107	
4,500.00	41.95	60.84	3,580.48	1,240.58	2,223.54	1,621,778.08	2,294,758.85	39.51392	-108.00003	
5,000.00	41.95	60.84	3,952.35	1,403.42	2,515.41	1,621,932.80	2,295,055.10	39.51437	-107.99900	
5,273.34	41.95	60.84	4,155.65	1,492.45	2,674.98	1,622,017.38	2,295,217.05	39.51461	-107.99843	
Start Drop -1.50										
5,500.00	38.55	60.84	4,328.62	1,563.79	2,802.85	1,622,085.17	2,295,346.84	39.51481	-107.99798	
6,000.00	31.05	60.84	4,738.91	1,702.72	3,051.86	1,622,217.17	2,295,599.58	39.51519	-107.99710	
6,500.00	23.55	60.84	5,182.90	1,814.37	3,251.97	1,622,323.25	2,295,802.69	39.51549	-107.99639	
6,522.98	23.20	60.84	5,204.00	1,818.81	3,259.94	1,622,327.47	2,295,810.77	39.51551	-107.99636	
Mesaverde										
7,000.00	16.05	60.84	5,653.01	1,896.83	3,399.76	1,622,401.59	2,295,952.69	39.51572	-107.99586	
7,500.00	8.55	60.84	6,141.19	1,948.68	3,492.71	1,622,450.86	2,296,047.03	39.51586	-107.99553	
8,000.00	1.05	60.84	6,639.08	1,969.05	3,529.21	1,622,470.21	2,296,084.08	39.51592	-107.99541	
8,069.93	0.00	0.00	6,709.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
Vertical										
8,119.93	0.00	0.00	6,759.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
Top Gas - Approx. Top Gas										
8,500.00	0.00	0.00	7,139.07	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
9,000.00	0.00	0.00	7,639.07	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
9,319.93	0.00	0.00	7,959.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
Cameo Coals										
9,500.00	0.00	0.00	8,139.07	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
10,000.00	0.00	0.00	8,639.07	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
10,119.93	0.00	0.00	8,759.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
Rollins SS										
10,219.93	0.00	0.00	8,859.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540	
TD at 10219.93 - TD										



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Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 341-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

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	6,759.00	1,969.36	3,529.77	1,622,470.50	2,296,084.65	39.51592	-107.99540

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,419.00	1,289.01	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,570.27	2,889.00	Top of "G" Sand				
3,704.72	2,989.00	Base of "G" Sand				
6,522.98	5,204.00	Mesaverde				
8,119.93	6,759.00	Approx. Top Gas				
9,319.93	7,959.00	Cameo Coals				
10,119.93	8,759.00	Rollins SS				
10,219.93	8,859.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.00	120.00	0.00	0.00	Start Build 3.50	
1,318.54	1,214.29	204.39	366.34	Hold 41.95 Inclination	
5,273.34	4,155.65	1,492.45	2,674.98	Start Drop -1.50	
8,069.93	6,709.00	1,969.36	3,529.77	Vertical	
8,119.93	6,759.00	1,969.36	3,529.77	Top Gas	
10,219.93	8,859.00	1,969.36	3,529.77	TD at 10219.93	