



## **PICEANCE VLY NAD 83**

**PA 21-06S-095W**

**PA 22-21 Pad**

**PA 31-21 - Slot 2A5**

**Wellbore #1**

**Plan: Design #2 07Nov12 kjs**

## **Standard Planning Report - Geographic**

**19 March, 2013**



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well PA 31-21 - Slot 2A5
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Project:</b>	PA 21-06S-095W	<b>MD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Site:</b>	PA 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 31-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 07Nov12 kjs		

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

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

<b>Well</b>	PA 31-21 - Slot 2A5			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,620,600.10 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,292,479.50 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	
			<b>Ground Level:</b>	6,030.00 usft

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

<b>Design</b>	Design #2 07Nov12 kjs			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	42.33

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
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	
370.00	10.00	55.00	368.73	12.48	17.83	4.00	4.00	0.00	55.00	
882.73	30.14	42.06	848.03	134.91	141.86	4.00	3.93	-2.52	-18.72	
6,042.91	30.14	42.06	5,310.39	2,058.88	1,877.70	0.00	0.00	0.00	0.00	
7,550.09	0.00	0.00	6,749.00	2,346.52	2,137.22	2.00	-2.00	-2.79	-180.00	Top Gas (25' Radius)
9,650.09	0.00	0.00	8,849.00	2,346.52	2,137.22	0.00	0.00	0.00	0.00	



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well PA 31-21 - Slot 2A5
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Project:</b>	PA 21-06S-095W	<b>MD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Site:</b>	PA 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 31-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	1,620,600.10	2,292,479.50	39.51051	-108.00799	
120.00	0.00	0.00	120.00	0.00	0.00	1,620,600.10	2,292,479.50	39.51051	-108.00799	
<b>Start Build 4.00</b>										
370.00	10.00	55.00	368.73	12.48	17.83	1,620,612.08	2,292,497.66	39.51055	-108.00793	
<b>Begin 4°/100 Build &amp; Turn</b>										
500.00	15.02	48.55	495.61	30.12	39.71	1,620,629.10	2,292,520.03	39.51060	-108.00785	
882.73	30.14	42.06	848.03	134.91	141.86	1,620,731.03	2,292,625.02	39.51088	-108.00749	
<b>Hold 30.14 Inc, 42.06° azi</b>										
983.00	30.14	42.06	934.74	172.30	175.59	1,620,767.47	2,292,659.77	39.51099	-108.00737	
<b>9 5/8"</b>										
1,000.00	30.14	42.06	949.44	178.64	181.31	1,620,773.65	2,292,665.66	39.51100	-108.00735	
1,500.00	30.14	42.06	1,381.82	365.06	349.50	1,620,955.36	2,292,838.93	39.51152	-108.00676	
2,000.00	30.14	42.06	1,814.21	551.48	517.70	1,621,137.06	2,293,012.21	39.51203	-108.00616	
2,500.00	30.14	42.06	2,246.59	737.91	685.90	1,621,318.76	2,293,185.48	39.51254	-108.00556	
3,000.00	30.14	42.06	2,678.98	924.33	854.09	1,621,500.47	2,293,358.75	39.51305	-108.00497	
3,242.87	30.14	42.06	2,889.00	1,014.88	935.79	1,621,588.72	2,293,442.91	39.51330	-108.00468	
<b>Top of "G" Sand</b>										
3,358.51	30.14	42.06	2,989.00	1,058.00	974.69	1,621,630.75	2,293,482.99	39.51342	-108.00454	
<b>Base of "G" Sand</b>										
3,500.00	30.14	42.06	3,111.36	1,110.76	1,022.29	1,621,682.17	2,293,532.02	39.51356	-108.00437	
4,000.00	30.14	42.06	3,543.74	1,297.18	1,190.48	1,621,863.87	2,293,705.29	39.51408	-108.00377	
4,500.00	30.14	42.06	3,976.13	1,483.60	1,358.68	1,622,045.58	2,293,878.56	39.51459	-108.00318	
5,000.00	30.14	42.06	4,408.51	1,670.03	1,526.88	1,622,227.28	2,294,051.83	39.51510	-108.00258	
5,500.00	30.14	42.06	4,840.90	1,856.45	1,695.07	1,622,408.98	2,294,225.10	39.51561	-108.00199	
5,914.10	30.14	42.06	5,199.00	2,010.85	1,834.37	1,622,559.47	2,294,368.61	39.51603	-108.00149	
<b>Mesaverde</b>										
6,000.00	30.14	42.06	5,273.28	2,042.88	1,863.27	1,622,590.69	2,294,398.38	39.51612	-108.00139	
6,042.91	30.14	42.06	5,310.39	2,058.88	1,877.70	1,622,606.28	2,294,413.24	39.51617	-108.00134	
<b>Begin 2°/100 Drop</b>										
6,500.00	21.00	42.06	5,722.26	2,205.22	2,009.73	1,622,748.91	2,294,549.26	39.51657	-108.00087	
7,000.00	11.00	42.06	6,202.28	2,307.42	2,101.95	1,622,848.53	2,294,644.26	39.51685	-108.00054	
7,500.00	1.00	42.06	6,698.91	2,346.19	2,136.92	1,622,886.32	2,294,680.29	39.51696	-108.00042	
7,550.09	0.00	0.00	6,749.00	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
<b>Top Gas - Approx. Top Gas</b>										
8,000.00	0.00	0.00	7,198.91	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
8,500.00	0.00	0.00	7,698.91	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
8,710.09	0.00	0.00	7,909.00	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
<b>Cameo Coals</b>										
9,000.00	0.00	0.00	8,198.91	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
9,500.00	0.00	0.00	8,698.91	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
9,550.09	0.00	0.00	8,749.00	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
<b>Rollins SS</b>										
9,650.09	0.00	0.00	8,849.00	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042	
<b>TD at 9650.09 - TD</b>										



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well PA 31-21 - Slot 2A5
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Project:</b>	PA 21-06S-095W	<b>MD Reference:</b>	KELLY BUSHING @ 6056.00usft (Nabors 26')
<b>Site:</b>	PA 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	PA 31-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	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	6,749.00	2,346.52	2,137.22	1,622,886.64	2,294,680.59	39.51696	-108.00042

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
983.00	934.74	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,242.87	2,889.00	Top of "G" Sand				
3,358.51	2,989.00	Base of "G" Sand				
5,914.10	5,199.00	Mesaverde				
7,550.09	6,749.00	Approx. Top Gas				
8,710.09	7,909.00	Cameo Coals				
9,550.09	8,749.00	Rollins SS				
9,650.09	8,849.00	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 4.00	
370.00	368.73	12.48	17.83	Begin 4°/100 Build & Turn	
882.73	848.03	134.91	141.86	Hold 30.14 Inc, 42.06° azi	
6,042.91	5,310.39	2,058.88	1,877.70	Begin 2°/100 Drop	
7,550.09	6,749.00	2,346.52	2,137.22	Top Gas	
9,650.09	8,849.00	2,346.52	2,137.22	TD at 9650.09	