

PICEANCE VLY NAD 83

RU 07-07S-093W

RU 22-7 Pad

RU 422-7 - Slot B3

Wellbore #1

Plan: Design #2 28Mar16 sam

Standard Planning Report

13 April, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 422-7 (B3) - Slot B3
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 422-7	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 422-7 - Slot B3					
Well Position	+N/-S	10.20 usft	Northing:	1,599,683.98 usft	Latitude:	39.456946
	+E/-W	-7.30 usft	Easting:	2,345,078.96 usft	Longitude:	-107.819731
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	3/28/2016	9.74	65.61	51,655

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	203.01

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	
271.00	3.00	230.00	270.93	-2.52	-3.01	2.00	2.00	0.00	230.00	
397.15	4.77	202.47	396.80	-9.49	-7.54	2.00	1.40	-21.83	-60.81	
4,359.50	4.77	202.47	4,345.43	-313.92	-133.43	0.00	0.00	0.00	0.00	
4,677.44	0.00	0.00	4,663.00	-326.14	-138.48	1.50	-1.50	0.00	180.00	
5,677.44	0.00	0.00	5,663.00	-326.14	-138.48	0.00	0.00	0.00	0.00	10 acre RU 422-7 MV
9,408.44	0.00	0.00	9,394.00	-326.14	-138.48	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 422-7	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 2.00									
271.00	3.00	230.00	270.93	-2.52	-3.01	3.50	2.00	2.00	0.00
Start turn DLS 2.00 TFO -60.81									
397.15	4.77	202.47	396.80	-9.49	-7.54	11.69	2.00	1.40	-21.83
Hold 4.77 Inclination									
500.00	4.77	202.47	499.29	-17.39	-10.81	20.24	0.00	0.00	0.00
1,000.00	4.77	202.47	997.56	-55.81	-26.69	61.80	0.00	0.00	0.00
1,124.00	4.77	202.47	1,121.13	-65.34	-30.63	72.11	0.00	0.00	0.00
9 5/8"									
1,500.00	4.77	202.47	1,495.83	-94.22	-42.58	103.37	0.00	0.00	0.00
2,000.00	4.77	202.47	1,994.10	-132.64	-58.47	144.94	0.00	0.00	0.00
2,500.00	4.77	202.47	2,492.37	-171.05	-74.35	186.51	0.00	0.00	0.00
3,000.00	4.77	202.47	2,990.64	-209.47	-90.24	228.07	0.00	0.00	0.00
3,229.16	4.77	202.47	3,219.00	-227.07	-97.52	247.13	0.00	0.00	0.00
Top of "G" Sand									
3,274.31	4.77	202.47	3,264.00	-230.54	-98.95	250.88	0.00	0.00	0.00
Base of "G" Sand									
3,500.00	4.77	202.47	3,488.90	-247.88	-106.12	269.64	0.00	0.00	0.00
4,000.00	4.77	202.47	3,987.17	-286.30	-122.01	311.21	0.00	0.00	0.00
4,359.50	4.77	202.47	4,345.43	-313.92	-133.43	341.10	0.00	0.00	0.00
Start Drop -1.50									
4,500.00	2.66	202.47	4,485.63	-322.33	-136.91	350.20	1.50	-1.50	0.00
4,677.44	0.00	0.00	4,663.00	-326.14	-138.48	354.32	1.50	-1.50	0.00
Vertical									
5,000.00	0.00	0.00	4,985.56	-326.14	-138.48	354.32	0.00	0.00	0.00
5,500.00	0.00	0.00	5,485.56	-326.14	-138.48	354.32	0.00	0.00	0.00
5,677.44	0.00	0.00	5,663.00	-326.14	-138.48	354.32	0.00	0.00	0.00
MVRD target - Mesaverde									
6,000.00	0.00	0.00	5,985.56	-326.14	-138.48	354.32	0.00	0.00	0.00
6,500.00	0.00	0.00	6,485.56	-326.14	-138.48	354.32	0.00	0.00	0.00
7,000.00	0.00	0.00	6,985.56	-326.14	-138.48	354.32	0.00	0.00	0.00
7,289.44	0.00	0.00	7,275.00	-326.14	-138.48	354.32	0.00	0.00	0.00
Approx. Top Gas									
7,500.00	0.00	0.00	7,485.56	-326.14	-138.48	354.32	0.00	0.00	0.00
8,000.00	0.00	0.00	7,985.56	-326.14	-138.48	354.32	0.00	0.00	0.00
8,420.44	0.00	0.00	8,406.00	-326.14	-138.48	354.32	0.00	0.00	0.00
Cameo									
8,500.00	0.00	0.00	8,485.56	-326.14	-138.48	354.32	0.00	0.00	0.00
9,000.00	0.00	0.00	8,985.56	-326.14	-138.48	354.32	0.00	0.00	0.00
9,145.44	0.00	0.00	9,131.00	-326.14	-138.48	354.32	0.00	0.00	0.00
Coal D									
9,258.44	0.00	0.00	9,244.00	-326.14	-138.48	354.32	0.00	0.00	0.00
Rollins									
9,408.44	0.00	0.00	9,394.00	-326.14	-138.48	354.32	0.00	0.00	0.00
9408.44 Measured depth									

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Project:	RU 07-07S-093W	MD Reference:	KB @ 7363.00usft (HP 318)
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Well:	RU 422-7	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 422-7 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,663.00	-326.14	-138.48	1,599,361.50	2,344,932.20	39.456051	-107.820221

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,124.00	1,121.13	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
3,229.16	3,219.00	Top of "G" Sand		0.00		
3,274.31	3,264.00	Base of "G" Sand		0.00		
5,677.44	5,663.00	Mesaverde		0.00		
7,289.44	7,275.00	Approx. Top Gas		0.00		
8,420.44	8,406.00	Cameo		0.00		
9,145.44	9,131.00	Coal D		0.00		
9,258.44	9,244.00	Rollins		0.00		
9,408.44	9,394.00	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 2.00	
271.00	270.93	-2.52	-3.01	Start turn DLS 2.00 TFO -60.81	
397.15	396.80	-9.49	-7.54	Hold 4.77 Inclination	
4,359.50	4,345.43	-313.92	-133.43	Start Drop -1.50	
4,677.44	4,663.00	-326.14	-138.48	Vertical	
5,677.44	5,663.00	-326.14	-138.48	MVRD target	
9,408.44	9,394.00	-326.14	-138.48	9408.44 Measured depth	