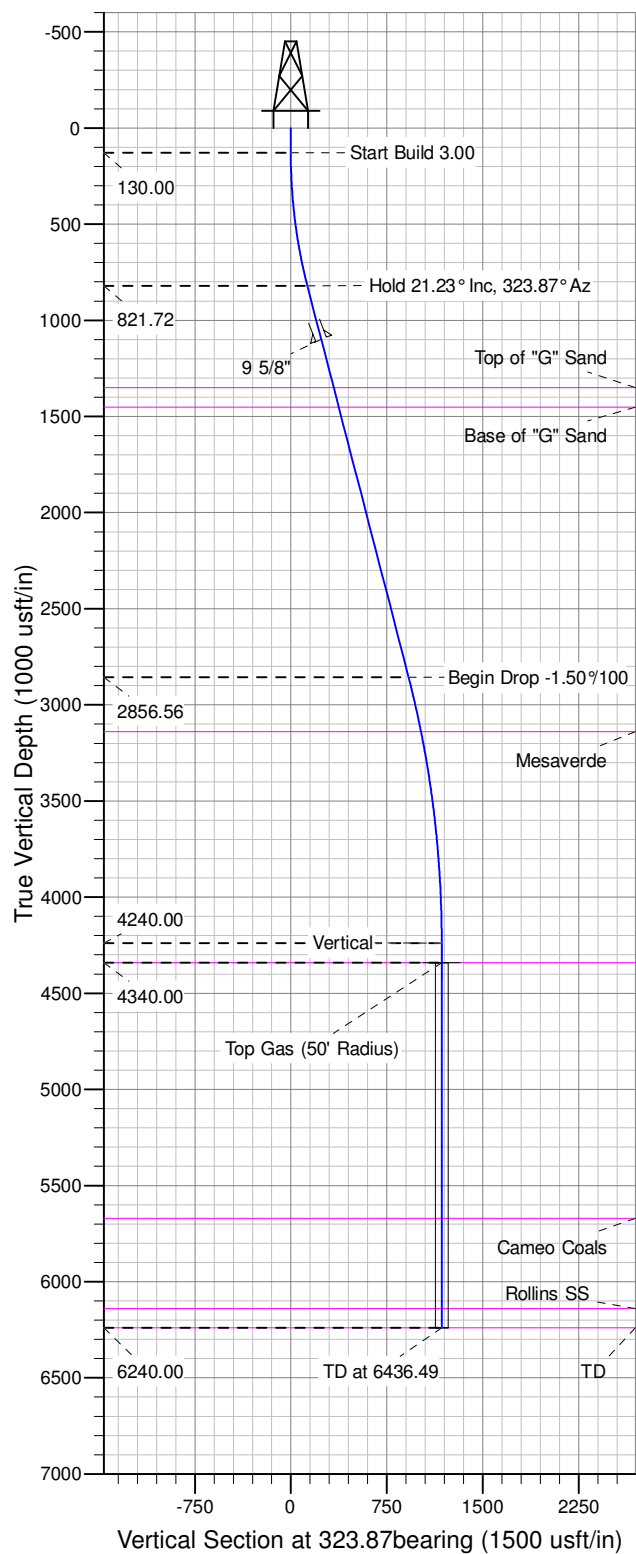
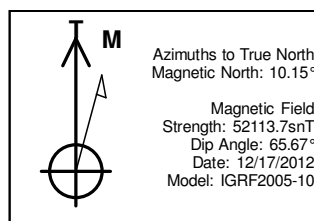
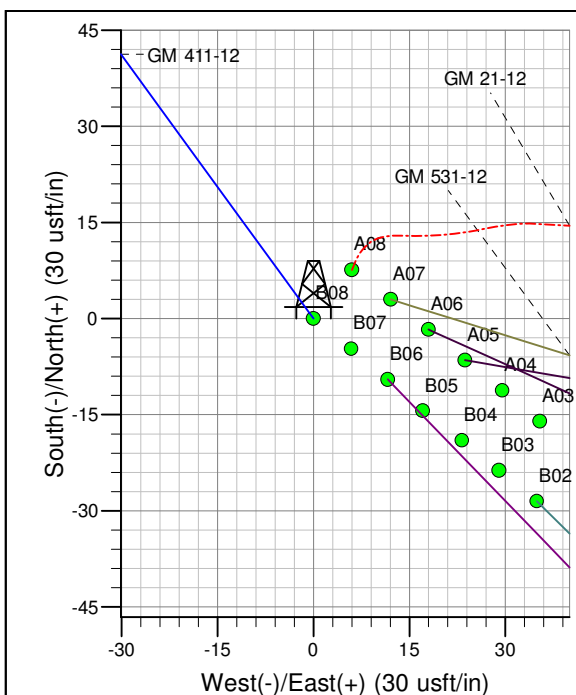
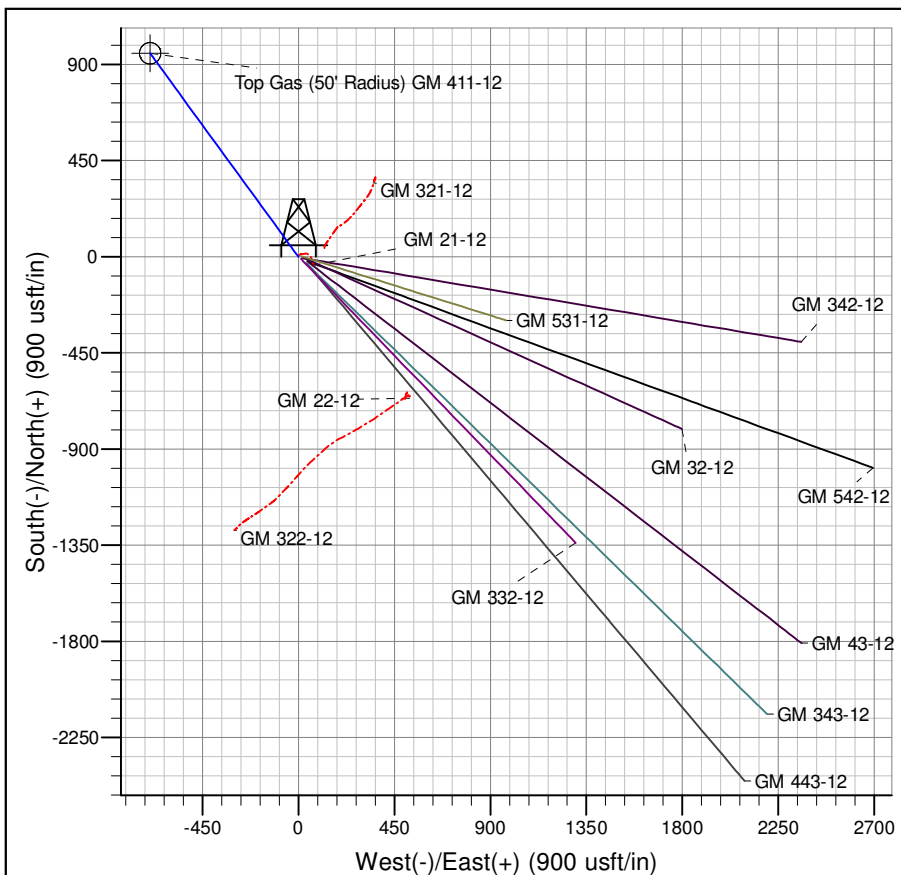




Well Name: GM 411-12  
Surface Location: GM 21-12 Pad  
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 5125.00  
+N/-S 0.00 +E/-W 0.00 Northing 1601332.79 Easting 2276824.67 Latitude 39.45644 Longitude -108.06153 Slot B08  
KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))



ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation		
130.00	130.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 3.00		
821.72	837.81	21.23	323.87	104.73	-76.46	129.67	129.67	Hold 21.23° Inc, 323.87° Az		
2856.56	3020.86	21.23	323.87	743.31	-542.68	920.33	920.33	Begin Drop -1.50°/100		
4240.00	4436.49	0.00	0.00	952.76	-695.60	1179.67	1179.67	Vertical		
4340.00	4536.49	0.00	0.00	952.76	-695.60	1179.67	1179.67	Top Gas		
6240.00	6436.49	0.00	0.00	952.76	-695.60	1179.67	1179.67	TD at 6436.49		



Project: GV 12-07S-096W  
Site: GM 21-12 Pad  
Well: GM 411-12  
Design #3 15Apr14 mab

# **PICEANCE VLY NAD 83**

**GV 12-07S-096W**

**GM 21-12 Pad**

**GM 411-12 - Slot B08**

**Wellbore #1**

**Plan: Design #3 15Apr14 mab**

## **Standard Planning Report - Geographic**

**07 May, 2014**

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well GM 411-12 - Slot B08
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Project:</b>	GV 12-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Site:</b>	GM 21-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 411-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3 15Apr14 mab		

<b>Project</b>	GV 12-07S-096W, Garfield County CO, GV 12-07W-096W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

<b>Site</b>	GM 21-12 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,601,340.21 usft
<b>From:</b>	Map	<b>Easting:</b>	2,276,830.88 usft
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39.45646
		<b>Longitude:</b>	-108.06151
		<b>Grid Convergence:</b>	-1.62 °

<b>Well</b>	GM 411-12 - Slot B08		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.00 usft		<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2005-10	12/17/2012	10.15	65.67	52,114

<b>Design</b>	Design #3 15Apr14 mab			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (bearing)</b>
	0.00	0.00	0.00	323.87

<b>Plan Sections</b>										
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	
837.81	21.23	323.87	821.72	104.73	-76.46	3.00	3.00	0.00	323.87	
3,020.86	21.23	323.87	2,856.56	743.31	-542.68	0.00	0.00	0.00	0.00	
4,436.49	0.00	0.00	4,240.00	952.76	-695.60	1.50	-1.50	0.00	180.00	
4,536.49	0.00	0.00	4,340.00	952.76	-695.60	0.00	0.00	0.00	0.00	Top Gas (50' Radius)
6,436.49	0.00	0.00	6,240.00	952.76	-695.60	0.00	0.00	0.00	0.00	

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well GM 411-12 - Slot B08
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Project:</b>	GV 12-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Site:</b>	GM 21-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 411-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3 15Apr14 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	1,601,332.79	2,276,824.67	39.45644	-108.06153
130.00	0.00	0.00	130.00	0.00	0.00	1,601,332.79	2,276,824.67	39.45644	-108.06153
<b>Start Build 3.00</b>									
200.00	2.10	323.87	199.98	1.04	-0.76	1,601,333.84	2,276,823.94	39.45644	-108.06153
400.00	8.10	323.87	399.10	15.39	-11.24	1,601,348.48	2,276,813.87	39.45648	-108.06157
600.00	14.10	323.87	595.27	46.47	-33.93	1,601,380.19	2,276,792.06	39.45657	-108.06165
800.00	20.10	323.87	786.34	93.95	-68.59	1,601,428.62	2,276,758.76	39.45670	-108.06178
837.81	21.23	323.87	821.72	104.73	-76.46	1,601,439.62	2,276,751.19	39.45673	-108.06180
<b>Hold 21.23° Inc, 323.87° Az</b>									
1,000.00	21.23	323.87	972.90	152.17	-111.10	1,601,488.02	2,276,717.91	39.45686	-108.06193
1,136.36	21.23	323.87	1,100.00	192.06	-140.22	1,601,528.71	2,276,689.92	39.45697	-108.06203
<b>9 5/8"</b>									
1,200.00	21.23	323.87	1,159.32	210.67	-153.81	1,601,547.70	2,276,676.86	39.45702	-108.06208
1,400.00	21.23	323.87	1,345.74	269.18	-196.52	1,601,607.38	2,276,635.82	39.45718	-108.06223
1,405.64	21.23	323.87	1,351.00	270.83	-197.73	1,601,609.07	2,276,634.66	39.45718	-108.06223
<b>Top of "G" Sand</b>									
1,512.93	21.23	323.87	1,451.00	302.21	-220.64	1,601,641.08	2,276,612.64	39.45727	-108.06231
<b>Base of "G" Sand</b>									
1,600.00	21.23	323.87	1,532.16	327.68	-239.24	1,601,667.06	2,276,594.77	39.45734	-108.06238
1,800.00	21.23	323.87	1,718.58	386.18	-281.95	1,601,726.75	2,276,553.73	39.45750	-108.06253
2,000.00	21.23	323.87	1,905.00	444.69	-324.66	1,601,786.43	2,276,512.68	39.45766	-108.06268
2,200.00	21.23	323.87	2,091.42	503.19	-367.38	1,601,846.11	2,276,471.64	39.45782	-108.06283
2,400.00	21.23	323.87	2,277.85	561.69	-410.09	1,601,905.79	2,276,430.59	39.45798	-108.06298
2,600.00	21.23	323.87	2,464.27	620.20	-452.80	1,601,965.47	2,276,389.55	39.45814	-108.06314
2,800.00	21.23	323.87	2,650.69	678.70	-495.52	1,602,025.16	2,276,348.50	39.45830	-108.06329
3,000.00	21.23	323.87	2,837.11	737.21	-538.23	1,602,084.84	2,276,307.46	39.45846	-108.06344
3,020.86	21.23	323.87	2,856.56	743.31	-542.68	1,602,091.06	2,276,303.18	39.45848	-108.06345
<b>Begin Drop -1.50°/100</b>									
3,200.00	18.55	323.87	3,024.99	792.53	-578.62	1,602,141.28	2,276,268.65	39.45861	-108.06358
3,319.65	16.75	323.87	3,139.00	821.83	-600.01	1,602,171.16	2,276,248.09	39.45869	-108.06366
<b>Mesaverde</b>									
3,400.00	15.55	323.87	3,216.18	839.88	-613.19	1,602,189.58	2,276,235.43	39.45874	-108.06370
3,600.00	12.55	323.87	3,410.18	879.08	-641.81	1,602,229.57	2,276,207.92	39.45885	-108.06381
3,800.00	9.55	323.87	3,606.45	910.03	-664.41	1,602,261.14	2,276,186.21	39.45894	-108.06389
4,000.00	6.55	323.87	3,804.46	932.64	-680.91	1,602,284.21	2,276,170.35	39.45900	-108.06394
4,200.00	3.55	323.87	4,003.66	946.85	-691.29	1,602,298.70	2,276,160.38	39.45904	-108.06398
4,400.00	0.55	323.87	4,203.51	952.62	-695.50	1,602,304.59	2,276,156.33	39.45905	-108.06400
4,436.49	0.00	0.00	4,240.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
<b>Vertical</b>									
4,536.49	0.00	0.00	4,340.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
<b>Top Gas - Approx. Top Gas</b>									
4,600.00	0.00	0.00	4,403.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
4,800.00	0.00	0.00	4,603.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,000.00	0.00	0.00	4,803.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,200.00	0.00	0.00	5,003.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,400.00	0.00	0.00	5,203.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,600.00	0.00	0.00	5,403.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,800.00	0.00	0.00	5,603.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
5,867.49	0.00	0.00	5,671.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
<b>Cameo Coals</b>									
6,000.00	0.00	0.00	5,803.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400

**WPX**  
Planning Report - Geographic

<b>Database:</b>	COMPASS-PICEANCE	<b>Local Co-ordinate Reference:</b>	Well GM 411-12 - Slot B08
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Project:</b>	GV 12-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5151.00usft (Nabors (26' RKB))
<b>Site:</b>	GM 21-12 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 411-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #3 15Apr14 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	6,003.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
6,336.49	0.00	0.00	6,140.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
Rollins SS									
6,400.00	0.00	0.00	6,203.51	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
6,436.49	0.00	0.00	6,240.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400
TD at 6436.49 - 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) GM - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,340.00	952.76	-695.60	1,602,304.73	2,276,156.23	39.45905	-108.06400

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,136.36	1,100.00	9 5/8"	9.625	13.500	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)	
1,405.64	1,351.00	Top of "G" Sand				
1,512.93	1,451.00	Base of "G" Sand				
3,319.65	3,139.00	Mesaverde				
4,536.49	4,340.00	Approx. Top Gas				
5,867.49	5,671.00	Cameo Coals				
6,336.49	6,140.00	Rollins SS				
6,436.49	6,240.00	TD				

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 3.00	
837.81	821.72	104.73	-76.46	Hold 21.23° Inc, 323.87° Az	
3,020.86	2,856.56	743.31	-542.68	Begin Drop -1.50°/100	
4,436.49	4,240.00	952.76	-695.60	Vertical	
4,536.49	4,340.00	952.76	-695.60	Top Gas	
6,436.49	6,240.00	952.76	-695.60	TD at 6436.49	