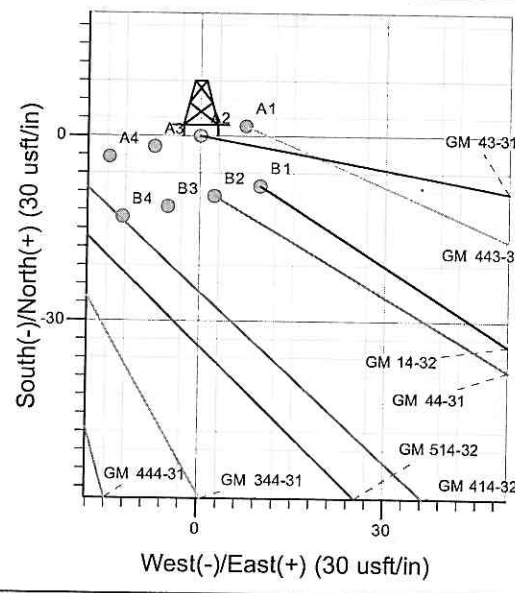
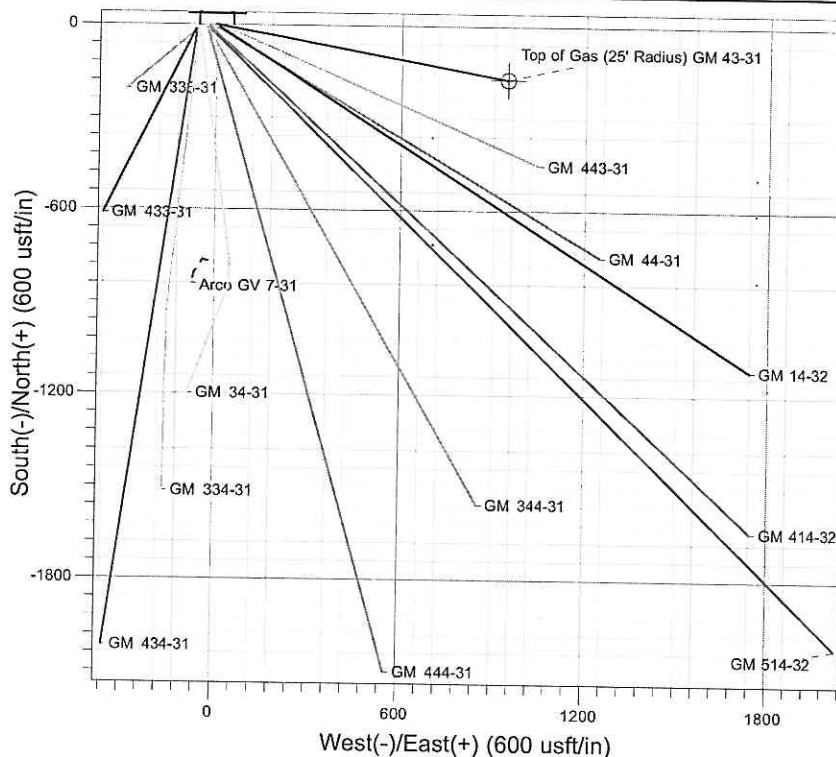
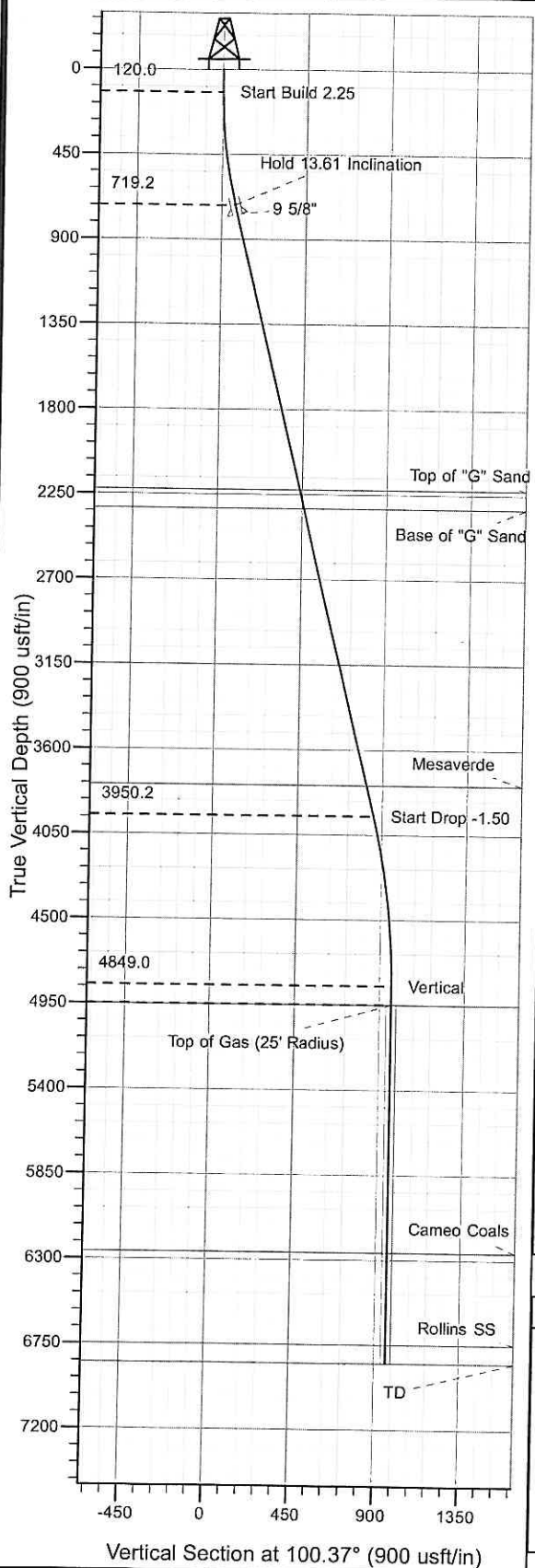




Well Name: GM 43-31  
 Surface Location: GM 333-31 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 6100.0  
 +N/-S 0.0 +E/-W 0.0 Northing 1610365.70 Easting 2252826.80 Latitude 39° 28' 45.618 N Longitude 108° 8' 50.698 W Slot A2  
 KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)



Project: GV 31-06S-096W  
 Site: GM 333-31 Pad  
 Well: GM 43-31  
 Plan #2 14Jul09 kjs

M Azimuths to True North  
 Magnetic North: 10.93°  
 Magnetic Field  
 Strength: 52652.9snT  
 Dip Angle: 65.81°  
 Date: 5/7/2007  
 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 2.25
719.2	724.9	13.61	100.37	-12.9	70.3	71.5	71.5	Hold 13.61 Inclination
3950.2	4049.2	13.61	100.37	-153.7	839.8	853.7	853.7	Start Drop -1.50
4849.0	4956.5	0.00	0.00	-173.0	945.3	961.0	961.0	Vertical
4949.0	5056.5	0.00	0.00	-173.0	945.3	961.0	961.0	Top Gas
6849.0	6956.5	0.00	0.00	-173.0	945.3	961.0	961.0	TD at 6956.5

# **PICEANCE VLY NAD 83**

**GV 31-06S-096W**

**GM 333-31 Pad**

**GM 43-31 - Slot A2**

**GM 43-31**

**Plan: Plan #2 14Jul09 kjs**

## **Standard Planning Report - Geographic**

**09 March, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 43-31 - Slot A2
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)
<b>Project:</b>	GV 31-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)
<b>Site:</b>	GM 333-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 43-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	GM 43-31		
<b>Design:</b>	Plan #2 14Jul09 kjs		

<b>Project</b>	GV 31-06S-096W, Garfield County, CO, 31-06S-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

<b>Site</b>	GM 333-31 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,610,367.10 usft
<b>From:</b>	Map	<b>Easting:</b>	2,252,834.10 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 28' 45.634 N
		<b>Longitude:</b>	108° 8' 50.606 W
		<b>Grid Convergence:</b>	-1.670 °

<b>Well</b>	GM 43-31 - Slot A2		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b> 1,610,365.70 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b> 2,252,826.80 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 39° 28' 45.618 N
			<b>Longitude:</b> 108° 8' 50.698 W
			<b>Ground Level:</b> 6,100.0 usft

<b>Wellbore</b>	GM 43-31				
<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	5/7/2007	10.929	65.814	52,653

<b>Design</b>	Plan #2 14Jul09 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	100.37

<b>Plan Sections</b>										
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	
724.9	13.61	100.37	719.2	-12.9	70.3	2.25	2.25	0.00	100.373	
4,049.2	13.61	100.37	3,950.2	-153.7	839.8	0.00	0.00	0.00	0.000	
4,956.5	0.00	0.00	4,849.0	-173.0	945.3	1.50	-1.50	0.00	180.000	
5,056.5	0.00	0.00	4,949.0	-173.0	945.3	0.00	0.00	0.00	0.000	Top of Gas (25' Radii
6,956.5	0.00	0.00	6,849.0	-173.0	945.3	0.00	0.00	0.00	0.000	

**Williams**  
Planning Report - Geographic

**Database:** Compass R5000 WIN AUTH  
**Company:** PICEANCE VLY NAD 83  
  
**Project:** GV 31-06S-096W  
  
**Site:** GM 333-31 Pad  
**Well:** GM 43-31  
**Wellbore:** GM 43-31  
**Design:** Plan #2 14Jul09 kjs

**Local Co-ordinate Reference:** Well GM 43-31 - Slot A2  
**TVD Reference:** KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)  
**MD Reference:** KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature

**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	1,610,365.70	2,252,826.80	39° 28' 45.618 N	108° 8' 50.698 W
120.0	0.00	0.00	120.0	0.0	0.0	1,610,365.70	2,252,826.80	39° 28' 45.618 N	108° 8' 50.698 W
<b>Start Build 2.25</b>									
724.9	13.61	100.37	719.2	-12.9	70.3	1,610,350.78	2,252,896.73	39° 28' 45.490 N	108° 8' 49.801 W
<b>Hold 13.61 Inclination</b>									
775.0	13.61	100.37	767.9	-15.0	81.9	1,610,348.32	2,252,908.26	39° 28' 45.469 N	108° 8' 49.653 W
<b>9 5/8"</b>									
2,273.1	13.61	100.37	2,224.0	-78.5	428.7	1,610,274.77	2,253,253.01	39° 28' 44.842 N	108° 8' 45.231 W
<b>Top of "G" Sand</b>									
2,376.0	13.61	100.37	2,324.0	-82.8	452.5	1,610,269.72	2,253,276.69	39° 28' 44.799 N	108° 8' 44.927 W
<b>Base of "G" Sand</b>									
3,883.4	13.61	100.37	3,789.0	-146.7	801.4	1,610,195.72	2,253,623.55	39° 28' 44.168 N	108° 8' 40.478 W
<b>Mesaverde</b>									
4,049.2	13.61	100.37	3,950.2	-153.7	839.8	1,610,187.57	2,253,661.71	39° 28' 44.098 N	108° 8' 39.988 W
<b>Start Drop -1.50</b>									
4,956.5	0.00	0.00	4,849.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W
<b>Vertical</b>									
5,056.5	0.00	0.00	4,949.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W
<b>Top Gas - Approx. Top Gas</b>									
6,368.5	0.00	0.00	6,261.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W
<b>Cameo Coals</b>									
6,856.5	0.00	0.00	6,749.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W
<b>Rollins SS</b>									
6,956.5	0.00	0.00	6,849.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W
<b>TD at 6956.5</b>									

**Design Targets**

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Top of Gas (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	4,949.0	-173.0	945.3	1,610,165.20	2,253,766.60	39° 28' 43.907 N	108° 8' 38.643 W

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
775.0	767.9	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 43-31 - Slot A2
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)
<b>Project:</b>	GV 31-06S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 6124.0usft (H&P 280 (24') kjs)
<b>Site:</b>	GM 333-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 43-31	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	GM 43-31		
<b>Design:</b>	Plan #2 14Jul09 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,273.1	2,210.0	Top of "G" Sand				
2,376.0	2,310.0	Base of "G" Sand				
3,883.4	3,775.0	Mesaverde				
5,056.5	4,935.0	Approx. Top Gas				
6,368.5	6,247.0	Cameo Coals				
6,856.5	6,735.0	Rollins SS				
6,956.5	6,835.0	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 2.25	
724.9	719.2	-12.9	70.3	Hold 13.61 Inclination	
4,049.2	3,950.2	-153.7	839.8	Start Drop -1.50	
4,956.5	4,849.0	-173.0	945.3	Vertical	
5,056.5	4,949.0	-173.0	945.3	Top Gas	
6,956.5	6,849.0	-173.0	945.3	TD at 6956.5	