

PICEANCE VLY NAD 83

GV 10-07S-096W

MV 5-10 Pad

GM 511-10 - Slot B10

Wellbore #1

Plan: Design #1 07Aug14 mab

Standard Planning Report - Geographic

14 October, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 511-10 - Slot B10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6174.00usft (Nabors _ (26' RKB) mab)
Project:	GV 10-07S-096W	MD Reference:	KELLY BUSHING @ 6174.00usft (Nabors _ (26' RKB) mab)
Site:	MV 5-10 Pad	North Reference:	True
Well:	GM 511-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Aug14 mab		

Project	GV 10-07S-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	MV 5-10 Pad			
Site Position:		Northing:	1,600,354.00000 usft	Latitude: 39.45298
From: Map		Easting:	2,266,910.20000 usft	Longitude: -108.09653
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.64 °

Well	GM 511-10 - Slot B10			
Well Position	+N/-S	0.00 usft	Northing:	1,600,370.50000 usft
	+E/-W	0.00 usft	Easting:	2,266,928.50000 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	6,148.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/7/2014	9.99	65.60	51,895

Design	Design #1 07Aug14 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	300.00

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	
291.43	6.00	306.00	291.12	5.27	-7.26	3.50	3.50	0.00	306.00	
1,097.40	34.17	299.84	1,040.52	145.50	-242.41	3.50	3.49	-0.76	-7.32	
3,071.36	34.17	299.84	2,673.77	697.18	-1,204.02	0.00	0.00	0.00	0.00	
5,349.22	0.00	0.00	4,819.00	1,025.27	-1,775.89	1.50	-1.50	0.00	180.00	
7,299.22	0.00	0.00	6,769.00	1,025.27	-1,775.89	0.00	0.00	0.00	0.00	TD / PBHL GM 511-10

WPX
Planning Report - Geographic

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Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6174.00usft (Nabors _ (26' RKB) mab)
Project:	GV 10-07S-096W	MD Reference:	KELLY BUSHING @ 6174.00usft (Nabors _ (26' RKB) mab)
Site:	MV 5-10 Pad	North Reference:	True
Well:	GM 511-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Aug14 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	1,600,370.50000	2,266,928.50000	39.45303	-108.09647
120.00	0.00	0.00	120.00	0.00	0.00	1,600,370.50000	2,266,928.50000	39.45303	-108.09647
Start Build 3.50									
200.00	2.80	306.00	199.97	1.15	-1.58	1,600,371.69342	2,266,926.95241	39.45303	-108.09647
291.43	6.00	306.00	291.12	5.27	-7.26	1,600,375.97606	2,266,921.39883	39.45304	-108.09649
Begin Turn 3.50°/100									
400.00	9.78	303.15	398.64	13.65	-19.57	1,600,384.70567	2,266,909.32758	39.45306	-108.09654
600.00	16.77	301.25	593.18	37.94	-58.51	1,600,410.09521	2,266,871.10396	39.45313	-108.09668
800.00	23.76	300.45	780.68	73.38	-117.98	1,600,447.21333	2,266,812.66917	39.45323	-108.09689
1,000.00	30.76	300.00	958.35	119.43	-197.11	1,600,495.50669	2,266,734.89431	39.45335	-108.09717
1,097.40	34.17	299.84	1,040.52	145.50	-242.41	1,600,522.86172	2,266,690.35300	39.45343	-108.09733
Hold 34.17° Inc, 299.84° Az									
1,147.40	34.17	299.84	1,081.89	159.47	-266.77	1,600,537.52559	2,266,666.40578	39.45346	-108.09741
9 5/8"									
1,200.00	34.17	299.84	1,125.41	174.18	-292.40	1,600,552.95171	2,266,641.21374	39.45350	-108.09750
1,400.00	34.17	299.84	1,290.89	230.07	-389.82	1,600,611.60617	2,266,545.42652	39.45366	-108.09785
1,600.00	34.17	299.84	1,456.37	285.97	-487.25	1,600,670.26062	2,266,449.63931	39.45381	-108.09819
1,800.00	34.17	299.84	1,621.85	341.86	-584.68	1,600,728.91508	2,266,353.85210	39.45396	-108.09854
2,000.00	34.17	299.84	1,787.33	397.76	-682.11	1,600,787.56954	2,266,258.06489	39.45412	-108.09888
2,200.00	34.17	299.84	1,952.81	453.65	-779.54	1,600,846.22399	2,266,162.27767	39.45427	-108.09923
2,400.00	34.17	299.84	2,118.29	509.55	-876.97	1,600,904.87845	2,266,066.49045	39.45443	-108.09957
2,461.29	34.17	299.84	2,169.00	526.68	-906.83	1,600,922.85397	2,266,037.13507	39.45447	-108.09968
Top of "G" Sand									
2,582.15	34.17	299.84	2,269.00	560.46	-965.70	1,600,958.29921	2,265,979.25028	39.45456	-108.09989
Base of "G" Sand									
2,600.00	34.17	299.84	2,283.77	565.45	-974.40	1,600,963.53291	2,265,970.70325	39.45458	-108.09992
2,800.00	34.17	299.84	2,449.24	621.34	-1,071.83	1,601,022.18736	2,265,874.91603	39.45473	-108.10026
3,000.00	34.17	299.84	2,614.72	677.24	-1,169.25	1,601,080.84182	2,265,779.12882	39.45489	-108.10061
3,071.36	34.17	299.84	2,673.77	697.18	-1,204.02	1,601,101.77092	2,265,744.94999	39.45494	-108.10073
Start Drop -1.50°/100									
3,200.00	32.24	299.84	2,781.40	732.23	-1,265.12	1,601,138.55336	2,265,684.88145	39.45504	-108.10095
3,400.00	29.24	299.84	2,953.28	783.10	-1,353.77	1,601,191.92746	2,265,597.71748	39.45518	-108.10126
3,600.00	26.24	299.84	3,130.28	829.42	-1,434.51	1,601,240.53098	2,265,518.34422	39.45530	-108.10155
3,800.00	23.24	299.84	3,311.90	871.06	-1,507.10	1,601,284.23070	2,265,446.97923	39.45542	-108.10181
4,000.00	20.24	299.84	3,497.66	907.92	-1,571.34	1,601,322.90685	2,265,383.81811	39.45552	-108.10203
4,200.00	17.24	299.84	3,687.04	939.89	-1,627.06	1,601,356.45343	2,265,329.03399	39.45561	-108.10223
4,285.53	15.96	299.84	3,769.00	952.04	-1,648.25	1,601,369.21042	2,265,308.20086	39.45564	-108.10231
Mesaverde									
4,400.00	14.24	299.84	3,879.52	966.88	-1,674.11	1,601,384.77847	2,265,282.77703	39.45568	-108.10240
4,600.00	11.24	299.84	4,074.57	988.82	-1,712.36	1,601,407.80435	2,265,245.17403	39.45574	-108.10253
4,800.00	8.24	299.84	4,271.67	1,005.65	-1,741.70	1,601,425.46793	2,265,216.32802	39.45579	-108.10264
5,000.00	5.24	299.84	4,470.26	1,017.33	-1,762.05	1,601,437.72084	2,265,196.31809	39.45582	-108.10271
5,200.00	2.24	299.84	4,669.81	1,023.82	-1,773.36	1,601,444.52946	2,265,185.19909	39.45584	-108.10275
5,349.22	0.00	0.00	4,819.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
Vertical									
5,400.00	0.00	0.00	4,869.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
5,449.22	0.00	0.00	4,919.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
Top Gas - Approx. Top Gas									
5,600.00	0.00	0.00	5,069.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
5,800.00	0.00	0.00	5,269.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
6,000.00	0.00	0.00	5,469.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276

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Site:	MV 5-10 Pad	North Reference:	True
Well:	GM 511-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Aug14 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
6,200.00	0.00	0.00	5,669.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
6,400.00	0.00	0.00	5,869.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
6,600.00	0.00	0.00	6,069.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
6,719.22	0.00	0.00	6,189.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
Cameo Coals									
6,800.00	0.00	0.00	6,269.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
7,000.00	0.00	0.00	6,469.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
7,199.22	0.00	0.00	6,669.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
Rollins SS									
7,200.00	0.00	0.00	6,669.78	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
7,299.22	0.00	0.00	6,769.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276
TD at 7299.22									

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) GM - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,919.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276	
TD / PBHL GM 511-10 - plan hits target center - Point	0.00	0.00	6,769.00	1,025.27	-1,775.89	1,601,446.05137	2,265,182.71370	39.45584	-108.10276	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name			Casing Diameter (in)	Hole Diameter (in)
1,147.40	1,081.89	9 5/8"			9.625	13.500

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,461.29	2,169.00	Top of "G" Sand				
2,582.15	2,269.00	Base of "G" Sand				
4,285.53	3,769.00	Mesaverde				
5,449.22	4,919.00	Approx. Top Gas				
6,719.22	6,189.00	Cameo Coals				
7,199.22	6,669.00	Rollins SS				
7,299.22	6,769.00	TD				

WPX
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Project:	GV 10-07S-096W	MD Reference:	KELLY BUSHING @ 6174.00usft (Nabors _ (26' RKB) mab)
Site:	MV 5-10 Pad	North Reference:	True
Well:	GM 511-10	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 07Aug14 mab		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.00	120.00	0.00	0.00	Start Build 3.50
291.43	291.12	5.27	-7.26	Begin Turn 3.50°/100
1,097.40	1,040.52	145.50	-242.41	Hold 34.17° Inc, 299.84° Az
3,071.36	2,673.77	697.18	-1,204.02	Start Drop -1.50°/100
5,349.22	4,819.00	1,025.27	-1,775.89	Vertical
5,449.22	4,919.00	1,025.27	-1,775.89	Top Gas
7,299.22	6,769.00	1,025.27	-1,775.89	TD at 7299.22