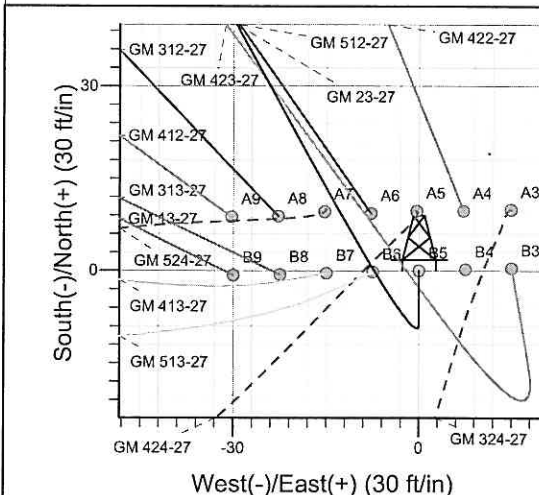
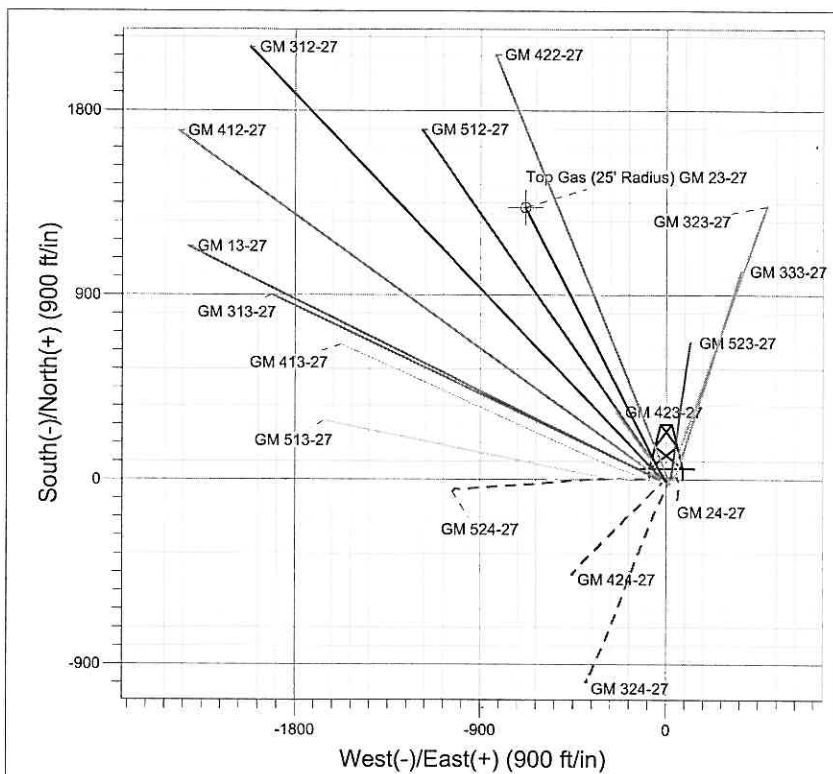
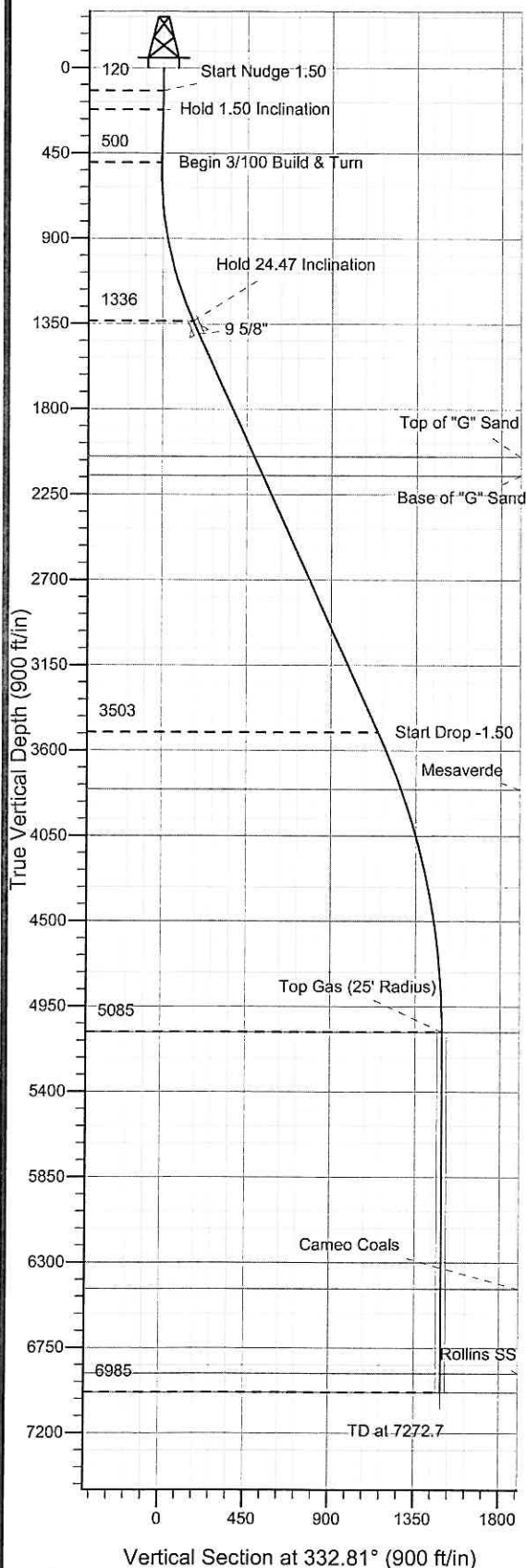




Well Name: GM 23-27  
 Surface Location: GM 24-27 Pad  
 North American Datum 1983, US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 5604.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1614208.20 2267682.80 39° 29' 27.816 N 108° 5' 42.704 W B5  
 KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)



Project: GV 27-06S-096W  
 Site: GM 24-27 Pad  
 Well: GM 23-27  
 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	220.0	1.50	180.00	220.0	-1.3	0.0	1.50	180.00	-1.2	
4	500.1	1.50	180.00	500.0	-8.6	0.0	0.00	0.00	-7.7	
5	1360.6	24.47	333.15	1335.9	141.7	-81.9	3.00	154.56	163.4	
6	3741.4	24.47	333.15	3502.8	1021.5	-527.2	0.00	0.00	1149.5	
7	5372.7	0.00	0.00	5085.0	1327.6	-882.1	1.50	180.00	1492.6	Top Gas (25' Radius) GM 23-27
8	7272.7	0.00	0.00	6985.0	1327.6	-882.1	0.00	0.00	1492.6	TD / P&HL GM 23-27

ANNOTATIONS		
TVD	MD	Annotation
120.0	120.0	Start Nudge 1.50
220.0	220.0	Hold 1.50 Inclination
500.0	500.1	Begin 3/100 Build & Turn
1335.9	1360.6	Hold 24.47 Inclination
3502.8	3741.4	Start Drop -1.50
5085.0	5372.7	Top Gas
6985.0	7272.7	TD at 7272.7

# **PICEANCE VLY NAD 83**

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

**GM 24-27 Pad**

**GM 23-27 - Slot B5**

**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 23-27 - Slot B5
<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 23-27	<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 23-27 - Slot B5					
Well Position	+N/-S	0.0 ft	Northing:	1,614,208.20 ft	Latitude:	39° 29' 27.816 N
	+E/-W	0.0 ft	Easting:	2,267,682.80 ft	Longitude:	108° 5' 42.704 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	332.81

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	
220.0	1.50	180.00	220.0	-1.3	0.0	1.50	1.50	0.00	180.00	
500.1	1.50	180.00	500.0	-8.6	0.0	0.00	0.00	0.00	0.00	
1,360.6	24.47	333.15	1,335.9	141.7	-81.9	3.00	2.67	17.80	154.56	
3,741.4	24.47	333.15	3,502.8	1,021.5	-527.2	0.00	0.00	0.00	0.00	
5,372.7	0.00	0.00	5,085.0	1,327.6	-682.1	1.50	-1.50	0.00	180.00	Top Gas (25' Radius)
7,272.7	0.00	0.00	6,985.0	1,327.6	-682.1	0.00	0.00	0.00	0.00	TD / PBHL GM 23-27

# 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 23-27  
Wellbore: Wellbore #1  
Design: Plan #1 11Dec08 kjs

Local Co-ordinate Reference: Well GM 23-27 - Slot B5  
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	2,267,682.80	39° 29' 27.816 N	108° 5' 42.704 W
120.0	0.00	0.00	120.0	0.0	0.0	1,614,208.20	2,267,682.80	39° 29' 27.816 N	108° 5' 42.704 W
220.0	1.50	180.00	220.0	-1.3	0.0	1,614,206.89	2,267,682.76	39° 29' 27.803 N	108° 5' 42.704 W
500.1	1.50	180.00	500.0	-8.6	0.0	1,614,199.56	2,267,682.55	39° 29' 27.730 N	108° 5' 42.704 W
1,360.6	24.47	333.15	1,335.9	141.7	-81.9	1,614,352.14	2,267,605.01	39° 29' 29.216 N	108° 5' 43.748 W
1,433.0	24.47	333.15	1,401.8	168.4	-95.4	1,614,379.25	2,267,592.25	39° 29' 29.480 N	108° 5' 43.921 W
9 5/8"									
2,145.2	24.47	333.15	2,050.0	431.6	-228.6	1,614,646.13	2,267,466.61	39° 29' 32.081 N	108° 5' 45.620 W
Top of "G" Sand									
2,255.0	24.47	333.15	2,150.0	472.2	-249.2	1,614,687.31	2,267,447.23	39° 29' 32.483 N	108° 5' 45.882 W
Base of "G" Sand									
3,741.4	24.47	333.15	3,502.8	1,021.5	-527.2	1,615,244.31	2,267,185.02	39° 29' 37.911 N	108° 5' 49.429 W
4,067.4	19.58	333.15	3,805.0	1,130.6	-582.4	1,615,354.89	2,267,132.96	39° 29' 38.989 N	108° 5' 50.133 W
Mesaverde									
5,372.7	0.00	0.00	5,085.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 W
Approx. Top Gas									
6,727.7	0.00	0.00	6,440.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 W
Cameo Coals									
7,172.7	0.00	0.00	6,885.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 W
Rollins SS									
7,272.7	0.00	0.00	6,985.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 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 23-27	0.00	0.00	6,985.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 W
- plan hits target									
- Point									
Top Gas (25' Radius) GI	0.00	0.00	5,085.0	1,327.6	-682.1	1,615,554.70	2,267,038.90	39° 29' 40.937 N	108° 5' 51.405 W
- plan hits target									
- Circle (radius 25.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,433.0	1,401.8	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 23-27 - Slot B5
<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 23-27	<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 (°)
2,145.2	2,050.00	Top of "G" Sand			
2,255.0	2,150.00	Base of "G" Sand			
4,067.4	3,805.00	Mesaverde			
5,372.7	5,085.00	Approx. Top Gas			
6,727.7	6,440.00	Cameo Coals			
7,172.7	6,885.00	Rollins SS			
7,272.7	6,985.00	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 1.50
220.0	220.0	-1.3	0.0	Hold 1.50 Inclination
500.1	500.0	-8.6	0.0	Begin 3/100 Build & Turn
1,360.6	1,335.9	141.7	-81.9	Hold 24.47 Inclination
3,741.4	3,502.8	1,021.5	-527.2	Start Drop -1.50
5,372.7	5,085.0	1,327.6	-682.1	Top Gas
7,272.7	6,985.0	1,327.6	-682.1	TD at 7272.7