



## **PICEANCE HL NAD 83**

**RG 36-01S-098W**

**RGU 33-36-198 Pad**

**RGU 344-36-198 - Slot B4**

**Wellbore #1**

**Plan: Design #1 19Oct11 kjs**

## **Standard Planning Report - Geographic**

**05 March, 2012**



**WPX Energy**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RGU 344-36-198 - Slot B4
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	WELL @ 6595.00usft (Original Well Elev)
<b>Project:</b>	RG 36-01S-098W	<b>MD Reference:</b>	WELL @ 6595.00usft (Original Well Elev)
<b>Site:</b>	RGU 33-36-198 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RGU 344-36-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 19Oct11 kjs		

<b>Project</b>	RG 36-01S-098W, Rio Blanco County, CO, RG 36-01S-098W		
<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	RGU 33-36-198 Pad				
Site Position:		Northing:	1,771,032.40 usft	Latitude:	39° 54' 58.026 N
From:	Map	Easting:	2,203,480.60 usft	Longitude:	108° 20' 23.794 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.791 °

Well	RGU 344-36-198 - Slot B4					
Well Position	+N/-S	0.00 usft	Northing:	1,771,046.50 usft	Latitude:	39° 54' 58.181 N
	+E/-W	0.00 usft	Easting:	2,203,532.10 usft	Longitude:	108° 20' 23.139 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,574.00 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>
	IGRF2005-10	10/19/2011	10.489	66.023	52,428

<b>Design</b>	Design #1 19Oct11 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	108.22

<b>Plan Sections</b>										
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	0.000	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.000	
668.97	10.98	108.22	665.61	-16.40	49.81	2.00	2.00	0.00	108.223	
6,782.78	10.98	108.22	6,667.52	-380.52	1,155.82	0.00	0.00	0.00	0.000	
7,514.73	0.00	0.00	7,395.00	-402.38	1,222.23	1.50	-1.50	0.00	180.000	
7,614.73	0.00	0.00	7,495.00	-402.38	1,222.23	0.00	0.00	0.00	0.000	Mesaverde (25' Radiu
12,564.73	0.00	0.00	12,445.00	-402.38	1,222.23	0.00	0.00	0.00	0.000	



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<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	WELL @ 6595.00usft (Original Well Elev)
<b>Project:</b>	RG 36-01S-098W	<b>MD Reference:</b>	WELL @ 6595.00usft (Original Well Elev)
<b>Site:</b>	RGU 33-36-198 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RGU 344-36-198	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 19Oct11 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	1,771,046.50	2,203,532.10	39° 54' 58.181 N	108° 20' 23.139 W
120.00	0.00	0.00	120.00	0.00	0.00	1,771,046.50	2,203,532.10	39° 54' 58.181 N	108° 20' 23.139 W
<b>Start Build 2.00</b>									
668.97	10.98	108.22	665.61	-16.40	49.81	1,771,028.55	2,203,581.37	39° 54' 58.019 N	108° 20' 22.499 W
<b>Hold 10.98 Inclination</b>									
1,085.99	10.98	108.22	1,075.00	-41.23	125.25	1,771,001.37	2,203,656.00	39° 54' 57.774 N	108° 20' 21.531 W
<b>Green River Fm</b>									
1,238.78	10.98	108.22	1,225.00	-50.33	152.89	1,770,991.41	2,203,683.35	39° 54' 57.684 N	108° 20' 21.176 W
<b>A Groove</b>									
1,432.33	10.98	108.22	1,415.00	-61.86	187.90	1,770,978.79	2,203,717.98	39° 54' 57.570 N	108° 20' 20.727 W
<b>B Groove</b>									
1,737.92	10.98	108.22	1,715.00	-80.06	243.19	1,770,958.87	2,203,772.67	39° 54' 57.390 N	108° 20' 20.018 W
<b>Dissolution Surface</b>									
2,761.66	10.98	108.22	2,720.00	-141.03	428.38	1,770,892.14	2,203,955.88	39° 54' 56.787 N	108° 20' 17.641 W
<b>Garden Gulch</b>									
2,939.92	10.98	108.22	2,895.00	-151.65	460.63	1,770,880.52	2,203,987.78	39° 54' 56.682 N	108° 20' 17.227 W
<b>Orange Marker</b>									
3,164.02	10.98	108.22	3,115.00	-165.00	501.17	1,770,865.91	2,204,027.89	39° 54' 56.551 N	108° 20' 16.707 W
<b>Wasatch</b>									
3,673.35	10.98	108.22	3,615.00	-195.33	593.31	1,770,832.71	2,204,119.04	39° 54' 56.251 N	108° 20' 15.524 W
<b>9 5/8"</b>									
5,578.21	10.98	108.22	5,485.00	-308.78	937.91	1,770,708.55	2,204,459.93	39° 54' 55.129 N	108° 20' 11.102 W
<b>G' Sand</b>									
5,924.55	10.98	108.22	5,825.00	-329.40	1,000.56	1,770,685.97	2,204,521.91	39° 54' 54.926 N	108° 20' 10.298 W
<b>Ft. Union</b>									
6,782.78	10.98	108.22	6,667.52	-380.52	1,155.82	1,770,630.03	2,204,675.50	39° 54' 54.420 N	108° 20' 8.305 W
<b>Start Drop -1.50</b>									
7,314.64	3.00	108.22	7,195.00	-400.74	1,217.25	1,770,607.89	2,204,736.28	39° 54' 54.221 N	108° 20' 7.517 W
<b>Ohio Creek</b>									
7,514.73	0.00	0.00	7,395.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Vertical</b>									
7,614.73	0.00	0.00	7,495.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Mesaverde - Mesaverde - Mesaverde (25' Radius) RGU 344-36-198</b>									
9,014.73	0.00	0.00	8,895.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Top Gas</b>									
10,754.73	0.00	0.00	10,635.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Cameo Coals</b>									
11,314.73	0.00	0.00	11,195.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Rollins SS</b>									
11,454.73	0.00	0.00	11,335.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Cozzette</b>									
11,684.73	0.00	0.00	11,565.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Corcoran</b>									
12,069.73	0.00	0.00	11,950.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Upper Sego</b>									
12,314.73	0.00	0.00	12,195.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>Lower Sego</b>									
12,564.73	0.00	0.00	12,445.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
<b>TD at 12564.73 - TD</b>									



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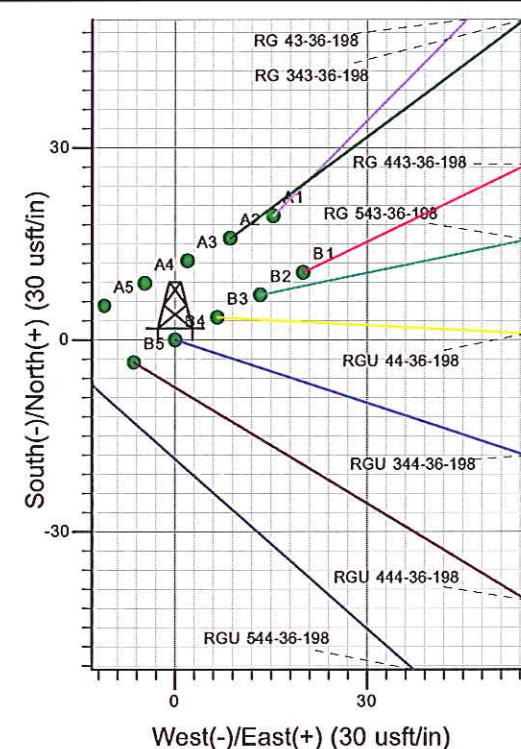
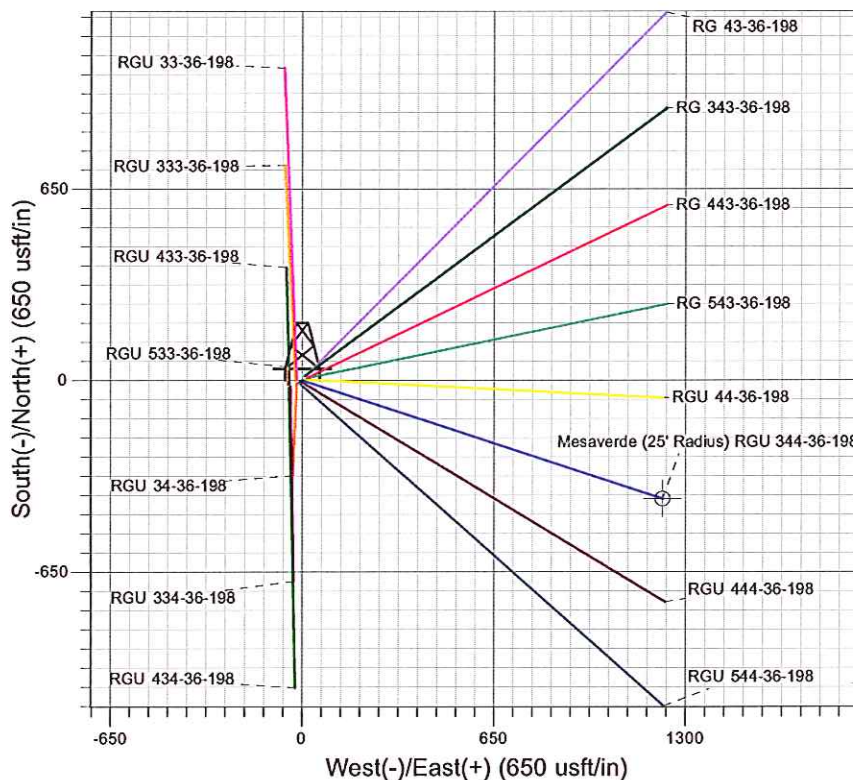
Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RGU 344-36-198 - Slot B4
Company:	PICEANCE HL NAD 83	TVD Reference:	WELL @ 6595.00usft (Original Well Elev)
Project:	RG 36-01S-098W	MD Reference:	WELL @ 6595.00usft (Original Well Elev)
Site:	RGU 33-36-198 Pad	North Reference:	True
Well:	RGU 344-36-198	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 19Oct11 kjs		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Mesaverde (25' Radius)	0.00	0.00	7,495.00	-402.38	1,222.23	1,770,606.10	2,204,741.20	39° 54' 54.204 N	108° 20' 7.453 W
- plan hits target center									
- Circle (radius 25.00)									

Casing Points				
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(in)	(in)
3,673.35	3,615.00	9 5/8"	9.625	14.750

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
1,085.99	1,075.00	Green River Fm				
1,238.78	1,225.00	A Groove				
1,432.33	1,415.00	B Groove				
1,737.92	1,715.00	Dissolution Surface				
2,761.66	2,720.00	Garden Gulch				
2,939.92	2,895.00	Orange Marker				
3,164.02	3,115.00	Wasatch				
5,578.21	5,485.00	G' Sand				
5,924.55	5,825.00	Ft. Union				
7,314.64	7,195.00	Ohio Creek				
7,614.73	7,495.00	Mesaverde				
9,014.73	8,895.00	Top Gas				
10,754.73	10,635.00	Cameo Coals				
11,314.73	11,195.00	Rollins SS				
11,454.73	11,335.00	Cozzette				
11,684.73	11,565.00	Corcoran				
12,069.73	11,950.00	Upper Sego				
12,314.73	12,195.00	Lower Sego				
12,564.73	12,445.00	TD				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
		(usft)	(usft)	
120.00	120.00	0.00	0.00	Start Build 2.00
668.97	665.61	-16.40	49.81	Hold 10.98 Inclination
6,782.78	6,667.52	-380.52	1,155.82	Start Drop -1.50
7,514.73	7,395.00	-402.38	1,222.23	Vertical
7,614.73	7,495.00	-402.38	1,222.23	Mesaverde
12,564.73	12,445.00	-402.38	1,222.23	TD at 12564.73



Project: RG 36-01S-098W  
Site: RGU 33-36-198 Pad  
Well: RGU 344-36-198  
Design #1 19Oct11 kjs



Azimuths to True North  
Magnetic North: 10.49°  
Magnetic Field  
Strength: 52428.3nT  
Dip Angle: 66.02°  
Date: 10/19/2011  
Model: IGRF2005-10

## ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	Start Build 2.00
668.97	10.98	108.22	665.61	-16.40	49.81	52.44	52.44	Hold 10.98 Inclination
6782.78	10.98	108.22	6667.51	-380.52	1155.82	1216.84	1216.84	Start Drop -1.50
7514.73	0.00	0.00	7395.00	-402.38	1222.23	1286.76	1286.76	Vertical
7614.73	0.00	0.00	7495.00	-402.38	1222.23	1286.76	1286.76	Mesaverde
12564.73	0.00	0.00	12445.00	-402.38	1222.23	1286.76	1286.76	TD at 12564.73