



PICEANCE VLY NAD 83

GV 09-07S-096W

MV 16-9 Pad

GM 42-8 - Slot A01

Wellbore #1

Plan: Design #1 30Jun14 mab

Standard Planning Report - Geographic

04 August, 2014

WPX
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well GM 42-8 - Slot A01
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6108.00usft (Cyclone 17 (21' RKB) mab)
Project:	GV 09-07S-096W	MD Reference:	KELLY BUSHING @ 6108.00usft (Cyclone 17 (21' RKB) mab)
Site:	MV 16-9 Pad	North Reference:	True
Well:	GM 42-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jun14 mab		

Project	GV 09-07S-096W, Garfield County, CO, 09-07S-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 16-9 Pad			
Site Position:		Northing:	1,601,987.30000 usft	Latitude: 39.45695
From: Map		Easting:	2,260,352.30000 usft	Longitude: -108.11991
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: -1.65 °

Well	GM 42-8 - Slot A01			
Well Position	+N/-S	0.00 usft	Northing:	1,601,987.30000 usft
	+E/-W	0.00 usft	Easting:	2,260,352.30000 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	6,087.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	6/30/2014	9.98	65.62	51,950

Design	Design #1 30Jun14 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	234.64

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	
1,094.29	19.49	234.64	1,075.62	-94.96	-133.81	2.00	2.00	0.00	234.64	
3,266.96	19.49	234.64	3,123.85	-514.38	-724.86	0.00	0.00	0.00	0.00	
4,566.01	0.00	0.00	4,398.00	-640.99	-903.28	1.50	-1.50	0.00	180.00	
4,866.01	0.00	0.00	4,698.00	-640.99	-903.28	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
6,716.01	0.00	0.00	6,548.00	-640.99	-903.28	0.00	0.00	0.00	0.00	

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Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6108.00usft (Cyclone 17 (21' RKB) mab)
Project:	GV 09-07S-096W	MD Reference:	KELLY BUSHING @ 6108.00usft (Cyclone 17 (21' RKB) mab)
Site:	MV 16-9 Pad	North Reference:	True
Well:	GM 42-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jun14 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	1,601,987.30000	2,260,352.30000	39.45695	-108.11991	
120.00	0.00	0.00	120.00	0.00	0.00	1,601,987.30000	2,260,352.30000	39.45695	-108.11991	
Start Build 2.00										
200.00	1.60	234.64	199.99	-0.65	-0.91	1,601,986.68017	2,260,351.37089	39.45694	-108.11992	
400.00	5.60	234.64	399.55	-7.91	-11.15	1,601,979.71265	2,260,340.92668	39.45692	-108.11995	
600.00	9.60	234.64	597.76	-23.22	-32.72	1,601,965.03688	2,260,318.92793	39.45688	-108.12003	
800.00	13.60	234.64	793.63	-46.49	-65.51	1,601,942.72437	2,260,285.48180	39.45682	-108.12015	
1,000.00	17.60	234.64	986.23	-77.61	-109.36	1,601,912.88380	2,260,240.75126	39.45673	-108.12030	
1,094.29	19.49	234.64	1,075.62	-94.96	-133.81	1,601,896.24476	2,260,215.80958	39.45668	-108.12039	
Hold 19.49° Inc, 234.64° Az										
1,144.29	19.49	234.64	1,122.75	-104.61	-147.42	1,601,886.98892	2,260,201.93522	39.45666	-108.12044	
9 5/8"										
1,200.00	19.49	234.64	1,175.27	-115.36	-162.57	1,601,876.67637	2,260,186.47687	39.45663	-108.12049	
1,400.00	19.49	234.64	1,363.82	-153.97	-216.98	1,601,839.65411	2,260,130.98106	39.45652	-108.12068	
1,600.00	19.49	234.64	1,552.36	-192.58	-271.39	1,601,802.63186	2,260,075.48527	39.45642	-108.12087	
1,800.00	19.49	234.64	1,740.91	-231.19	-325.79	1,601,765.60960	2,260,019.98946	39.45631	-108.12107	
2,000.00	19.49	234.64	1,929.45	-269.80	-380.20	1,601,728.58734	2,259,964.49365	39.45620	-108.12126	
2,067.41	19.49	234.64	1,993.00	-282.81	-398.54	1,601,716.10915	2,259,945.78904	39.45617	-108.12132	
Top of "G" Sand										
2,173.48	19.49	234.64	2,093.00	-303.29	-427.40	1,601,696.47337	2,259,916.35530	39.45611	-108.12143	
Base of "G" Sand										
2,200.00	19.49	234.64	2,118.00	-308.41	-434.61	1,601,691.56508	2,259,908.99785	39.45610	-108.12145	
2,400.00	19.49	234.64	2,306.54	-347.02	-489.02	1,601,654.54282	2,259,853.50204	39.45599	-108.12165	
2,600.00	19.49	234.64	2,495.09	-385.63	-543.43	1,601,617.52055	2,259,798.00624	39.45589	-108.12184	
2,800.00	19.49	234.64	2,683.63	-424.23	-597.83	1,601,580.49829	2,259,742.51043	39.45578	-108.12203	
3,000.00	19.49	234.64	2,872.18	-462.84	-652.24	1,601,543.47603	2,259,687.01464	39.45567	-108.12222	
3,200.00	19.49	234.64	3,060.72	-501.45	-706.65	1,601,506.45377	2,259,631.51883	39.45557	-108.12242	
3,266.96	19.49	234.64	3,123.85	-514.38	-724.86	1,601,494.05869	2,259,612.93880	39.45553	-108.12248	
Start Drop -1.50°/100										
3,400.00	17.49	234.64	3,250.01	-538.79	-759.27	1,601,470.64844	2,259,577.84719	39.45547	-108.12260	
3,600.00	14.49	234.64	3,442.25	-570.67	-804.19	1,601,440.07805	2,259,532.02264	39.45538	-108.12276	
3,719.09	12.70	234.64	3,558.00	-586.87	-827.02	1,601,424.54224	2,259,508.73470	39.45533	-108.12284	
Mesaverde										
3,800.00	11.49	234.64	3,637.11	-596.69	-840.85	1,601,415.13279	2,259,494.63007	39.45531	-108.12289	
4,000.00	8.49	234.64	3,834.06	-616.76	-869.14	1,601,395.88105	2,259,465.77198	39.45525	-108.12299	
4,200.00	5.49	234.64	4,032.55	-630.85	-888.99	1,601,382.37556	2,259,445.52747	39.45521	-108.12306	
4,400.00	2.49	234.64	4,232.04	-638.90	-900.34	1,601,374.65337	2,259,433.95202	39.45519	-108.12310	
4,566.01	0.00	0.00	4,398.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
Vertical										
4,600.00	0.00	0.00	4,431.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
4,800.00	0.00	0.00	4,631.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
4,866.01	0.00	0.00	4,698.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
Top Gas - Approx. Top Gas										
5,000.00	0.00	0.00	4,831.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
5,200.00	0.00	0.00	5,031.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
5,400.00	0.00	0.00	5,231.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
5,600.00	0.00	0.00	5,431.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
5,800.00	0.00	0.00	5,631.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
6,000.00	0.00	0.00	5,831.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
6,146.01	0.00	0.00	5,978.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311	
Cameo Coals										

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Project:	GV 09-07S-096W	MD Reference:	KELLY BUSHING @ 6108.00usft (Cyclone 17 (21' RKB) mab)
Site:	MV 16-9 Pad	North Reference:	True
Well:	GM 42-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Jun14 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	6,031.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
6,400.00	0.00	0.00	6,231.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
6,600.00	0.00	0.00	6,431.99	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
6,616.01	0.00	0.00	6,448.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
Rollins SS									
6,716.01	0.00	0.00	6,548.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
TD at 6716.01 - TD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (bearing)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (50' Radius) G1	0.00	0.00	4,698.00	-640.99	-903.28	1,601,372.65171	2,259,430.95157	39.45519	-108.12311
- plan hits target center									
- Circle (radius 50.00)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,144.29	1,122.75	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
2,067.41	1,993.00	Top of "G" Sand				
2,173.48	2,093.00	Base of "G" Sand				
3,719.09	3,558.00	Mesaverde				
4,866.01	4,698.00	Approx. Top Gas				
6,146.01	5,978.00	Cameo Coals				
6,616.01	6,448.00	Rollins SS				
6,716.01	6,548.00	TD				

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 2.00	
1,094.29	1,075.62	-94.96	-133.81	Hold 19.49° Inc, 234.64° Az	
3,266.96	3,123.85	-514.38	-724.86	Start Drop -1.50°/100	
4,566.01	4,398.00	-640.99	-903.28	Vertical	
4,866.01	4,698.00	-640.99	-903.28	Top Gas	
6,716.01	6,548.00	-640.99	-903.28	TD at 6716.01	