

PICEANCE VLY NAD 83

GV 28-06S-096W

GM 323-28 Pad

GM 432-28 - Slot 2A06

Wellbore #1

Plan: Design #1 08Apr14 mab

Standard Planning Report - Geographic

25 June, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 432-28 - Slot 2A06
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5500.00usft (H&P 318 (24' RKB) mab)
Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5500.00usft (H&P 318 (24' RKB) mab)
Site:	GM 323-28 Pad	North Reference:	True
Well:	GM 432-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 08Apr14 mab		

Project	GV 28-06S-096W, 28-06S-096W		
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	GM 323-28 Pad			
Site Position:		Northing:	1,614,757.30 usft	Latitude: 39.49213
From: Map		Easting:	2,262,158.50 usft	Longitude: -108.11482
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	GM 432-28 - Slot 2A06			
Well Position	+N/-S	0.00 usft	Northing:	1,614,760.20 usft
	+E/-W	0.00 usft	Easting:	2,262,170.50 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	5,476.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	4/8/2014	10.01	65.65	51,997

Design	Design #1 08Apr14 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	41.37

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	
130.00	0.00	0.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,690.33	39.01	41.37	1,572.56	383.47	337.68	2.50	2.50	0.00	41.37	
2,672.48	39.01	41.37	2,335.74	847.43	746.22	0.00	0.00	0.00	0.00	
5,273.04	0.00	0.00	4,740.00	1,486.55	1,309.02	1.50	-1.50	0.00	180.00	
5,373.04	0.00	0.00	4,840.00	1,486.55	1,309.02	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
7,323.04	0.00	0.00	6,790.00	1,486.55	1,309.02	0.00	0.00	0.00	0.00	

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Planning Report - Geographic

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Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5500.00usft (H&P 318 (24' RKB) mab)
Site:	GM 323-28 Pad	North Reference:	True
Well:	GM 432-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 08Apr14 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	1,614,760.20	2,262,170.50	39.49214	-108.11478
130.00	0.00	0.00	130.00	0.00	0.00	1,614,760.20	2,262,170.50	39.49214	-108.11478
Start Build 2.50									
200.00	1.75	41.37	199.99	0.80	0.71	1,614,760.98	2,262,171.23	39.49214	-108.11478
400.00	6.75	41.37	399.38	11.92	10.50	1,614,771.81	2,262,181.34	39.49217	-108.11474
600.00	11.75	41.37	596.71	36.04	31.74	1,614,795.31	2,262,203.26	39.49224	-108.11467
800.00	16.75	41.37	790.50	72.98	64.26	1,614,831.29	2,262,236.83	39.49234	-108.11455
1,000.00	21.75	41.37	979.26	122.45	107.83	1,614,879.49	2,262,281.80	39.49248	-108.11440
1,200.00	26.75	41.37	1,161.55	184.08	162.09	1,614,939.53	2,262,337.82	39.49265	-108.11420
1,400.00	31.75	41.37	1,335.99	257.40	226.66	1,615,010.95	2,262,404.46	39.49285	-108.11398
1,600.00	36.75	41.37	1,501.26	341.85	301.02	1,615,093.22	2,262,481.22	39.49308	-108.11371
1,690.33	39.01	41.37	1,572.56	383.47	337.68	1,615,133.78	2,262,519.06	39.49319	-108.11358
Hold 39.01° Inc, 41.37° Az									
1,740.33	39.01	41.37	1,611.41	407.09	358.47	1,615,156.78	2,262,540.52	39.49326	-108.11351
9 5/8"									
1,800.00	39.01	41.37	1,657.77	435.28	383.29	1,615,184.24	2,262,566.15	39.49334	-108.11342
2,000.00	39.01	41.37	1,813.18	529.75	466.49	1,615,276.28	2,262,652.02	39.49360	-108.11313
2,105.29	39.01	41.37	1,895.00	579.49	510.29	1,615,324.74	2,262,697.23	39.49373	-108.11297
Top of "G" Sand									
2,200.00	39.01	41.37	1,968.59	624.23	549.68	1,615,368.33	2,262,737.90	39.49386	-108.11283
2,233.98	39.01	41.37	1,995.00	640.28	563.82	1,615,383.96	2,262,752.49	39.49390	-108.11278
Base of "G" Sand									
2,400.00	39.01	41.37	2,124.00	718.71	632.88	1,615,460.37	2,262,823.77	39.49411	-108.11254
2,600.00	39.01	41.37	2,279.42	813.19	716.07	1,615,552.41	2,262,909.65	39.49437	-108.11224
2,672.48	39.01	41.37	2,335.74	847.43	746.22	1,615,585.76	2,262,940.77	39.49447	-108.11213
Start Drop -1.50°/100									
2,800.00	37.10	41.37	2,436.15	906.41	798.17	1,615,643.23	2,262,994.39	39.49463	-108.11195
3,000.00	34.10	41.37	2,598.76	993.77	875.09	1,615,728.33	2,263,073.79	39.49487	-108.11168
3,200.00	31.10	41.37	2,767.24	1,074.62	946.29	1,615,807.10	2,263,147.28	39.49509	-108.11143
3,400.00	28.10	41.37	2,941.12	1,148.74	1,011.56	1,615,879.31	2,263,214.65	39.49530	-108.11119
3,600.00	25.10	41.37	3,119.94	1,215.93	1,070.72	1,615,944.76	2,263,275.73	39.49548	-108.11098
3,800.00	22.10	41.37	3,303.20	1,276.01	1,123.62	1,616,003.29	2,263,330.33	39.49564	-108.11080
4,000.00	19.10	41.37	3,490.39	1,328.80	1,170.11	1,616,054.72	2,263,378.32	39.49579	-108.11063
4,120.64	17.29	41.37	3,605.00	1,357.07	1,195.00	1,616,082.26	2,263,404.01	39.49587	-108.11054
Mesaverde									
4,200.00	16.10	41.37	3,681.02	1,374.17	1,210.06	1,616,098.92	2,263,419.56	39.49591	-108.11049
4,400.00	13.10	41.37	3,874.54	1,411.99	1,243.37	1,616,135.77	2,263,453.94	39.49602	-108.11037
4,600.00	10.10	41.37	4,070.44	1,442.16	1,269.93	1,616,165.15	2,263,481.36	39.49610	-108.11028
4,800.00	7.10	41.37	4,268.17	1,464.59	1,289.68	1,616,187.01	2,263,501.74	39.49616	-108.11021
5,000.00	4.10	41.37	4,467.19	1,479.23	1,302.57	1,616,201.26	2,263,515.05	39.49620	-108.11016
5,200.00	1.10	41.37	4,666.96	1,486.02	1,308.56	1,616,207.89	2,263,521.22	39.49622	-108.11014
5,273.04	0.00	0.00	4,740.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
Vertical									
5,373.04	0.00	0.00	4,840.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
Top Gas - Approx. Top Gas									
5,400.00	0.00	0.00	4,866.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
5,600.00	0.00	0.00	5,066.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
5,800.00	0.00	0.00	5,266.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
6,000.00	0.00	0.00	5,466.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
6,200.00	0.00	0.00	5,666.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
6,400.00	0.00	0.00	5,866.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
6,600.00	0.00	0.00	6,066.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014

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Site:	GM 323-28 Pad	North Reference:	True
Well:	GM 432-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 08Apr14 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
6,733.04	0.00	0.00	6,200.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
Cameo Coals									
6,800.00	0.00	0.00	6,266.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
7,000.00	0.00	0.00	6,466.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
7,200.00	0.00	0.00	6,666.96	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
7,223.04	0.00	0.00	6,690.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
Rollins SS									
7,323.04	0.00	0.00	6,790.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014
TD at 7323.04 - 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) G1 - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,840.00	1,486.55	1,309.02	1,616,208.40	2,263,521.70	39.49622	-108.11014

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,740.33	1,611.41	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,105.29	1,895.00	Top of "G" Sand				
2,233.98	1,995.00	Base of "G" Sand				
4,120.64	3,605.00	Mesaverde				
5,373.04	4,840.00	Approx. Top Gas				
6,733.04	6,200.00	Cameo Coals				
7,223.04	6,690.00	Rollins SS				
7,323.04	6,790.00	TD				

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Project:	GV 28-06S-096W	MD Reference:	KELLY BUSHING @ 5500.00usft (H&P 318 (24' RKB) mab)
Site:	GM 323-28 Pad	North Reference:	True
Well:	GM 432-28	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 08Apr14 mab		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
130.00	130.00	0.00	0.00	Start Build 2.50
1,690.33	1,572.56	383.47	337.68	Hold 39.01° Inc, 41.37° Az
2,672.48	2,335.74	847.43	746.22	Start Drop -1.50°/100
5,273.04	4,740.00	1,486.55	1,309.02	Vertical
5,373.04	4,840.00	1,486.55	1,309.02	Top Gas
7,323.04	6,790.00	1,486.55	1,309.02	TD at 7323.04