

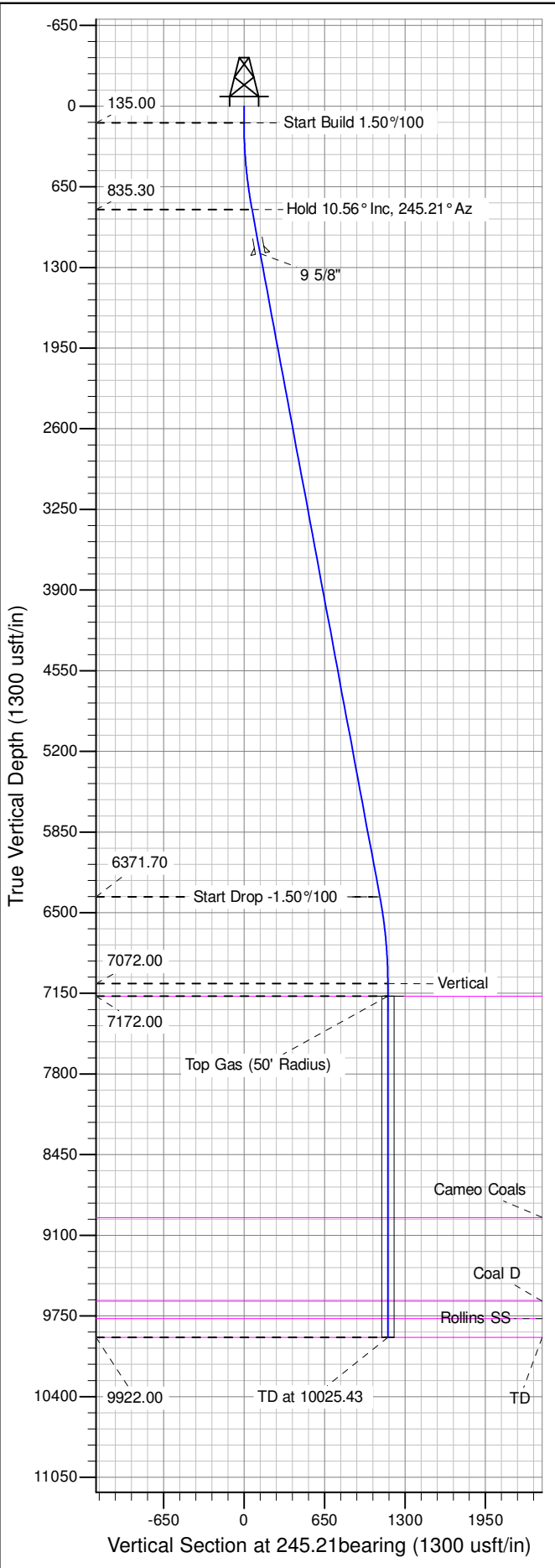


Well Name: RU 411-8  
 Surface Location: RU 21-8 Pad

North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 7736.00

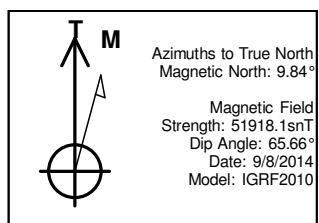
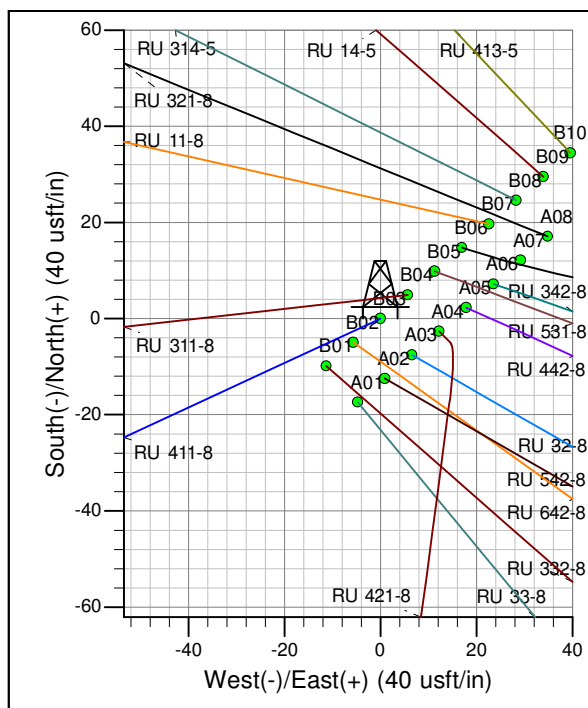
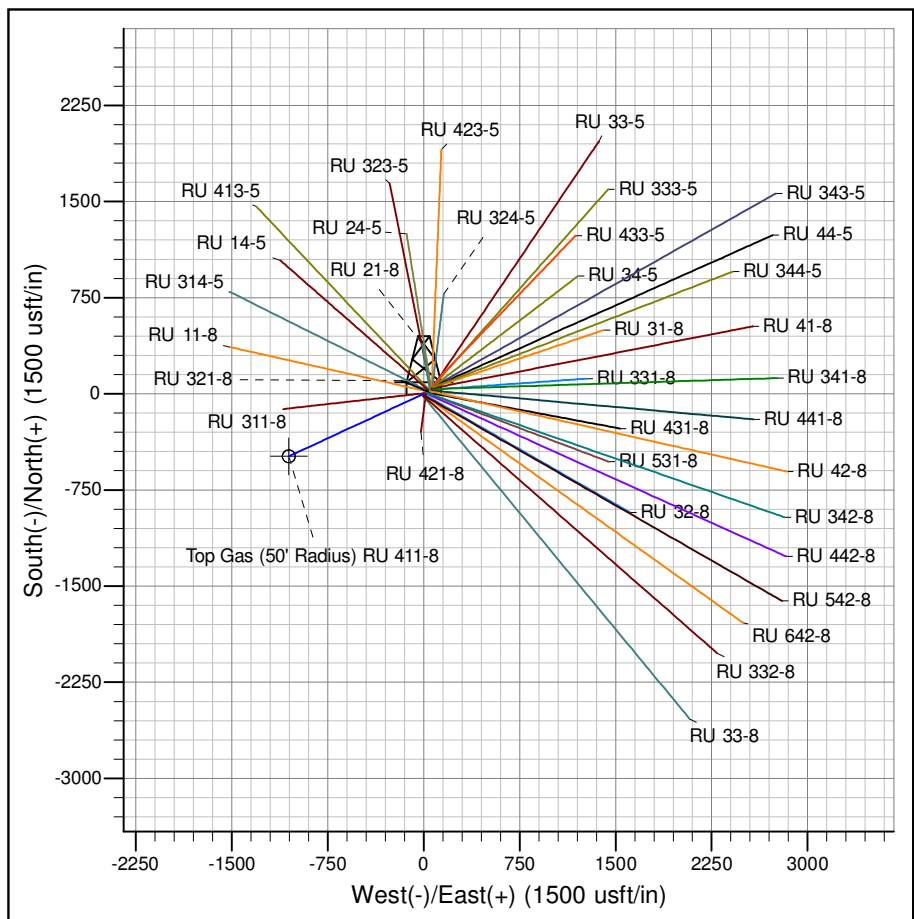
+N/-S 0.00    +E/-W 0.00    Northing 1602643.70    Easting 2350462.54    Latitude 39.46545    Longitude -107.80094    Slot B03

KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)



ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
135.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50%/100
835.30	839.28	10.56	245.21	-27.14	-58.78	64.74	64.74	Hold 10.56° Inc, 245.21° Az
6371.70	6471.15	10.56	245.21	-460.02	-996.19	1097.28	1097.28	Start Drop -1.50%/100
7072.00	7175.43	0.00	0.00	-487.16	-1054.97	1162.02	1162.02	Vertical
7172.00	7275.43	0.00	0.00	-487.16	-1054.97	1162.02	1162.02	Top Gas
9922.00	10025.43	0.00	0.00	-487.16	-1054.97	1162.02	1162.02	TD at 10025.43



Project: RU 08-07S-093W  
 Site: RU 21-8 Pad  
 Well: RU 411-8  
 Design #1 08Sep14 mab

# **PICEANCE VLY NAD 83**

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

**RU 21-8 Pad**

**RU 411-8 - Slot B03**

**Wellbore #1**

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

## **Standard Planning Report - Geographic**

**04 November, 2014**

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 411-8 - Slot B03
<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 411-8	<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>	1,602,707.70000 usft	<b>Latitude:</b>	39.46563
<b>From:</b>	Map	<b>Easting:</b>	2,350,555.60000 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 411-8 - Slot B03					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,602,643.69526 usft	<b>Latitude:</b>	39.46545
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,350,462.54279 usft	<b>Longitude:</b>	-107.80094
<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	245.21

<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	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
839.28	10.56	245.21	835.30	-27.14	-58.78	1.50	1.50	0.00	245.21	
6,471.15	10.56	245.21	6,371.70	-460.02	-996.19	0.00	0.00	0.00	0.00	
7,175.43	0.00	0.00	7,072.00	-487.16	-1,054.97	1.50	-1.50	0.00	180.00	
7,275.43	0.00	0.00	7,172.00	-487.16	-1,054.97	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
10,025.43	0.00	0.00	9,922.00	-487.16	-1,054.97	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 411-8 - Slot B03
<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 411-8	<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	1,602,643.69526	2,350,462.54279	39.46545	-107.80094	
135.00	0.00	0.00	135.00	0.00	0.00	1,602,643.69526	2,350,462.54279	39.46545	-107.80094	
<b>Start Build 1.50°/100</b>										
200.00	0.98	245.21	200.00	-0.23	-0.50	1,602,643.47620	2,350,462.03499	39.46545	-107.80094	
400.00	3.98	245.21	399.79	-3.85	-8.34	1,602,640.05553	2,350,454.10565	39.46544	-107.80097	
600.00	6.98	245.21	598.85	-11.85	-25.66	1,602,632.49776	2,350,436.58621	39.46541	-107.80103	
800.00	9.98	245.21	796.65	-24.21	-52.42	1,602,620.82360	2,350,409.52471	39.46538	-107.80112	
839.28	10.56	245.21	835.30	-27.14	-58.78	1,602,618.04958	2,350,403.09435	39.46537	-107.80115	
<b>Hold 10.56° Inc, 245.21° Az</b>										
1,000.00	10.56	245.21	993.29	-39.50	-85.53	1,602,606.37802	2,350,376.03886	39.46534	-107.80124	
1,200.00	10.56	245.21	1,189.90	-54.87	-118.82	1,602,591.85374	2,350,342.37059	39.46530	-107.80136	
<b>9 5/8"</b>										
1,400.00	10.56	245.21	1,386.51	-70.24	-152.11	1,602,577.32946	2,350,308.70230	39.46525	-107.80148	
1,600.00	10.56	245.21	1,583.12	-85.61	-185.40	1,602,562.80518	2,350,275.03402	39.46521	-107.80159	
1,800.00	10.56	245.21	1,779.73	-100.98	-218.69	1,602,548.28089	2,350,241.36573	39.46517	-107.80171	
2,000.00	10.56	245.21	1,976.34	-116.36	-251.98	1,602,533.75661	2,350,207.69744	39.46513	-107.80183	
2,200.00	10.56	245.21	2,172.95	-131.73	-285.27	1,602,519.23232	2,350,174.02916	39.46508	-107.80195	
2,400.00	10.56	245.21	2,369.56	-147.10	-318.56	1,602,504.70804	2,350,140.36087	39.46504	-107.80207	
2,600.00	10.56	245.21	2,566.17	-162.47	-351.85	1,602,490.18376	2,350,106.69259	39.46500	-107.80218	
2,800.00	10.56	245.21	2,762.78	-177.85	-385.14	1,602,475.65947	2,350,073.02430	39.46496	-107.80230	
3,000.00	10.56	245.21	2,959.39	-193.22	-418.43	1,602,461.13519	2,350,039.35601	39.46492	-107.80242	
3,200.00	10.56	245.21	3,156.00	-208.59	-451.72	1,602,446.61090	2,350,005.68773	39.46487	-107.80254	
3,400.00	10.56	245.21	3,352.61	-223.96	-485.01	1,602,432.08662	2,349,972.01944	39.46483	-107.80266	
3,600.00	10.56	245.21	3,549.22	-239.34	-518.30	1,602,417.56234	2,349,938.35117	39.46479	-107.80277	
3,800.00	10.56	245.21	3,745.83	-254.71	-551.59	1,602,403.03805	2,349,904.68288	39.46475	-107.80289	
4,000.00	10.56	245.21	3,942.44	-270.08	-584.88	1,602,388.51377	2,349,871.01459	39.46470	-107.80301	
4,200.00	10.56	245.21	4,139.05	-285.45	-618.17	1,602,373.98948	2,349,837.34631	39.46466	-107.80313	
4,400.00	10.56	245.21	4,335.66	-300.82	-651.46	1,602,359.46520	2,349,803.67802	39.46462	-107.80325	
4,600.00	10.56	245.21	4,532.27	-316.20	-684.75	1,602,344.94092	2,349,770.00974	39.46458	-107.80336	
4,800.00	10.56	245.21	4,728.88	-331.57	-718.03	1,602,330.41663	2,349,736.34145	39.46454	-107.80348	
5,000.00	10.56	245.21	4,925.49	-346.94	-751.32	1,602,315.89235	2,349,702.67316	39.46449	-107.80360	
5,200.00	10.56	245.21	5,122.10	-362.31	-784.61	1,602,301.36806	2,349,669.00488	39.46445	-107.80372	
5,400.00	10.56	245.21	5,318.71	-377.69	-817.90	1,602,286.84378	2,349,635.33659	39.46441	-107.80384	
5,600.00	10.56	245.21	5,515.32	-393.06	-851.19	1,602,272.31949	2,349,601.66831	39.46437	-107.80395	
5,800.00	10.56	245.21	5,711.93	-408.43	-884.48	1,602,257.79521	2,349,568.00002	39.46432	-107.80407	
6,000.00	10.56	245.21	5,908.54	-423.80	-917.77	1,602,243.27093	2,349,534.33174	39.46428	-107.80419	
6,200.00	10.56	245.21	6,105.15	-439.17	-951.06	1,602,228.74664	2,349,500.66346	39.46424	-107.80431	
6,400.00	10.56	245.21	6,301.76	-454.55	-984.35	1,602,214.22236	2,349,466.99517	39.46420	-107.80442	
6,471.15	10.56	245.21	6,371.70	-460.02	-996.19	1,602,209.05567	2,349,455.01844	39.46418	-107.80447	
<b>Start Drop -1.50°/100</b>										
6,600.00	8.63	245.21	6,498.75	-469.02	-1,015.70	1,602,200.54608	2,349,435.29261	39.46416	-107.80454	
6,800.00	5.63	245.21	6,697.18	-479.43	-1,038.24	1,602,190.71221	2,349,412.49702	39.46413	-107.80462	
7,000.00	2.63	245.21	6,896.63	-485.47	-1,051.32	1,602,185.00541	2,349,399.26826	39.46411	-107.80466	
7,175.43	0.00	0.00	7,072.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>Vertical</b>										
7,200.00	0.00	0.00	7,096.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
7,275.43	0.00	0.00	7,172.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>Top Gas - Approx. Top Gas</b>										
7,400.00	0.00	0.00	7,296.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
7,600.00	0.00	0.00	7,496.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
7,800.00	0.00	0.00	7,696.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
8,000.00	0.00	0.00	7,896.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 411-8 - Slot B03
<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 411-8	<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	
8,200.00	0.00	0.00	8,096.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
8,400.00	0.00	0.00	8,296.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
8,600.00	0.00	0.00	8,496.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
8,800.00	0.00	0.00	8,696.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,000.00	0.00	0.00	8,896.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,060.43	0.00	0.00	8,957.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>Cameo Coals</b>										
9,200.00	0.00	0.00	9,096.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,400.00	0.00	0.00	9,296.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,600.00	0.00	0.00	9,496.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,734.43	0.00	0.00	9,631.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>Coal D</b>										
9,800.00	0.00	0.00	9,696.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
9,875.43	0.00	0.00	9,772.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>Rollins SS</b>										
10,000.00	0.00	0.00	9,896.57	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
10,025.42	0.00	0.00	9,921.99	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>TD</b>										
10,025.43	0.00	0.00	9,922.00	-487.16	-1,054.97	1,602,183.41001	2,349,395.57000	39.46411	-107.80467	
<b>TD at 10025.43</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Top Gas (50' Radius) RL - hit/miss target - Shape - plan hits target center - Circle (radius 50.00)	0.00	358.55	7,172.00	-487.16	-1,054.97	1,602,183.41000	2,349,395.57000	39.46411	-107.80467	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)		
1,200.00	1,189.90	9 5/8"	9.625	13.500		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
7,275.43	7,172.00	Approx. Top Gas				
9,060.43	8,957.00	Cameo Coals				
9,734.43	9,631.00	Coal D				
9,875.43	9,772.00	Rollins SS				
10,025.42	9,921.99	TD		0.00		

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RU 411-8 - Slot B03
<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 411-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 08Sep14 mab		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 1.50°/100
839.28	835.30	-27.14	-58.78	Hold 10.56° Inc, 245.21° Az
6,471.15	6,371.70	-460.02	-996.19	Start Drop -1.50°/100
7,175.43	7,072.00	-487.16	-1,054.97	Vertical
7,275.43	7,172.00	-487.16	-1,054.97	Top Gas
10,025.43	9,922.00	-487.16	-1,054.97	TD at 10025.43