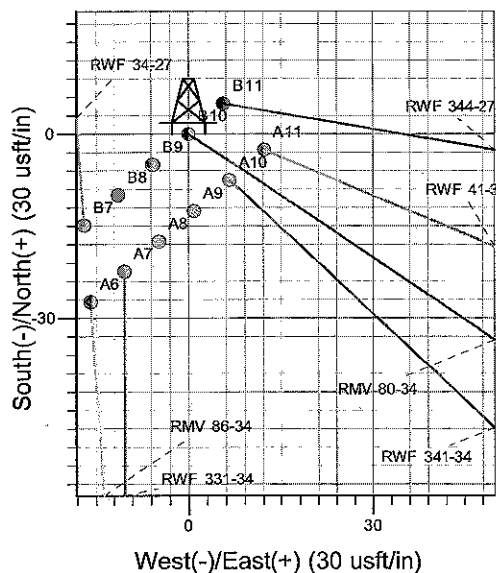
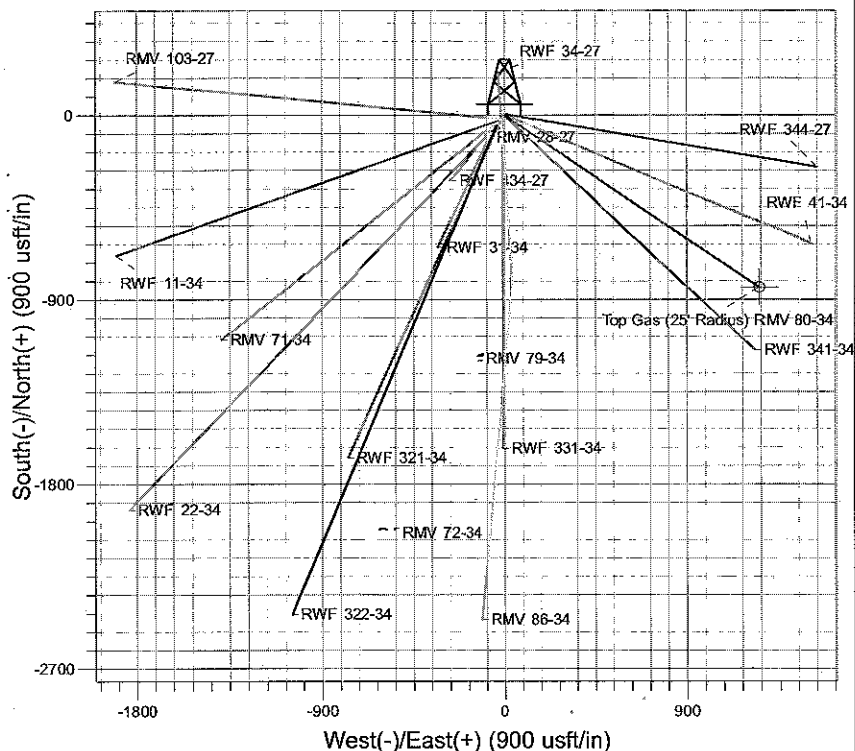
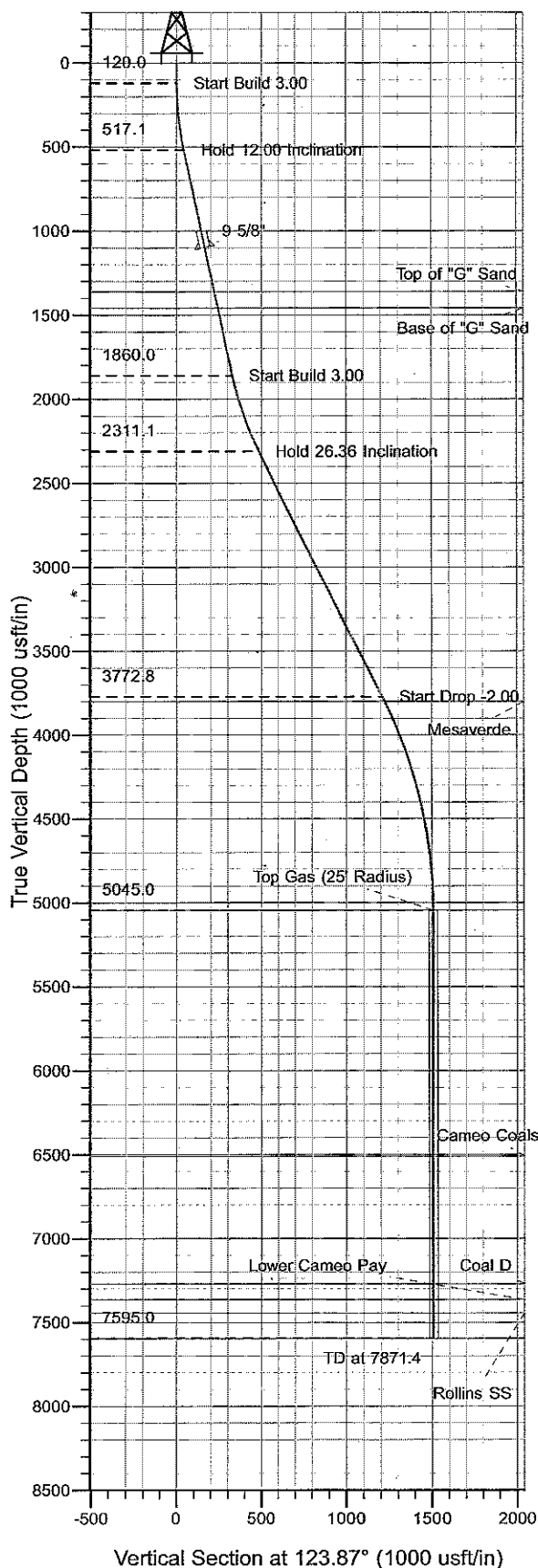




Well Name: RMV 80-34  
 Surface Location: RMV 28-27 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5297.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1612203.10 2330530.10 39° 29' 24.986 N 107° 52' 20.629 W B10  
 KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)



Project: RU 27-06S-094W  
 Site: RMV 28-27 Pad  
 Well: RMV 80-34  
 Plan #2 20Apr10 kjs

↑ M Azimuths to True North  
 Magnetic North: 10.70°  
 Magnetic Field  
 Strength: 52621.0nT  
 Dip Angle: 65.85°  
 Date: 3/7/2008  
 Model: IGRF2005-10

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSD	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 3.00
517.1	520.0	12.00	123.87	-23.3	34.7	41.7	41.7	Hold 12.00 Inclination
1860.0	1892.9	12.00	123.87	-182.3	271.7	327.2	327.2	Start Build 3.00
2311.1	2371.8	26.36	123.87	-269.8	402.0	484.1	484.1	Hold 26.36 Inclination
3772.8	4003.2	26.36	123.87	-673.6	1003.5	1208.6	1208.6	Start Drop -2.00
5045.0	5321.4	0.00	0.00	-839.7	1250.9	1506.6	1506.6	Top Gas
7595.0	7871.4	0.00	0.00	-839.7	1250.9	1506.6	1506.6	TD at 7871.4

# **PICEANCE VLY NAD 83**

**RU 27-06S-094W**

**RMV 28-27 Pad**

**RMV 80-34 - Slot B10**

**Wellbore #1**

**Plan: Plan #2 20Apr10 kjs**

## **Standard Planning Report - Geographic**

**07 July, 2010**

# Williams

## Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well RMV 80-34 - Slot B10
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
<b>Project:</b>	RU 27-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
<b>Site:</b>	RMV 28-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RMV 80-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 20Apr10 kjs		

<b>Project</b>	RU 27-06S-094W, Garfield County, CO, 27-06S-094W		
<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

<b>Site</b>	RMV 28-27 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,612,143.20 usft
<b>From:</b>	Map	<b>Easting:</b>	2,330,505.00 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	39° 29' 24.388 N
		<b>Longitude:</b>	107° 52' 20.929 W
		<b>Grid Convergence:</b>	-1.50 °

<b>Well</b>	RMV 80-34 - Slot B10		
<b>Well Position</b>	+N-S	0.0 usft	<b>Northing:</b> 1,612,203.10 usft
	+E-W	0.0 usft	<b>Easting:</b> 2,330,530.10 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 39° 29' 24.986 N
			<b>Longitude:</b> 107° 52' 20.629 W
			<b>Ground Level:</b> 5,297.0 usft

<b>Wellbore</b>	Wellbore #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
	IGRF2005-10	3/7/2008	(°)
			10.70
			<b>Dip Angle</b>
			(°)
			65.85
			<b>Field Strength</b>
			(nT)
			52,621

<b>Design</b>	Plan #2 20Apr10 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>
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			<b>Direction</b>
			(°)
			123.87

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	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.00	
520.0	12.00	123.87	517.1	-23.3	34.7	3.00	3.00	0.00	123.87	
1,892.9	12.00	123.87	1,860.0	-182.3	271.7	0.00	0.00	0.00	0.00	
2,371.8	26.36	123.87	2,311.1	-269.8	402.0	3.00	3.00	0.00	0.00	
4,003.2	26.36	123.87	3,772.8	-673.6	1,003.5	0.00	0.00	0.00	0.00	
5,321.4	0.00	0.00	5,045.0	-839.7	1,250.9	2.00	-2.00	0.00	180.00	Top Gas (25' Radius)
7,871.4	0.00	0.00	7,595.0	-839.7	1,250.9	0.00	0.00	0.00	0.00	

**Williams**  
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RMV 80-34 - Slot B10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
Project:	RU 27-06S-094W	MD Reference:	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
Site:	RMV 28-27 Pad	North Reference:	True
Well:	RMV 80-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 20Apr10 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	1,612,203.10	2,330,530.10	39° 29' 24.986 N	107° 52' 20.629 W
120.0	0.00	0.00	120.0	0.0	0.0	1,612,203.10	2,330,530.10	39° 29' 24.986 N	107° 52' 20.629 W
<b>Start Build 3.00</b>									
520.0	12.00	123.87	517.1	-23.3	34.7	1,612,178.94	2,330,564.13	39° 29' 24.756 N	107° 52' 20.187 W
<b>Hold 12.00 Inclination</b>									
1,115.9	12.00	123.87	1,100.0	-92.3	137.5	1,612,107.23	2,330,665.17	39° 29' 24.074 N	107° 52' 18.875 W
<b>9 5/8"</b>									
1,381.7	12.00	123.87	1,360.0	-123.1	183.4	1,612,075.24	2,330,710.23	39° 29' 23.770 N	107° 52' 18.289 W
<b>Top of "G" Sand</b>									
1,484.0	12.00	123.87	1,460.0	-135.0	201.1	1,612,062.94	2,330,727.57	39° 29' 23.652 N	107° 52' 18.064 W
<b>Base of "G" Sand</b>									
1,892.9	12.00	123.87	1,860.0	-182.3	271.7	1,612,013.73	2,330,796.90	39° 29' 23.184 N	107° 52' 17.164 W
<b>Start Build 3.00</b>									
2,371.8	26.36	123.87	2,311.1	-269.8	402.0	1,611,922.90	2,330,924.85	39° 29' 22.320 N	107° 52' 15.502 W
<b>Hold 26.36 Inclination</b>									
4,003.2	26.36	123.87	3,772.8	-673.6	1,003.5	1,611,503.57	2,331,515.62	39° 29' 18.329 N	107° 52' 7.830 W
<b>Start Drop 2.00</b>									
4,033.5	25.76	123.87	3,800.0	-681.0	1,014.5	1,611,495.87	2,331,526.47	39° 29' 18.256 N	107° 52' 7.689 W
<b>Mesaverde</b>									
5,321.4	0.00	0.00	5,045.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>Top Gas - Approx. Top Gas</b>									
6,786.4	0.00	0.00	6,510.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>Cameo Coals</b>									
7,546.4	0.00	0.00	7,270.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>Coal D</b>									
7,641.4	0.00	0.00	7,365.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>Lower Cameo Pay</b>									
7,721.4	0.00	0.00	7,445.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>Rollins SS</b>									
7,871.4	0.00	0.00	7,595.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
<b>TD</b>									

**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) Rt	0.00	0.00	5,045.0	-839.7	1,250.9	1,611,331.10	2,331,758.60	39° 29' 16.687 N	107° 52' 4.674 W
- plan hits target center									
- Circle (radius 25.0)									

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,115.9	1,100.0	9 5/8"	9-5/8	12-1/4

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well RMV 80-34 - Slot B10
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
<b>Project:</b>	RU 27-06S-094W	<b>MD Reference:</b>	KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)
<b>Site:</b>	RMV 28-27 Pad	<b>North Reference:</b>	True
<b>Well:</b>	RMV 80-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 20Apr10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Direction	
1,381.7	1,360.0	Top of "G" Sand				
1,484.0	1,460.0	Base of "G" Sand				
4,033.5	3,800.0	Mesaverde				
5,321.4	5,045.0	Approx. Top Gas				
6,786.4	6,510.0	Cameo Coals				
7,546.4	7,270.0	Coal D				
7,641.4	7,365.0	Lower Cameo Pay				
7,721.4	7,445.0	Rollins SS				
7,871.4	7,595.0	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 3.00	
520.0	517.1	-23.3	34.7	Hold 12.00 Inclination	
1,892.9	1,860.0	-182.3	271.7	Start Build 3.00	
2,371.8	2,311.1	-269.8	402.0	Hold 26.36 Inclination	
4,003.2	3,772.8	-673.6	1,003.5	Start Drop -2.00	
5,321.4	5,045.0	-839.7	1,250.9	Top Gas	
7,871.4	7,595.0	-839.7	1,250.9	TD at 7871.4	