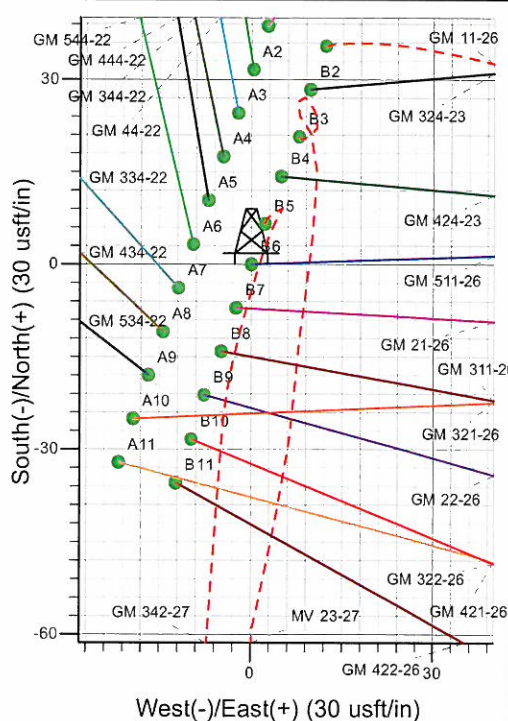
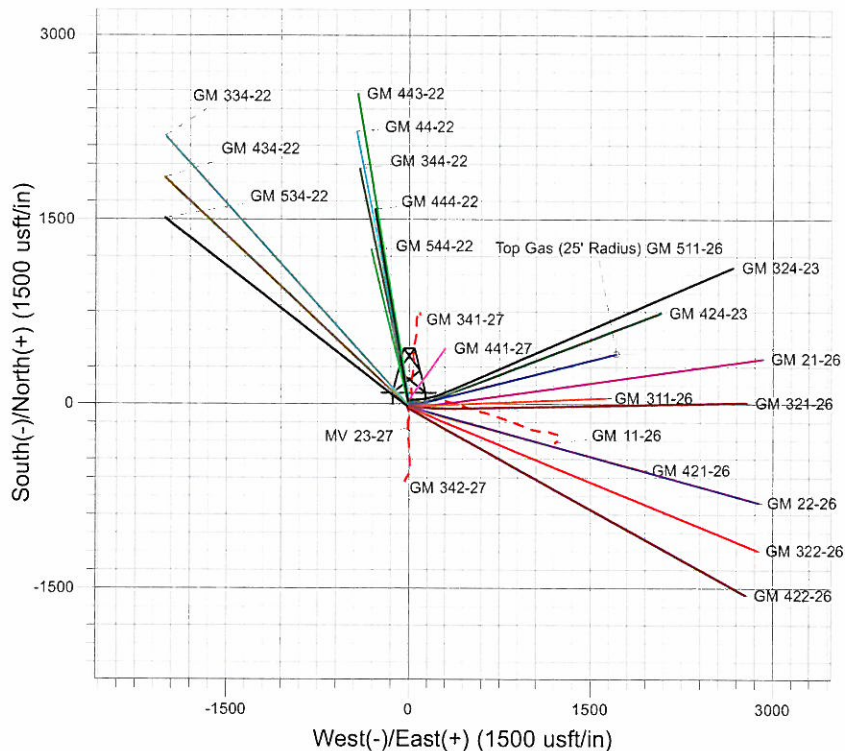
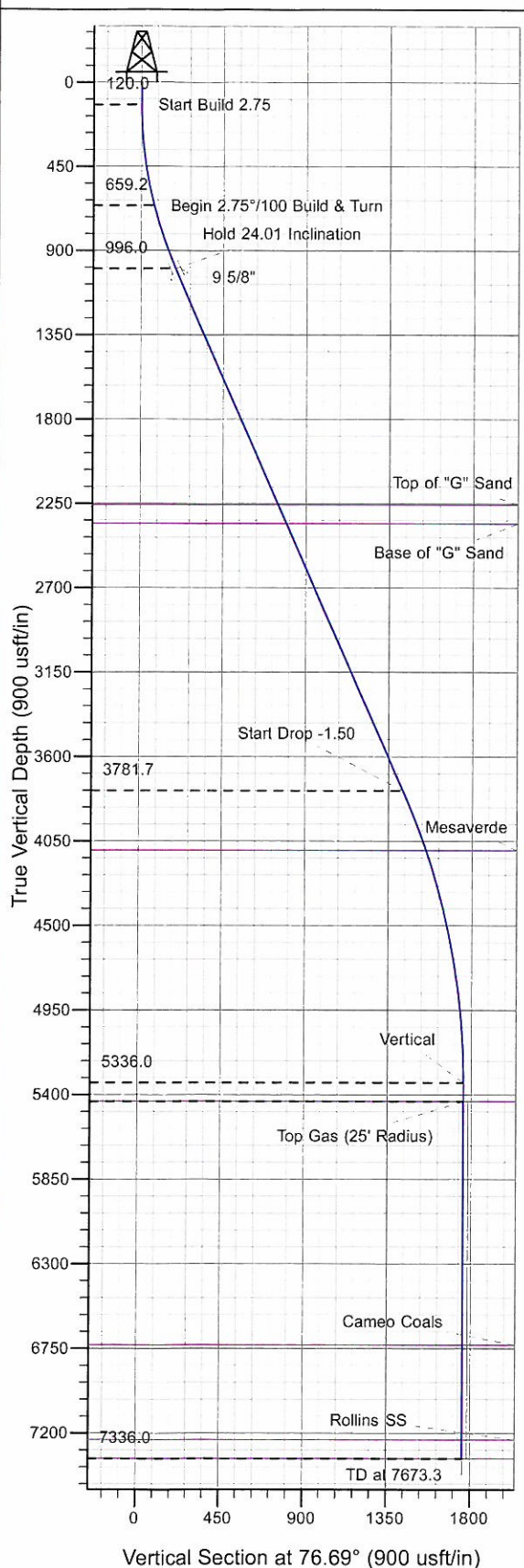




Well Name: GM 511-26  
 Surface Location: MV 23-27 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5770.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1617310.00 2269890.50 39° 29' 59.083 N 108° 5' 15.681 W B6  
 KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)



Project: GV 27-06S-096W  
 Site: MV 23-27 Pad  
 Well: GM 511-26  
 Plan #2 27Sep10 kjs



Azimuths to True North  
 Magnetic North: 10.54°  
 Magnetic Field  
 Strength: 52357.8snT  
 Dip Angle: 65.76°  
 Date: 4/21/2010  
 Model: IGRF2010

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.75
659.2	665.5	15.00	88.00	2.5	70.9	69.6	71.0	Begin 2.75°/100 Build & Turn
996.0	1022.9	24.01	75.89	21.9	188.0	188.0	189.9	Hold 24.01 Inclination
3781.7	4072.6	24.01	75.89	324.4	1391.5	1428.8	1430.8	Start Drop -1.50
5336.0	5673.3	0.00	0.00	404.9	1712.0	1759.3	1761.3	Vertical
5436.0	5773.3	0.00	0.00	404.9	1712.0	1759.3	1761.3	Top Gas
7336.0	7673.3	0.00	0.00	404.9	1712.0	1759.3	1761.3	TD at 7673.3

# **PICEANCE VLY NAD 83**

**GV 27-06S-096W**

**MV 23-27 Pad**

**GM 511-26 - Slot B6**

**Wellbore #1**

**Plan: Plan #2 27Sep10 kjs**

## **Standard Planning Report - Geographic**

**27 October, 2010**



**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 511-26 - Slot B6
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Project:</b>	GV 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Site:</b>	MV 23-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 511-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 27Sep10 kjs		

<b>Project</b>	GV 27-06S-096W, Garfield County, CO, 27-06S-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>	MV 23-27 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,617,330.50 usft	<b>Latitude:</b> 39° 29' 59.287 N
<b>From:</b>	Map	<b>Easting:</b>	2,269,898.90 usft	<b>Longitude:</b> 108° 5' 15.581 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.632 °

<b>Well</b>	GM 511-26 - Slot B6			
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	1,617,310.00 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	2,269,890.50 usft
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,770.0 usft

<b>Wellbore</b>	Wellbore #1			
-----------------	-------------	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/21/2010	10.542	65.756	52,358

<b>Design</b>	Plan #2 27Sep10 kjs			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	76.69

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.000	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.000	
665.5	15.00	88.00	659.2	2.5	70.9	2.75	2.75	0.00	88.000	
1,022.9	24.01	75.89	996.0	21.9	188.0	2.75	2.52	-3.39	-29.996	
4,072.6	24.01	75.89	3,781.7	324.4	1,391.5	0.00	0.00	0.00	0.000	
5,673.3	0.00	0.00	5,336.0	404.9	1,712.0	1.50	-1.50	0.00	180.000	
7,673.3	0.00	0.00	7,336.0	404.9	1,712.0	0.00	0.00	0.00	0.000	TD / PBHL GM 511-2



**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 511-26 - Slot B6
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Project:</b>	GV 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Site:</b>	MV 23-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 511-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 27Sep10 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
0.0	0.00	0.00	0.0	0.0	0.0	1,617,310.00	2,269,890.50	39° 29' 59.083 N	108° 5' 15.681 W
120.0	0.00	0.00	120.0	0.0	0.0	1,617,310.00	2,269,890.50	39° 29' 59.083 N	108° 5' 15.681 W
<b>Start Build 2.75</b>									
665.5	15.00	88.00	659.2	2.5	70.9	1,617,310.45	2,269,961.49	39° 29' 59.107 N	108° 5' 14.776 W
<b>Begin 2.75°/100 Build &amp; Turn</b>									
1,022.9	24.01	75.89	996.0	21.9	188.0	1,617,326.50	2,270,079.05	39° 29' 59.299 N	108° 5' 13.282 W
<b>Hold 24.01 Inclination</b>									
1,072.0	24.01	75.89	1,040.8	26.7	207.4	1,617,330.81	2,270,098.54	39° 29' 59.347 N	108° 5' 13.036 W
<b>9 5/8"</b>									
2,402.3	24.01	75.89	2,256.0	158.7	732.3	1,617,447.76	2,270,627.04	39° 30' 0.651 N	108° 5' 6.338 W
<b>Top of "G" Sand</b>									
2,511.8	24.01	75.89	2,356.0	169.5	775.5	1,617,457.38	2,270,670.53	39° 30' 0.758 N	108° 5' 5.787 W
<b>Base of "G" Sand</b>									
4,072.6	24.01	75.89	3,781.7	324.4	1,391.5	1,617,594.59	2,271,290.60	39° 30' 2.288 N	108° 4' 57.929 W
<b>Start Drop -1.50</b>									
4,413.6	18.90	75.89	4,099.0	354.8	1,512.4	1,617,621.52	2,271,412.33	39° 30' 2.588 N	108° 4' 56.387 W
<b>Mesaverde</b>									
5,673.3	0.00	0.00	5,336.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
<b>Vertical</b>									
5,773.3	0.00	0.00	5,436.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
<b>Top Gas - Approx. Top Gas</b>									
7,069.3	0.00	0.00	6,732.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
<b>Cameo Coals</b>									
7,573.3	0.00	0.00	7,236.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
<b>Rollins SS</b>									
7,673.3	0.00	0.00	7,336.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
<b>TD at 7673.3 - TD</b>									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (25' Radius) GI	0.00	0.00	5,436.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
- plan hits target center									
- Circle (radius 25.0)									
TD / PBHL GM 511-26	0.00	0.00	7,336.0	404.9	1,712.0	1,617,666.00	2,271,613.30	39° 30' 3.084 N	108° 4' 53.840 W
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,072.0	1,040.8	9 5/8"	9.625	12.250	

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 511-26 - Slot B6
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Project:</b>	GV 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5794.0usft (H&P 280 (24' RKB) kjs)
<b>Site:</b>	MV 23-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 511-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 27Sep10 kjs		

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	2,402.3	2,256.0	Top of "G" Sand			
	2,511.8	2,356.0	Base of "G" Sand			
	4,413.6	4,099.0	Mesaverde			
	5,773.3	5,436.0	Approx. Top Gas			
	7,069.3	6,732.0	Cameo Coals			
	7,573.3	7,236.0	Rollins SS			
	7,673.3	7,336.0	TD			

Plan Annotations					
	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
			+N/-S (usft)	+E/-W (usft)	
	120.0	120.0	0.0	0.0	Start Build 2.75
	665.5	659.2	2.5	70.9	Begin 2.75°/100 Build & Turn
	1,022.9	996.0	21.9	188.0	Hold 24.01 Inclination
	4,072.6	3,781.7	324.4	1,391.5	Start Drop -1.50
	5,673.3	5,336.0	404.9	1,712.0	Vertical
	5,773.3	5,436.0	404.9	1,712.0	Top Gas
	7,673.3	7,336.0	404.9	1,712.0	TD at 7673.3