



PICEANCE VLY NAD 83

PA 21-06S-095W

PA 22-21 Pad

PA 43-21 - Slot 2B4

Wellbore #1

Plan: Design #2 07Nov12 kjs

Standard Planning Report - Geographic

12 March, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 43-21 - Slot 2B4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 43-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Project	PA 21-06S-095W, Garfield County, CO, 21-06S-095W		
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	PA 22-21 Pad			
Site Position:		Northing:	1,620,701.00 usft	Latitude: 39.51079
From: Map		Easting:	2,292,437.50 usft	Longitude: -108.00815
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.58 °

Well	PA 43-21 - Slot 2B4			
Well Position	+N/-S	0.00 usft	Northing:	1,620,589.80 usft
	+E/-W	0.00 usft	Easting:	2,292,486.70 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	6,030.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/6/2012	10.23	65.72	52,157

Design	Design #2 07Nov12 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	94.79

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	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	
140.00	0.00	0.00	140.00	0.00	0.00	0.00	0.00	0.00	0.00	
540.00	10.00	130.00	537.97	-22.38	26.67	2.50	2.50	0.00	130.00	
1,732.81	37.34	93.44	1,624.13	-112.70	477.30	2.50	2.29	-3.07	-46.60	
5,829.71	37.34	93.44	4,881.47	-261.78	2,957.65	0.00	0.00	0.00	0.00	
7,696.60	0.00	0.00	6,619.00	-297.00	3,543.67	2.00	-2.00	-5.01	-180.00	Top Gas (25' Radius)
9,796.60	0.00	0.00	8,719.00	-297.00	3,543.67	0.00	0.00	0.00	0.00	



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Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
Site:	PA 22-21 Pad	North Reference:	True
Well:	PA 43-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	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	1,620,589.80	2,292,486.70	39.51049	-108.00797
140.00	0.00	0.00	140.00	0.00	0.00	1,620,589.80	2,292,486.70	39.51049	-108.00797
Start Build 2.50									
500.00	9.00	130.00	498.52	-18.14	21.61	1,620,571.07	2,292,507.81	39.51044	-108.00789
540.00	10.00	130.00	537.97	-22.38	26.67	1,620,566.69	2,292,512.74	39.51043	-108.00787
Begin 2.5°/100 Build & Turn									
1,000.00	19.74	104.60	982.46	-67.79	132.79	1,620,518.37	2,292,617.56	39.51030	-108.00750
1,500.00	31.66	95.74	1,432.34	-102.34	345.92	1,620,477.95	2,292,829.65	39.51021	-108.00674
1,732.81	37.34	93.44	1,624.13	-112.70	477.30	1,620,463.97	2,292,960.69	39.51018	-108.00628
Hold 37.34 Inc, 93.44° azi									
1,833.00	37.34	93.44	1,703.79	-116.35	537.96	1,620,458.65	2,293,021.22	39.51017	-108.00606
9 5/8"									
2,000.00	37.34	93.44	1,836.57	-122.42	639.06	1,620,449.78	2,293,122.12	39.51015	-108.00570
2,500.00	37.34	93.44	2,234.10	-140.62	941.78	1,620,423.24	2,293,424.20	39.51010	-108.00463
3,000.00	37.34	93.44	2,631.64	-158.81	1,244.49	1,620,396.70	2,293,726.28	39.51005	-108.00356
3,248.23	37.34	93.44	2,829.00	-167.84	1,394.77	1,620,383.52	2,293,876.25	39.51003	-108.00302
Top of "G" Sand									
3,374.00	37.34	93.44	2,929.00	-172.42	1,470.92	1,620,376.85	2,293,952.24	39.51001	-108.00275
Base of "G" Sand									
3,500.00	37.34	93.44	3,029.18	-177.01	1,547.20	1,620,370.16	2,294,028.36	39.51000	-108.00248
4,000.00	37.34	93.44	3,426.71	-195.20	1,849.91	1,620,343.62	2,294,330.44	39.50995	-108.00141
4,500.00	37.34	93.44	3,824.25	-213.39	2,152.62	1,620,317.07	2,294,632.53	39.50990	-108.00034
5,000.00	37.34	93.44	4,221.79	-231.59	2,455.33	1,620,290.53	2,294,934.61	39.50985	-107.99927
5,500.00	37.34	93.44	4,619.32	-249.78	2,758.04	1,620,263.99	2,295,236.69	39.50980	-107.99819
5,829.71	37.34	93.44	4,881.47	-261.78	2,957.65	1,620,246.49	2,295,435.89	39.50977	-107.99749
Begin 2°/100 Drop									
6,000.00	33.93	93.44	5,019.85	-267.73	3,056.67	1,620,237.81	2,295,534.70	39.50975	-107.99713
6,106.15	31.81	93.44	5,109.00	-271.19	3,114.18	1,620,232.76	2,295,592.09	39.50974	-107.99693
Mesaverde									
6,500.00	23.93	93.44	5,456.89	-282.23	3,297.82	1,620,216.66	2,295,775.34	39.50971	-107.99628
7,000.00	13.93	93.44	5,929.24	-291.95	3,459.54	1,620,202.48	2,295,936.73	39.50968	-107.99571
7,500.00	3.93	93.44	6,422.55	-296.60	3,536.93	1,620,195.70	2,296,013.97	39.50967	-107.99543
7,696.60	0.00	0.00	6,619.00	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
Top Gas - Approx. Top Gas									
8,000.00	0.00	0.00	6,922.40	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
8,500.00	0.00	0.00	7,422.40	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
8,966.60	0.00	0.00	7,889.00	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
Cameo Coals									
9,000.00	0.00	0.00	7,922.40	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
9,500.00	0.00	0.00	8,422.40	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
9,696.60	0.00	0.00	8,619.00	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
Rollins SS									
9,796.60	0.00	0.00	8,719.00	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
TD at 9796.60 - TD									



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Project:	PA 21-06S-095W	MD Reference:	KELLY BUSHING @ 6056.00usft (Nabors 26')
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Well:	PA 43-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Top Gas (25' Radius) P/	0.00	0.00	6,619.00	-297.00	3,543.67	1,620,195.11	2,296,020.68	39.50967	-107.99541
- plan hits target center									
- Circle (radius 25.00)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,833.00	1,703.79	9 5/8"		9.625	13.500

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,248.23	2,829.00	Top of "G" Sand				
3,374.00	2,929.00	Base of "G" Sand				
6,106.15	5,109.00	Mesaverde				
7,696.60	6,619.00	Approx. Top Gas				
8,966.60	7,889.00	Cameo Coals				
9,696.60	8,619.00	Rollins SS				
9,796.60	8,719.00	TD				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)		
140.00	140.00	0.00	0.00	Start Build 2.50	
540.00	537.97	-22.38	26.67	Begin 2.5°/100 Build & Turn	
1,732.81	1,624.13	-112.70	477.30	Hold 37.34 Inc, 93.44° azi	
5,829.71	4,881.47	-261.78	2,957.65	Begin 2°/100 Drop	
7,696.60	6,619.00	-297.00	3,543.67	Top Gas	
9,796.60	8,719.00	-297.00	3,543.67	TD at 9796.60	