

PICEANCE VLY NAD 83

RU 07-07S-093W

RU 22-7 Pad

RU 322-7 - Slot A5

Wellbore #1

Plan: Design #2 28Mar16 sam

Standard Planning Report

13 April, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 322-7 (A5) - Slot A5
Company:	PICEANCE VLY NAD 83	TVD Reference:	KB @ 7363.00usft (HP 318)
Project:	RU 07-07S-093W	MD Reference:	KB @ 7363.00usft (HP 318)
Site:	RU 22-7 Pad	North Reference:	True
Well:	RU 322-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 28Mar16 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	RU 22-7 Pad				
Site Position:	Northing:	1,599,673.60 usft	Latitude:	39.456918	
From: Map	Easting:	2,345,086.00 usft	Longitude:	-107.819705	
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.46 °

Well	RU 322-7 - Slot A5					
Well Position	+N/-S	21.47 usft	Northing:	1,599,694.89 usft	Latitude:	39.456977
	+E/-W	6.76 usft	Easting:	2,345,093.31 usft	Longitude:	-107.819681
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	7,339.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/9/2016	9.75	65.61	51,661

Design	Design #2 28Mar16 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	337.38

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	
145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00	
319.34	5.23	337.38	319.10	7.34	-3.06	3.00	3.00	0.00	337.38	
3,833.67	5.23	337.38	3,818.80	303.07	-126.26	0.00	0.00	0.00	0.00	
4,182.36	0.00	0.00	4,167.00	317.75	-132.37	1.50	-1.50	0.00	180.00	
5,682.36	0.00	0.00	5,667.00	317.75	-132.37	0.00	0.00	0.00	0.00	10 acre RU 322-7 MV
9,421.36	0.00	0.00	9,406.00	317.75	-132.37	0.00	0.00	0.00	0.00	

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Site:	RU 22-7 Pad	North Reference:	True
Well:	RU 322-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 28Mar16 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	0.00
145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00										
319.34	5.23	337.38	319.10	7.34	-3.06	7.95	3.00	3.00	0.00	
Hold 5.23 Inclination										
500.00	5.23	337.38	499.01	22.54	-9.39	24.42	0.00	0.00	0.00	
1,000.00	5.23	337.38	996.92	64.62	-26.92	70.00	0.00	0.00	0.00	
1,124.00	5.23	337.38	1,120.41	75.05	-31.27	81.30	0.00	0.00	0.00	
9 5/8"										
1,500.00	5.23	337.38	1,494.84	106.69	-44.45	115.58	0.00	0.00	0.00	
2,000.00	5.23	337.38	1,992.76	148.77	-61.97	161.16	0.00	0.00	0.00	
2,500.00	5.23	337.38	2,490.68	190.84	-79.50	206.74	0.00	0.00	0.00	
3,000.00	5.23	337.38	2,988.60	232.91	-97.03	252.32	0.00	0.00	0.00	
3,231.37	5.23	337.38	3,219.00	252.38	-105.14	273.41	0.00	0.00	0.00	
Top of "G" Sand										
3,276.55	5.23	337.38	3,264.00	256.19	-106.73	277.53	0.00	0.00	0.00	
Base of "G" Sand										
3,500.00	5.23	337.38	3,486.51	274.99	-114.56	297.90	0.00	0.00	0.00	
3,833.67	5.23	337.38	3,818.80	303.07	-126.26	328.31	0.00	0.00	0.00	
Start Drop -1.50										
4,000.00	2.74	337.38	3,984.71	313.73	-130.70	339.87	1.50	-1.50	0.00	
4,182.36	0.00	0.00	4,167.00	317.75	-132.37	344.22	1.50	-1.50	12.40	
Vertical										
4,500.00	0.00	0.00	4,484.64	317.75	-132.37	344.22	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,984.64	317.75	-132.37	344.22	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,484.64	317.75	-132.37	344.22	0.00	0.00	0.00	
5,682.36	0.00	0.00	5,667.00	317.75	-132.37	344.22	0.00	0.00	0.00	
MVRD target - Mesaverde										
6,000.00	0.00	0.00	5,984.64	317.75	-132.37	344.22	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,484.64	317.75	-132.37	344.22	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,984.64	317.75	-132.37	344.22	0.00	0.00	0.00	
7,282.36	0.00	0.00	7,267.00	317.75	-132.37	344.22	0.00	0.00	0.00	
Approx. Top Gas										
7,500.00	0.00	0.00	7,484.64	317.75	-132.37	344.22	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,984.64	317.75	-132.37	344.22	0.00	0.00	0.00	
8,429.36	0.00	0.00	8,414.00	317.75	-132.37	344.22	0.00	0.00	0.00	
Cameo										
8,500.00	0.00	0.00	8,484.64	317.75	-132.37	344.22	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,984.64	317.75	-132.37	344.22	0.00	0.00	0.00	
9,154.36	0.00	0.00	9,139.00	317.75	-132.37	344.22	0.00	0.00	0.00	
Coal D										
9,271.36	0.00	0.00	9,256.00	317.75	-132.37	344.22	0.00	0.00	0.00	
Rollins										
9,421.36	0.00	0.00	9,406.00	317.75	-132.37	344.22	0.00	0.00	0.00	
9421.36 Measured depth - TD										

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Project:	RU 07-07S-093W	MD Reference:	KB @ 7363.00usft (HP 318)
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Well:	RU 322-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 28Mar16 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									
10 acre RU 322-7 MVRT - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,667.00	317.75	-132.37	1,600,015.90	2,344,969.10	39.457849	-107.820150

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(usft)	(usft)		(in)	(in)	
1,124.00	1,120.41	9 5/8"	9.625	13.500	

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
3,231.37	3,219.00	Top of "G" Sand		0.00		
3,276.55	3,264.00	Base of "G" Sand		0.00		
5,682.36	5,667.00	Mesaverde		0.00		
7,282.36	7,267.00	Approx. Top Gas		0.00		
8,429.36	8,414.00	Cameo		0.00		
9,154.36	9,139.00	Coal D		0.00		
9,271.36	9,256.00	Rollins		0.00		
9,421.36	9,406.00	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
		(usft)	(usft)		
145.00	145.00	0.00	0.00	Start Build 3.00	
319.34	319.10	7.34	-3.06	Hold 5.23 Inclination	
3,833.67	3,818.80	303.07	-126.26	Start Drop -1.50	
4,182.36	4,167.00	317.75	-132.37	Vertical	
5,682.36	5,667.00	317.75	-132.37	MVRD target	
9,421.36	9,406.00	317.75	-132.37	9421.36 Measured depth	