

PICEANCE VLY NAD 83

RU 08-07S-093W

RU 21-8 Pad

RU 344-5 - Slot A10

Wellbore #1

Plan: Design #2 14May15 sam

Standard Planning Report

18 May, 2015

WPX

Planning Report

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 344-5 (A10) - Slot A10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 344-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 14May15 sam		

Project	RU 08-07S-093W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	RU 21-8 Pad		
Site Position:		Northing:	1,602,707.70 usft
From:	Map	Easting:	2,350,555.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	39.465627
		Longitude:	-107.800612
		Grid Convergence:	-1.45 °

Well	RU 344-5 - Slot A10		
Well Position	+N/-S	-39.41 usft	Northing:
	+E/-W	-45.25 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	39.465519
		Longitude:	-107.800772
		Ground Level:	7,736.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/8/2014	9.84	65.66	51,918

Design	Design #2 14May15 sam			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	67.08

Plan Sections										
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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
808.73	20.36	67.08	794.53	46.47	109.92	3.00	3.00	0.00	67.08	
6,527.76	20.36	67.08	6,156.20	821.40	1,942.77	0.00	0.00	0.00	0.00	
7,545.86	0.00	0.00	7,153.00	891.11	2,107.65	2.00	-2.00	0.00	180.00	
7,645.86	0.00	0.00	7,253.00	891.11	2,107.65	0.00	0.00	0.00	0.00	RU 344-5 TOP GAS 5
10,395.86	0.00	0.00	10,003.00	891.11	2,107.65	0.00	0.00	0.00	0.00	

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Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
Site:	RU 21-8 Pad	North Reference:	True
Well:	RU 344-5	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 14May15 sam		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 3.00										
500.00	11.10	67.08	497.69	13.91	32.91	35.73	3.00	3.00	0.00	
808.73	20.36	67.08	794.53	46.47	109.92	119.34	3.00	3.00	0.00	
Hold 20.36 Inclination										
1,000.00	20.36	67.08	973.85	72.39	171.22	185.89	0.00	0.00	0.00	
1,200.00	20.36	67.08	1,161.35	99.49	235.31	255.48	0.00	0.00	0.00	
9 5/8"										
1,500.00	20.36	67.08	1,442.61	140.14	331.46	359.87	0.00	0.00	0.00	
2,000.00	20.36	67.08	1,911.36	207.89	491.70	533.84	0.00	0.00	0.00	
2,500.00	20.36	67.08	2,380.12	275.64	651.94	707.82	0.00	0.00	0.00	
3,000.00	20.36	67.08	2,848.88	343.39	812.18	881.79	0.00	0.00	0.00	
3,500.00	20.36	67.08	3,317.63	411.14	972.42	1,055.77	0.00	0.00	0.00	
4,000.00	20.36	67.08	3,786.39	478.89	1,132.66	1,229.74	0.00	0.00	0.00	
4,420.91	20.36	67.08	4,181.00	535.92	1,267.56	1,376.20	0.00	0.00	0.00	
Top of "G" Sand										
4,500.00	20.36	67.08	4,255.15	546.64	1,292.91	1,403.72	0.00	0.00	0.00	
4,545.71	20.36	67.08	4,298.00	552.83	1,307.55	1,419.62	0.00	0.00	0.00	
Base of "G" Sand										
5,000.00	20.36	67.08	4,723.90	614.39	1,453.15	1,577.69	0.00	0.00	0.00	
5,500.00	20.36	67.08	5,192.66	682.14	1,613.39	1,751.66	0.00	0.00	0.00	
6,000.00	20.36	67.08	5,661.42	749.88	1,773.63	1,925.64	0.00	0.00	0.00	
6,500.00	20.36	67.08	6,130.17	817.63	1,933.87	2,099.61	0.00	0.00	0.00	
6,527.76	20.36	67.08	6,156.20	821.40	1,942.77	2,109.27	0.00	0.00	0.00	
Start Drop -2.00										
7,000.00	10.92	67.08	6,610.44	870.92	2,059.89	2,236.44	2.00	-2.00	0.00	
7,492.85	1.06	67.08	7,100.00	890.92	2,107.19	2,287.79	2.00	-2.00	0.00	
Mesaverde										
7,500.00	0.92	67.08	7,107.15	890.96	2,107.31	2,287.92	2.00	-2.00	0.00	
7,545.86	0.00	0.00	7,153.00	891.11	2,107.65	2,288.28	2.00	-2.00	0.00	
Vertical										
7,645.86	0.00	0.00	7,253.00	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
Top Gas Target - Approx. Top Gas										
8,000.00	0.00	0.00	7,607.14	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,107.14	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,607.14	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
9,428.86	0.00	0.00	9,036.00	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
Cameo Coals										
9,500.00	0.00	0.00	9,107.14	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,607.14	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
10,118.86	0.00	0.00	9,726.00	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
Coal D										
10,245.86	0.00	0.00	9,853.00	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
Rollins SS										
10,395.86	0.00	0.00	10,003.00	891.11	2,107.65	2,288.28	0.00	0.00	0.00	
TD at 10395.86 - TD										

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Project:	RU 08-07S-093W	MD Reference:	KELLY BUSHING @ 7762.00usft (Nabors 576 (26' RKB) mab)
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Wellbore:	Wellbore #1		
Design:	Design #2 14May15 sam		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(bearing)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
RU 344-5 TOP GAS 50'	0.00	0.00	7,253.00	891.11	2,107.65	1,603,506.90	2,352,638.90	39.467965	-107.793306
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,200.00	1,161.35	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
4,420.91	4,181.00	Top of "G" Sand		0.00		
4,545.71	4,298.00	Base of "G" Sand		0.00		
7,492.85	7,100.00	Mesaverde		0.00		
7,645.86	7,253.00	Approx. Top Gas		0.00		
9,428.86	9,036.00	Cameo Coals		0.00		
10,118.86	9,726.00	Coal D		0.00		
10,245.86	9,853.00	Rollins SS		0.00		
10,395.86	10,003.00	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
130.00	130.00	0.00	0.00	Start Build 3.00	
808.73	794.53	46.47	109.92	Hold 20.36 Inclination	
6,527.76	6,156.20	821.40	1,942.77	Start Drop -2.00	
7,545.86	7,153.00	891.11	2,107.65	Vertical	
7,645.86	7,253.00	891.11	2,107.65	Top Gas Target	
10,395.86	10,003.00	891.11	2,107.65	TD at 10395.86	