

# **PICEANCE VLY NAD 83**

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

**RU 22-7 Pad**

**RU 412-7 - Slot B4**

**Wellbore #1**

**Plan: Design #2 28Mar16 sam**

## **Standard Planning Report**

**13 April, 2016**

# WPX

## Planning Report

<b>Database:</b>	COMPASS	<b>Local Co-ordinate Reference:</b>	Well RU 412-7 (B4) - Slot B4
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KB @ 7363.00usft (HP 318)
<b>Project:</b>	RU 07-07S-093W	<b>MD Reference:</b>	KB @ 7363.00usft (HP 318)
<b>Site:</b>	RU 22-7 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 412-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 28Mar16 sam		

<b>Project</b>	RU 07-07S-093W, Garfield County, CO		
<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

Site		RU 22-7 Pad			
Site Position:		Northing:	1,599,673.60 usft	Latitude:	39.456918
From:	Map	Easting:	2,345,086.00 usft	Longitude:	-107.819705
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.46 °

Well	RU 412-7 - Slot B4					
Well Position	+N/-S	17.35 usft	Northing:	1,599,691.07 usft	Latitude:	39.456966
	+E/-W	-5.03 usft	Easting:	2,345,081.41 usft	Longitude:	-107.819723
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,339.00 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>
	IGRF2015	3/28/2016	9.74	65.61	51,655

<b>Design</b>	Design #2 28Mar16 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	242.90

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	
121.00	0.00	0.00	121.00	0.00	0.00	0.00	0.00	0.00	0.00	
263.86	5.00	260.00	263.68	-1.08	-6.13	3.50	3.50	0.00	260.00	
651.59	18.26	242.64	642.68	-32.08	-77.07	3.50	3.42	-4.48	-23.48	
4,668.19	18.26	242.64	4,456.94	-610.49	-1,195.07	0.00	0.00	0.00	0.00	
5,885.76	0.00	0.00	5,654.00	-698.90	-1,365.97	1.50	-1.50	0.00	180.00	10 acre RU 412-7 MV
9,625.77	0.00	0.00	9,394.00	-698.90	-1,365.97	0.00	0.00	0.00	0.00	

**WPX**  
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<b>Project:</b>	RU 07-07S-093W	<b>MD Reference:</b>	KB @ 7363.00usft (HP 318)
<b>Site:</b>	RU 22-7 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 412-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 28Mar16 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
121.00	0.00	0.00	121.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 3.50</b>									
263.86	5.00	260.00	263.68	-1.08	-6.13	5.95	3.50	3.50	0.00
<b>Start Turn DLS 3.50 TFO -23.48</b>									
500.00	13.00	245.25	496.75	-14.01	-40.46	42.40	3.50	3.39	-6.24
651.59	18.26	242.64	642.68	-32.08	-77.07	83.22	3.50	3.47	-1.72
<b>Hold 18.26 Inclination</b>									
1,000.00	18.26	242.64	973.54	-82.25	-174.05	192.41	0.00	0.00	0.00
1,124.00	18.26	242.64	1,091.29	-100.11	-208.56	231.27	0.00	0.00	0.00
<b>9 5/8"</b>									
1,500.00	18.26	242.64	1,448.35	-154.25	-313.22	349.10	0.00	0.00	0.00
2,000.00	18.26	242.64	1,923.16	-226.26	-452.39	505.79	0.00	0.00	0.00
2,500.00	18.26	242.64	2,397.97	-298.26	-591.56	662.49	0.00	0.00	0.00
3,000.00	18.26	242.64	2,872.79	-370.26	-730.74	819.18	0.00	0.00	0.00
3,375.11	18.26	242.64	3,229.00	-424.28	-835.15	936.74	0.00	0.00	0.00
<b>Top of "G" Sand</b>									
3,422.50	18.26	242.64	3,274.00	-431.10	-848.34	951.59	0.00	0.00	0.00
<b>Base of "G" Sand</b>									
3,500.00	18.26	242.64	3,347.60	-442.26	-869.91	975.88	0.00	0.00	0.00
4,000.00	18.26	242.64	3,822.41	-514.26	-1,009.08	1,132.57	0.00	0.00	0.00
4,500.00	18.26	242.64	4,297.22	-586.27	-1,148.26	1,289.26	0.00	0.00	0.00
4,668.19	18.26	242.64	4,456.94	-610.49	-1,195.07	1,341.97	0.00	0.00	0.00
<b>Start Drop -1.50</b>									
5,000.00	13.29	242.64	4,776.15	-651.92	-1,275.16	1,432.15	1.50	-1.50	0.00
5,500.00	5.79	242.64	5,268.89	-689.96	-1,348.69	1,514.93	1.50	-1.50	0.00
5,885.76	0.00	0.00	5,654.00	-698.90	-1,365.97	1,534.39	1.50	-1.50	0.00
<b>MVRD target - Mesaverde</b>									
6,000.00	0.00	0.00	5,768.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
6,500.00	0.00	0.00	6,268.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
7,000.00	0.00	0.00	6,768.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
7,500.00	0.00	0.00	7,268.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
7,520.77	0.00	0.00	7,289.00	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
<b>Approx. Top Gas</b>									
8,000.00	0.00	0.00	7,768.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
8,500.00	0.00	0.00	8,268.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
8,621.77	0.00	0.00	8,390.00	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
<b>Cameo</b>									
9,000.00	0.00	0.00	8,768.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
9,326.77	0.00	0.00	9,095.00	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
<b>Coal D</b>									
9,475.77	0.00	0.00	9,244.00	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
<b>Rollins</b>									
9,500.00	0.00	0.00	9,268.24	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
9,625.77	0.00	0.00	9,394.00	-698.90	-1,365.97	1,534.39	0.00	0.00	0.00
<b>9625.76 Measured depth - TD</b>									

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<b>Project:</b>	RU 07-07S-093W	<b>MD Reference:</b>	KB @ 7363.00usft (HP 318)
<b>Site:</b>	RU 22-7 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 412-7	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #2 28Mar16 sam		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
10 acre RU 412-7 MVRD	0.00	0.00	5,654.00	-698.90	-1,365.97	1,599,027.30	2,343,698.10	39.455047	-107.824560
- plan hits target center									
- Circle (radius 50.00)									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,124.00	1,091.29	9 5/8"	9.625	13.500

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)
3,375.11	3,229.00	Top of "G" Sand		0.00	
3,422.50	3,274.00	Base of "G" Sand		0.00	
5,885.76	5,654.00	Mesaverde		0.00	
7,520.77	7,289.00	Approx. Top Gas		0.00	
8,621.77	8,390.00	Cameo		0.00	
9,326.77	9,095.00	Coal D		0.00	
9,475.77	9,244.00	Rollins		0.00	
9,625.77	9,394.00	TD		0.00	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
121.00	121.00	0.00	0.00	Start Build 3.50
263.86	263.68	-1.08	-6.13	Start Turn DLS 3.50 TFO -23.48
651.59	642.68	-32.08	-77.07	Hold 18.26 Inclination
4,668.19	4,456.94	-610.49	-1,195.07	Start Drop -1.50
5,885.76	5,654.00	-698.90	-1,365.97	MVRD target
9,625.77	9,394.00	-698.90	-1,365.97	9625.76 Measured depth