



# **PICEANCE HL NAD 83**

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

**RGU 42-26-198**

**RGU 343-26-198 - Slot A4**

**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 343-26-198 - Slot A4
<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 343-26-198	<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 343-26-198 - Slot A4			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,778,072.90 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,199,594.40 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	65.9892	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	159.89

<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	
210.00	2.70	159.89	209.97	-1.99	0.73	3.00	3.00	0.00	159.8900	
3,503.69	2.70	159.89	3,500.00	-147.69	54.07	0.00	0.00	0.00	0.0000	
3,751.11	10.12	159.89	3,745.71	-173.61	63.57	3.00	3.00	0.00	0.0000	
6,946.81	10.12	159.89	6,891.66	-701.03	256.70	0.00	0.00	0.00	0.0000	
7,621.66	0.00	0.00	7,563.00	-756.86	277.15	1.50	-1.50	0.00	180.0000	
7,721.66	0.00	0.00	7,663.00	-756.86	277.15	0.00	0.00	0.00	0.0000	Mesaverde (25' Radiu
12,591.66	0.00	0.00	12,533.00	-756.86	277.15	0.00	0.00	0.00	0.0000	



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RGU 343-26-198 - Slot A4
<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 343-26-198	<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	1,778,072.90	2,199,594.40	39.93510	-108.35458	
120.00	0.00	0.00	120.00	0.00	0.00	1,778,072.90	2,199,594.40	39.93510	-108.35458	
Start Build 3.00										
210.00	2.70	159.89	209.97	-1.99	0.73	1,778,070.89	2,199,595.07	39.93510	-108.35458	
Hold 2.70 Inc, 159.89° azi										
500.00	2.70	159.89	499.64	-14.82	5.43	1,778,057.92	2,199,599.36	39.93506	-108.35456	
1,000.00	2.70	159.89	999.09	-36.94	13.52	1,778,035.56	2,199,606.76	39.93500	-108.35453	
1,229.16	2.70	159.89	1,228.00	-47.07	17.24	1,778,025.31	2,199,610.15	39.93497	-108.35452	
Green River Fm										
1,409.36	2.70	159.89	1,408.00	-55.04	20.15	1,778,017.25	2,199,612.81	39.93495	-108.35451	
A Groove										
1,500.00	2.70	159.89	1,498.53	-59.05	21.62	1,778,013.20	2,199,614.16	39.93494	-108.35450	
1,614.59	2.70	159.89	1,613.00	-64.12	23.48	1,778,008.07	2,199,615.85	39.93493	-108.35450	
B Groove										
1,899.91	2.70	159.89	1,898.00	-76.74	28.10	1,777,995.31	2,199,620.07	39.93489	-108.35448	
Dissolution Surface										
2,000.00	2.70	159.89	1,997.98	-81.17	29.72	1,777,990.84	2,199,621.55	39.93488	-108.35447	
2,500.00	2.70	159.89	2,497.42	-103.29	37.82	1,777,968.47	2,199,628.95	39.93482	-108.35445	
2,981.11	2.70	159.89	2,978.00	-124.57	45.61	1,777,946.96	2,199,636.07	39.93476	-108.35442	
Garden Gulch										
3,000.00	2.70	159.89	2,996.87	-125.41	45.92	1,777,946.11	2,199,636.35	39.93476	-108.35442	
3,156.30	2.70	159.89	3,153.00	-132.32	48.45	1,777,939.12	2,199,638.67	39.93474	-108.35441	
Orange Marker										
3,371.54	2.70	159.89	3,368.00	-141.84	51.93	1,777,929.50	2,199,641.85	39.93471	-108.35440	
Wasatch										
3,500.00	2.70	159.89	3,496.31	-147.52	54.01	1,777,923.75	2,199,643.75	39.93470	-108.35439	
3,503.69	2.70	159.89	3,500.00	-147.69	54.07	1,777,923.59	2,199,643.81	39.93470	-108.35439	
Start Build 3.00										
3,751.11	10.12	159.89	3,745.71	-173.61	63.57	1,777,897.38	2,199,652.48	39.93463	-108.35435	
Hold 10.12 Inclination										
3,875.34	10.12	159.89	3,868.00	-194.11	71.08	1,777,876.65	2,199,659.34	39.93457	-108.35433	
9 5/8"										
4,000.00	10.12	159.89	3,990.72	-214.69	78.61	1,777,855.85	2,199,666.23	39.93451	-108.35430	
4,500.00	10.12	159.89	4,482.93	-297.21	108.83	1,777,772.42	2,199,693.84	39.93429	-108.35419	
5,000.00	10.12	159.89	4,975.15	-379.73	139.05	1,777,688.99	2,199,721.45	39.93406	-108.35409	
5,500.00	10.12	159.89	5,467.37	-462.25	169.26	1,777,605.56	2,199,749.06	39.93383	-108.35398	
5,688.57	10.12	159.89	5,653.00	-493.37	180.66	1,777,574.10	2,199,759.47	39.93375	-108.35394	
Top of "G" Sand										
6,000.00	10.12	159.89	5,959.58	-544.77	199.48	1,777,522.13	2,199,776.67	39.93361	-108.35387	
6,044.10	10.12	159.89	6,003.00	-552.05	202.15	1,777,514.78	2,199,779.10	39.93359	-108.35386	
Fort Union										
6,500.00	10.12	159.89	6,451.80	-627.29	229.70	1,777,438.71	2,199,804.28	39.93338	-108.35376	
6,946.81	10.12	159.89	6,891.66	-701.03	256.70	1,777,364.15	2,199,828.95	39.93318	-108.35367	
Start Drop -1.50										
7,000.00	9.32	159.89	6,944.08	-709.46	259.79	1,777,355.62	2,199,831.78	39.93315	-108.35365	
7,456.61	2.48	159.89	7,398.00	-753.51	275.92	1,777,311.09	2,199,846.51	39.93303	-108.35360	
Ohio Creek										
7,500.00	1.82	159.89	7,441.36	-755.04	276.48	1,777,309.54	2,199,847.03	39.93303	-108.35359	
7,621.66	0.00	0.00	7,563.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359	
Vertical										



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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 343-26-198	<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
7,721.66	0.00	0.00	7,663.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Mesaverde - Mesaverde</b>									
8,000.00	0.00	0.00	7,941.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
8,500.00	0.00	0.00	8,441.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
9,000.00	0.00	0.00	8,941.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
9,271.66	0.00	0.00	9,213.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Approx. Top Gas</b>									
9,500.00	0.00	0.00	9,441.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
10,000.00	0.00	0.00	9,941.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
10,500.00	0.00	0.00	10,441.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
10,786.66	0.00	0.00	10,728.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Cameo Coals</b>									
11,000.00	0.00	0.00	10,941.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
11,361.66	0.00	0.00	11,303.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Rollins SS</b>									
11,500.00	0.00	0.00	11,441.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
11,501.66	0.00	0.00	11,443.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Cozzette</b>									
11,721.66	0.00	0.00	11,663.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Corcoran</b>									
12,000.00	0.00	0.00	11,941.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
12,091.66	0.00	0.00	12,033.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Upper Sego</b>									
12,341.66	0.00	0.00	12,283.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>Lower Sego</b>									
12,500.00	0.00	0.00	12,441.34	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
12,591.65	0.00	0.00	12,532.99	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>TD</b>									
12,591.66	0.00	0.00	12,533.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
<b>TD at 12591.66</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Mesaverde (25' Radius)	0.00	0.00	7,663.00	-756.86	277.15	1,777,307.70	2,199,847.63	39.93302	-108.35359
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,875.34	3,868.00	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 343-26-198	<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 (°)	
1,229.16	1,228.00	Green River Fm				
1,409.36	1,408.00	A Groove				
1,614.59	1,613.00	B Groove				
1,899.91	1,898.00	Dissolution Surface				
2,981.11	2,978.00	Garden Gulch				
3,156.30	3,153.00	Orange Marker				
3,371.54	3,368.00	Wasatch				
5,688.57	5,653.00	Top of "G" Sand				
6,044.10	6,003.00	Fort Union				
7,456.61	7,398.00	Ohio Creek				
7,721.66	7,663.00	Mesaverde				
9,271.66	9,213.00	Approx. Top Gas				
10,786.66	10,728.00	Cameo Coals				
11,361.66	11,303.00	Rollins SS				
11,501.66	11,443.00	Cozzette				
11,721.66	11,663.00	Corcoran				
12,091.66	12,033.00	Upper Sego				
12,341.66	12,283.00	Lower Sego				
12,591.65	12,532.99	TD		0.0000		

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 3.00	
210.00	209.97	-1.99	0.73	Hold 2.70 Inc, 159.89° azi	
3,503.69	3,500.00	-147.69	54.07	Start Build 3.00	
3,751.11	3,745.71	-173.61	63.57	Hold 10.12 Inclination	
6,946.81	6,891.66	-701.03	256.70	Start Drop -1.50	
7,621.66	7,563.00	-756.86	277.15	Vertical	
7,721.66	7,663.00	-756.86	277.15	Mesaverde	
12,591.66	12,533.00	-756.86	277.15	TD at 12591.66	