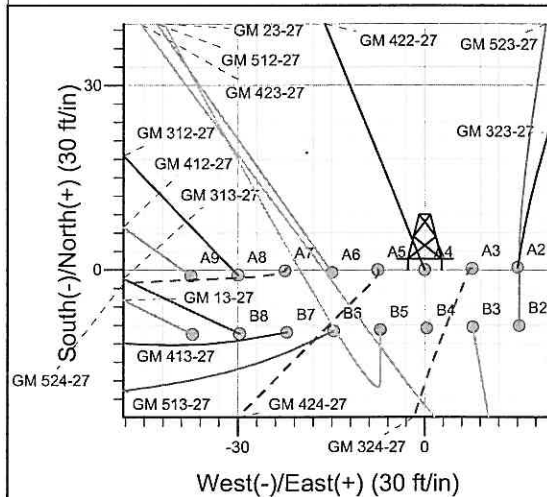
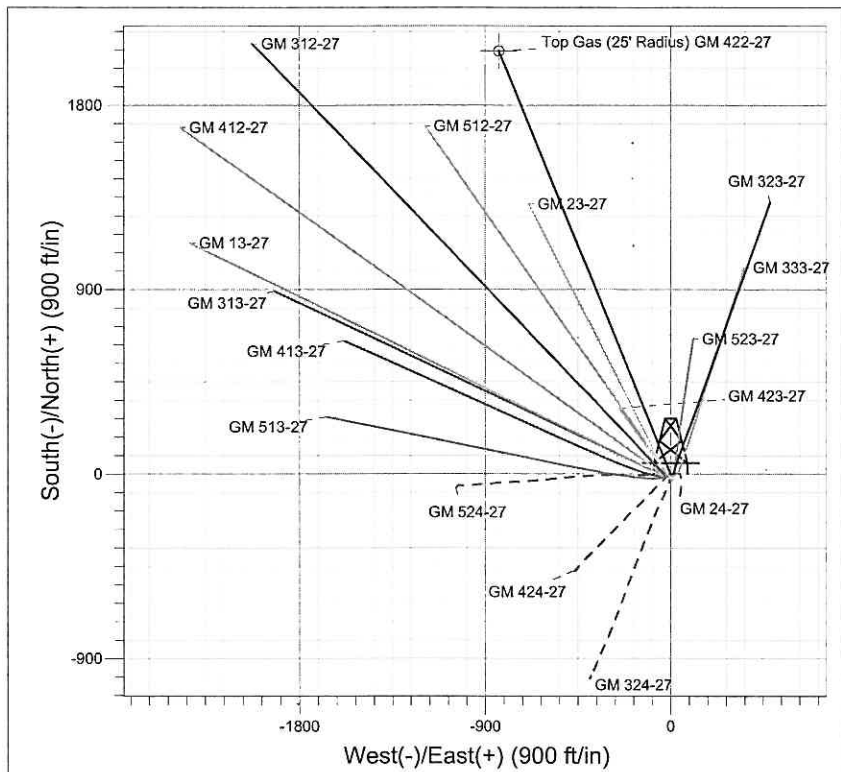
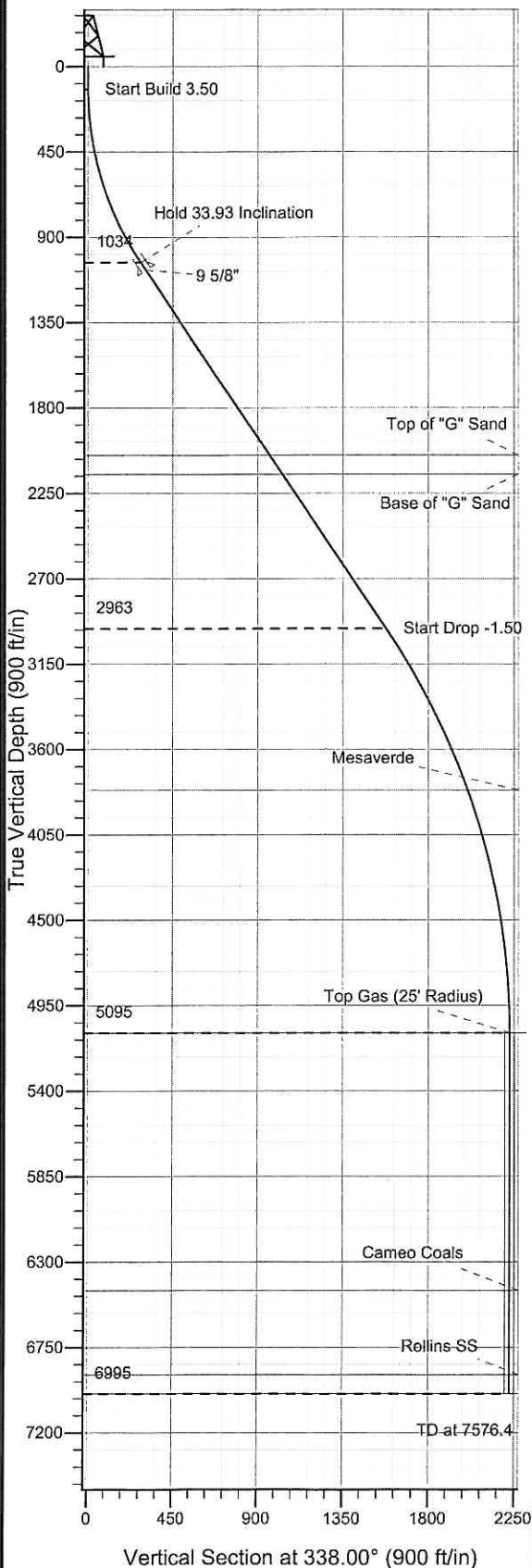




Well Name: GM 422-27  
 Surface Location: GM 24-27 Pad  
 North American Datum 1983 , US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 5604.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1614217.70 2267690.30 39° 29' 27.912 N 108° 5' 42.612 W A4  
 KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)



Project: GV 27-06S-096W  
 Site: GM 24-27 Pad  
 Well: GM 422-27  
 Plan #1 11Dec08 kjs

**M** 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	1089.3	33.93	338.00	1033.6	258.4	-104.4	3.50	338.00	278.7	
4	3414.7	33.93	338.00	2963.2	1461.7	-590.6	0.00	0.00	1576.5	
5	5676.4	0.00	0.00	5095.0	2064.6	-834.1	1.50	180.00	2226.7	Top Gas (25' Radius) GM 422-27
6	7576.4	0.00	0.00	6995.0	2064.6	-834.1	0.00	0.00	2226.7	

ANNOTATIONS		
TVD	MD	Annotation
120.0	120.0	Start Build 3.50
1033.6	1089.3	Hold 33.93 Inclination
2963.2	3414.7	Start Drop -1.50
5095.0	5676.4	Top Gas
6995.0	7576.4	TD at 7576.4

# **PICEANCE VLY NAD 83**

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

**GM 24-27 Pad**

**GM 422-27 - Slot A4**

**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 422-27 - Slot A4
<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 422-27	<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 422-27 - Slot A4					
Well Position	+N/-S	0.0 ft	Northing:	1,614,217.70 ft	Latitude:	39° 29' 27.912 N
	+E/-W	0.0 ft	Easting:	2,267,690.30 ft	Longitude:	108° 5' 42.612 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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	338.00

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	
1,089.3	33.93	338.00	1,033.6	258.4	-104.4	3.50	3.50	0.00	338.00	
3,414.7	33.93	338.00	2,963.2	1,461.7	-590.6	0.00	0.00	0.00	0.00	
5,676.4	0.00	0.00	5,095.0	2,064.6	-834.1	1.50	-1.50	0.00	180.00	Top Gas (25' Radius)
7,576.4	0.00	0.00	6,995.0	2,064.6	-834.1	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 422-27  
Wellbore: Wellbore #1  
Design: Plan #1 11Dec08 kjs

Local Co-ordinate Reference:  
TVD Reference:  
MD Reference:  
North Reference:  
Survey Calculation Method:

Well GM 422-27 - Slot A4  
KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)  
KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)  
True  
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	1,614,217.70	2,267,690.30	39° 29' 27.912 N	108° 5' 42.612 W
120.0	0.00	0.00	120.0	0.0	0.0	1,614,217.70	2,267,690.30	39° 29' 27.912 N	108° 5' 42.612 W
1,089.3	33.93	338.00	1,033.6	258.4	-104.4	1,614,478.95	2,267,593.33	39° 29' 30.465 N	108° 5' 43.943 W
1,139.0	33.93	338.00	1,074.9	284.1	-114.8	1,614,504.96	2,267,583.68	39° 29' 30.720 N	108° 5' 44.076 W
9 5/8"									
2,314.2	33.93	338.00	2,050.0	892.2	-360.5	1,615,119.82	2,267,355.47	39° 29' 36.730 N	108° 5' 47.210 W
Top of "G" Sand									
2,434.7	33.93	338.00	2,150.0	954.6	-385.7	1,615,182.87	2,267,332.07	39° 29' 37.346 N	108° 5' 47.531 W
Base of "G" Sand									
3,414.7	33.93	338.00	2,963.2	1,461.7	-590.6	1,615,695.62	2,267,141.75	39° 29' 42.358 N	108° 5' 50.145 W
4,371.1	19.58	338.00	3,815.0	1,859.8	-751.4	1,616,098.16	2,266,992.35	39° 29' 46.293 N	108° 5' 52.197 W
Mesaverde									
5,676.4	0.00	0.00	5,095.0	2,064.6	-834.1	1,616,305.20	2,266,915.50	39° 29' 48.316 N	108° 5' 53.253 W
Approx. Top Gas									
7,031.4	0.00	0.00	6,450.0	2,064.6	-834.1	1,616,305.20	2,266,915.50	39° 29' 48.316 N	108° 5' 53.253 W
Cameo Coals									
7,476.4	0.00	0.00	6,895.0	2,064.6	-834.1	1,616,305.20	2,266,915.50	39° 29' 48.316 N	108° 5' 53.253 W
Rollins SS									
7,576.4	0.00	0.00	6,995.0	2,064.6	-834.1	1,616,305.20	2,266,915.50	39° 29' 48.316 N	108° 5' 53.253 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	5,095.0	2,064.6	-834.1	1,616,305.20	2,266,915.50	39° 29' 48.316 N	108° 5' 53.253 W
- plan hits target									
- Circle (radius 25.0)									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,139.0	1,074.9	9 5/8"	9-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,314.2	2,050.00	Top of "G" Sand			
2,434.7	2,150.00	Base of "G" Sand			
4,371.1	3,815.00	Mesaverde			
5,676.4	5,095.00	Approx. Top Gas			
7,031.4	6,450.00	Cameo Coals			
7,476.4	6,895.00	Rollins SS			
7,576.4	6,995.00	TD			

# Williams Production RMT Company

## Planning Report - Geographic

Database:	EDMDB_COMPASS	Local Co-ordinate Reference:	Well GM 422-27 - Slot A4
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
Project:	GV 27-06S-096W	MD Reference:	KELLY BUSHING @ 5628.0ft (H&P 278 (24') kjs)
Site:	GM 24-27 Pad	North Reference:	True
Well:	GM 422-27	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
1,089.3	1,033.6	258.4	-104.4	Hold 33.93 Inclination
3,414.7	2,963.2	1,461.7	-590.6	Start Drop -1.50
5,676.4	5,095.0	2,064.6	-834.1	Top Gas
7,576.4	6,995.0	2,064.6	-834.1	TD at 7576.4