

PICEANCE VLY NAD 83

RU 07-07S-093W

RU 22-7 Pad

RU 512-7 - Slot B5

Wellbore #1

Plan: Design #2 28Mar16 sam

Standard Planning Report

13 April, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 512-7 (B5) - Slot B5
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 512-7	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 512-7 - Slot B5					
Well Position	+N/-S	24.50 usft	Northing:	1,599,698.16 usft	Latitude:	39.456985
	+E/-W	-2.77 usft	Easting:	2,345,083.86 usft	Longitude:	-107.819715
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	276.57

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	
752.42	21.26	276.57	738.58	12.75	-110.67	3.50	3.50	0.00	276.57	
4,437.62	21.26	276.57	4,172.98	165.66	-1,438.14	0.00	0.00	0.00	0.00	
5,854.94	0.00	0.00	5,558.00	195.40	-1,696.38	1.50	-1.50	0.00	180.00	
5,954.94	0.00	0.00	5,658.00	195.40	-1,696.38	0.00	0.00	0.00	0.00	10 acre RU 512-7 MV
9,709.94	0.00	0.00	9,413.00	195.40	-1,696.38	0.00	0.00	0.00	0.00	

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Site:	RU 22-7 Pad	North Reference:	True
Well:	RU 512-7	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
145.00	0.00	0.00	145.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
500.00	12.43	276.57	497.22	4.39	-38.09	38.34	3.50	3.50	0.00
752.42	21.26	276.57	738.58	12.75	-110.67	111.41	3.50	3.50	0.00
Hold 21.26 Inclination									
1,000.00	21.26	276.57	969.31	23.02	-199.86	201.18	0.00	0.00	0.00
1,124.00	21.26	276.57	1,084.87	28.17	-244.52	246.14	0.00	0.00	0.00
9 5/8"									
1,500.00	21.26	276.57	1,435.28	43.77	-379.96	382.48	0.00	0.00	0.00
2,000.00	21.26	276.57	1,901.25	64.51	-560.07	563.77	0.00	0.00	0.00
2,500.00	21.26	276.57	2,367.23	85.26	-740.18	745.07	0.00	0.00	0.00
3,000.00	21.26	276.57	2,833.20	106.01	-920.29	926.37	0.00	0.00	0.00
3,430.07	21.26	276.57	3,234.00	123.85	-1,075.20	1,082.31	0.00	0.00	0.00
Top of "G" Sand									
3,467.62	21.26	276.57	3,269.00	125.41	-1,088.73	1,095.93	0.00	0.00	0.00
Base of "G" Sand									
3,500.00	21.26	276.57	3,299.17	126.75	-1,100.39	1,107.67	0.00	0.00	0.00
4,000.00	21.26	276.57	3,765.15	147.50	-1,280.50	1,288.97	0.00	0.00	0.00
4,437.62	21.26	276.57	4,172.98	165.66	-1,438.14	1,447.65	0.00	0.00	0.00
Start Drop -1.50									
4,500.00	20.32	276.57	4,231.30	168.19	-1,460.14	1,469.79	1.50	-1.50	0.00
5,000.00	12.82	276.57	4,710.19	184.50	-1,601.73	1,612.32	1.50	-1.50	0.00
5,500.00	5.32	276.57	5,203.58	193.52	-1,680.01	1,691.12	1.50	-1.50	0.00
5,854.94	0.00	0.00	5,558.00	195.40	-1,696.38	1,707.59	1.50	-1.50	0.00
Vertical									
5,954.94	0.00	0.00	5,658.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
MVRD target - Mesaverde									
6,000.00	0.00	0.00	5,703.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
6,500.00	0.00	0.00	6,203.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
7,000.00	0.00	0.00	6,703.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
7,500.00	0.00	0.00	7,203.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
7,565.94	0.00	0.00	7,269.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
Approx. Top Gas									
8,000.00	0.00	0.00	7,703.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
8,500.00	0.00	0.00	8,203.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
8,693.94	0.00	0.00	8,397.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
Cameo									
9,000.00	0.00	0.00	8,703.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
9,400.94	0.00	0.00	9,104.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
Coal D									
9,500.00	0.00	0.00	9,203.07	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
9,559.94	0.00	0.00	9,263.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
Rollins									
9,709.94	0.00	0.00	9,413.00	195.40	-1,696.38	1,707.59	0.00	0.00	0.00
9709.94 Measured depth - TD									

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Project:	RU 07-07S-093W	MD Reference:	KB @ 7363.00usft (HP 318)
Site:	RU 22-7 Pad	North Reference:	True
Well:	RU 512-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 28Mar16 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 512-7 MVRD	0.00	0.00	5,658.00	195.40	-1,696.38	1,599,936.80	2,343,393.10	39.457522	-107.825722
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,124.00	1,084.87	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
3,430.07	3,234.00	Top of "G" Sand		0.00		
3,467.62	3,269.00	Base of "G" Sand		0.00		
5,954.94	5,658.00	Mesaverde		0.00		
7,565.94	7,269.00	Approx. Top Gas		0.00		
8,693.94	8,397.00	Cameo		0.00		
9,400.94	9,104.00	Coal D		0.00		
9,559.94	9,263.00	Rollins		0.00		
9,709.94	9,413.00	TD		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
145.00	145.00	0.00	0.00	Start Build 3.50	
752.42	738.58	12.75	-110.67	Hold 21.26 Inclination	
4,437.62	4,172.98	165.66	-1,438.14	Start Drop -1.50	
5,854.94	5,558.00	195.40	-1,696.38	Vertical	
5,954.94	5,658.00	195.40	-1,696.38	MVRD target	
9,709.94	9,413.00	195.40	-1,696.38	9709.94 Measured depth	