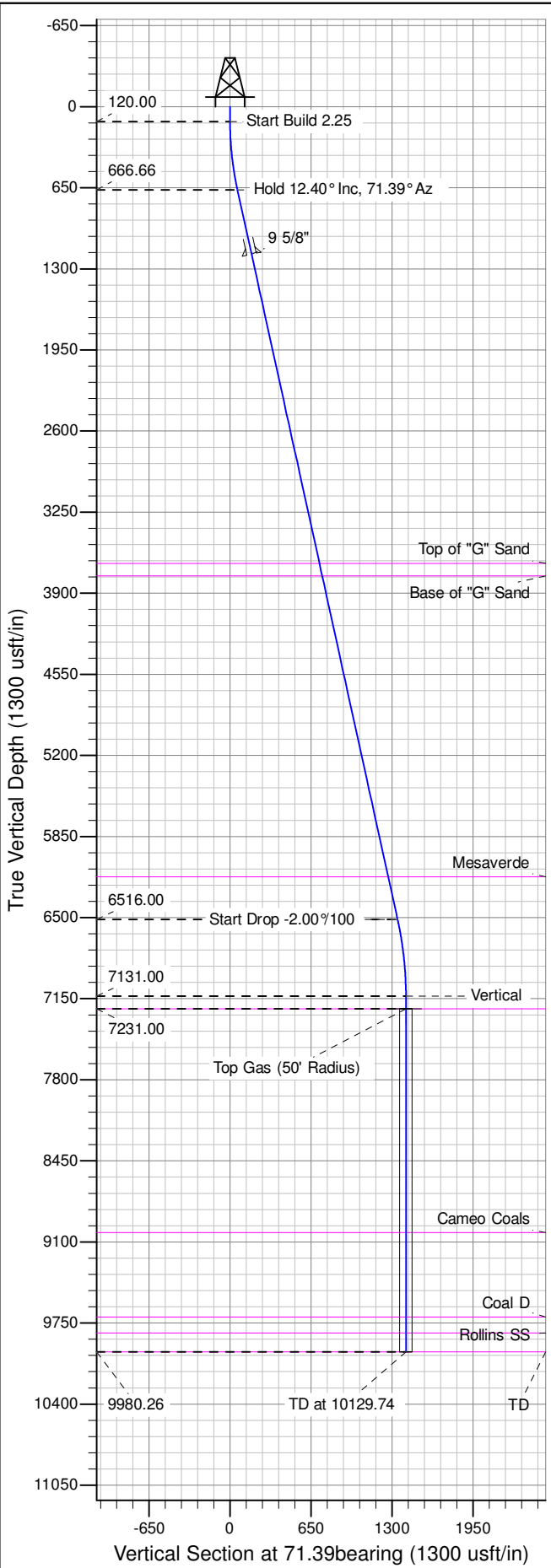
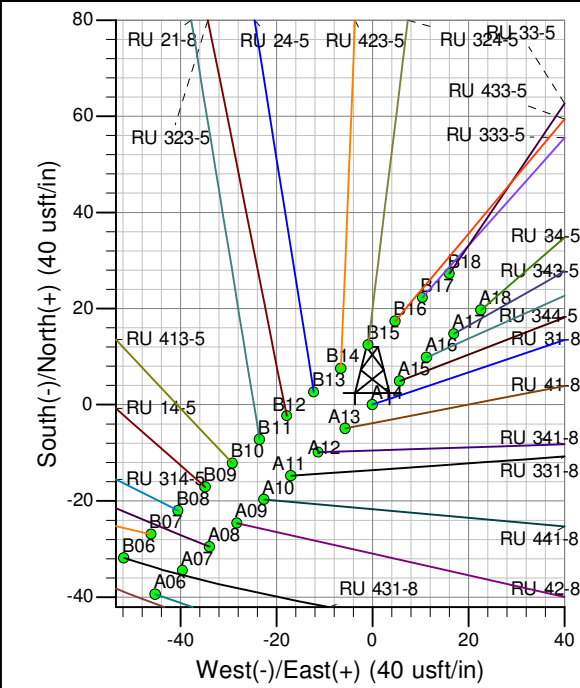
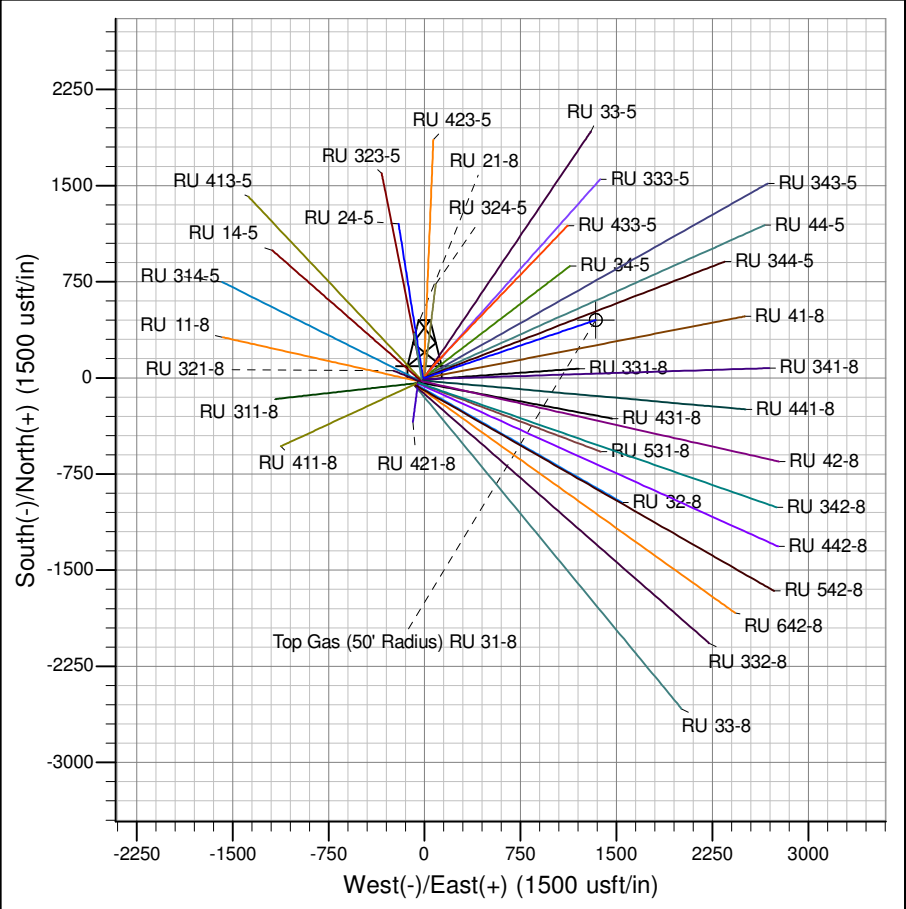




Well Name: RU 31-8  
Surface Location: RU 21-8 Pad  
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 7736.00  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 1602688.58 2350532.48 39.46557 -107.80069 A14  
KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)



ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
120.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.25	Start Build 2.25
666.66	670.95	12.40	71.39	18.95	56.27	59.37	59.37	Hold 12.40° Inc, 71.39° Az	Hold 12.40° Inc, 71.39° Az
6516.00	6659.92	12.40	71.39	429.23	1274.72	1345.05	1345.05	Start Drop -2.00%/100	Start Drop -2.00%/100
7131.00	7279.74	0.00	0.00	450.54	1338.02	1411.84	1411.84	Vertical	Vertical
7231.00	7379.74	0.00	0.00	450.54	1338.02	1411.84	1411.84	Top Gas	Top Gas
9980.26	10129.00	0.00	0.00	450.54	1338.02	1411.84	1411.84	TD at 10129.74	TD at 10129.74



Azimuths to True North  
Magnetic North: 9.84°

Magnetic Field  
Strength: 51918.2snT  
Dip Angle: 65.66°  
Date: 9/8/2014  
Model: IGRF2010

Project: RU 08-07S-093W  
Site: RU 21-8 Pad  
Well: RU 31-8  
Design #1 08Sep14 mab

# **PICEANCE VLY NAD 83**

**RU 08-07S-093W**

**RU 21-8 Pad**

**RU 31-8 - Slot A14**

**Wellbore #1**

**Plan: Design #1 08Sep14 mab**

## **Standard Planning Report - Geographic**

**28 November, 2014**

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 31-8 - Slot A14
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 08-07S-093W	<b>MD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RU 21-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 31-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 08Sep14 mab		

<b>Project</b>	RU 08-07S-093W		
<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>	RU 21-8 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,602,707.70 usft	<b>Latitude:</b> 39.46563
<b>From:</b> Map		<b>Easting:</b>	2,350,555.60 usft	<b>Longitude:</b> -107.80061
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.45 °

<b>Well</b>	RU 31-8 - Slot A14			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,602,688.57 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,350,532.49 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	0.00 usft
			<b>Ground Level:</b>	7,736.00 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	9/8/2014	9.84	65.66	51,918

<b>Design</b>	Design #1 08Sep14 mab			
<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 (bearing)</b>
	0.00	0.00	0.00	71.39

<b>Plan Sections</b>										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	0.00	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
670.95	12.40	71.39	666.66	18.95	56.27	2.25	2.25	0.00	71.39	
6,659.92	12.40	71.39	6,516.00	429.23	1,274.72	0.00	0.00	0.00	0.00	
7,279.74	0.00	0.00	7,131.00	450.54	1,338.02	2.00	-2.00	0.00	180.00	
7,379.74	0.00	0.00	7,231.00	450.54	1,338.02	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
10,129.74	0.00	0.00	9,981.00	450.54	1,338.02	0.00	0.00	0.00	0.00	

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 31-8 - Slot A14
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 08-07S-093W	<b>MD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RU 21-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 31-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 08Sep14 mab		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	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	1,602,688.57	2,350,532.49	39.46557	-107.80069
120.00	0.00	0.00	120.00	0.00	0.00	1,602,688.57	2,350,532.49	39.46557	-107.80069
<b>Start Build 2.25</b>									
200.00	1.80	71.39	199.99	0.40	1.19	1,602,688.94	2,350,533.69	39.46558	-107.80069
400.00	6.30	71.39	399.44	4.91	14.57	1,602,693.11	2,350,547.18	39.46559	-107.80064
600.00	10.80	71.39	597.16	14.39	42.75	1,602,701.88	2,350,575.58	39.46561	-107.80054
670.95	12.40	71.39	666.66	18.95	56.27	1,602,706.09	2,350,589.21	39.46563	-107.80050
<b>Hold 12.40° Inc, 71.39° Az</b>									
800.00	12.40	71.39	792.70	27.79	82.52	1,602,714.26	2,350,615.68	39.46565	-107.80040
1,000.00	12.40	71.39	988.04	41.49	123.21	1,602,726.93	2,350,656.71	39.46569	-107.80026
1,200.00	12.40	71.39	1,183.38	55.19	163.90	1,602,739.59	2,350,697.73	39.46573	-107.80011
<b>9 5/8"</b>									
1,400.00	12.40	71.39	1,378.71	68.89	204.59	1,602,752.26	2,350,738.76	39.46576	-107.79997
1,600.00	12.40	71.39	1,574.05	82.59	245.28	1,602,764.93	2,350,779.78	39.46580	-107.79983
1,800.00	12.40	71.39	1,769.39	96.29	285.97	1,602,777.59	2,350,820.80	39.46584	-107.79968
2,000.00	12.40	71.39	1,964.73	109.99	326.66	1,602,790.26	2,350,861.83	39.46588	-107.79954
2,200.00	12.40	71.39	2,160.06	123.70	367.35	1,602,802.93	2,350,902.85	39.46591	-107.79939
2,400.00	12.40	71.39	2,355.40	137.40	408.04	1,602,815.59	2,350,943.88	39.46595	-107.79925
2,600.00	12.40	71.39	2,550.74	151.10	448.73	1,602,828.26	2,350,984.90	39.46599	-107.79910
2,800.00	12.40	71.39	2,746.07	164.80	489.42	1,602,840.93	2,351,025.92	39.46603	-107.79896
3,000.00	12.40	71.39	2,941.41	178.50	530.11	1,602,853.59	2,351,066.95	39.46606	-107.79882
3,200.00	12.40	71.39	3,136.75	192.20	570.80	1,602,866.26	2,351,107.97	39.46610	-107.79867
3,400.00	12.40	71.39	3,332.09	205.90	611.49	1,602,878.93	2,351,149.00	39.46614	-107.79853
3,600.00	12.40	71.39	3,527.42	219.60	652.18	1,602,891.59	2,351,190.02	39.46618	-107.79838
3,736.77	12.40	71.39	3,661.00	228.97	680.01	1,602,900.25	2,351,218.07	39.46620	-107.79829
<b>Top of "G" Sand</b>									
3,800.00	12.40	71.39	3,722.76	233.31	692.87	1,602,904.26	2,351,231.04	39.46621	-107.79824
3,839.15	12.40	71.39	3,761.00	235.99	700.84	1,602,906.74	2,351,239.08	39.46622	-107.79821
<b>Base of "G" Sand</b>									
4,000.00	12.40	71.39	3,918.10	247.01	733.56	1,602,916.93	2,351,272.07	39.46625	-107.79810
4,200.00	12.40	71.39	4,113.43	260.71	774.25	1,602,929.59	2,351,313.09	39.46629	-107.79795
4,400.00	12.40	71.39	4,308.77	274.41	814.94	1,602,942.26	2,351,354.12	39.46633	-107.79781
4,600.00	12.40	71.39	4,504.11	288.11	855.63	1,602,954.92	2,351,395.14	39.46637	-107.79766
4,800.00	12.40	71.39	4,699.45	301.81	896.32	1,602,967.59	2,351,436.16	39.46640	-107.79752
5,000.00	12.40	71.39	4,894.78	315.51	937.01	1,602,980.26	2,351,477.19	39.46644	-107.79738
5,200.00	12.40	71.39	5,090.12	329.21	977.70	1,602,992.92	2,351,518.21	39.46648	-107.79723
5,400.00	12.40	71.39	5,285.46	342.92	1,018.39	1,603,005.59	2,351,559.24	39.46652	-107.79709
5,600.00	12.40	71.39	5,480.79	356.62	1,059.08	1,603,018.26	2,351,600.26	39.46655	-107.79694
5,800.00	12.40	71.39	5,676.13	370.32	1,099.77	1,603,030.92	2,351,641.28	39.46659	-107.79680
6,000.00	12.40	71.39	5,871.47	384.02	1,140.46	1,603,043.59	2,351,682.31	39.46663	-107.79665
6,200.00	12.40	71.39	6,066.81	397.72	1,181.15	1,603,056.26	2,351,723.33	39.46667	-107.79651
6,309.75	12.40	71.39	6,174.00	405.24	1,203.48	1,603,063.21	2,351,745.85	39.46669	-107.79643
<b>Mesaverde</b>									
6,400.00	12.40	71.39	6,262.14	411.42	1,221.84	1,603,068.92	2,351,764.36	39.46670	-107.79637
6,600.00	12.40	71.39	6,457.48	425.12	1,262.53	1,603,081.59	2,351,805.38	39.46674	-107.79622
6,659.92	12.40	71.39	6,516.00	429.23	1,274.72	1,603,085.38	2,351,817.67	39.46675	-107.79618
<b>Start Drop -2.00°/100</b>									
6,800.00	9.59	71.39	6,653.50	437.75	1,300.04	1,603,093.27	2,351,843.20	39.46678	-107.79609
7,000.00	5.59	71.39	6,851.70	446.19	1,325.09	1,603,101.06	2,351,868.45	39.46680	-107.79600
7,200.00	1.59	71.39	7,051.27	450.19	1,336.97	1,603,104.76	2,351,880.43	39.46681	-107.79596
7,279.74	0.00	0.00	7,131.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>Vertical</b>									

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 31-8 - Slot A14
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 08-07S-093W	<b>MD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RU 21-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 31-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 08Sep14 mab		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
7,379.74	0.00	0.00	7,231.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>Top Gas - Approx. Top Gas</b>									
7,400.00	0.00	0.00	7,251.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
7,600.00	0.00	0.00	7,451.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
7,800.00	0.00	0.00	7,651.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
8,000.00	0.00	0.00	7,851.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
8,200.00	0.00	0.00	8,051.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
8,400.00	0.00	0.00	8,251.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
8,600.00	0.00	0.00	8,451.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
8,800.00	0.00	0.00	8,651.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,000.00	0.00	0.00	8,851.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,172.74	0.00	0.00	9,024.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>Cameo Coals</b>									
9,200.00	0.00	0.00	9,051.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,400.00	0.00	0.00	9,251.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,600.00	0.00	0.00	9,451.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,800.00	0.00	0.00	9,651.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
9,850.74	0.00	0.00	9,702.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>Coal D</b>									
9,979.74	0.00	0.00	9,831.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>Rollins SS</b>									
10,000.00	0.00	0.00	9,851.26	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
10,129.74	0.00	0.00	9,981.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595
<b>TD at 10129.74</b>									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (50' Radius) RL - plan hits target center - Circle (radius 50.00)	0.00	358.55	7,231.00	450.54	1,338.02	1,603,105.09	2,351,881.49	39.46681	-107.79595

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,200.00	1,183.38	9 5/8"	9.625	13.500	

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 31-8 - Slot A14
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 08-07S-093W	<b>MD Reference:</b>	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RU 21-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RU 31-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 08Sep14 mab		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
3,736.77	3,661.00	Top of "G" Sand				
3,839.15	3,761.00	Base of "G" Sand				
6,309.75	6,174.00	Mesaverde				
7,379.74	7,231.00	Approx. Top Gas				
9,172.74	9,024.00	Cameo Coals				
9,850.74	9,702.00	Coal D				
9,979.74	9,831.00	Rollins SS				
10,129.74	9,981.00	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 2.25	
670.95	666.66	18.95	56.27	Hold 12.40° Inc, 71.39° Az	
6,659.92	6,516.00	429.23	1,274.72	Start Drop -2.00°/100	
7,279.74	7,131.00	450.54	1,338.02	Vertical	
7,379.74	7,231.00	450.54	1,338.02	Top Gas	
10,129.74	9,981.00	450.54	1,338.02	TD at 10129.74	