

PICEANCE VLY NAD 83

RU 07-07S-093W

SR 43-12 Pad

RU 324-7 - Slot A8

Wellbore #1

Plan: Design #2 30Mar16 sam

Standard Planning Report

04 May, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 324-7 (A8) - Slot A8
Company:	PICEANCE VLY NAD 83	TVD Reference:	KB @ 7381.00usft (HP 318)
Project:	RU 07-07S-093W	MD Reference:	KB @ 7381.00usft (HP 318)
Site:	SR 43-12 Pad	North Reference:	True
Well:	RU 324-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 30Mar16 sam		

Project	RU 07-07S-093W, Garfield County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site		SR 43-12 Pad			
Site Position:		Northing:	1,598,022.10 usft	Latitude:	39.452261
From:	Map	Easting:	2,343,309.20 usft	Longitude:	-107.825846
Position Uncertainty:	0.00 usft	Slot Radius:	0.000 in	Grid Convergence:	-1.47 °

Well	RU 324-7 - Slot A8					
Well Position	+N/-S	-14.63 usft	Northing:	1,598,007.20 usft	Latitude:	39.452221
	+E/-W	10.68 usft	Easting:	2,343,319.50 usft	Longitude:	-107.825808
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,357.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/9/2016	9.75	65.60	51,658

Design	Design #2 30Mar16 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	105.19

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	
1,077.79	33.17	105.19	1,025.72	-69.90	257.47	3.50	3.50	0.00	105.19	
4,777.52	33.17	105.19	4,122.49	-600.31	2,211.11	0.00	0.00	0.00	0.00	
6,436.16	0.00	0.00	5,690.00	-722.64	2,661.69	2.00	-2.00	0.00	180.00	10 acre RU 324-7 MV
10,132.16	0.00	0.00	9,386.00	-722.64	2,661.69	0.00	0.00	0.00	0.00	

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Site:	SR 43-12 Pad	North Reference:	True
Well:	RU 324-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 30Mar16 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 3.50									
500.00	12.95	105.19	496.86	-10.91	40.18	41.64	3.50	3.50	0.00
1,000.00	30.45	105.19	959.62	-59.16	217.90	225.79	3.50	3.50	0.00
1,077.79	33.17	105.19	1,025.72	-69.90	257.47	266.79	3.50	3.50	0.00
Hold 33.17 Inclination									
1,177.00	33.17	105.19	1,108.76	-84.13	309.86	321.08	0.00	0.00	0.00
9 5/8"									
1,500.00	33.17	105.19	1,379.12	-130.43	480.42	497.81	0.00	0.00	0.00
2,000.00	33.17	105.19	1,797.63	-202.11	744.44	771.39	0.00	0.00	0.00
2,500.00	33.17	105.19	2,216.14	-273.79	1,008.47	1,044.98	0.00	0.00	0.00
3,000.00	33.17	105.19	2,634.66	-345.48	1,272.49	1,318.56	0.00	0.00	0.00
3,500.00	33.17	105.19	3,053.17	-417.16	1,536.52	1,592.14	0.00	0.00	0.00
3,695.73	33.17	105.19	3,217.00	-445.22	1,639.87	1,699.24	0.00	0.00	0.00
Top of "G" Sand									
3,821.17	33.17	105.19	3,322.00	-463.20	1,706.11	1,767.87	0.00	0.00	0.00
Base of "G" Sand									
4,000.00	33.17	105.19	3,471.68	-488.84	1,800.54	1,865.72	0.00	0.00	0.00
4,500.00	33.17	105.19	3,890.20	-560.52	2,064.57	2,139.30	0.00	0.00	0.00
4,777.52	33.17	105.19	4,122.49	-600.31	2,211.11	2,291.15	0.00	0.00	0.00
Start Drop -2.00									
5,000.00	28.72	105.19	4,313.25	-630.28	2,321.50	2,405.54	2.00	-2.00	0.00
5,500.00	18.72	105.19	4,770.41	-682.92	2,515.38	2,606.44	2.00	-2.00	0.00
6,000.00	8.72	105.19	5,255.53	-713.95	2,629.71	2,724.91	2.00	-2.00	0.00
6,012.62	8.47	105.19	5,268.00	-714.45	2,631.53	2,726.79	2.00	-2.00	0.00
Lower Wasatch									
6,185.84	5.01	105.19	5,440.00	-719.77	2,651.14	2,747.11	2.00	-2.00	0.00
Ohio Creek									
6,436.16	0.00	0.00	5,690.00	-722.64	2,661.69	2,758.04	2.00	-2.00	0.00
Vertical - Mesaverde									
6,500.00	0.00	0.00	5,753.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
7,000.00	0.00	0.00	6,253.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
7,500.00	0.00	0.00	6,753.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
7,952.16	0.00	0.00	7,206.00	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
Approx Top Gas									
8,000.00	0.00	0.00	7,253.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
8,500.00	0.00	0.00	7,753.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
9,000.00	0.00	0.00	8,253.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
9,136.16	0.00	0.00	8,390.00	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
Cameo									
9,500.00	0.00	0.00	8,753.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
9,899.16	0.00	0.00	9,153.00	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
Coal D									
9,982.16	0.00	0.00	9,236.00	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
Rollins									
10,000.00	0.00	0.00	9,253.84	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
10,132.16	0.00	0.00	9,386.00	-722.64	2,661.69	2,758.04	0.00	0.00	0.00
TD at 10132.16 - TD									

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Project:	RU 07-07S-093W	MD Reference:	KB @ 7381.00usft (HP 318)
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Well:	RU 324-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 30Mar16 sam		

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target - Shape									
10 acre RU 324-7 MVRIC - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,690.00	-722.64	2,661.69	1,597,216.70	2,345,961.70	39.450236	-107.816382

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,177.00	1,108.76	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
3,695.73	3,217.00	Top of "G" Sand		0.00		
3,821.17	3,322.00	Base of "G" Sand		0.00		
6,012.62	5,268.00	Lower Wasatch		0.00		
6,185.84	5,440.00	Ohio Creek		0.00		
6,436.16	5,690.00	Mesaverde		0.00		
7,952.16	7,206.00	Approx Top Gas		0.00		
9,136.16	8,390.00	Cameo		0.00		
9,899.16	9,153.00	Coal D		0.00		
9,982.16	9,236.00	Rollins		0.00		
10,132.16	9,386.00	TD		0.00		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
130.00	130.00	0.00	0.00	Start Build 3.50
1,077.79	1,025.72	-69.90	257.47	Hold 33.17 Inclination
4,777.52	4,122.49	-600.31	2,211.11	Start Drop -2.00
6,436.16	5,690.00	-722.64	2,661.69	Vertical
10,132.16	9,386.00	-722.64	2,661.69	TD at 10132.16