

PICEANCE VLY NAD 83

RU 06-07S-093W

RU 13-6 Pad

RU 12-6 - Slot B09

Wellbore #1

Plan: Design #2 2Nov15 sam

Standard Planning Report

09 November, 2015

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well RU 12-6 (B09) - Slot B09
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 12-6	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 12-6 - Slot B09			
Well Position	+N/-S	56.55 usft	Northing:	1,603,462.50 usft
	+E/-W	-22.46 usft	Easting:	2,343,740.30 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	350.96

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	
678.04	10.68	350.96	674.95	49.02	-7.80	2.00	2.00	0.00	350.96	
5,397.93	10.68	350.96	5,313.07	912.93	-145.19	0.00	0.00	0.00	0.00	
6,109.98	0.00	0.00	6,021.00	978.28	-155.59	1.50	-1.50	0.00	180.00	
7,109.98	0.00	0.00	7,021.00	978.28	-155.59	0.00	0.00	0.00	0.00	RU 12-6 Top Gas 50'
9,289.98	0.00	0.00	9,201.00	978.28	-155.59	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 12-6	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 2.00									
500.00	7.12	350.96	499.08	21.82	-3.47	22.09	2.00	2.00	0.00
678.04	10.68	350.96	674.95	49.02	-7.80	49.63	2.00	2.00	0.00
Hold 10.68 Inclination									
1,000.00	10.68	350.96	991.33	107.95	-17.17	109.30	0.00	0.00	0.00
1,124.00	10.68	350.96	1,113.19	130.64	-20.78	132.29	0.00	0.00	0.00
9 5/8"									
1,500.00	10.68	350.96	1,482.67	199.47	-31.72	201.97	0.00	0.00	0.00
2,000.00	10.68	350.96	1,974.01	290.98	-46.28	294.64	0.00	0.00	0.00
2,500.00	10.68	350.96	2,465.35	382.50	-60.83	387.31	0.00	0.00	0.00
2,968.77	10.68	350.96	2,926.00	468.30	-74.48	474.19	0.00	0.00	0.00
Top of "G" Sand									
3,000.00	10.68	350.96	2,956.68	474.02	-75.39	479.98	0.00	0.00	0.00
3,070.54	10.68	350.96	3,026.00	486.93	-77.44	493.05	0.00	0.00	0.00
Base of "G" Sand									
3,500.00	10.68	350.96	3,448.02	565.54	-89.94	572.65	0.00	0.00	0.00
4,000.00	10.68	350.96	3,939.36	657.06	-104.50	665.31	0.00	0.00	0.00
4,500.00	10.68	350.96	4,430.70	748.57	-119.06	757.98	0.00	0.00	0.00
5,000.00	10.68	350.96	4,922.03	840.09	-133.61	850.65	0.00	0.00	0.00
5,397.93	10.68	350.96	5,313.07	912.93	-145.19	924.40	0.00	0.00	0.00
Start Drop -1.50									
5,482.15	9.42	350.96	5,396.00	927.44	-147.50	939.10	1.50	-1.50	0.00
Mesaverde									
5,500.00	9.15	350.96	5,413.61	930.28	-147.96	941.98	1.50	-1.50	0.00
6,000.00	1.65	350.96	5,911.04	976.72	-155.34	988.99	1.50	-1.50	0.00
6,109.98	0.00	0.00	6,021.00	978.28	-155.59	990.58	1.50	-1.50	0.00
Vertical									
6,500.00	0.00	0.00	6,411.02	978.28	-155.59	990.58	0.00	0.00	0.00
7,000.00	0.00	0.00	6,911.02	978.28	-155.59	990.58	0.00	0.00	0.00
7,109.98	0.00	0.00	7,021.00	978.28	-155.59	990.58	0.00	0.00	0.00
Top of Target - Approx. Top Gas									
7,500.00	0.00	0.00	7,411.02	978.28	-155.59	990.58	0.00	0.00	0.00
8,000.00	0.00	0.00	7,911.02	978.28	-155.59	990.58	0.00	0.00	0.00
8,259.98	0.00	0.00	8,171.00	978.28	-155.59	990.58	0.00	0.00	0.00
Cameo Coals									
8,500.00	0.00	0.00	8,411.02	978.28	-155.59	990.58	0.00	0.00	0.00
8,989.98	0.00	0.00	8,901.00	978.28	-155.59	990.58	0.00	0.00	0.00
Coal D									
9,000.00	0.00	0.00	8,911.02	978.28	-155.59	990.58	0.00	0.00	0.00
9,139.98	0.00	0.00	9,051.00	978.28	-155.59	990.58	0.00	0.00	0.00
Rollins SS									
9,289.98	0.00	0.00	9,201.00	978.28	-155.59	990.58	0.00	0.00	0.00
TD at 9265.98									

WPX

Planning Report

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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 12-6	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 12-6 Top Gas 50' Ra	0.00	0.00	7,021.00	978.28	-155.59	1,604,444.40	2,343,609.80	39.469908	-107.825364
- 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	1,113.19	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
2,968.77	2,926.00	Top of "G" Sand		0.00		
3,070.54	3,026.00	Base of "G" Sand		0.00		
5,482.15	5,396.00	Mesaverde		0.00		
7,109.98	7,021.00	Approx. Top Gas		0.00		
8,259.98	8,171.00	Cameo Coals		0.00		
8,989.98	8,901.00	Coal D		0.00		
9,139.98	9,051.00	Rollins SS		0.00		
9,289.98	9,201.00	TD		0.00		

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
144.00	144.00	0.00	0.00	Start Build 2.00	
678.04	674.95	49.02	-7.80	Hold 10.68 Inclination	
5,397.93	5,313.07	912.93	-145.19	Start Drop -1.50	
6,109.98	6,021.00	978.28	-155.59	Vertical	
7,109.98	7,021.00	978.28	-155.59	Top of Target	
9,289.98	9,201.00	978.28	-155.59	TD at 9265.98	