

# **PICEANCE VLY NAD 83**

**RU 06-07S-093W**

**RU 13-6 Pad**

**RU 22-6 - Slot A10**

**Wellbore #1**

**Plan: Design #2 2Nov15 sam**

## **Standard Planning Report**

**09 November, 2015**

# WPX

## Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well RU 22-6 (A10) - Slot A10
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KB @ 7009.00usft (HP 318)
<b>Project:</b>	RU 06-07S-093W	<b>MD Reference:</b>	KB @ 7009.00usft (HP 318)
<b>Site:</b>	RU 13-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 22-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 2Nov15 sam		

<b>Project</b>	RU 06-07S-093W		
<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>	RU 13-6 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,603,405.40 usft	<b>Latitude:</b> 39.467067
<b>From:</b> Map		<b>Easting:</b>	2,343,761.30 usft	<b>Longitude:</b> -107.824733
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.47 °

<b>Well</b>	RU 22-6 - Slot A10			
<b>Well Position</b>	<b>+N/-S</b>	66.06 usft	<b>Northing:</b>	1,603,471.80 usft
	<b>+E/-W</b>	-14.20 usft	<b>Easting:</b>	2,343,748.80 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	6,985.00 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	7/17/2014	9.87	65.66	51,937

<b>Design</b>	Design #2 2Nov15 sam			
<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 (bearing)</b>
	0.00	0.00	0.00	21.89

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (bearing)</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	
164.00	0.00	0.00	164.00	0.00	0.00	0.00	0.00	0.00	0.00	
364.00	6.00	35.00	363.63	8.57	6.00	3.00	3.00	0.00	35.00	
923.39	22.56	21.64	903.95	133.17	62.76	3.00	2.96	-2.39	-17.88	
5,251.00	22.56	21.64	4,900.26	1,676.75	675.19	0.00	0.00	0.00	0.00	
6,755.33	0.00	0.00	6,366.00	1,948.56	783.03	1.50	-1.50	0.00	180.00	
9,760.33	0.00	0.00	9,371.00	1,948.56	783.03	0.00	0.00	0.00	0.00	

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<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KB @ 7009.00usft (HP 318)
<b>Project:</b>	RU 06-07S-093W	<b>MD Reference:</b>	KB @ 7009.00usft (HP 318)
<b>Site:</b>	RU 13-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 22-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 2Nov15 sam		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164.00	0.00	0.00	164.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 3.00</b>									
364.00	6.00	35.00	363.63	8.57	6.00	10.19	3.00	3.00	0.00
<b>Start Build Turn DLS 3.00 TFO -17.88</b>									
500.00	9.96	27.74	498.29	24.81	15.56	28.82	3.00	2.91	-5.34
923.39	22.56	21.64	903.95	133.17	62.76	146.97	3.00	2.98	-1.44
<b>Hold 22.56 Inclination</b>									
1,000.00	22.56	21.64	974.69	160.50	73.60	176.37	0.00	0.00	0.00
1,124.00	22.56	21.64	1,089.20	204.73	91.15	223.95	0.00	0.00	0.00
<b>9 5/8"</b>									
1,500.00	22.56	21.64	1,436.42	338.84	144.36	368.23	0.00	0.00	0.00
2,000.00	22.56	21.64	1,898.14	517.18	215.12	560.09	0.00	0.00	0.00
2,500.00	22.56	21.64	2,359.86	695.52	285.88	751.96	0.00	0.00	0.00
3,000.00	22.56	21.64	2,821.58	873.86	356.64	943.82	0.00	0.00	0.00
3,107.66	22.56	21.64	2,921.00	912.26	371.87	985.13	0.00	0.00	0.00
<b>Top of "G" Sand</b>									
3,215.95	22.56	21.64	3,021.00	950.89	387.20	1,026.69	0.00	0.00	0.00
<b>Base of "G" Sand</b>									
3,500.00	22.56	21.64	3,283.31	1,052.20	427.39	1,135.68	0.00	0.00	0.00
4,000.00	22.56	21.64	3,745.03	1,230.54	498.15	1,327.55	0.00	0.00	0.00
4,500.00	22.56	21.64	4,206.75	1,408.88	568.91	1,519.41	0.00	0.00	0.00
5,000.00	22.56	21.64	4,668.47	1,587.23	639.67	1,711.27	0.00	0.00	0.00
5,251.00	22.56	21.64	4,900.26	1,676.75	675.19	1,807.59	0.00	0.00	0.00
<b>Start Drop -1.50</b>									
5,500.00	18.83	21.64	5,133.15	1,758.54	707.64	1,895.58	1.50	-1.50	0.00
5,810.73	14.17	21.64	5,431.00	1,840.55	740.18	1,983.80	1.50	-1.50	0.00
<b>Mesaverde</b>									
6,000.00	11.33	21.64	5,615.58	1,879.37	755.58	2,025.57	1.50	-1.50	0.00
6,500.00	3.83	21.64	6,110.86	1,940.63	779.89	2,091.47	1.50	-1.50	0.00
6,755.33	0.00	0.00	6,366.00	1,948.56	783.03	2,100.01	1.50	-1.50	0.00
<b>Vertical</b>									
7,000.00	0.00	0.00	6,610.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
7,455.33	0.00	0.00	7,066.00	1,948.56	783.03	2,100.01	0.00	0.00	0.00
<b>Approx. Top Gas</b>									
7,500.00	0.00	0.00	7,110.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
8,000.00	0.00	0.00	7,610.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
8,500.00	0.00	0.00	8,110.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
8,635.33	0.00	0.00	8,246.00	1,948.56	783.03	2,100.01	0.00	0.00	0.00
<b>Cameo Coals</b>									
9,000.00	0.00	0.00	8,610.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
9,350.33	0.00	0.00	8,961.00	1,948.56	783.03	2,100.01	0.00	0.00	0.00
<b>Coal D</b>									
9,500.00	0.00	0.00	9,110.67	1,948.56	783.03	2,100.01	0.00	0.00	0.00
9,610.33	0.00	0.00	9,221.00	1,948.56	783.03	2,100.01	0.00	0.00	0.00
<b>Rollins SS</b>									
9,760.33	0.00	0.00	9,371.00	1,948.56	783.03	2,100.01	0.00	0.00	0.00
<b>TD at 9760.33 - TD</b>									

# WPX

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<b>Project:</b>	RU 06-07S-093W	<b>MD Reference:</b>	KB @ 7009.00usft (HP 318)
<b>Site:</b>	RU 13-6 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 22-6	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 2Nov15 sam		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(bearing)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
RU 22-6 Top Gas 50' Ra	0.00	0.00	7,066.00	1,948.56	783.03	1,605,399.60	2,344,581.40	39.472598	-107.822010
- plan hits target center									
- Circle (radius 50.00)									

Casing Points				
Measured Depth	Vertical Depth	Name		
(usft)	(usft)			
		Casing Diameter	Hole Diameter	
		(in)	(in)	
1,124.00	1,089.20	9 5/8"	9.625	13.500

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(bearing)
3,107.66	2,921.00	Top of "G" Sand		0.00	
3,215.95	3,021.00	Base of "G" Sand		0.00	
5,810.73	5,431.00	Mesaverde		0.00	
7,455.33	7,066.00	Approx. Top Gas		0.00	
8,635.33	8,246.00	Cameo Coals		0.00	
9,350.33	8,961.00	Coal D		0.00	
9,610.33	9,221.00	Rollins SS		0.00	
9,760.33	9,371.00	TD		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
		(usft)	(usft)	
164.00	164.00	0.00	0.00	Start Build 3.00
364.00	363.63	8.57	6.00	Start Build Turn DLS 3.00 TFO -17.88
923.39	903.95	133.17	62.76	Hold 22.56 Inclination
5,251.00	4,900.26	1,676.75	675.19	Start Drop -1.50
6,755.33	6,366.00	1,948.56	783.03	Vertical
9,760.33	9,371.00	1,948.56	783.03	TD at 9760.33