

PICEANCE VLY NAD 83

RU 06-07S-093W

RU 13-6 Pad

RU 512-6 - Slot B08

Wellbore #1

Plan: Design #1 17Jul14 mab

Standard Planning Report - Geographic

17 September, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well RU 512-6 - Slot B08
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 7011.00usft (Nabors 574 (26' RKB) mab)
Project:	RU 06-07S-093W	MD Reference:	KELLY BUSHING @ 7011.00usft (Nabors 574 (26' RKB) mab)
Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 512-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Jul14 mab		

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:	1,603,405.40000 usft	Latitude: 39.467067
From: Map		Easting:	2,343,761.30000 usft	Longitude: -107.824733
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.47 °

Well	RU 512-6 - Slot B08			
Well Position	+N/-S	0.00 usft	Northing:	1,603,455.20000 usft
	+E/-W	0.00 usft	Easting:	2,343,741.70000 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 #1 17Jul14 mab			
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	353.33

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	
945.28	20.63	353.33	927.56	146.00	-17.07	2.50	2.50	0.00	353.33	
5,255.21	20.63	353.33	4,961.06	1,654.40	-193.39	0.00	0.00	0.00	0.00	
6,630.68	0.00	0.00	6,307.00	1,897.73	-221.84	1.50	-1.50	0.00	180.00	
6,930.68	0.00	0.00	6,607.00	1,897.73	-221.84	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
9,680.68	0.00	0.00	9,357.00	1,897.73	-221.84	0.00	0.00	0.00	0.00	

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Project:	RU 06-07S-093W	MD Reference:	KELLY BUSHING @ 7011.00usft (Nabors 574 (26' RKB) mab)
Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 512-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Jul14 mab		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,603,455.20000	2,343,741.70000	39.467203	-107.824807	
120.00	0.00	0.00	120.00	0.00	0.00	1,603,455.20000	2,343,741.70000	39.467203	-107.824807	
Start Build 2.50										
200.00	2.00	353.33	199.98	1.39	-0.16	1,603,456.59031	2,343,741.57344	39.467207	-107.824807	
400.00	7.00	353.33	399.30	16.97	-1.98	1,603,472.21188	2,343,740.15143	39.467249	-107.824814	
600.00	12.00	353.33	596.50	49.74	-5.81	1,603,505.07361	2,343,737.16008	39.467339	-107.824827	
800.00	17.00	353.33	790.07	99.46	-11.63	1,603,554.92542	2,343,732.62214	39.467476	-107.824848	
945.28	20.63	353.33	927.56	146.00	-17.07	1,603,601.58082	2,343,728.37517	39.467604	-107.824867	
Hold 20.63° Inc, 353.33° Az										
1,000.00	20.63	353.33	978.77	165.15	-19.31	1,603,620.78101	2,343,726.62740	39.467656	-107.824875	
1,100.00	20.63	353.33	1,072.36	200.15	-23.40	1,603,655.87095	2,343,723.43321	39.467752	-107.824890	
9 5/8"										
1,200.00	20.63	353.33	1,165.94	235.14	-27.49	1,603,690.96089	2,343,720.23903	39.467848	-107.824904	
1,400.00	20.63	353.33	1,353.12	305.14	-35.67	1,603,761.14076	2,343,713.85066	39.468040	-107.824933	
1,600.00	20.63	353.33	1,540.29	375.14	-43.85	1,603,831.32062	2,343,707.46229	39.468233	-107.824962	
1,800.00	20.63	353.33	1,727.46	445.13	-52.03	1,603,901.50049	2,343,701.07391	39.468425	-107.824991	
2,000.00	20.63	353.33	1,914.63	515.13	-60.22	1,603,971.68037	2,343,694.68554	39.468617	-107.825020	
2,200.00	20.63	353.33	2,101.81	585.13	-68.40	1,604,041.86024	2,343,688.29717	39.468809	-107.825049	
2,400.00	20.63	353.33	2,288.98	655.12	-76.58	1,604,112.04011	2,343,681.90880	39.469001	-107.825078	
2,600.00	20.63	353.33	2,476.15	725.12	-84.76	1,604,182.21998	2,343,675.52043	39.469193	-107.825107	
2,800.00	20.63	353.33	2,663.32	795.12	-92.95	1,604,252.39985	2,343,669.13206	39.469386	-107.825136	
3,000.00	20.63	353.33	2,850.50	865.11	-101.13	1,604,322.57972	2,343,662.74369	39.469578	-107.825165	
3,064.65	20.63	353.33	2,911.00	887.74	-103.77	1,604,345.26594	2,343,660.67859	39.469640	-107.825174	
Top of "G" Sand										
3,171.51	20.63	353.33	3,011.00	925.14	-108.15	1,604,382.76070	2,343,657.26550	39.469743	-107.825190	
Base of "G" Sand										
3,200.00	20.63	353.33	3,037.67	935.11	-109.31	1,604,392.75959	2,343,656.35532	39.469770	-107.825194	
3,400.00	20.63	353.33	3,224.84	1,005.11	-117.49	1,604,462.93947	2,343,649.96695	39.469962	-107.825223	
3,600.00	20.63	353.33	3,412.01	1,075.10	-125.68	1,604,533.11934	2,343,643.57857	39.470154	-107.825252	
3,800.00	20.63	353.33	3,599.18	1,145.10	-133.86	1,604,603.29920	2,343,637.19020	39.470346	-107.825281	
4,000.00	20.63	353.33	3,786.36	1,215.10	-142.04	1,604,673.47907	2,343,630.80183	39.470539	-107.825310	
4,200.00	20.63	353.33	3,973.53	1,285.09	-150.22	1,604,743.65895	2,343,624.41347	39.470731	-107.825339	
4,400.00	20.63	353.33	4,160.70	1,355.09	-158.41	1,604,813.83882	2,343,618.02510	39.470923	-107.825368	
4,600.00	20.63	353.33	4,347.87	1,425.09	-166.59	1,604,884.01869	2,343,611.63673	39.471115	-107.825397	
4,800.00	20.63	353.33	4,535.05	1,495.08	-174.77	1,604,954.19856	2,343,605.24836	39.471307	-107.825426	
5,000.00	20.63	353.33	4,722.22	1,565.08	-182.95	1,605,024.37843	2,343,598.85999	39.471499	-107.825455	
5,200.00	20.63	353.33	4,909.39	1,635.07	-191.14	1,605,094.55830	2,343,592.47161	39.471692	-107.825484	
5,255.21	20.63	353.33	4,961.06	1,654.40	-193.39	1,605,113.93198	2,343,590.70806	39.471745	-107.825492	
Start Drop -1.50°/100										
5,400.00	18.46	353.33	5,097.50	1,702.51	-199.02	1,605,162.16886	2,343,586.31712	39.471877	-107.825512	
5,600.00	15.46	353.33	5,288.78	1,760.45	-205.79	1,605,220.26108	2,343,581.02907	39.472036	-107.825536	
5,700.52	13.95	353.33	5,386.00	1,785.79	-208.75	1,605,245.67195	2,343,578.71596	39.472105	-107.825546	
Mesaverde										
5,800.00	12.46	353.33	5,482.85	1,808.37	-211.39	1,605,268.30454	2,343,576.65575	39.472167	-107.825556	
6,000.00	9.46	353.33	5,679.18	1,846.13	-215.81	1,605,306.16755	2,343,573.20913	39.472271	-107.825571	
6,200.00	6.46	353.33	5,877.23	1,873.64	-219.02	1,605,333.74634	2,343,570.69868	39.472346	-107.825583	
6,400.00	3.46	353.33	6,076.46	1,890.81	-221.03	1,605,350.96532	2,343,569.13126	39.472394	-107.825590	
6,600.00	0.46	353.33	6,276.32	1,897.61	-221.82	1,605,357.77728	2,343,568.51117	39.472412	-107.825593	
6,630.68	0.00	0.00	6,307.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593	
Vertical										
6,800.00	0.00	0.00	6,476.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593	

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Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 512-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Jul14 mab		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,930.68	0.00	0.00	6,607.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
Top Gas - Approx. Top Gas									
7,000.00	0.00	0.00	6,676.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
7,200.00	0.00	0.00	6,876.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
7,400.00	0.00	0.00	7,076.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
7,600.00	0.00	0.00	7,276.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
7,800.00	0.00	0.00	7,476.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
8,000.00	0.00	0.00	7,676.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
8,200.00	0.00	0.00	7,876.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
8,400.00	0.00	0.00	8,076.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
8,600.00	0.00	0.00	8,276.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
8,644.68	0.00	0.00	8,321.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
Cameo Coals									
8,800.00	0.00	0.00	8,476.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
9,000.00	0.00	0.00	8,676.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
9,200.00	0.00	0.00	8,876.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
9,379.68	0.00	0.00	9,056.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
Coal D									
9,400.00	0.00	0.00	9,076.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
9,530.68	0.00	0.00	9,207.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
Rollins SS									
9,600.00	0.00	0.00	9,276.32	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
9,680.68	0.00	0.00	9,357.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593
TD at 9680.68 - TD									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (50' Radius) RL - plan hits target center - Circle (radius 50.00)	0.00	0.00	6,607.00	1,897.73	-221.84	1,605,357.90000	2,343,568.50000	39.472413	-107.825593

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,100.00	1,072.36	9 5/8"	9.625	13.500	

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Project:	RU 06-07S-093W	MD Reference:	KELLY BUSHING @ 7011.00usft (Nabors 574 (26' RKB) mab)
Site:	RU 13-6 Pad	North Reference:	True
Well:	RU 512-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 17Jul14 mab		

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)
	3,064.65	2,911.00	Top of "G" Sand			
	3,171.51	3,011.00	Base of "G" Sand			
	5,700.52	5,386.00	Mesaverde			
	6,930.68	6,607.00	Approx. Top Gas			
	8,644.68	8,321.00	Cameo Coals			
	9,379.68	9,056.00	Coal D			
	9,530.68	9,207.00	Rollins SS			
	9,680.68	9,357.00	TD		0.00	

Plan Annotations					
	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		
			+N/-S (usft)	+E/-W (usft)	Comment
	120.00	120.00	0.00	0.00	Start Build 2.50
	945.28	927.56	146.00	-17.07	Hold 20.63° Inc, 353.33° Az
	5,255.21	4,961.06	1,654.40	-193.39	Start Drop -1.50°/100
	6,630.68	6,307.00	1,897.73	-221.84	Vertical
	6,930.68	6,607.00	1,897.73	-221.84	Top Gas
	9,680.68	9,357.00	1,897.73	-221.84	TD at 9680.68