

PICEANCE VLY NAD 83

RU 12-07S-094W

RU 32-12 Pad

SR 21-12 - Slot A1

Wellbore #1

Plan: Design #1 27Apr16 sam

Standard Planning Report

07 June, 2016

WPX

Planning Report

Database:	COMPASS	Local Co-ordinate Reference:	Well SR 21-12 (A1) - Slot A1
Company:	PICEANCE VLY NAD 83	TVD Reference:	KB @ 7278.00usft (HP 318)
Project:	RU 12-07S-094W	MD Reference:	KB @ 7278.00usft (HP 318)
Site:	RU 32-12 Pad	North Reference:	True
Well:	SR 21-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27Apr16 sam		

Project	RU 12-07S-094W		
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 32-12 Pad			
Site Position:		Northing:	1,599,166.61 usft	Latitude: 39.455244
From: Map		Easting:	2,341,071.28 usft	Longitude: -107.833873
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.47 °

Well	SR 21-12 - Slot A1			
Well Position	+N/-S	71.61 usft	Northing:	1,599,238.70 usft
	+E/-W	-19.72 usft	Easting:	2,341,053.40 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	7,254.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/27/2016	9.74	65.60	51,644

Design	Design #1 27Apr16 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	314.07

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,048.35	32.49	314.07	999.39	178.23	-184.12	3.50	3.50	0.00	314.07	
3,918.32	32.49	314.07	3,420.09	1,250.53	-1,291.84	0.00	0.00	0.00	0.00	
6,084.48	0.00	0.00	5,472.00	1,666.41	-1,721.45	1.50	-1.50	0.00	180.00	
6,184.48	0.00	0.00	5,572.00	1,666.41	-1,721.45	0.00	0.00	0.00	0.00	10 acre SR 21-12 MV
9,921.48	0.00	0.00	9,309.00	1,666.41	-1,721.45	0.00	0.00	0.00	0.00	

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Project:	RU 12-07S-094W	MD Reference:	KB @ 7278.00usft (HP 318)
Site:	RU 32-12 Pad	North Reference:	True
Well:	SR 21-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27Apr16 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
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 3.50									
500.00	13.30	314.07	496.60	30.54	-31.55	43.91	3.50	3.50	0.00
1,000.00	30.80	314.07	958.23	160.59	-165.89	230.89	3.50	3.50	0.00
1,048.35	32.49	314.07	999.39	178.23	-184.12	256.26	3.50	3.50	0.00
Hold 32.49 Inclination									
1,100.00	32.49	314.07	1,042.95	197.53	-204.05	284.00	0.00	0.00	0.00
9 5/8"									
1,500.00	32.49	314.07	1,380.33	346.98	-358.44	498.87	0.00	0.00	0.00
2,000.00	32.49	314.07	1,802.07	533.79	-551.43	767.47	0.00	0.00	0.00
2,500.00	32.49	314.07	2,223.80	720.61	-744.41	1,036.06	0.00	0.00	0.00
3,000.00	32.49	314.07	2,645.53	907.42	-937.40	1,304.66	0.00	0.00	0.00
3,500.00	32.49	314.07	3,067.26	1,094.24	-1,130.38	1,573.25	0.00	0.00	0.00
3,628.92	32.49	314.07	3,176.00	1,142.40	-1,180.14	1,642.50	0.00	0.00	0.00
Top of "G" Sand									
3,685.83	32.49	314.07	3,224.00	1,163.67	-1,202.11	1,673.07	0.00	0.00	0.00
Base of "G" Sand									
3,918.32	32.49	314.07	3,420.09	1,250.53	-1,291.84	1,797.96	0.00	0.00	0.00
Start Drop -1.50									
4,000.00	31.27	314.07	3,489.46	1,280.54	-1,322.83	1,841.10	1.50	-1.50	0.00
4,500.00	23.77	314.07	3,932.57	1,441.09	-1,488.69	2,071.95	1.50	-1.50	0.00
5,000.00	16.27	314.07	4,402.03	1,560.05	-1,611.58	2,242.97	1.50	-1.50	0.00
5,500.00	8.77	314.07	4,889.80	1,635.36	-1,689.38	2,351.26	1.50	-1.50	0.00
5,729.97	5.32	314.07	5,118.00	1,654.97	-1,709.64	2,379.45	1.50	-1.50	0.00
Lower Wasatch									
6,000.00	1.27	314.07	5,387.53	1,665.76	-1,720.78	2,394.96	1.50	-1.50	0.00
6,011.47	1.10	314.07	5,399.00	1,665.92	-1,720.95	2,395.19	1.50	-1.50	0.00
Ohio Creek									
6,084.48	0.00	0.00	5,472.00	1,666.41	-1,721.45	2,395.89	1.50	-1.50	0.00
Vertical									
6,184.48	0.00	0.00	5,572.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
Top MVRD - Mesaverde									
6,500.00	0.00	0.00	5,887.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
7,000.00	0.00	0.00	6,387.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
7,500.00	0.00	0.00	6,887.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
7,756.48	0.00	0.00	7,144.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
Approx Top Gas									
8,000.00	0.00	0.00	7,387.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
8,500.00	0.00	0.00	7,887.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
8,894.48	0.00	0.00	8,282.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
Cameo									
9,000.00	0.00	0.00	8,387.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
9,500.00	0.00	0.00	8,887.52	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
9,594.48	0.00	0.00	8,982.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
Coal D									
9,771.48	0.00	0.00	9,159.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
Rollins									
9,921.48	0.00	0.00	9,309.00	1,666.41	-1,721.45	2,395.89	0.00	0.00	0.00
TD at 9921.48 - TD									

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Project:	RU 12-07S-094W	MD Reference:	KB @ 7278.00usft (HP 318)
Site:	RU 32-12 Pad	North Reference:	True
Well:	SR 21-12	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 27Apr16 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 SR 21-12 MVRD - plan hits target center - Circle (radius 50.00)	0.00	0.00	5,572.00	1,666.41	-1,721.45	1,600,948.70	2,339,375.40	39.460016	-107.840039

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,100.00	1,042.95	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(bearing)	
3,628.92	3,176.00	Top of "G" Sand		0.00		
3,685.83	3,224.00	Base of "G" Sand		0.00		
5,729.97	5,118.00	Lower Wasatch		0.00		
6,011.47	5,399.00	Ohio Creek		0.00		
6,184.48	5,572.00	Mesaverde		0.00		
7,756.48	7,144.00	Approx Top Gas		0.00		
8,894.48	8,282.00	Cameo		0.00		
9,594.48	8,982.00	Coal D		0.00		
9,771.48	9,159.00	Rollins		0.00		
9,921.48	9,309.00	TD		0.00		

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.50
1,048.35	999.39	178.23	-184.12	Hold 32.49 Inclination
3,918.32	3,420.09	1,250.53	-1,291.84	Start Drop -1.50
6,084.48	5,472.00	1,666.41	-1,721.45	Vertical
6,184.48	5,572.00	1,666.41	-1,721.45	Top MVRD
9,921.48	9,309.00	1,666.41	-1,721.45	TD at 9921.48