

PICEANCE VLY NAD 83

RU 07-07S-093W

RU 22-7 Pad

RU 523-7 - Slot B1

Wellbore #1

Plan: Design #2 28Mar16 sam

Standard Planning Report

13 April, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 523-7 (B1) - Slot B1
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 523-7	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 523-7 - Slot B1					
Well Position	+N/-S	-4.10 usft	Northing:	1,599,669.80 usft	Latitude:	39.456907
	+E/-W	-11.85 usft	Easting:	2,345,074.05 usft	Longitude:	-107.819747
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	200.52

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	
121.00	0.00	0.00	121.00	0.00	0.00	0.00	0.00	0.00	0.00	
639.51	18.15	200.52	630.88	-76.27	-28.54	3.50	3.50	0.00	200.52	
4,593.59	18.15	200.52	4,388.27	-1,229.72	-460.21	0.00	0.00	0.00	0.00	
5,803.45	0.00	0.00	5,578.00	-1,407.67	-526.81	1.50	-1.50	0.00	180.00	
5,903.45	0.00	0.00	5,678.00	-1,407.67	-526.81	0.00	0.00	0.00	0.00	10 acre RU 523-7 MV
9,601.45	0.00	0.00	9,376.00	-1,407.67	-526.81	0.00	0.00	0.00	0.00	

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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 523-7	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
121.00	0.00	0.00	121.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
500.00	13.27	200.52	496.62	-40.91	-15.31	43.68	3.50	3.50	0.00
639.51	18.15	200.52	630.88	-76.27	-28.54	81.43	3.50	3.50	0.00
Hold 18.15 Inclination									
1,000.00	18.15	200.52	973.44	-181.43	-67.90	193.71	0.00	0.00	0.00
1,124.00	18.15	200.52	1,091.27	-217.60	-81.43	232.34	0.00	0.00	0.00
9 5/8"									
1,500.00	18.15	200.52	1,448.57	-327.28	-122.48	349.45	0.00	0.00	0.00
2,000.00	18.15	200.52	1,923.70	-473.14	-177.07	505.18	0.00	0.00	0.00
2,500.00	18.15	200.52	2,398.83	-618.99	-231.65	660.92	0.00	0.00	0.00
3,000.00	18.15	200.52	2,873.95	-764.85	-286.24	816.65	0.00	0.00	0.00
3,363.11	18.15	200.52	3,219.00	-870.77	-325.88	929.75	0.00	0.00	0.00
Top of "G" Sand									
3,426.25	18.15	200.52	3,279.00	-889.19	-332.77	949.42	0.00	0.00	0.00
Base of "G" Sand									
3,500.00	18.15	200.52	3,349.08	-910.70	-340.82	972.39	0.00	0.00	0.00
4,000.00	18.15	200.52	3,824.21	-1,056.56	-395.41	1,128.13	0.00	0.00	0.00
4,500.00	18.15	200.52	4,299.34	-1,202.42	-449.99	1,283.86	0.00	0.00	0.00
4,593.59	18.15	200.52	4,388.27	-1,229.72	-460.21	1,313.01	0.00	0.00	0.00
Start Drop -1.50									
5,000.00	12.05	200.52	4,780.46	-1,328.83	-497.30	1,418.83	1.50	-1.50	0.00
5,500.00	4.55	200.52	5,274.87	-1,396.39	-522.58	1,490.97	1.50	-1.50	0.00
5,803.45	0.00	0.00	5,578.00	-1,407.67	-526.81	1,503.02	1.50	-1.50	52.56
Vertical									
5,903.45	0.00	0.00	5,678.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
MVRD target - Mesaverde									
6,000.00	0.00	0.00	5,774.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
6,500.00	0.00	0.00	6,274.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
7,000.00	0.00	0.00	6,774.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
7,500.00	0.00	0.00	7,274.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
7,507.45	0.00	0.00	7,282.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
Approx. Top Gas									
8,000.00	0.00	0.00	7,774.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
8,500.00	0.00	0.00	8,274.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
8,611.45	0.00	0.00	8,386.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
Cameo									
9,000.00	0.00	0.00	8,774.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
9,333.45	0.00	0.00	9,108.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
Coal D									
9,451.45	0.00	0.00	9,226.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
Rollins									
9,500.00	0.00	0.00	9,274.55	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
9,601.45	0.00	0.00	9,376.00	-1,407.67	-526.81	1,503.02	0.00	0.00	0.00
9601.45 Measured depth									

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Project:	RU 07-07S-093W	MD Reference:	KB @ 7363.00usft (HP 318)
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Well:	RU 523-7	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 523-7 MVRD	0.00	0.00	5,678.00	-1,407.67	-526.81	1,598,276.10	2,344,511.50	39.453042	-107.821612
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,124.00	1,091.27	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
3,363.11	3,219.00	Top of "G" Sand		0.00		
3,426.25	3,279.00	Base of "G" Sand		0.00		
5,903.45	5,678.00	Mesaverde		0.00		
7,507.45	7,282.00	Approx. Top Gas		0.00		
8,611.45	8,386.00	Cameo		0.00		
9,333.45	9,108.00	Coal D		0.00		
9,451.45	9,226.00	Rollins		0.00		
9,601.45	9,376.00	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
121.00	121.00	0.00	0.00	Start Build 3.50	
639.51	630.88	-76.27	-28.54	Hold 18.15 Inclination	
4,593.59	4,388.27	-1,229.72	-460.21	Start Drop -1.50	
5,803.45	5,578.00	-1,407.67	-526.81	Vertical	
5,903.45	5,678.00	-1,407.67	-526.81	MVRD target	
9,601.45	9,376.00	-1,407.67	-526.81	9601.45 Measured depth	