



PICEANCE VLY NAD 83

PA 21-06S-095W

PA 22-21 Pad

PA 542-21 - Slot 2B3

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 542-21 - Slot 2B3
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 542-21	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 542-21 - Slot 2B3				
Well Position	+N/-S	0.00 usft	Northing:	1,620,589.60 usft	Latitude: 39.51049
	+E/-W	0.00 usft	Easting:	2,292,494.20 usft	Longitude: -108.00794
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	89.92

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	
120.00	0.00	0.00	120.00	0.00	0.00	0.00	0.00	0.00	0.00	
370.00	10.00	108.00	368.73	-6.72	20.70	4.00	4.00	0.00	108.00	
1,000.28	34.52	89.52	948.12	-22.41	255.12	4.00	3.89	-2.93	-24.94	
5,924.77	34.52	89.52	5,005.54	0.78	3,045.70	0.00	0.00	0.00	0.00	
7,650.77	0.00	184.65	6,629.00	4.97	3,550.09	2.00	-2.00	5.51	180.00	Top Gas (25' Radius)
9,750.77	0.00	184.65	8,729.00	4.96	3,550.09	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 542-21	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	1,620,589.60	2,292,494.20	39.51049	-108.00794	
120.00	0.00	0.00	120.00	0.00	0.00	1,620,589.60	2,292,494.20	39.51049	-108.00794	
Start Build 4.00										
370.00	10.00	108.00	368.73	-6.72	20.70	1,620,582.30	2,292,514.70	39.51047	-108.00787	
Begin 4°/100 Build & Turn										
500.00	14.88	99.44	495.65	-12.95	47.91	1,620,575.33	2,292,541.73	39.51045	-108.00777	
1,000.00	34.51	89.53	947.89	-22.41	254.96	1,620,560.16	2,292,748.44	39.51043	-108.00704	
1,000.28	34.52	89.52	948.12	-22.41	255.12	1,620,560.16	2,292,748.59	39.51043	-108.00704	
Hold 34.52 Inc, 89.52° azi										
1,101.00	34.52	89.52	1,031.10	-21.93	312.19	1,620,559.06	2,292,805.66	39.51043	-108.00683	
9 5/8"										
1,500.00	34.52	89.52	1,359.85	-20.05	538.30	1,620,554.69	2,293,031.72	39.51043	-108.00603	
2,000.00	34.52	89.52	1,771.81	-17.70	821.63	1,620,549.23	2,293,315.00	39.51044	-108.00503	
2,500.00	34.52	89.52	2,183.78	-15.34	1,104.97	1,620,543.76	2,293,598.29	39.51044	-108.00402	
3,000.00	34.52	89.52	2,595.74	-12.99	1,388.31	1,620,538.29	2,293,881.57	39.51045	-108.00302	
3,295.24	34.52	89.52	2,839.00	-11.60	1,555.62	1,620,535.06	2,294,048.84	39.51045	-108.00243	
Top of "G" Sand										
3,416.61	34.52	89.52	2,939.00	-11.03	1,624.39	1,620,533.73	2,294,117.61	39.51046	-108.00218	
Base of "G" Sand										
3,500.00	34.52	89.52	3,007.71	-10.64	1,671.65	1,620,532.82	2,294,164.85	39.51046	-108.00202	
4,000.00	34.52	89.52	3,419.67	-8.28	1,954.98	1,620,527.36	2,294,448.14	39.51046	-108.00101	
4,500.00	34.52	89.52	3,831.63	-5.93	2,238.32	1,620,521.89	2,294,731.42	39.51047	-108.00001	
5,000.00	34.52	89.52	4,243.60	-3.58	2,521.66	1,620,516.42	2,295,014.70	39.51048	-107.99900	
5,500.00	34.52	89.52	4,655.56	-1.22	2,805.00	1,620,510.95	2,295,297.99	39.51048	-107.99800	
5,924.77	34.52	89.52	5,005.54	0.78	3,045.70	1,620,506.31	2,295,538.65	39.51049	-107.99715	
Begin 2°/100 Drop										
6,000.00	33.02	89.52	5,068.08	1.13	3,087.52	1,620,505.50	2,295,580.45	39.51049	-107.99700	
6,072.07	31.57	89.52	5,129.00	1.45	3,126.02	1,620,504.76	2,295,618.95	39.51049	-107.99686	
Mesaverde										
6,500.00	23.02	89.52	5,508.93	3.07	3,322.06	1,620,500.97	2,295,814.96	39.51049	-107.99617	
7,000.00	13.02	89.52	5,983.81	4.36	3,476.50	1,620,497.99	2,295,969.36	39.51050	-107.99562	
7,500.00	3.02	89.53	6,478.30	4.93	3,546.13	1,620,496.65	2,296,038.98	39.51050	-107.99537	
7,650.77	0.00	184.65	6,629.00	4.97	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536	
Top Gas - Approx. Top Gas										
8,000.00	0.00	184.65	6,978.23	4.96	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536	
8,500.00	0.00	184.65	7,478.23	4.96	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536	
8,920.77	0.00	184.65	7,899.00	4.96	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536	
Cameo Coals										
9,000.00	0.00	184.65	7,978.23	4.96	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536	
9,500.00	0.00	184.65	8,478.23	4.96	3,550.09	1,620,496.56	2,296,042.94	39.51050	-107.99536	
9,650.77	0.00	184.65	8,629.00	4.96	3,550.09	1,620,496.56	2,296,042.94	39.51050	-107.99536	
Rollins SS										
9,750.76	0.00	184.65	8,728.99	4.96	3,550.09	1,620,496.56	2,296,042.94	39.51050	-107.99536	
TD										
9,750.77	0.00	184.65	8,729.00	4.96	3,550.09	1,620,496.56	2,296,042.94	39.51050	-107.99536	
TD at 9750.77										



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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 542-21	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2 07Nov12 kjs		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top Gas (25' Radius) P/ - plan hits target center - Circle (radius 25.00)	0.00	0.00	6,629.00	4.97	3,550.09	1,620,496.57	2,296,042.94	39.51050	-107.99536

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,101.00	1,031.10	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,295.24	2,839.00	Top of "G" Sand				
3,416.61	2,939.00	Base of "G" Sand				
6,072.07	5,129.00	Mesaverde				
7,650.77	6,629.00	Approx. Top Gas				
8,920.77	7,899.00	Cameo Coals				
9,650.77	8,629.00	Rollins SS				
9,750.76	8,728.99	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 4.00	
370.00	368.73	-6.72	20.70	Begin 4°/100 Build & Turn	
1,000.28	948.12	-22.41	255.12	Hold 34.52 Inc, 89.52° azi	
5,924.77	5,005.54	0.78	3,045.70	Begin 2°/100 Drop	
7,650.77	6,629.00	4.97	3,550.09	Top Gas	
9,750.77	8,729.00	4.96	3,550.09	TD at 9750.77	