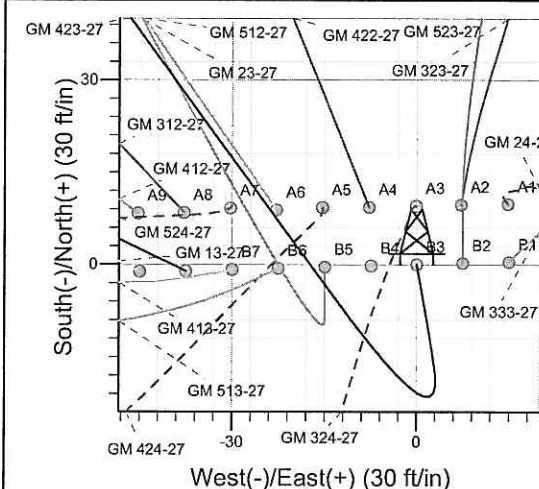
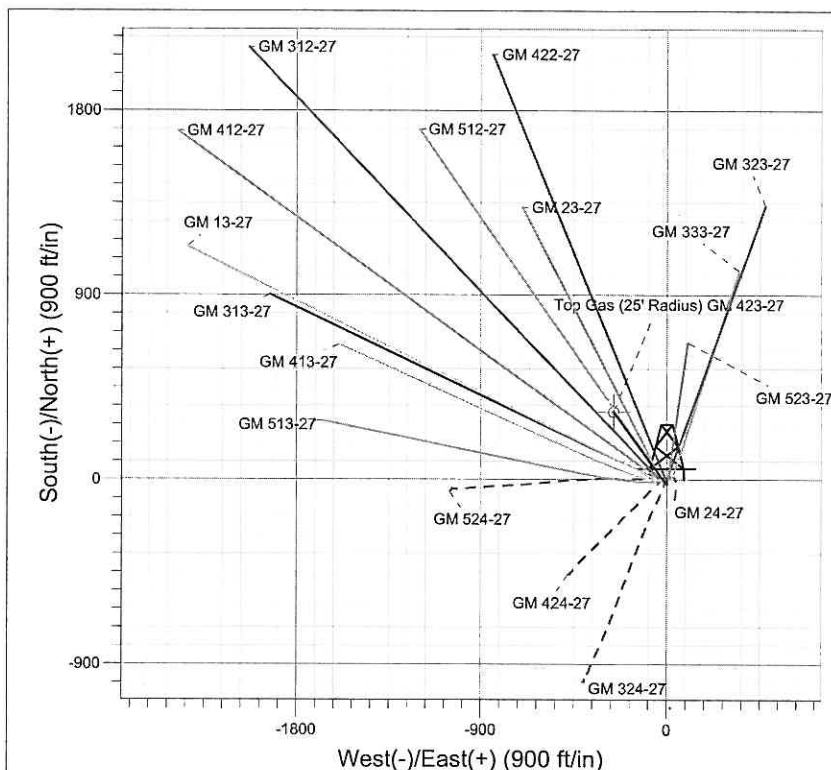
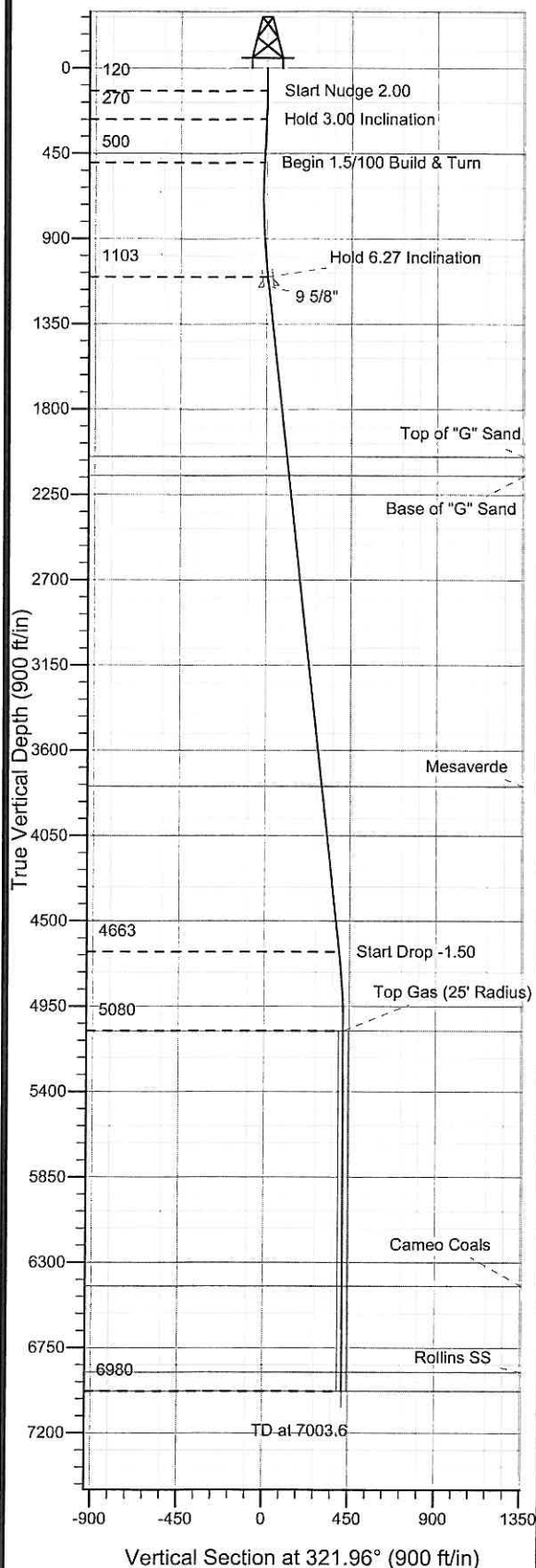




Well Name: GM 423-27  
 Surface Location: GM 24-27 Pad  
 North American Datum 1983, US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 5604.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1614208.20 2267697.80 39° 29' 27.820 N 108° 5' 42.513 W B3  
 KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)



Project: GV 27-06S-096W  
 Site: GM 24-27 Pad  
 Well: GM 423-27  
 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	270.0	3.00	170.00	269.9	-3.9	0.7	2.00	170.00	-3.5	
4	500.4	3.00	170.00	500.0	-15.7	2.8	0.00	0.00	-14.1	
5	1104.3	6.27	323.88	1102.9	-4.6	-14.0	1.50	162.22	4.9	
6	4685.7	6.27	323.88	4682.9	311.2	-244.5	0.00	0.00	395.8	
7	5103.6	0.00	0.00	5080.0	328.7	-257.9	1.50	180.00	418.6	Top Gas (25' Radius) GM 423-27
8	7003.6	0.00	0.00	6980.0	329.7	-257.9	0.00	0.00	418.6	TD / PBHL GM 423-27

ANNOTATIONS		
TVD	MD	Annotation
120.0	120.0	Start Nudge 2.00
269.9	270.0	Hold 3.00 Inclination
500.0	500.4	Begin 1.5/100 Build & Turn
1102.9	1104.3	Hold 6.27 Inclination
4682.9	4685.7	Start Drop -1.50
5080.0	5103.6	Top Gas
6980.0	7003.6	TD at 7003.6

# **PICEANCE VLY NAD 83**

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

**GM 24-27 Pad**

**GM 423-27 - Slot B3**

**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 423-27 - Slot B3
<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 423-27	<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 423-27 - Slot B3					
Well Position	+N/-S	0.0 ft	Northing:	1,614,208.20 ft	Latitude:	39° 29' 27.820 N
	+E/-W	0.0 ft	Easting:	2,267,697.80 ft	Longitude:	108° 5' 42.513 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

Design	Plan #1 11Dec08 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	321.96

Plan Sections										
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	
270.0	3.00	170.00	269.9	-3.9	0.7	2.00	2.00	0.00	170.00	
500.4	3.00	170.00	500.0	-15.7	2.8	0.00	0.00	0.00	0.00	
1,104.3	6.27	323.88	1,102.9	-4.6	-14.0	1.50	0.54	25.48	162.22	
4,685.7	6.27	323.88	4,662.9	311.2	-244.5	0.00	0.00	0.00	0.00	
5,103.6	0.00	0.00	5,080.0	329.7	-257.9	1.50	-1.50	0.00	180.00	Top Gas (25' Radius)
7,003.6	0.00	0.00	6,980.0	329.7	-257.9	0.00	0.00	0.00	0.00	TD / PBHL GM 423-2

# 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 423-27  
Wellbore: Wellbore #1  
Design: Plan #1 11Dec08 kjs

Local Co-ordinate Reference: Well GM 423-27 - Slot B3  
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	1,614,208.20	2,267,697.80	39° 29' 27.820 N	108° 5' 42.513 W
120.0	0.00	0.00	120.0	0.0	0.0	1,614,208.20	2,267,697.80	39° 29' 27.820 N	108° 5' 42.513 W
270.0	3.00	170.00	269.9	-3.9	0.7	1,614,204.32	2,267,698.37	39° 29' 27.782 N	108° 5' 42.504 W
500.4	3.00	170.00	500.0	-15.7	2.8	1,614,192.39	2,267,700.12	39° 29' 27.664 N	108° 5' 42.477 W
1,104.3	6.27	323.88	1,102.9	-4.6	-14.0	1,614,203.95	2,267,683.72	39° 29' 27.774 N	108° 5' 42.691 W
1,154.0	6.27	323.88	1,152.4	-0.3	-17.2	1,614,208.43	2,267,680.65	39° 29' 27.817 N	108° 5' 42.732 W
9 5/8"									
2,057.0	6.27	323.88	2,050.0	79.4	-75.3	1,614,289.70	2,267,624.83	39° 29' 28.605 N	108° 5' 43.473 W
Top of "G" Sand									
2,157.6	6.27	323.88	2,150.0	88.3	-81.8	1,614,298.75	2,267,618.61	39° 29' 28.692 N	108° 5' 43.556 W
Base of "G" Sand									
3,807.5	6.27	323.88	3,790.0	233.8	-187.9	1,614,447.24	2,267,516.62	39° 29' 30.130 N	108° 5' 44.910 W
Mesaverde									
4,685.7	6.27	323.88	4,662.9	311.2	-244.5	1,614,526.28	2,267,462.33	39° 29' 30.896 N	108° 5' 45.631 W
5,103.6	0.00	0.00	5,080.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 W
Approx. Top Gas									
6,448.6	0.00	0.00	6,425.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 W
Cameo Coals									
6,903.6	0.00	0.00	6,880.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 W
Rollins SS									
7,003.6	0.00	0.00	6,980.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 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									
TD / PBHL GM 423-27	0.00	0.00	6,980.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 W
- plan hits target									
- Point									
Top Gas (25' Radius) GI	0.00	0.00	5,080.0	329.7	-257.9	1,614,545.10	2,267,449.40	39° 29' 31.078 N	108° 5' 45.803 W
- plan hits target									
- Circle (radius 25.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,154.0	1,152.4	9 5/8"	9-5/8	12-1/4

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well GM 423-27 - Slot B3
<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 423-27	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 11Dec08 kjs		

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,057.0	2,050.00	Top of "G" Sand			
2,157.6	2,150.00	Base of "G" Sand			
3,807.5	3,790.00	Mesaverde			
5,103.6	5,080.00	Approx. Top Gas			
6,448.6	6,425.00	Cameo Coals			
6,903.6	6,880.00	Rollins SS			
7,003.6	6,980.00	TD			

### 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 Nudge 2.00
270.0	269.9	-3.9	0.7	Hold 3.00 Inclination
500.4	500.0	-15.7	2.8	Begin 1.5/100 Build & Turn
1,104.3	1,102.9	-4.6	-14.0	Hold 6.27 Inclination
4,685.7	4,662.9	311.2	-244.5	Start Drop -1.50
5,103.6	5,080.0	329.7	-257.9	Top Gas
7,003.6	6,980.0	329.7	-257.9	TD at 7003.6