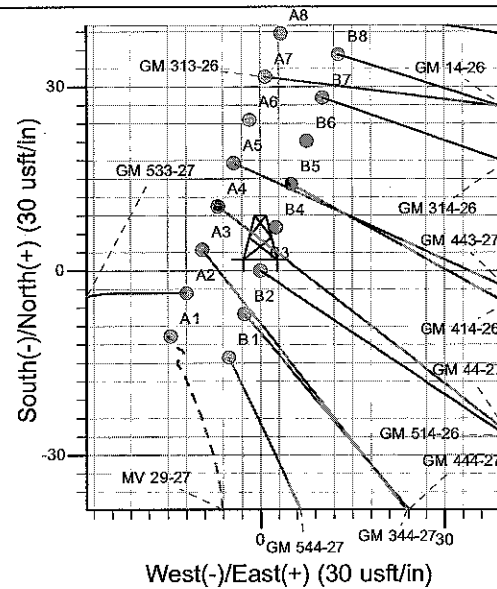
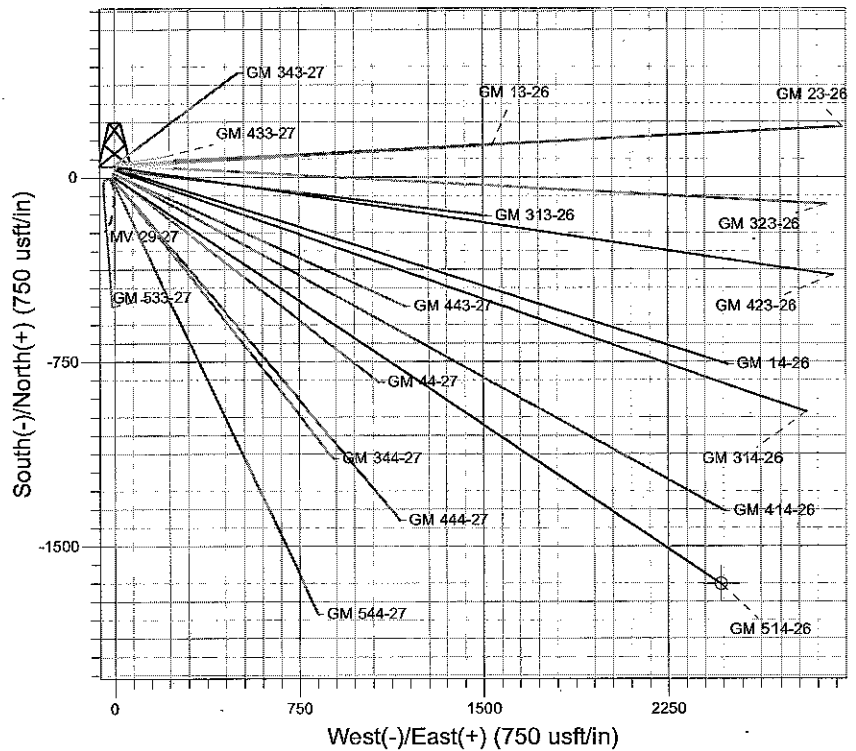
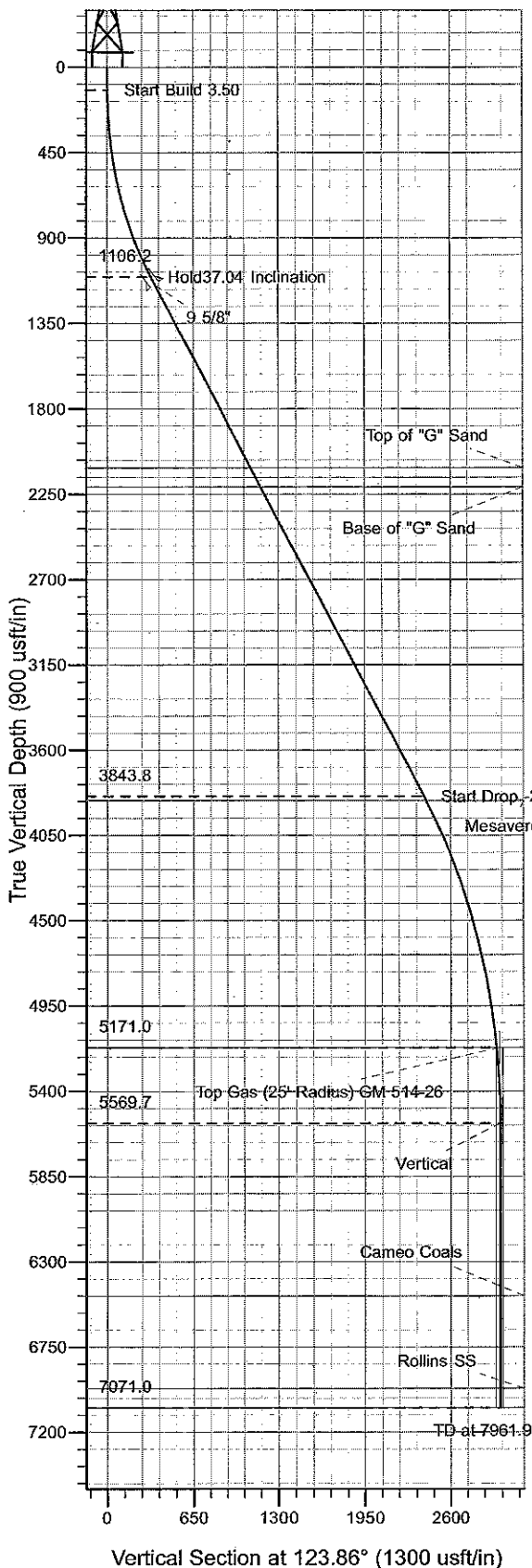




Well Name: GM 514-26  
 Surface Location: MV 29-27 Pad  
 North American Datum 1983 , US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 5659.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1614943.27 2269200.32 39° 29' 35.506 N 108° 5' 23.622 W B3  
 KELLY BUSHING @ 5683.0usft (H&P 271 (24\*KB) JMS)



Project: RU 27-06S-096W  
 Site: MV 29-27 Pad  
 Well: GM 514-26  
 Plan #1 29Jan09 kjs

Azimuths to True North  
 Magnetic North: 10.68°  
 Magnetic Field  
 Strength: 52503.2snT  
 Dip Angle: 65.79°  
 Date: 1/29/2009  
 Model: IGRF2005-10

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 3.50
1106.2	1178.4	37.05	123.86	-184.1	274.4	330.4	330.4	Hold37.04° inclination
3843.8	4608.3	37.05	123.86	-1335.5	1990.2	2396.7	2396.7	Start Drop -2.00
5171.0	6060.6	8.00	123.86	-1642.2	2447.1	2947.1	2947.1	Top Gas
5569.7	6460.6	0.00	0.00	-1657.8	2470.3	2975.0	2975.0	Vertical
7071.0	7961.9	0.00	0.00	-1657.8	2470.3	2975.0	2975.0	TD at 7961.9

# **PICEANCE VLY NAD 83**

**RU 27-06S-096W**

**MV 29-27 Pad**

**GM 514-26 - Slot B3**

**Wellbore #1**

**Plan: Plan #1 29Jan09 kjs**

## **Standard Planning Report - Geographic**

**05 May, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 514-26 - Slot B3
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
<b>Project:</b>	RU 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
<b>Site:</b>	MV 29-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 514-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 29Jan09.kjs		

<b>Project</b>	RU 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		

<b>Site</b>	MV 29-27 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,614,933.00 usft	<b>Latitude:</b> 39° 29' 35.400 N
<b>From:</b>	Map	<b>Easting:</b>	2,269,185.50 usft	<b>Longitude:</b> 108° 5' 23.807 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.633 °

<b>Well</b>	GM 514-26 - Slot B3			
<b>Well Position</b>	+N/-S	0.0 usft	<b>Northing:</b>	1,614,943.27 usft
	+E/-W	0.0 usft	<b>Easting:</b>	2,269,200.32 usft
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 5,659.0 usft

<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	1/29/2009	10.680	65.793	52,503

<b>Design</b>	Plan #1 29Jan09.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	123.86

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	
1,178.4	37.05	123.86	1,106.2	-184.1	274.4	3.50	3.50	0.00	123.865	
4,608.3	37.05	123.86	3,843.8	-1,335.5	1,990.2	0.00	0.00	0.00	0.000	
6,060.6	8.00	123.86	5,171.0	-1,642.2	2,447.1	2.00	-2.00	0.00	180.000	Top Gas (25' Radius)
6,460.6	0.00	0.00	5,569.7	-1,657.8	2,470.3	2.00	-2.00	0.00	180.000	
7,961.9	0.00	0.00	7,071.0	-1,657.8	2,470.3	0.00	0.00	0.00	0.000	

**Williams**  
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well GM 514-26 - Slot B3
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
Project:	RU 27-06S-096W	MD Reference:	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
Site:	MV 29-27 Pad	North Reference:	True
Well:	GM 514-26	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 29Jan09 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	1,614,943.27	2,269,200.32	39° 29' 35.506 N	108° 5' 23.622 W
120.0	0.00	0.00	120.0	0.0	0.0	1,614,943.27	2,269,200.32	39° 29' 35.506 N	108° 5' 23.622 W
Start Build 3.50									
1,178.4	37.05	123.86	1,106.2	-184.1	274.4	1,614,751.40	2,269,469.32	39° 29' 33.686 N	108° 5' 20.122 W
Hold 37.04 Inclination									
1,228.0	37.05	123.86	1,145.8	-200.8	299.2	1,614,734.06	2,269,493.63	39° 29' 33.522 N	108° 5' 19.806 W
9 5/8"									
2,437.3	37.05	123.86	2,111.0	-606.7	904.1	1,614,311.01	2,270,086.77	39° 29' 29.509 N	108° 5' 12.089 W
Top of "G" Sand									
2,562.6	37.05	123.86	2,211.0	-648.8	966.8	1,614,267.18	2,270,148.22	39° 29' 29.093 N	108° 5' 11.289 W
Base of "G" Sand									
4,608.3	37.05	123.86	3,843.8	-1,335.5	1,990.2	1,613,551.53	2,271,151.59	39° 29' 22.305 N	108° 4' 58.236 W
Start Drop -2.00									
4,636.0	36.49	123.86	3,866.0	-1,344.8	2,003.9	1,613,541.91	2,271,165.09	39° 29' 22.214 N	108° 4' 58.060 W
Mesaverde									
6,060.6	8.00	123.86	5,171.0	-1,642.2	2,447.1	1,613,231.96	2,271,599.65	39° 29' 19.274 N	108° 4' 52.407 W
Top Gas - Approx. Top Gas									
6,460.6	0.00	0.00	5,569.7	-1,657.8	2,470.3	1,613,215.77	2,271,622.35	39° 29' 19.120 N	108° 4' 52.112 W
Vertical									
7,371.9	0.00	0.00	6,481.0	-1,657.8	2,470.3	1,613,215.77	2,271,622.35	39° 29' 19.120 N	108° 4' 52.112 W
Cameo Coals									
7,861.9	0.00	0.00	6,971.0	-1,657.8	2,470.3	1,613,215.77	2,271,622.35	39° 29' 19.120 N	108° 4' 52.112 W
Rollins SS									
7,961.9	0.00	0.00	7,071.0	-1,657.8	2,470.3	1,613,215.77	2,271,622.35	39° 29' 19.120 N	108° 4' 52.112 W
TD at 7961.9									

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	5,171.0	-1,652.5	2,464.2	1,613,221.20	2,271,616.40	39° 29' 19.172 N	108° 4' 52.190 W
- plan misses target center by 19.8usft at 6062.0usft MD (5172.4 TVD, -1642.3 N, 2447.3 E)									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,228.0	1,145.8	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 514-26 - Slot B3
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
<b>Project:</b>	RU 27-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5683.0usft (H&P 271 (24'KB) JMS)
<b>Site:</b>	MV 29-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 514-26	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 29Jan09 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,437.3	2,111.0	Top of "G" Sand				
2,562.6	2,211.0	Base of "G" Sand				
4,636.0	3,866.0	Mesaverde				
6,060.6	5,171.0	Approx. Top Gas				
7,371.9	6,481.0	Cameo Coals				
7,861.9	6,971.0	Rollins SS				
7,961.9	7,071.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.0	120.0	0.0	0.0	Start Build 3.50	
1,178.4	1,106.2	-184.1	274.4	Hold 37.04 Inclination	
4,608.3	3,843.8	-1,335.5	1,990.2	Start Drop -2.00	
6,060.6	5,171.0	-1,642.2	2,447.1	Top Gas	
6,460.6	5,569.7	-1,657.8	2,470.3	Vertical	
7,961.9	7,071.0	-1,657.8	2,470.3	TD at 7961.9	