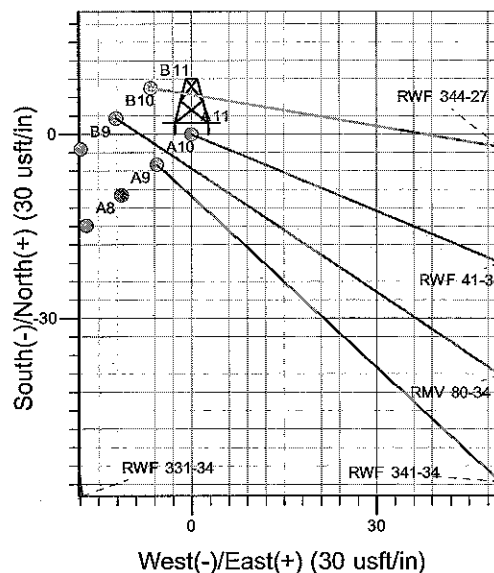
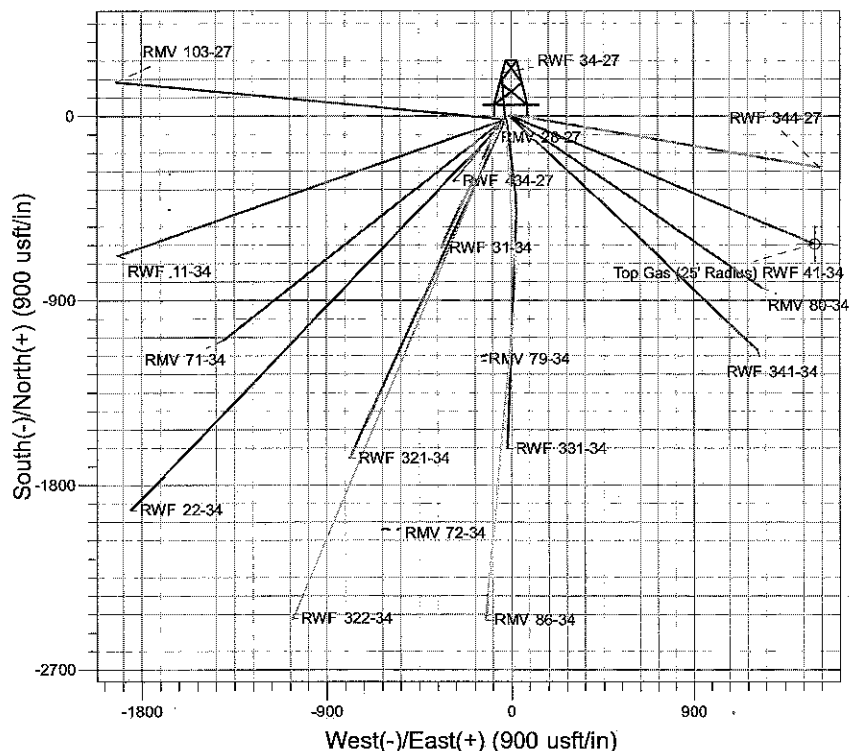
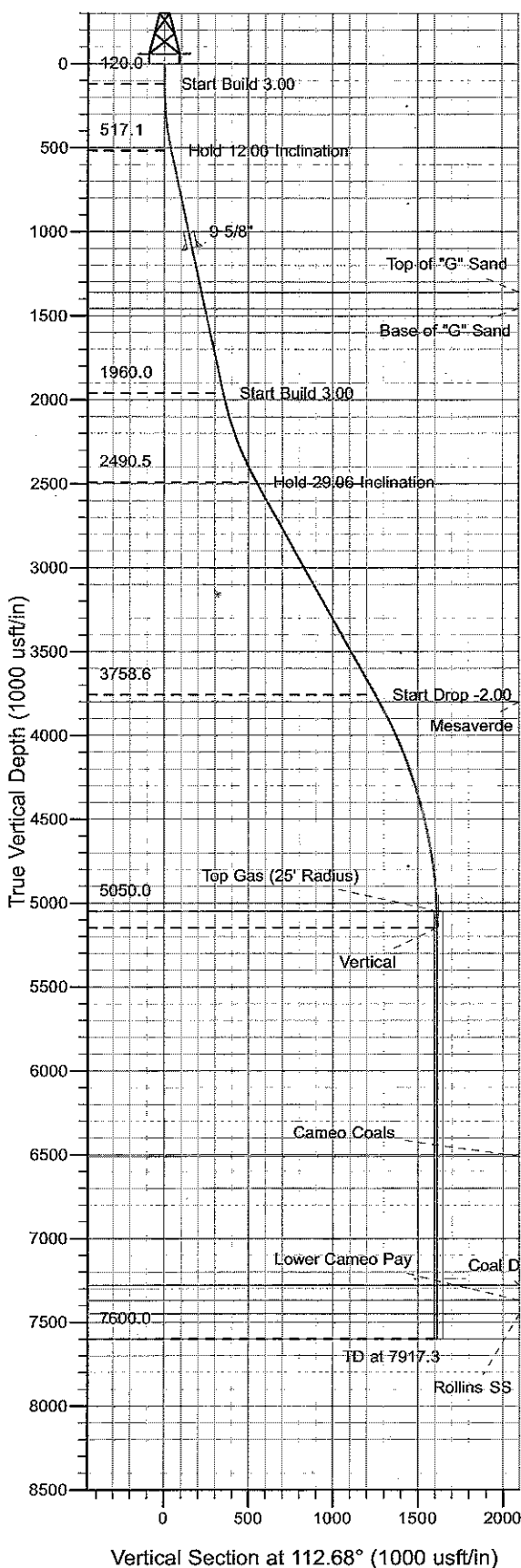




Well Name: RWF 41-34  
 Surface Location: RMV 28-27 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5297.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1612200.20	2330542.20	39° 29' 24.961 N	107° 52' 20.474 W	A11

KELLY BUSHING @ 5321.0usft (H&P (24' RKB) kjs)



Project: RU 27-06S-094W  
 Site: RMV 28-27 Pad  
 Well: RWF 41-34  
 Plan #2 20Apr10 kjs

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

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	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	112.66	-16.1	38.5	41.7	41.7	Hold 12.00 Inclination
1960.0	1995.2	12.00	112.66	-134.2	321.5	348.4	348.4	Start Build 3.00
2490.5	2563.7	29.06	112.68	-210.8	504.8	547.1	547.1	Hold 29.06 Inclination
3758.6	4014.4	29.06	112.68	-482.5	1154.9	1251.7	1251.7	Start Drop -2.00
5050.0	5367.3	2.00	112.68	-620.9	1486.0	1610.5	1610.5	Top Gas
5150.0	5467.3	0.00	0.00	-621.6	1487.6	1612.2	1612.2	Vertical
7600.0	7917.3	0.00	0.00	-621.6	1487.6	1612.2	1612.2	TD at 7917.3

# **PICEANCE VLY NAD 83**

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

**RMV 28-27 Pad**

**RWF 41-34 - Slot A11**

**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 RWF 41-34 - Slot A11
<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>	RWF 41-34	<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>	RWF 41-34 - Slot A11		
<b>Well Position</b>	+N/-S	0.0 usft	<b>Northing:</b> 1,612,200.20 usft
	+E/-W	0.0 usft	<b>Easting:</b> 2,330,542.20 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 39° 29' 24.961 N
			<b>Longitude:</b> 107° 52' 20.474 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>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2005-10	3/7/2008	10.70	65.85	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) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	112.68

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	112.66	517.1	-16.1	38.5	3.00	3.00	0.00	112.66	
1,995.2	12.00	112.66	1,960.0	-134.2	321.5	0.00	0.00	0.00	0.00	
2,563.7	29.06	112.68	2,490.5	-210.8	504.8	3.00	3.00	0.00	0.00	
4,014.4	29.06	112.68	3,758.6	-482.5	1,154.9	0.00	0.00	0.00	0.00	
5,367.3	2.00	112.68	5,050.0	-620.9	1,486.0	2.00	-2.00	0.00	180.00	Top Gas (25' Radius)
5,467.3	0.00	0.00	5,150.0	-621.6	1,487.6	2.00	-2.00	0.00	180.00	
7,917.3	0.00	0.00	7,600.0	-621.6	1,487.6	0.00	0.00	0.00	0.00	

# Williams

## Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 41-34 - Slot A11
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:	RWF 41-34	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	1,612,200.20	2,330,542.20	39° 29' 24.961 N	107° 52' 20.474 W
120.0	0.00	0.00	120.0	0.0	0.0	1,612,200.20	2,330,542.20	39° 29' 24.961 N	107° 52' 20.474 W
Start Build 3.00									
520.0	12.00	112.66	517.1	-16.1	38.5	1,612,183.12	2,330,580.28	39° 29' 24.802 N	107° 52' 19.982 W
Hold 12.00 Inclination									
1,115.9	12.00	112.66	1,100.0	-63.8	152.9	1,612,132.42	2,330,693.33	39° 29' 24.330 N	107° 52' 18.524 W
9 5/8"									
1,381.7	12.00	112.66	1,360.0	-85.1	203.9	1,612,109.80	2,330,743.75	39° 29' 24.120 N	107° 52' 17.874 W
Top of "G" Sand									
1,484.0	12.00	112.66	1,460.0	-93.3	223.5	1,612,101.10	2,330,763.15	39° 29' 24.039 N	107° 52' 17.623 W
Base of "G" Sand									
1,995.2	12.00	112.66	1,960.0	-134.2	321.5	1,612,057.61	2,330,860.11	39° 29' 23.634 N	107° 52' 16.372 W
Start Build 3.00									
2,563.7	29.06	112.68	2,490.5	-210.8	504.8	1,611,976.26	2,331,041.32	39° 29' 22.877 N	107° 52' 14.035 W
Hold 29.06 Inclination									
4,014.4	29.06	112.68	3,758.6	-482.5	1,154.9	1,611,687.71	2,331,684.07	39° 29' 20.192 N	107° 52' 5.743 W
Start Drop -2.00									
4,061.6	28.11	112.68	3,800.0	-491.2	1,175.7	1,611,678.47	2,331,704.64	39° 29' 20.106 N	107° 52' 5.477 W
Mesaverde									
5,367.3	2.00	112.68	5,050.0	-620.9	1,486.0	1,611,540.76	2,332,011.40	39° 29' 18.824 N	107° 52' 1.520 W
Top Gas - Approx. Top Gas									
5,467.3	0.00	0.00	5,150.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
Vertical									
6,827.3	0.00	0.00	6,510.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
Cameo Coals									
7,597.3	0.00	0.00	7,280.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
Coal D									
7,687.3	0.00	0.00	7,370.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
Lower Cameo Pay									
7,767.3	0.00	0.00	7,450.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
Rollins SS									
7,917.3	0.00	0.00	7,600.0	-621.6	1,487.6	1,611,540.04	2,332,012.99	39° 29' 18.817 N	107° 52' 1.499 W
TD									

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) R1	0.00	0.00	5,050.0	-624.6	1,496.0	1,611,536.80	2,332,021.30	39° 29' 18.787 N	107° 52' 1.392 W
- plan misses target center by 10.7usft at 5367.5usft MD (5050.2 TVD, -620.9 N, 1486.0 E)									
- 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 RWF 41-34 - Slot A11
<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>	RWF 41-34	<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 (°)	Dip Direction (°)	
1,381.7	1,360.0	Top of "G" Sand				
1,484.0	1,460.0	Base of "G" Sand				
4,061.6	3,800.0	Mesaverde				
5,367.3	5,050.0	Approx. Top Gas				
6,827.3	6,510.0	Cameo Coals				
7,597.3	7,280.0	Coal D				
7,687.3	7,370.0	Lower Cameo Pay				
7,767.3	7,450.0	Rollins SS				
7,917.3	7,600.0	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	-16.1	38.5	Hold 12.00 Inclination	
1,995.2	1,960.0	-134.2	321.5	Start Build 3.00	
2,563.7	2,490.5	-210.8	504.8	Hold 29.06 Inclination	
4,014.4	3,758.6	-482.5	1,154.9	Start Drop -2.00	
5,367.3	5,050.0	-620.9	1,486.0	Top Gas	
5,467.3	5,150.0	-621.6	1,487.6	Vertical	
7,917.3	7,600.0	-621.6	1,487.6	TD at 7917.3	