



# **PICEANCE HL NAD 83**

**RG 26-01S-098W**

**RGU 42-26-198**

**RGU 431-26-198 - Slot B11**

**Wellbore #1**

**Plan: Design #1 24Jan13 kjs**

## **Standard Planning Report - Geographic**

**09 April, 2013**



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RGU 431-26-198 - Slot B11
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
<b>Project:</b>	RG 26-01S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
<b>Site:</b>	RGU 42-26-198	<b>North Reference:</b>	True
<b>Well:</b>	RGU 431-26-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 24Jan13 kjs		

<b>Project</b>	RG 26-01S-098W, Rio Blanco 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		

<b>Site</b>	RGU 42-26-198			
<b>Site Position:</b>		<b>Northing:</b>	1,778,121.90 usft	<b>Latitude:</b> 39.93524
<b>From:</b> Map		<b>Easting:</b>	2,199,615.70 usft	<b>Longitude:</b> -108.35451
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.8003 °

<b>Well</b>	RGU 431-26-198 - Slot B11			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,778,121.90 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,199,615.70 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	
			<b>Ground Level:</b>	6,622.00 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	1/24/2013	10.3617	65.9894	52,274

<b>Design</b>	Design #1 24Jan13 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	325.94

<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	0.0000	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.0000	
317.14	6.90	325.94	316.67	9.82	-6.64	3.50	3.50	0.00	325.9400	
3,523.70	6.90	325.94	3,500.00	328.96	-222.39	0.00	0.00	0.00	0.0000	
3,952.58	21.91	325.94	3,914.20	417.10	-281.98	3.50	3.50	0.00	0.0000	
6,787.09	21.91	325.94	6,543.97	1,293.33	-874.44	0.00	0.00	0.00	0.0000	
7,882.62	0.00	0.00	7,613.00	1,464.76	-990.34	2.00	-2.00	0.00	180.0000	
7,982.62	0.00	0.00	7,713.00	1,464.76	-990.34	0.00	0.00	0.00	0.0000	Mesaverde (25' Radiu
12,817.62	0.00	0.00	12,548.00	1,464.76	-990.34	0.00	0.00	0.00	0.0000	



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<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
<b>Project:</b>	RG 26-01S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
<b>Site:</b>	RGU 42-26-198	<b>North Reference:</b>	True
<b>Well:</b>	RGU 431-26-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 24Jan13 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	1,778,121.90	2,199,615.70	39.93524	-108.35451	
120.00	0.00	0.00	120.00	0.00	0.00	1,778,121.90	2,199,615.70	39.93524	-108.35451	
Start Build 3.50										
317.14	6.90	325.94	316.67	9.82	-6.64	1,778,131.93	2,199,609.37	39.93527	-108.35453	
Hold 6.90 Inc, 325.94° azi										
500.00	6.90	325.94	498.20	28.02	-18.94	1,778,150.50	2,199,597.65	39.93532	-108.35458	
1,000.00	6.90	325.94	994.58	77.79	-52.59	1,778,201.30	2,199,565.58	39.93545	-108.35470	
1,235.12	6.90	325.94	1,228.00	101.19	-68.41	1,778,225.19	2,199,550.51	39.93552	-108.35475	
Green River Fm										
1,416.44	6.90	325.94	1,408.00	119.23	-80.61	1,778,243.61	2,199,538.88	39.93557	-108.35480	
A Groove										
1,500.00	6.90	325.94	1,490.96	127.55	-86.23	1,778,252.10	2,199,533.52	39.93559	-108.35482	
1,622.93	6.90	325.94	1,613.00	139.78	-94.50	1,778,264.58	2,199,525.64	39.93562	-108.35485	
B Groove										
1,910.01	6.90	325.94	1,898.00	168.36	-113.81	1,778,293.75	2,199,507.23	39.93570	-108.35492	
Dissolution Surface										
2,000.00	6.90	325.94	1,987.34	177.31	-119.87	1,778,302.89	2,199,501.46	39.93572	-108.35494	
2,500.00	6.90	325.94	2,483.71	227.08	-153.51	1,778,353.69	2,199,469.40	39.93586	-108.35506	
3,000.00	6.90	325.94	2,980.09	276.84	-187.15	1,778,404.48	2,199,437.34	39.93600	-108.35518	
3,002.93	6.90	325.94	2,983.00	277.13	-187.35	1,778,404.78	2,199,437.15	39.93600	-108.35518	
Garden Gulch										
3,189.28	6.90	325.94	3,168.00	295.68	-199.89	1,778,423.71	2,199,425.20	39.93605	-108.35522	
Orange Marker										
3,410.88	6.90	325.94	3,388.00	317.73	-214.80	1,778,446.23	2,199,410.99	39.93611	-108.35528	
Wasatch										
3,500.00	6.90	325.94	3,476.47	326.60	-220.80	1,778,455.28	2,199,405.27	39.93613	-108.35530	
3,523.70	6.90	325.94	3,500.00	328.96	-222.39	1,778,457.69	2,199,403.75	39.93614	-108.35530	
Start Build 3.50										
3,924.43	20.93	325.90	3,888.00	408.59	-276.22	1,778,538.96	2,199,352.45	39.93636	-108.35550	
9 5/8"										
3,952.58	21.91	325.94	3,914.20	417.10	-281.98	1,778,547.65	2,199,346.96	39.93638	-108.35552	
Hold 21.91 Inclination										
4,000.00	21.91	325.94	3,958.20	431.76	-291.89	1,778,562.62	2,199,337.51	39.93642	-108.35555	
4,500.00	21.91	325.94	4,422.09	586.32	-396.40	1,778,720.39	2,199,237.91	39.93685	-108.35592	
5,000.00	21.91	325.94	4,885.97	740.89	-500.91	1,778,878.16	2,199,138.31	39.93727	-108.35630	
5,500.00	21.91	325.94	5,349.85	895.45	-605.41	1,779,035.93	2,199,038.71	39.93770	-108.35667	
5,859.08	21.91	325.94	5,683.00	1,006.46	-680.47	1,779,149.24	2,198,967.19	39.93800	-108.35694	
Top of "G" Sand										
6,000.00	21.91	325.94	5,813.74	1,050.02	-709.92	1,779,193.70	2,198,939.12	39.93812	-108.35704	
6,247.11	21.91	325.94	6,043.00	1,126.41	-761.57	1,779,271.68	2,198,889.89	39.93833	-108.35723	
Fort Union										
6,500.00	21.91	325.94	6,277.62	1,204.59	-814.43	1,779,351.48	2,198,839.52	39.93854	-108.35741	
6,787.09	21.91	325.94	6,543.97	1,293.33	-874.44	1,779,442.07	2,198,782.33	39.93879	-108.35763	
Start Drop -2.00										
7,000.00	17.65	325.94	6,744.27	1,353.01	-914.79	1,779,502.98	2,198,743.87	39.93895	-108.35777	
7,500.00	7.65	325.94	7,231.51	1,443.62	-976.05	1,779,595.47	2,198,685.48	39.93920	-108.35799	
7,712.52	3.40	325.94	7,443.00	1,460.58	-987.51	1,779,612.78	2,198,674.56	39.93925	-108.35803	
Ohio Creek										
7,882.62	0.00	0.00	7,613.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804	
Vertical										



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<b>Site:</b>	RGU 42-26-198	<b>North Reference:</b>	True
<b>Well:</b>	RGU 431-26-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 24Jan13 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
7,982.62	0.00	0.00	7,713.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Mesaverde - Mesaverde</b>									
8,000.00	0.00	0.00	7,730.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
8,500.00	0.00	0.00	8,230.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
9,000.00	0.00	0.00	8,730.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
9,412.62	0.00	0.00	9,143.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Approx. Top Gas</b>									
9,500.00	0.00	0.00	9,230.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
10,000.00	0.00	0.00	9,730.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
10,500.00	0.00	0.00	10,230.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
11,000.00	0.00	0.00	10,730.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
11,037.62	0.00	0.00	10,768.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Cameo Coals</b>									
11,500.00	0.00	0.00	11,230.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
11,602.62	0.00	0.00	11,333.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Rollins SS</b>									
11,727.62	0.00	0.00	11,458.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Cozzette</b>									
11,947.62	0.00	0.00	11,678.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Corcoran</b>									
12,000.00	0.00	0.00	11,730.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
12,327.62	0.00	0.00	12,058.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Upper Sego</b>									
12,500.00	0.00	0.00	12,230.38	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
12,567.62	0.00	0.00	12,298.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>Lower Sego</b>									
12,817.62	0.00	0.00	12,548.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804
<b>TD at 12817.62 - TD</b>									

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
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.00)	0.00	0.00	7,713.00	1,464.76	-990.34	1,779,617.05	2,198,671.86	39.93926	-108.35804

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,924.43	3,888.00	9 5/8"	9.625	13.500	



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<b>Project:</b>	RG 26-01S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
<b>Site:</b>	RGU 42-26-198	<b>North Reference:</b>	True
<b>Well:</b>	RGU 431-26-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 24Jan13 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,235.12	1,228.00	Green River Fm				
1,416.44	1,408.00	A Groove				
1,622.93	1,613.00	B Groove				
1,910.01	1,898.00	Dissolution Surface				
3,002.93	2,983.00	Garden Gulch				
3,189.28	3,168.00	Orange Marker				
3,410.88	3,388.00	Wasatch				
5,859.08	5,683.00	Top of "G" Sand				
6,247.11	6,043.00	Fort Union				
7,712.52	7,443.00	Ohio Creek				
7,982.62	7,713.00	Mesaverde				
9,412.62	9,143.00	Approx. Top Gas				
11,037.62	10,768.00	Cameo Coals				
11,602.62	11,333.00	Rollins SS				
11,727.62	11,458.00	Cozzette				
11,947.62	11,678.00	Corcoran				
12,327.62	12,058.00	Upper Sego				
12,567.62	12,298.00	Lower Sego				
12,817.62	12,548.00	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	
317.14	316.67	9.82	-6.64	Hold 6.90 Inc, 325.94° azi	
3,523.70	3,500.00	328.96	-222.39	Start Build 3.50	
3,952.58	3,914.20	417.10	-281.98	Hold 21.91 Inclination	
6,787.09	6,543.97	1,293.33	-874.44	Start Drop -2.00	
7,882.62	7,613.00	1,464.76	-990.34	Vertical	
7,982.62	7,713.00	1,464.76	-990.34	Mesaverde	
12,817.62	12,548.00	1,464.76	-990.34	TD at 12817.62	