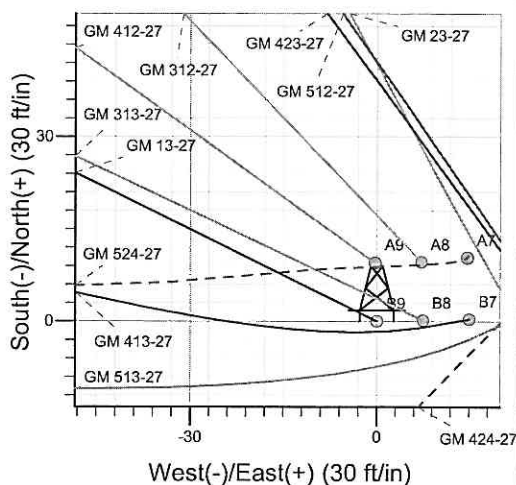
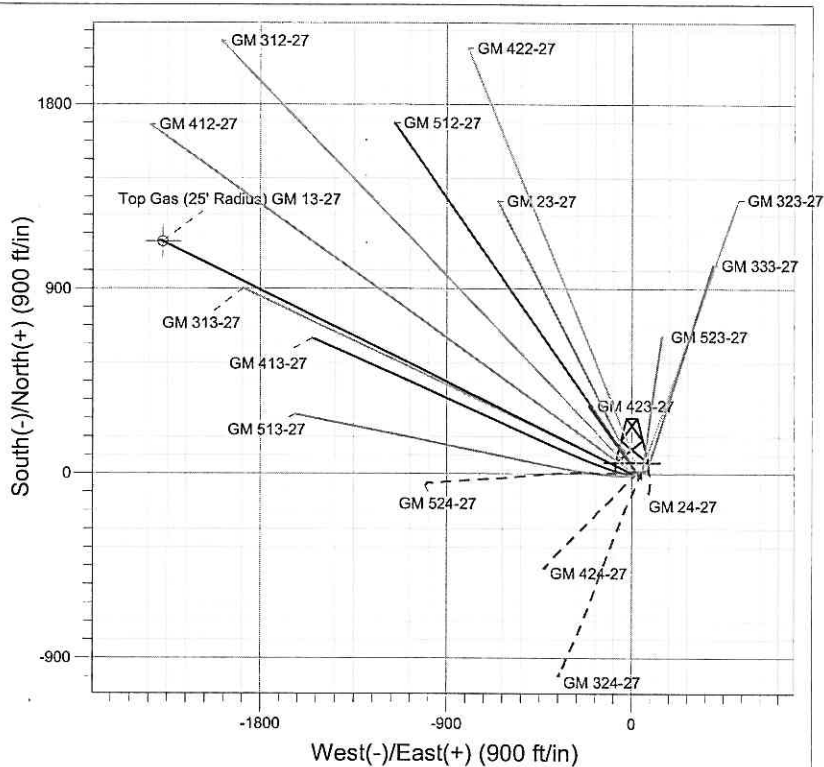
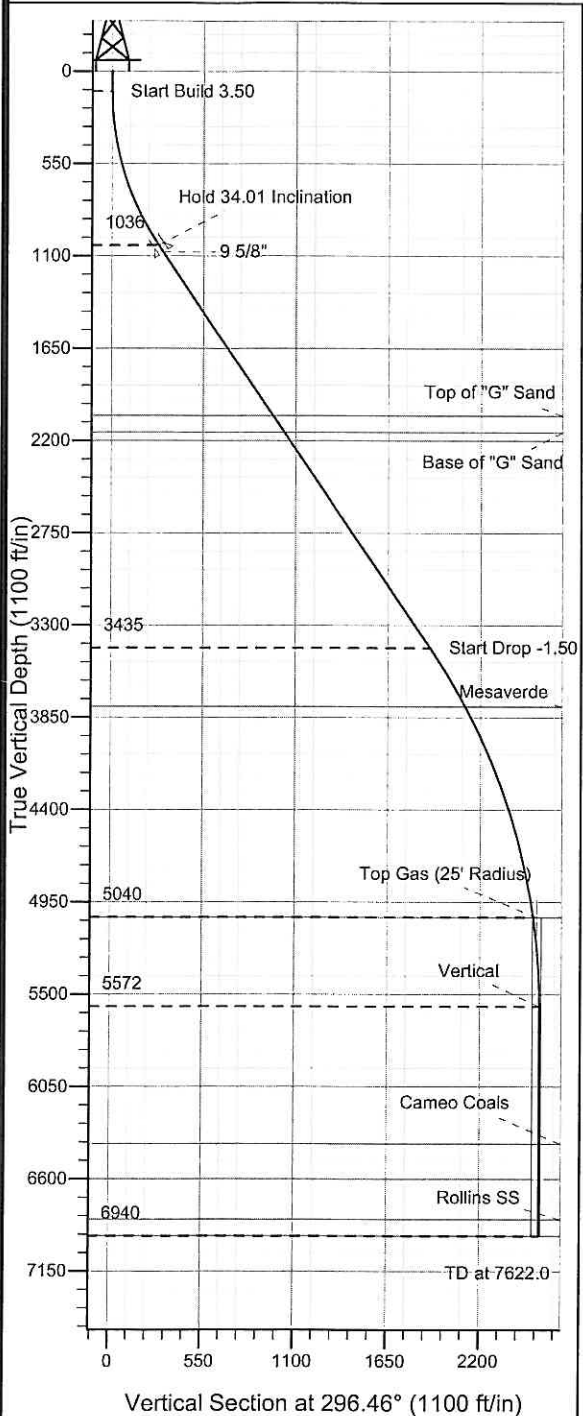




Well Name: GM 13-27  
 Surface Location: GM 24-27 Pad  
 North American Datum 1983 , US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 5604.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1614208.30 2267652.80 39° 29' 27.808 N 108° 5' 43.087 W B9  
 KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)



Project: GV 27-06S-096W  
 Site: GM 24-27 Pad  
 Well: GM 13-27  
 Plan #1 11Dec08 kjs

Azimuths to True North  
 Magnetic North: 10.70°  
 Magnetic Field  
 Strength: 52560.6snT  
 Dip Angle: 65.79°  
 Date: 12/10/2008  
 Model: IGRF2005-10

#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.0	
3	1091.7	34.01	296.46	1035.6	124.8	-250.7	3.50	296.46	280.0	
4	3986.3	34.01	296.46	3435.1	846.3	-1700.1	0.00	0.00	1899.1	
5	5720.3	8.00	296.46	5040.0	1120.8	-2251.7	1.50	180.00	2515.2	Top Gas (25' Radius) GM 13-27
6	6253.6	0.00	0.00	5571.6	1137.4	-2285.0	1.50	180.00	2552.4	
7	7622.0	0.00	0.00	6940.0	1137.4	-2285.0	0.00	0.00	2552.4	

#### ANNOTATIONS

TVD	MD	Annotation
120.0	120.0	Start Build 3.50
1035.6	1091.7	Hold 34.01 Inclination
3435.1	3986.3	Start Drop -1.50
5040.0	5720.3	Top Gas
5571.6	6253.6	Vertical
6940.0	7622.0	TD at 7622.0

# **PICEANCE VLY NAD 83**

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

**GM 24-27 Pad**

**GM 13-27 - Slot B9**

**Wellbore #1**

**Plan: Plan #1 11Dec08 kjs**

## **Standard Planning Report - Geographic**

**11 August, 2009**

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well GM 13-27 - Slot B9
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
<b>Project:</b>	GV 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
<b>Site:</b>	GM 24-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 13-27	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 11Dec08 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

Site		GM 24-27 Pad			
Site Position:		Northing:	1,614,217.60 ft	Latitude:	39° 29' 27.917 N
From:	Map	Easting:	2,267,712.90 ft	Longitude:	108° 5' 42.324 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.64 °

Well	GM 13-27 - Slot B9					
Well Position	+N/-S	0.0 ft	Northing:	1,614,208.30 ft	Latitude:	39° 29' 27.808 N
	+E/-W	0.0 ft	Easting:	2,267,652.80 ft	Longitude:	108° 5' 43.087 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,604.0 ft

<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	12/10/2008	10.70	65.79	52,561

<b>Design</b>	Plan #1 11Dec08 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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	296.46

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,091.7	34.01	296.46	1,035.6	124.8	-250.7	3.50	3.50	0.00	296.46	
3,986.3	34.01	296.46	3,435.1	846.3	-1,700.1	0.00	0.00	0.00	0.00	
5,720.3	8.00	296.46	5,040.0	1,120.8	-2,251.7	1.50	-1.50	0.00	180.00	Top Gas (25' Radius)
6,253.6	0.00	0.00	5,571.6	1,137.4	-2,285.0	1.50	-1.50	0.00	180.00	
7,622.0	0.00	0.00	6,940.0	1,137.4	-2,285.0	0.00	0.00	0.00	0.00	

# Williams Production RMT Company

## Planning Report - Geographic

Database: EDMDB\_COMPASS  
Company: PICEANCE VLY NAD 83  
Project: GV 27-06S-096W  
Site: GM 24-27 Pad  
Well: GM 13-27  
Wellbore: Wellbore #1  
Design: Plan #1 11Dec08 kjs

Local Co-ordinate Reference: Well GM 13-27 - Slot B9  
TVD Reference: KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)  
MD Reference: KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)  
North Reference: True  
Survey Calculation Method: Minimum Curvature

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	1,614,208.30	2,267,652.80	39° 29' 27.808 N	108° 5' 43.087 W
120.0	0.00	0.00	120.0	0.0	0.0	1,614,208.30	2,267,652.80	39° 29' 27.808 N	108° 5' 43.087 W
1,091.7	34.01	296.46	1,035.6	124.8	-250.7	1,614,340.18	2,267,405.80	39° 29' 29.041 N	108° 5' 46.284 W
1,142.0	34.01	296.46	1,077.3	137.3	-275.9	1,614,353.44	2,267,380.98	39° 29' 29.165 N	108° 5' 46.605 W
9 5/8"									
2,315.4	34.01	296.46	2,050.0	429.8	-863.4	1,614,662.54	2,266,802.06	39° 29' 32.056 N	108° 5' 54.100 W
Top of "G" Sand									
2,436.0	34.01	296.46	2,150.0	459.8	-923.8	1,614,694.32	2,266,742.55	39° 29' 32.353 N	108° 5' 54.870 W
Base of "G" Sand									
3,986.3	34.01	296.46	3,435.1	846.3	-1,700.1	1,615,102.73	2,265,977.65	39° 29' 36.171 N	108° 6' 4.773 W
4,394.5	27.89	296.46	3,785.0	939.7	-1,887.9	1,615,201.53	2,265,792.60	39° 29' 37.095 N	108° 6' 7.168 W
Mesaverde									
5,720.3	8.00	296.46	5,040.0	1,120.8	-2,251.7	1,615,392.95	2,265,434.11	39° 29' 38.885 N	108° 6' 11.809 W
Approx. Top Gas									
6,253.6	0.00	0.00	5,571.6	1,137.4	-2,285.0	1,615,410.46	2,265,401.32	39° 29' 39.048 N	108° 6' 12.234 W
7,072.0	0.00	0.00	6,390.0	1,137.4	-2,285.0	1,615,410.46	2,265,401.32	39° 29' 39.048 N	108° 6' 12.234 W
Cameo Coals									
7,522.0	0.00	0.00	6,840.0	1,137.4	-2,285.0	1,615,410.46	2,265,401.32	39° 29' 39.048 N	108° 6' 12.234 W
Rollins SS									
7,622.0	0.00	0.00	6,940.0	1,137.4	-2,285.0	1,615,410.46	2,265,401.32	39° 29' 39.048 N	108° 6' 12.234 W
TD									

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Top Gas (25' Radius) GI	0.00	0.00	5,040.0	1,130.5	-2,271.2	1,615,403.20	2,265,414.90	39° 29' 38.981 N	108° 6' 12.058 W
- plan misses by 21.6ft at 5721.8ft MD (5041.5 TVD, 1120.9 N, -2251.9 E)									
- Circle (radius 25.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,142.0	1,077.3	9 5/8"	9-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,315.4	2,050.00	Top of "G" Sand			
2,436.0	2,150.00	Base of "G" Sand			
4,394.5	3,785.00	Mesaverde			
5,720.3	5,040.00	Approx. Top Gas			
7,072.0	6,390.00	Cameo Coals			
7,522.0	6,840.00	Rollins SS			
7,622.0	6,940.00	TD			

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well GM 13-27 - Slot B9
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
<b>Project:</b>	GV 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
<b>Site:</b>	GM 24-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 13-27	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 11Dec08 kjs		

### Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
120.0	120.0	0.0	0.0	Start Build 3.50
1,091.7	1,035.6	124.8	-250.7	Hold 34.01 Inclination
3,986.3	3,435.1	846.3	-1,700.1	Start Drop -1.50
5,720.3	5,040.0	1,120.8	-2,251.7	Top Gas
6,253.6	5,571.6	1,137.4	-2,285.0	Vertical
7,622.0	6,940.0	1,137.4	-2,285.0	TD at 7622.0