

# **PICEANCE VLY NAD 83**

**RU 23-06S-094W**

**RWF 43-23 Pad**

**RWF 542-23 - Slot A11**

**Wellbore #1**

**Plan: Plan #4 26Mar14 kjs**

## **Standard Planning Report - Geographic**

**14 April, 2014**

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well RWF 542-23 - Slot A11
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 23-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RWF 43-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 542-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #4 26Mar14 kjs		

<b>Project</b>	RU 23-06S-094W, Garfield County, CO, 23-06S-094W		
<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

<b>Site</b>	RWF 43-23 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,619,204.50 usft	<b>Latitude:</b> 39.51002
<b>From:</b> Map		<b>Easting:</b>	2,337,897.00 usft	<b>Longitude:</b> -107.84695
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.48 °

<b>Well</b>	RWF 542-23 - Slot A11			
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	1,619,204.50 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	2,337,919.00 usft
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>	
			<b>Ground Level:</b>	5,599.00 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	4/28/2010	10.43	65.81	52,395

<b>Design</b>	Plan #4 26Mar14 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	341.42

<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	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
406.28	4.13	341.42	406.10	7.04	-2.36	2.00	2.00	0.00	341.42	
5,172.73	4.13	341.42	5,160.20	332.08	-111.61	0.00	0.00	0.00	0.00	
5,447.77	0.00	0.00	5,435.00	341.46	-114.76	1.50	-1.50	0.00	180.00	
5,547.77	0.00	0.00	5,535.00	341.46	-114.76	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
8,297.77	0.00	0.00	8,285.00	341.46	-114.76	0.00	0.00	0.00	0.00	

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Planning Report - Geographic

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<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 23-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RWF 43-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 542-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #4 26Mar14 kjs		

Planned Survey										
Measured			Vertical			Map				
Depth (usft)	Inclination (°)	Azimuth (°)	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	1,619,204.50	2,337,919.00	39.51002	-107.84687	
200.00	0.00	0.00	200.00	0.00	0.00	1,619,204.50	2,337,919.00	39.51002	-107.84687	
Start Build 2.00										
400.00	4.00	341.42	399.84	6.61	-2.22	1,619,211.17	2,337,916.95	39.51004	-107.84688	
406.28	4.13	341.42	406.10	7.04	-2.36	1,619,211.59	2,337,916.82	39.51004	-107.84688	
Hold 4.13° Inc, 341.42° Az										
600.00	4.13	341.42	599.32	20.25	-6.80	1,619,224.91	2,337,912.72	39.51007	-107.84689	
800.00	4.13	341.42	798.80	33.89	-11.39	1,619,238.66	2,337,908.49	39.51011	-107.84691	
1,000.00	4.13	341.42	998.28	47.52	-15.97	1,619,252.42	2,337,904.26	39.51015	-107.84692	
1,101.98	4.13	341.42	1,100.00	54.48	-18.31	1,619,259.43	2,337,902.11	39.51017	-107.84693	
9 5/8"										
1,200.00	4.13	341.42	1,197.77	61.16	-20.56	1,619,266.17	2,337,900.03	39.51019	-107.84694	
1,400.00	4.13	341.42	1,397.25	74.80	-25.14	1,619,279.92	2,337,895.80	39.51022	-107.84696	
1,600.00	4.13	341.42	1,596.73	88.44	-29.72	1,619,293.67	2,337,891.57	39.51026	-107.84697	
1,800.00	4.13	341.42	1,796.21	102.08	-34.31	1,619,307.42	2,337,887.34	39.51030	-107.84699	
1,909.07	4.13	341.42	1,905.00	109.52	-36.81	1,619,314.92	2,337,885.04	39.51032	-107.84700	
Top of "G" Sand										
2,000.00	4.13	341.42	1,995.69	115.72	-38.89	1,619,321.18	2,337,883.11	39.51033	-107.84701	
2,009.33	4.13	341.42	2,005.00	116.36	-39.11	1,619,321.82	2,337,882.92	39.51034	-107.84701	
Base of "G" Sand										
2,200.00	4.13	341.42	2,195.17	129.36	-43.48	1,619,334.93	2,337,878.88	39.51037	-107.84702	
2,400.00	4.13	341.42	2,394.66	143.00	-48.06	1,619,348.68	2,337,874.65	39.51041	-107.84704	
2,600.00	4.13	341.42	2,594.14	156.64	-52.64	1,619,362.43	2,337,870.42	39.51045	-107.84705	
2,800.00	4.13	341.42	2,793.62	170.27	-57.23	1,619,376.19	2,337,866.19	39.51048	-107.84707	
3,000.00	4.13	341.42	2,993.10	183.91	-61.81	1,619,389.94	2,337,861.96	39.51052	-107.84709	
3,200.00	4.13	341.42	3,192.58	197.55	-66.40	1,619,403.69	2,337,857.73	39.51056	-107.84710	
3,400.00	4.13	341.42	3,392.06	211.19	-70.98	1,619,417.44	2,337,853.50	39.51060	-107.84712	
3,600.00	4.13	341.42	3,591.55	224.83	-75.56	1,619,431.19	2,337,849.27	39.51063	-107.84714	
3,800.00	4.13	341.42	3,791.03	238.47	-80.15	1,619,444.95	2,337,845.04	39.51067	-107.84715	
4,000.00	4.13	341.42	3,990.51	252.11	-84.73	1,619,458.70	2,337,840.81	39.51071	-107.84717	
4,200.00	4.13	341.42	4,189.99	265.75	-89.31	1,619,472.45	2,337,836.58	39.51075	-107.84718	
4,400.00	4.13	341.42	4,389.47	279.39	-93.90	1,619,486.20	2,337,832.35	39.51078	-107.84720	
4,410.55	4.13	341.42	4,400.00	280.10	-94.14	1,619,486.93	2,337,832.13	39.51079	-107.84720	
Mesaverde										
4,600.00	4.13	341.42	4,588.95	293.02	-98.48	1,619,499.95	2,337,828.12	39.51082	-107.84722	
4,800.00	4.13	341.42	4,788.44	306.66	-103.07	1,619,513.71	2,337,823.89	39.51086	-107.84723	
5,000.00	4.13	341.42	4,987.92	320.30	-107.65	1,619,527.46	2,337,819.67	39.51090	-107.84725	
5,172.73	4.13	341.42	5,160.20	332.08	-111.61	1,619,539.34	2,337,816.01	39.51093	-107.84726	
Start Drop -1.50										
5,200.00	3.72	341.42	5,187.41	333.85	-112.20	1,619,541.12	2,337,815.46	39.51093	-107.84727	
5,400.00	0.72	341.42	5,387.23	341.18	-114.67	1,619,548.51	2,337,813.19	39.51095	-107.84727	
5,447.77	0.00	0.00	5,435.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
Vertical										
5,547.77	0.00	0.00	5,535.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
Top Gas - Approx. Top Gas										
5,600.00	0.00	0.00	5,587.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
5,800.00	0.00	0.00	5,787.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
6,000.00	0.00	0.00	5,987.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
6,200.00	0.00	0.00	6,187.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
6,400.00	0.00	0.00	6,387.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	
6,600.00	0.00	0.00	6,587.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727	

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<b>Project:</b>	RU 23-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RWF 43-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 542-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #4 26Mar14 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
6,800.00	0.00	0.00	6,787.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
7,000.00	0.00	0.00	6,987.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
7,200.00	0.00	0.00	7,187.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
7,292.77	0.00	0.00	7,280.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
<b>Cameo Coals</b>									
7,400.00	0.00	0.00	7,387.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
7,600.00	0.00	0.00	7,587.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
7,800.00	0.00	0.00	7,787.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
8,000.00	0.00	0.00	7,987.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
8,069.77	0.00	0.00	8,057.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
<b>Coal D</b>									
8,147.77	0.00	0.00	8,135.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
<b>Rollins SS</b>									
8,200.00	0.00	0.00	8,187.23	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
8,297.77	0.00	0.00	8,285.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727
<b>TD at 8297.77 - TD</b>									

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
Top Gas (50' Radius) RV - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,535.00	341.46	-114.76	1,619,548.80	2,337,813.10	39.51095	-107.84727

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,101.98	1,100.00	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,909.07	1,905.00	Top of "G" Sand				
2,009.33	2,005.00	Base of "G" Sand				
4,410.55	4,400.00	Mesaverde				
5,547.77	5,535.00	Approx. Top Gas				
7,292.77	7,280.00	Cameo Coals				
8,069.77	8,057.00	Coal D				
8,147.77	8,135.00	Rollins SS				
8,297.77	8,285.00	TD				

**WPX**  
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<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Project:</b>	RU 23-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5625.00usft (Nabors 576 (26' RKB) mab)
<b>Site:</b>	RWF 43-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RWF 542-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #4 26Mar14 kjs		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200.00	200.00	0.00	0.00	Start Build 2.00	
406.28	406.10	7.04	-2.36	Hold 4.13° Inc, 341.42° Az	
5,172.73	5,160.20	332.08	-111.61	Start Drop -1.50	
5,447.77	5,435.00	341.46	-114.76	Vertical	
5,547.77	5,535.00	341.46	-114.76	Top Gas	
8,297.77	8,285.00	341.46	-114.76	TD at 8297.77	