

PICEANCE VLY NAD 83

RU 06-07S-093W

RU 13-6 Pad

RU 413-6 - Slot A02

Wellbore #1

Plan: Design #2 2Nov15 sam

Standard Planning Report

09 November, 2015

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 413-6 (A02) - Slot A02
Company:	PICEANCE VLY NAD 83	TVD Reference:	KB @ 7009.00usft (HP 318)
Project:	RU 06-07S-093W	MD Reference:	KB @ 7009.00usft (HP 318)
Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 413-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 2Nov15 sam		

Project	RU 06-07S-093W		
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 13-6 Pad			
Site Position:		Northing:	1,603,405.40 usft	Latitude: 39.467067
From: Map		Easting:	2,343,761.30 usft	Longitude: -107.824733
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.47 °

Well	RU 413-6 - Slot A02			
Well Position	+N/-S	7.36 usft	Northing:	1,603,412.80 usft
	+E/-W	-1.59 usft	Easting:	2,343,759.90 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	6,985.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/17/2014	9.87	65.66	51,937

Design	Design #2 2Nov15 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	143.03

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	
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00	
344.00	6.00	125.00	343.63	-6.00	8.57	3.00	3.00	0.00	125.00	
577.50	13.05	143.35	573.82	-34.19	34.34	3.25	3.02	7.86	32.57	
5,519.88	13.05	143.35	5,388.57	-929.51	700.41	0.00	0.00	0.00	0.00	
6,389.81	0.00	0.00	6,251.00	-1,008.65	759.29	1.50	-1.50	0.00	180.00	
9,289.81	0.00	0.00	9,151.00	-1,008.65	759.29	0.00	0.00	0.00	0.00	

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Project:	RU 06-07S-093W	MD Reference:	KB @ 7009.00usft (HP 318)
Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 413-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 2Nov15 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
144.00	0.00	0.00	144.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.00									
344.00	6.00	125.00	343.63	-6.00	8.57	9.95	3.00	3.00	0.00
Start Build Turn DLS 3.25 TFO 32.57									
500.00	10.63	139.95	497.97	-21.70	24.52	32.08	3.25	2.97	9.58
577.50	13.05	143.35	573.82	-34.19	34.34	47.97	3.25	3.12	4.39
Hold 13.05 Inclination									
1,000.00	13.05	143.35	985.41	-110.73	91.28	143.36	0.00	0.00	0.00
1,124.00	13.05	143.35	1,106.20	-133.19	107.99	171.36	0.00	0.00	0.00
9 5/8"									
1,500.00	13.05	143.35	1,472.50	-201.30	158.66	256.25	0.00	0.00	0.00
2,000.00	13.05	143.35	1,959.58	-291.88	226.05	369.14	0.00	0.00	0.00
2,500.00	13.05	143.35	2,446.67	-382.45	293.43	482.03	0.00	0.00	0.00
2,992.03	13.05	143.35	2,926.00	-471.59	359.74	593.12	0.00	0.00	0.00
Top of "G" Sand									
3,000.00	13.05	143.35	2,933.76	-473.03	360.82	594.92	0.00	0.00	0.00
3,094.68	13.05	143.35	3,026.00	-490.18	373.58	616.30	0.00	0.00	0.00
Base of "G" Sand									
3,500.00	13.05	143.35	3,420.85	-563.61	428.20	707.81	0.00	0.00	0.00
4,000.00	13.05	143.35	3,907.94	-654.18	495.58	820.70	0.00	0.00	0.00
4,500.00	13.05	143.35	4,395.03	-744.76	562.97	933.59	0.00	0.00	0.00
5,000.00	13.05	143.35	4,882.12	-835.33	630.35	1,046.48	0.00	0.00	0.00
5,500.00	13.05	143.35	5,369.21	-925.91	697.74	1,159.37	0.00	0.00	0.00
5,506.97	13.05	143.35	5,376.00	-927.17	698.68	1,160.95	0.00	0.00	0.00
Mesaverde									
5,519.88	13.05	143.35	5,388.57	-929.51	700.41	1,163.86	0.00	0.00	0.00
Start Drop -1.50									
6,000.00	5.85	143.35	5,861.87	-992.70	747.43	1,242.62	1.50	-1.50	0.00
6,389.81	0.00	0.00	6,251.00	-1,008.65	759.29	1,262.49	1.50	-1.50	0.00
Vertical									
6,500.00	0.00	0.00	6,361.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,861.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
7,089.81	0.00	0.00	6,951.00	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
Approx. Top Gas									
7,500.00	0.00	0.00	7,361.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
8,000.00	0.00	0.00	7,861.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
8,269.81	0.00	0.00	8,131.00	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
Cameo Coals									
8,500.00	0.00	0.00	8,361.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
8,989.81	0.00	0.00	8,851.00	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
Coal D									
9,000.00	0.00	0.00	8,861.19	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
9,139.81	0.00	0.00	9,001.00	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
Rollins SS									
9,289.81	0.00	0.00	9,151.00	-1,008.65	759.29	1,262.49	0.00	0.00	0.00
TD at 9265.81 - TD									

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Project:	RU 06-07S-093W	MD Reference:	KB @ 7009.00usft (HP 318)
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Well:	RU 413-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 2Nov15 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									
RU 413-6 Top Gas 50' R	0.00	0.00	6,951.00	-1,008.65	759.29	1,602,385.10	2,344,493.10	39.464318	-107.822049
- plan hits target center									
- Circle (radius 50.00)									

Casing Points				
Measured Depth	Vertical Depth	Name		
(usft)	(usft)			
		Casing Diameter	Hole Diameter	
		(in)	(in)	
1,124.00	1,106.20	9 5/8"	9.625	13.500

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(usft)	(usft)			(°)	(bearing)
2,992.03	2,926.00	Top of "G" Sand		0.00	
3,094.68	3,026.00	Base of "G" Sand		0.00	
5,506.97	5,376.00	Mesaverde		0.00	
7,089.81	6,951.00	Approx. Top Gas		0.00	
8,269.81	8,131.00	Cameo Coals		0.00	
8,989.81	8,851.00	Coal D		0.00	
9,139.81	9,001.00	Rollins SS		0.00	
9,289.81	9,151.00	TD		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S	+E/-W	
		(usft)	(usft)	
144.00	144.00	0.00	0.00	Start Build 3.00
344.00	343.63	-6.00	8.57	Start Build Turn DLS 3.25 TFO 32.57
577.50	573.82	-34.19	34.34	Hold 13.05 Inclination
5,519.88	5,388.57	-929.51	700.41	Start Drop -1.50
6,389.81	6,251.00	-1,008.65	759.29	Vertical
9,289.81	9,151.00	-1,008.65	759.29	TD at 9265.81