



PICEANCE HL NAD 83

RG 23-01S-098W

RGU 43-23-198 Pad

RGU 433-23-198 - Slot B6

Wellbore #1

Plan: Design #2 15Jan13 kjs

Standard Planning Report - Geographic

10 April, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RGU 433-23-198 - Slot B6
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6588.00usft (Cyclone 29 (21' RKB) kjs)
Project:	RG 23-01S-098W	MD Reference:	KELLY BUSHING @ 6588.00usft (Cyclone 29 (21' RKB) kjs)
Site:	RGU 43-23-198 Pad	North Reference:	True
Well:	RGU 433-23-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 15Jan13 kjs		

Project	RG 23-01S-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 43-23-198 Pad			
Site Position:		Northing:	1,781,556.00 usft	Latitude: 39.94469
From: Map		Easting:	2,199,927.00 usft	Longitude: -108.35379
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.7999 °

Well	RGU 433-23-198 - Slot B6			
Well Position	+N/-S	0.00 usft	Northing:	1,781,564.50 usft
	+E/-W	0.00 usft	Easting:	2,199,968.70 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	6,567.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/27/2012	10.4375	66.0132	52,337

Design	Design #2 15Jan13 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	299.41

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.0000	
236.67	3.50	299.41	236.59	1.75	-3.10	3.00	3.00	0.00	299.4100	
3,506.17	3.50	299.41	3,500.00	99.76	-176.98	0.00	0.00	0.00	0.0000	
4,124.00	22.03	299.41	4,099.93	166.52	-295.40	3.00	3.00	0.00	0.0000	
6,384.11	22.03	299.41	6,194.95	582.87	-1,034.07	0.00	0.00	0.00	0.0000	
7,853.10	0.00	0.00	7,628.00	719.88	-1,277.13	1.50	-1.50	0.00	180.0000	
7,953.10	0.00	0.00	7,728.00	719.88	-1,277.13	0.00	0.00	0.00	0.0000	Mesaverde (25' Radiu
12,783.10	0.00	0.00	12,558.00	719.88	-1,277.13	0.00	0.00	0.00	0.0000	



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Site:	RGU 43-23-198 Pad	North Reference:	True
Well:	RGU 433-23-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 15Jan13 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	1,781,564.50	2,199,968.70	39.94471	-108.35364	
120.00	0.00	0.00	120.00	0.00	0.00	1,781,564.50	2,199,968.70	39.94471	-108.35364	
Start Build 3.00										
236.67	3.50	299.41	236.59	1.75	-3.10	1,781,566.35	2,199,965.65	39.94472	-108.35365	
Hold 3.50 Inc, 299.41° azi										
500.00	3.50	299.41	499.44	9.64	-17.11	1,781,574.68	2,199,951.90	39.94474	-108.35370	
1,000.00	3.50	299.41	998.50	24.63	-43.70	1,781,590.49	2,199,925.80	39.94478	-108.35379	
1,204.88	3.50	299.41	1,203.00	30.77	-54.59	1,781,596.97	2,199,915.10	39.94480	-108.35383	
Green River Fm										
1,400.24	3.50	299.41	1,398.00	36.63	-64.98	1,781,603.15	2,199,904.90	39.94481	-108.35387	
A Groove										
1,500.00	3.50	299.41	1,497.57	39.62	-70.29	1,781,606.31	2,199,899.69	39.94482	-108.35389	
1,590.60	3.50	299.41	1,588.00	42.34	-75.11	1,781,609.18	2,199,894.96	39.94483	-108.35391	
B Groove										
1,896.17	3.50	299.41	1,893.00	51.50	-91.36	1,781,618.84	2,199,879.00	39.94486	-108.35396	
Dissolution Surface										
2,000.00	3.50	299.41	1,996.64	54.61	-96.88	1,781,622.13	2,199,873.58	39.94486	-108.35398	
2,500.00	3.50	299.41	2,495.71	69.60	-123.47	1,781,637.94	2,199,847.48	39.94490	-108.35408	
2,998.22	3.50	299.41	2,993.00	84.54	-149.97	1,781,653.70	2,199,821.46	39.94495	-108.35417	
Garden Gulch										
3,000.00	3.50	299.41	2,994.77	84.59	-150.06	1,781,653.76	2,199,821.37	39.94495	-108.35417	
3,168.54	3.50	299.41	3,163.00	89.64	-159.02	1,781,659.09	2,199,812.57	39.94496	-108.35420	
Orange Marker										
3,388.95	3.50	299.41	3,383.00	96.25	-170.75	1,781,666.06	2,199,801.06	39.94498	-108.35425	
Wasatch										
3,500.00	3.50	299.41	3,493.84	99.58	-176.65	1,781,669.58	2,199,795.26	39.94499	-108.35427	
3,506.17	3.50	299.41	3,500.00	99.76	-176.98	1,781,669.77	2,199,794.94	39.94499	-108.35427	
Start Build 3.00										
3,894.98	15.16	299.41	3,883.00	130.67	-231.81	1,781,702.39	2,199,741.11	39.94507	-108.35446	
9 5/8"										
4,000.00	18.31	299.41	3,983.56	145.52	-258.15	1,781,718.06	2,199,715.24	39.94511	-108.35456	
4,124.00	22.03	299.41	4,099.93	166.52	-295.40	1,781,740.21	2,199,678.67	39.94517	-108.35469	
Hold 22.03 Inclination										
4,500.00	22.03	299.41	4,448.46	235.78	-418.29	1,781,813.30	2,199,558.02	39.94536	-108.35513	
5,000.00	22.03	299.41	4,911.94	327.89	-581.70	1,781,910.50	2,199,397.58	39.94561	-108.35571	
5,500.00	22.03	299.41	5,375.42	420.00	-745.12	1,782,007.70	2,199,237.14	39.94587	-108.35630	
5,842.61	22.03	299.41	5,693.00	483.12	-857.09	1,782,074.30	2,199,127.20	39.94604	-108.35669	
Top of "G" Sand										
6,000.00	22.03	299.41	5,838.90	512.11	-908.53	1,782,104.89	2,199,076.70	39.94612	-108.35688	
6,236.37	22.03	299.41	6,058.00	555.66	-985.78	1,782,150.84	2,199,000.85	39.94624	-108.35715	
Fort Union										
6,384.11	22.03	299.41	6,194.95	582.87	-1,034.07	1,782,179.56	2,198,953.45	39.94631	-108.35733	
Start Drop -1.50										
6,500.00	20.30	299.41	6,303.02	603.42	-1,070.52	1,782,201.24	2,198,917.66	39.94637	-108.35746	
7,000.00	12.80	299.41	6,781.97	673.29	-1,194.48	1,782,274.97	2,198,795.95	39.94656	-108.35790	
7,500.00	5.30	299.41	7,275.40	711.87	-1,262.92	1,782,315.68	2,198,728.76	39.94667	-108.35814	
7,683.05	2.55	299.41	7,458.00	718.02	-1,273.83	1,782,322.17	2,198,718.05	39.94668	-108.35818	
Ohio Creek										
7,853.10	0.00	0.00	7,628.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819	
Vertical										



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Site:	RGU 43-23-198 Pad	North Reference:	True
Well:	RGU 433-23-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 15Jan13 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
7,953.10	0.00	0.00	7,728.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Mesaverde - Mesaverde									
8,000.00	0.00	0.00	7,774.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
8,500.00	0.00	0.00	8,274.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
9,000.00	0.00	0.00	8,774.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
9,063.10	0.00	0.00	8,838.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Approx. Top Gas									
9,500.00	0.00	0.00	9,274.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
10,000.00	0.00	0.00	9,774.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
10,500.00	0.00	0.00	10,274.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
10,983.10	0.00	0.00	10,758.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Cameo Coals									
11,000.00	0.00	0.00	10,774.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
11,500.00	0.00	0.00	11,274.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
11,558.10	0.00	0.00	11,333.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Rollins SS									
11,683.10	0.00	0.00	11,458.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Cozzette									
11,913.10	0.00	0.00	11,688.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Corcoran									
12,000.00	0.00	0.00	11,774.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
12,303.10	0.00	0.00	12,078.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Upper Sego									
12,500.00	0.00	0.00	12,274.90	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
12,533.10	0.00	0.00	12,308.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
Lower Sego									
12,783.10	0.00	0.00	12,558.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819
TD at 12783.10									

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	7,728.00	719.88	-1,277.13	1,782,324.13	2,198,714.81	39.94669	-108.35819

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,894.98	3,883.00	9 5/8"	9.625	14.750	



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Well:	RGU 433-23-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 15Jan13 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,204.88	1,203.00	Green River Fm				
1,400.24	1,398.00	A Groove				
1,590.60	1,588.00	B Groove				
1,896.17	1,893.00	Dissolution Surface				
2,998.22	2,993.00	Garden Gulch				
3,168.54	3,163.00	Orange Marker				
3,388.95	3,383.00	Wasatch				
5,842.61	5,693.00	Top of "G" Sand				
6,236.37	6,058.00	Fort Union				
7,683.05	7,458.00	Ohio Creek				
7,953.10	7,728.00	Mesaverde				
9,063.10	8,838.00	Approx. Top Gas				
10,983.10	10,758.00	Cameo Coals				
11,558.10	11,333.00	Rollins SS				
11,683.10	11,458.00	Cozzette				
11,913.10	11,688.00	Corcoran				
12,303.10	12,078.00	Upper Sego				
12,533.10	12,308.00	Lower Sego				
12,783.10	12,558.00	TD				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.00
236.67	236.59	1.75	-3.10	Hold 3.50 Inc, 299.41° azi
3,506.17	3,500.00	99.76	-176.98	Start Build 3.00
4,124.00	4,099.93	166.52	-295.40	Hold 22.03 Inclination
6,384.11	6,194.95	582.87	-1,034.07	Start Drop -1.50
7,853.10	7,628.00	719.88	-1,277.13	Vertical
7,953.10	7,728.00	719.88	-1,277.13	Mesaverde
12,783.10	12,558.00	719.88	-1,277.13	TD at 12783.10