



PICEANCE VLY NAD 83

PA 21-06S-095W

PA 22-21 Pad

PA 431-21 - Slot 2A7

Wellbore #1

Plan: Design #2 07Nov12 kjs

Standard Planning Report - Geographic

13 March, 2013



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 431-21 - Slot 2A7
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 431-21	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 431-21 - Slot 2A7			
Well Position	+N/-S	0.00 usft	Northing:	1,620,600.50 usft
	+E/-W	0.00 usft	Easting:	2,292,464.50 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	52.61

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	
520.00	12.00	69.00	517.08	14.96	38.96	3.00	3.00	0.00	69.00	
1,055.02	27.17	52.03	1,020.03	110.68	188.16	3.00	2.84	-3.17	-28.83	
5,979.17	27.17	52.03	5,400.83	1,494.20	1,960.66	0.00	0.00	0.00	0.00	
7,337.69	0.00	220.71	6,709.00	1,688.71	2,209.85	2.00	-2.00	12.42	180.00	Top Gas (25' Radius)
9,437.69	0.00	220.71	8,809.00	1,688.70	2,209.84	0.00	0.00	0.00	0.00	



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 431-21 - Slot 2A7
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 431-21	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	1,620,600.50	2,292,464.50	39.51051	-108.00805
120.00	0.00	0.00	120.00	0.00	0.00	1,620,600.50	2,292,464.50	39.51051	-108.00805
Start Build 3.00									
500.00	11.40	69.00	497.50	13.50	35.18	1,620,613.02	2,292,500.04	39.51055	-108.00792
520.00	12.00	69.00	517.08	14.96	38.96	1,620,614.37	2,292,503.86	39.51056	-108.00791
Begin 3°/100 Build & Turn									
1,000.00	25.56	52.87	970.74	95.78	168.79	1,620,691.58	2,292,635.86	39.51078	-108.00745
1,055.02	27.17	52.03	1,020.03	110.68	188.16	1,620,705.93	2,292,655.64	39.51082	-108.00738
Hold 27.17 Inc, 52.03° azi									
1,156.00	27.17	52.03	1,109.87	139.05	224.51	1,620,733.29	2,292,692.75	39.51090	-108.00725
9 5/8"									
1,500.00	27.17	52.03	1,415.91	235.70	348.33	1,620,826.48	2,292,819.19	39.51116	-108.00681
2,000.00	27.17	52.03	1,860.74	376.19	528.31	1,620,961.94	2,293,002.98	39.51155	-108.00617
2,500.00	27.17	52.03	2,305.57	516.67	708.29	1,621,097.40	2,293,186.76	39.51193	-108.00554
3,000.00	27.17	52.03	2,750.39	657.15	888.27	1,621,232.85	2,293,370.54	39.51232	-108.00490
3,133.32	27.17	52.03	2,869.00	694.61	936.26	1,621,268.97	2,293,419.54	39.51242	-108.00473
Top of "G" Sand									
3,245.72	27.17	52.03	2,969.00	726.19	976.72	1,621,299.42	2,293,460.86	39.51251	-108.00459
Base of "G" Sand									
3,500.00	27.17	52.03	3,195.22	797.64	1,068.25	1,621,368.31	2,293,554.32	39.51270	-108.00426
4,000.00	27.17	52.03	3,640.05	938.12	1,248.23	1,621,503.77	2,293,738.10	39.51309	-108.00362
4,500.00	27.17	52.03	4,084.88	1,078.60	1,428.21	1,621,639.23	2,293,921.89	39.51348	-108.00299
5,000.00	27.17	52.03	4,529.70	1,219.09	1,608.19	1,621,774.68	2,294,105.67	39.51386	-108.00235
5,500.00	27.17	52.03	4,974.53	1,359.57	1,788.17	1,621,910.14	2,294,289.45	39.51425	-108.00171
5,707.35	27.17	52.03	5,159.00	1,417.83	1,862.81	1,621,966.31	2,294,365.67	39.51441	-108.00144
Mesaverde									
5,979.17	27.17	52.03	5,400.83	1,494.20	1,960.66	1,622,039.95	2,294,465.58	39.51462	-108.00110
Begin 2°/100 Drop									
6,000.00	26.75	52.03	5,419.39	1,500.01	1,968.10	1,622,045.56	2,294,473.18	39.51463	-108.00107
6,500.00	16.75	52.03	5,883.20	1,613.89	2,113.99	1,622,155.36	2,294,622.15	39.51494	-108.00055
7,000.00	6.75	52.03	6,372.09	1,676.48	2,194.18	1,622,215.71	2,294,704.03	39.51512	-108.00027
7,337.69	0.00	220.71	6,709.00	1,688.71	2,209.85	1,622,227.50	2,294,720.03	39.51515	-108.00021
Top Gas - Approx. Top Gas									
7,500.00	0.00	220.71	6,871.31	1,688.71	2,209.85	1,622,227.50	2,294,720.03	39.51515	-108.00021
8,000.00	0.00	220.71	7,371.31	1,688.71	2,209.85	1,622,227.50	2,294,720.03	39.51515	-108.00021
8,500.00	0.00	220.71	7,871.31	1,688.71	2,209.84	1,622,227.50	2,294,720.03	39.51515	-108.00021
8,517.69	0.00	220.71	7,889.00	1,688.71	2,209.84	1,622,227.50	2,294,720.03	39.51515	-108.00021
Cameo Coals									
9,000.00	0.00	220.71	8,371.31	1,688.71	2,209.84	1,622,227.50	2,294,720.03	39.51515	-108.00021
9,337.69	0.00	220.71	8,709.00	1,688.70	2,209.84	1,622,227.49	2,294,720.03	39.51515	-108.00021
Rollins SS									
9,437.69	0.00	220.71	8,809.00	1,688.70	2,209.84	1,622,227.49	2,294,720.03	39.51515	-108.00021
TD at 9437.69 - TD									



WPX Energy
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well PA 431-21 - Slot 2A7
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 431-21	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	6,709.00	1,688.71	2,209.85	1,622,227.50	2,294,720.03	39.51515	-108.00021

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,156.00	1,109.87	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,133.32	2,869.00	Top of "G" Sand				
3,245.72	2,969.00	Base of "G" Sand				
5,707.35	5,159.00	Mesaverde				
7,337.69	6,709.00	Approx. Top Gas				
8,517.69	7,889.00	Cameo Coals				
9,337.69	8,709.00	Rollins SS				
9,437.69	8,809.00	TD				

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 3.00	
520.00	517.08	14.96	38.96	Begin 3°/100 Build & Turn	
1,055.02	1,020.03	110.68	188.16	Hold 27.17 Inc, 52.03° azi	
5,979.17	5,400.83	1,494.20	1,960.66	Begin 2°/100 Drop	
7,337.69	6,709.00	1,688.71	2,209.85	Top Gas	
9,437.69	8,809.00	1,688.70	2,209.84	TD at 9437.69	