



PICEANCE HL NAD 83

RG 26-01S-098W

RGU 42-26-198

RGU 543-26-198 - Slot A2

Wellbore #1

Plan: Design #1 24Jan13 kjs

Standard Planning Report - Geographic

09 April, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RGU 543-26-198 - Slot A2
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
Project:	RG 26-01S-098W	MD Reference:	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
Site:	RGU 42-26-198	North Reference:	True
Well:	RGU 543-26-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 24Jan13 kjs		

Project	RG 26-01S-098W, Rio Blanco County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

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

Well	RGU 543-26-198 - Slot A2			
Well Position	+N/-S	0.00 usft	Northing:	1,778,060.50 usft
	+E/-W	0.00 usft	Easting:	2,199,585.90 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	6,622.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/24/2013	10.3617	65.9892	52,274

Design	Design #1 24Jan13 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	168.75

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	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	0.0000	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.0000	
310.00	5.40	168.75	309.73	-8.31	1.65	3.00	3.00	0.00	168.7500	
3,514.49	5.40	168.75	3,500.00	-304.09	60.49	0.00	0.00	0.00	0.0000	
3,973.93	19.18	168.75	3,947.83	-399.79	79.53	3.00	3.00	0.00	0.0000	
6,773.19	19.18	168.75	6,591.65	-1,301.92	259.00	0.00	0.00	0.00	0.0000	
7,732.36	0.00	0.00	7,533.00	-1,457.94	290.03	2.00	-2.00	0.00	180.0000	
7,832.36	0.00	0.00	7,633.00	-1,457.94	290.03	0.00	0.00	0.00	0.0000	Mesaverde (25' Radiu
12,697.36	0.00	0.00	12,498.00	-1,457.94	290.03	0.00	0.00	0.00	0.0000	



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Site:	RGU 42-26-198	North Reference:	True
Well:	RGU 543-26-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	1,778,060.50	2,199,585.90	39.93507	-108.35461	
130.00	0.00	0.00	130.00	0.00	0.00	1,778,060.50	2,199,585.90	39.93507	-108.35461	
Start Build 3.00										
310.00	5.40	168.75	309.73	-8.31	1.65	1,778,052.14	2,199,587.29	39.93504	-108.35460	
Hold 5.40 Inc, 168.75° azi										
500.00	5.40	168.75	498.89	-25.85	5.14	1,778,034.50	2,199,590.23	39.93500	-108.35459	
1,000.00	5.40	168.75	996.67	-72.00	14.32	1,777,988.09	2,199,597.95	39.93487	-108.35456	
1,232.36	5.40	168.75	1,228.00	-93.45	18.59	1,777,966.51	2,199,601.54	39.93481	-108.35454	
Green River Fm										
1,413.16	5.40	168.75	1,408.00	-110.14	21.91	1,777,949.73	2,199,604.34	39.93476	-108.35453	
A Groove										
1,500.00	5.40	168.75	1,494.45	-118.15	23.50	1,777,941.67	2,199,605.68	39.93474	-108.35453	
1,619.08	5.40	168.75	1,613.00	-129.14	25.69	1,777,930.62	2,199,607.52	39.93471	-108.35452	
B Groove										
1,905.35	5.40	168.75	1,898.00	-155.56	30.94	1,777,904.04	2,199,611.94	39.93464	-108.35450	
Dissolution Surface										
2,000.00	5.40	168.75	1,992.23	-164.30	32.68	1,777,895.25	2,199,613.40	39.93462	-108.35449	
2,500.00	5.40	168.75	2,490.01	-210.45	41.86	1,777,848.84	2,199,621.13	39.93449	-108.35446	
2,990.16	5.40	168.75	2,978.00	-255.69	50.86	1,777,803.34	2,199,628.70	39.93437	-108.35443	
Garden Gulch										
3,000.00	5.40	168.75	2,987.80	-256.60	51.04	1,777,802.42	2,199,628.85	39.93436	-108.35443	
3,165.94	5.40	168.75	3,153.00	-271.92	54.09	1,777,787.02	2,199,631.42	39.93432	-108.35442	
Orange Marker										
3,381.90	5.40	168.75	3,368.00	-291.85	58.05	1,777,766.97	2,199,634.75	39.93427	-108.35440	
Wasatch										
3,500.00	5.40	168.75	3,485.58	-302.75	60.22	1,777,756.01	2,199,636.58	39.93424	-108.35440	
3,514.49	5.40	168.75	3,500.00	-304.09	60.49	1,777,754.66	2,199,636.80	39.93423	-108.35439	
Start Build 3.00										
3,890.02	16.67	168.75	3,868.00	-374.46	74.48	1,777,683.88	2,199,648.58	39.93404	-108.35434	
9 5/8"										
3,973.93	19.18	168.75	3,947.83	-399.79	79.53	1,777,658.41	2,199,652.82	39.93397	-108.35433	
Hold 19.18 Inclination										
4,000.00	19.18	168.75	3,972.45	-408.19	81.20	1,777,649.96	2,199,654.23	39.93395	-108.35432	
4,500.00	19.18	168.75	4,444.69	-569.33	113.25	1,777,487.90	2,199,681.21	39.93350	-108.35421	
5,000.00	19.18	168.75	4,916.92	-730.47	145.31	1,777,325.83	2,199,708.19	39.93306	-108.35409	
5,500.00	19.18	168.75	5,389.16	-891.60	177.37	1,777,163.76	2,199,735.17	39.93262	-108.35398	
5,758.18	19.18	168.75	5,633.00	-974.81	193.92	1,777,080.08	2,199,749.10	39.93239	-108.35392	
Top of "G" Sand										
6,000.00	19.18	168.75	5,861.39	-1,052.74	209.42	1,777,001.70	2,199,762.14	39.93218	-108.35386	
6,123.46	19.18	168.75	5,978.00	-1,092.53	217.34	1,776,961.68	2,199,768.81	39.93207	-108.35383	
Fort Union										
6,500.00	19.18	168.75	6,333.63	-1,213.88	241.48	1,776,839.63	2,199,789.12	39.93173	-108.35375	
6,773.19	19.18	168.75	6,591.65	-1,301.92	259.00	1,776,751.08	2,199,803.86	39.93149	-108.35369	
Start Drop -2.00										
7,000.00	14.65	168.75	6,808.59	-1,366.63	271.87	1,776,686.00	2,199,814.70	39.93132	-108.35364	
7,500.00	4.65	168.75	7,300.89	-1,448.71	288.20	1,776,603.45	2,199,828.44	39.93109	-108.35358	
7,567.27	3.30	168.75	7,368.00	-1,453.28	289.11	1,776,598.85	2,199,829.20	39.93108	-108.35358	
Ohio Creek										
7,732.36	0.00	0.00	7,533.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358	
Vertical										



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Site:	RGU 42-26-198	North Reference:	True
Well:	RGU 543-26-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
7,832.36	0.00	0.00	7,633.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Mesaverde - Mesaverde									
8,000.00	0.00	0.00	7,800.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
8,500.00	0.00	0.00	8,300.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
9,000.00	0.00	0.00	8,800.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
9,442.36	0.00	0.00	9,243.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Approx. Top Gas									
9,500.00	0.00	0.00	9,300.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
10,000.00	0.00	0.00	9,800.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
10,500.00	0.00	0.00	10,300.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
10,877.36	0.00	0.00	10,678.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Cameo Coals									
11,000.00	0.00	0.00	10,800.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
11,467.36	0.00	0.00	11,268.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Rollins SS									
11,500.00	0.00	0.00	11,300.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
11,612.36	0.00	0.00	11,413.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Cozzette									
11,827.36	0.00	0.00	11,628.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Corcoran									
12,000.00	0.00	0.00	11,800.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
12,202.36	0.00	0.00	12,003.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Upper Sego									
12,447.36	0.00	0.00	12,248.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
Lower Sego									
12,500.00	0.00	0.00	12,300.64	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
12,697.36	0.00	0.00	12,498.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358
TD at 12697.36 - TD									

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	7,633.00	-1,457.94	290.03	1,776,594.16	2,199,829.99	39.93107	-108.35358

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,890.02	3,868.00	9 5/8"	9.625	13.500	



Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RGU 543-26-198 - Slot A2
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Project:	RG 26-01S-098W	MD Reference:	KELLY BUSHING @ 6643.00usft (Cyclone 29 (21' RKB) kjs)
Site:	RGU 42-26-198	North Reference:	True
Well:	RGU 543-26-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 24Jan13 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,232.36	1,228.00	Green River Fm				
1,413.16	1,408.00	A Groove				
1,619.08	1,613.00	B Groove				
1,905.35	1,898.00	Dissolution Surface				
2,990.16	2,978.00	Garden Gulch				
3,165.94	3,153.00	Orange Marker				
3,381.90	3,368.00	Wasatch				
5,758.18	5,633.00	Top of "G" Sand				
6,123.46	5,978.00	Fort Union				
7,567.27	7,368.00	Ohio Creek				
7,832.36	7,633.00	Mesaverde				
9,442.36	9,243.00	Approx. Top Gas				
10,877.36	10,678.00	Cameo Coals				
11,467.36	11,268.00	Rollins SS				
11,612.36	11,413.00	Cozzette				
11,827.36	11,628.00	Corcoran				
12,202.36	12,003.00	Upper Sego				
12,447.36	12,248.00	Lower Sego				
12,697.36	12,498.00	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
130.00	130.00	0.00	0.00	Start Build 3.00	
310.00	309.73	-8.31	1.65	Hold 5.40 Inc, 168.75° azi	
3,514.49	3,500.00	-304.09	60.49	Start Build 3.00	
3,973.93	3,947.83	-399.79	79.53	Hold 19.18 Inclination	
6,773.19	6,591.65	-1,301.92	259.00	Start Drop -2.00	
7,732.36	7,533.00	-1,457.94	290.03	Vertical	
7,832.36	7,633.00	-1,457.94	290.03	Mesaverde	
12,697.36	12,498.00	-1,457.94	290.03	TD at 12697.36	