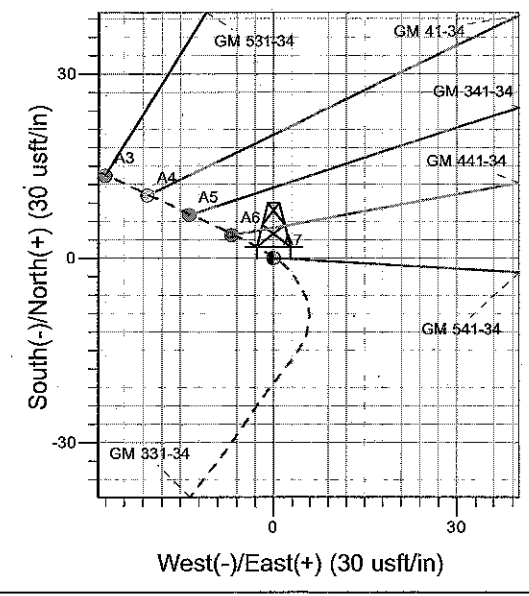
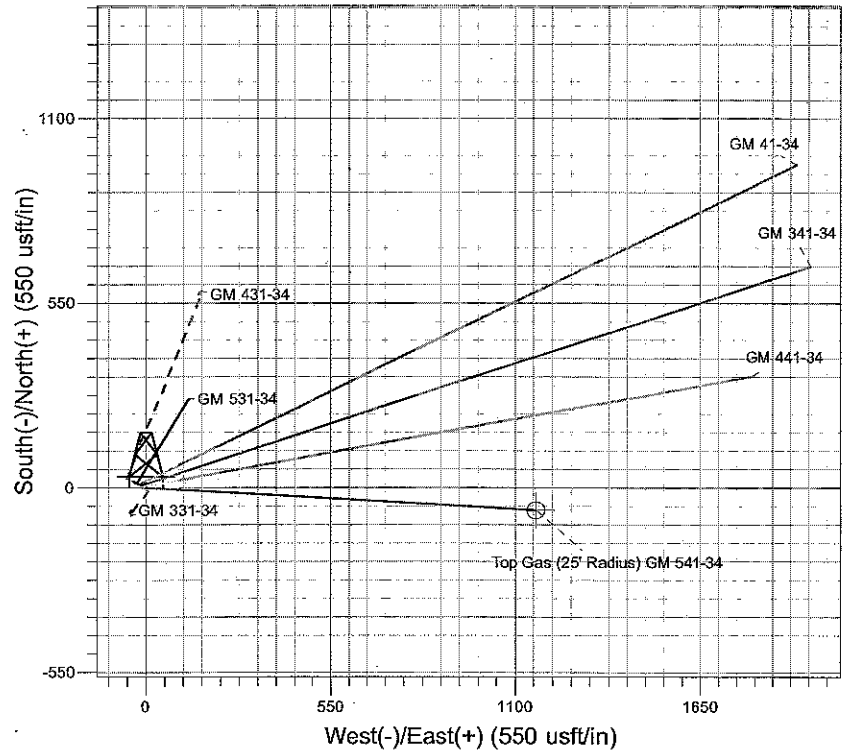
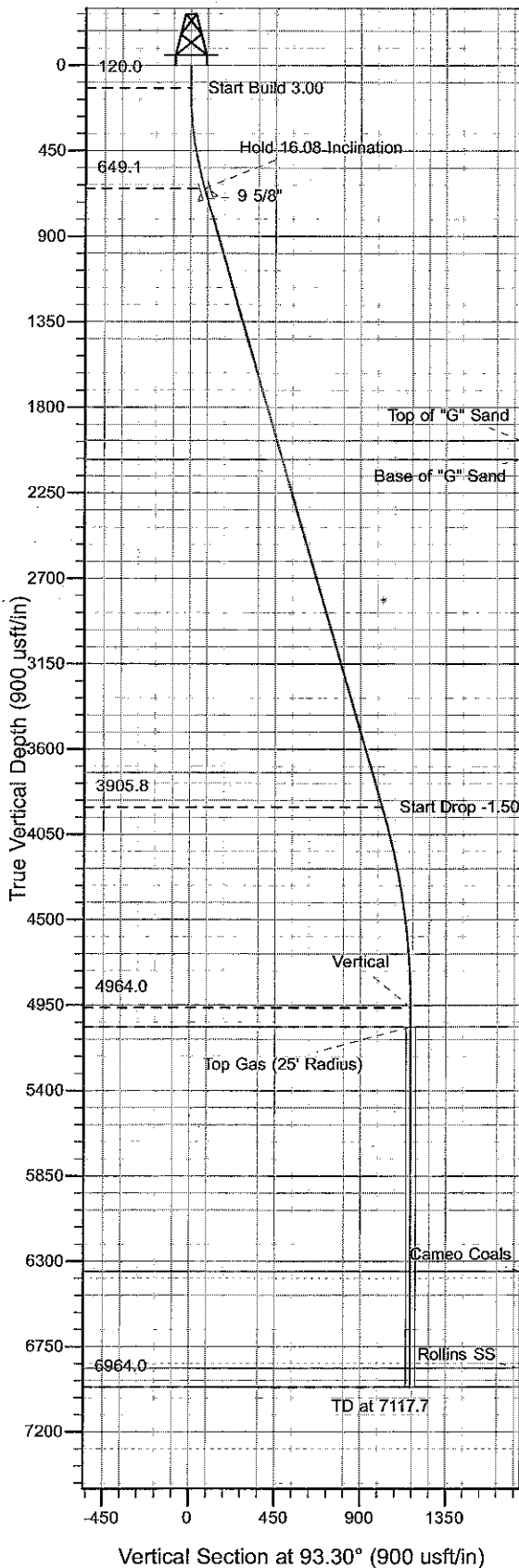




Well Name: GM 541-34  
 Surface Location: GM 331-34 Pad  
 North American Datum 1983, US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 5598.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1611949.30 2268260.00 39° 29' 5.662 N 108° 5' 34.522 W A7  
 KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)



Project: GV 34-06S-096W  
 Site: GM 331-34 Pad  
 Well: GM 541-34  
 Design #1 25Feb10 kjs

Azimuths to True North  
 Magnetic North: 10.56°  
 Magnetic Field  
 Strength: 52365.5snT  
 Dip Angle: 65.75°  
 Date: 2/25/2010  
 Model: IGRF2010

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 3.00
649.1	656.1	16.08	93.30	-4.3	74.6	74.7	74.7	Hold 16.08 Inclination
3905.8	4045.5	16.08	93.30	-58.3	1012.0	1013.7	1013.7	Start Drop -1.50
4964.0	5117.7	0.00	0.00	-66.9	1161.3	1163.2	1163.2	Vertical
5064.0	5217.7	0.00	0.00	-66.9	1161.3	1163.2	1163.2	Top Gas
6964.0	7117.7	0.00	0.00	-66.9	1161.3	1163.2	1163.2	TD at 7117.7

# **PICEANCE VLY NAD 83**

**GV 34-06S-096W**

**GM 331-34 Pad**

**GM 541-34 - Slot A7**

**Wellbore #1**

**Plan: Design #1 25Feb10 kjs**

## **Standard Planning Report - Geographic**

**25 June, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 541-34 - Slot A7
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Project:</b>	GV 34-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Site:</b>	GM 331-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 541-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 25Feb10 kjs		

<b>Project</b>	GV 34-06S-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>	GM 331-34 Pad				
<b>Site Position:</b>	<b>Northing:</b>	1,611,970.39 usft	<b>Latitude:</b>	39° 29' 5.859 N	
<b>From:</b> Map	<b>Easting:</b>	2,268,219.96 usft	<b>Longitude:</b>	108° 5' 35.040 W	
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	-1.635 °

<b>Well</b>	GM 541-34 - Slot A7				
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	1,611,949.30 usft	
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	2,268,260.00 usft	
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,598.0 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>
	IGRF2010	2/25/2010	10.562	65.747	52,366

<b>Design</b>	Design #1 25Feb10 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	93.30

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	
656.1	16.08	93.30	649.1	-4.3	74.6	3.00	3.00	0.00	93.296	
4,045.5	16.08	93.30	3,905.8	-58.3	1,012.0	0.00	0.00	0.00	0.000	
5,117.7	0.00	0.00	4,964.0	-66.9	1,161.3	1.50	-1.50	0.00	180.000	
5,217.7	0.00	0.00	5,064.0	-66.9	1,161.3	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
7,117.7	0.00	0.00	6,964.0	-66.9	1,161.3	0.00	0.00	0.00	0.000	

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 541-34 - S1of A7
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Project:</b>	GV 34-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Site:</b>	GM 331-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 541-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 25Feb10 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	1,611,949.30	2,268,260.00	39° 29' 5.662 N	108° 5' 34.522 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,611,949.30	2,268,260.00	39° 29' 5.662 N	108° 5' 34.522 W	
<b>Start Build 3.00</b>										
656.1	16.08	93.30	649.1	-4.3	74.6	1,611,942.87	2,268,334.47	39° 29' 5.619 N	108° 5' 33.570 W	
<b>Hold 16.08 Inclination</b>										
712.0	16.08	93.30	702.8	-5.2	90.1	1,611,941.54	2,268,349.90	39° 29' 5.610 N	108° 5' 33.373 W	
<b>9 5/8"</b>										
2,035.0	16.08	93.30	1,974.0	-26.3	456.0	1,611,910.03	2,268,715.05	39° 29' 5.402 N	108° 5' 28.706 W	
<b>Top of "G" Sand</b>										
2,139.1	16.08	93.30	2,074.0	-27.9	484.8	1,611,907.55	2,268,743.77	39° 29' 5.386 N	108° 5' 28.339 W	
<b>Base of "G" Sand</b>										
3,856.3	16.08	93.30	3,724.0	-55.3	959.7	1,611,866.66	2,269,217.73	39° 29' 5.115 N	108° 5' 22.281 W	
<b>Mesaverde</b>										
4,045.5	16.08	93.30	3,905.8	-58.3	1,012.0	1,611,862.15	2,269,269.96	39° 29' 5.085 N	108° 5' 21.614 W	
<b>Start Drop -1.50</b>										
5,117.7	0.00	0.00	4,964.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	
<b>Vertical</b>										
5,217.7	0.00	0.00	5,064.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	
<b>Top Gas - Approx. Top Gas</b>										
6,507.7	0.00	0.00	6,354.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	
<b>Cameo Coals</b>										
7,017.7	0.00	0.00	6,864.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	
<b>Rollins SS</b>										
7,117.7	0.00	0.00	6,964.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	
<b>TD at 7117.7 - TD</b>										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Top Gas (25' Radius) GI - hit/miss target - Shape - plan hits target center - Circle (radius 25.0)	0.00	0.00	5,064.0	-66.9	1,161.3	1,611,849.30	2,269,418.90	39° 29' 5.000 N	108° 5' 19.710 W	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (in)	Hole Diameter (in)	
712.0	702.8	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 541-34 - Slot A7
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Project:</b>	GV 34-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5622.0usft (H&P (24' RKB) kjs)
<b>Site:</b>	GM 331-34 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 541-34	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 25Feb10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,035.0	1,974.0	Top of "G" Sand				
2,139.1	2,074.0	Base of "G" Sand				
3,856.3	3,724.0	Mesaverde				
5,217.7	5,064.0	Approx. Top Gas				
6,507.7	6,354.0	Cameo Coals				
7,017.7	6,864.0	Rollins SS				
7,117.7	6,964.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
120.0	120.0	0.0	0.0	Start Build 3.00	
656.1	649.1	-4.3	74.6	Hold 16.08 Inclination	
4,045.5	3,905.8	-58.3	1,012.0	Start Drop -1.50	
5,117.7	4,964.0	-66.9	1,161.3	Vertical	
5,217.7	5,064.0	-66.9	1,161.3	Top Gas	
7,117.7	6,964.0	-66.9	1,161.3	TD at 7117.7	