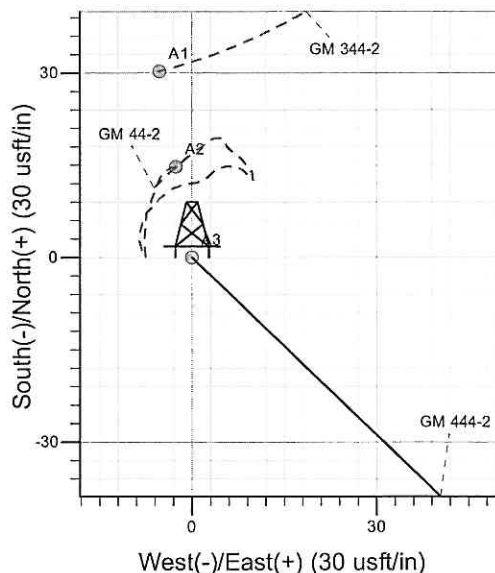
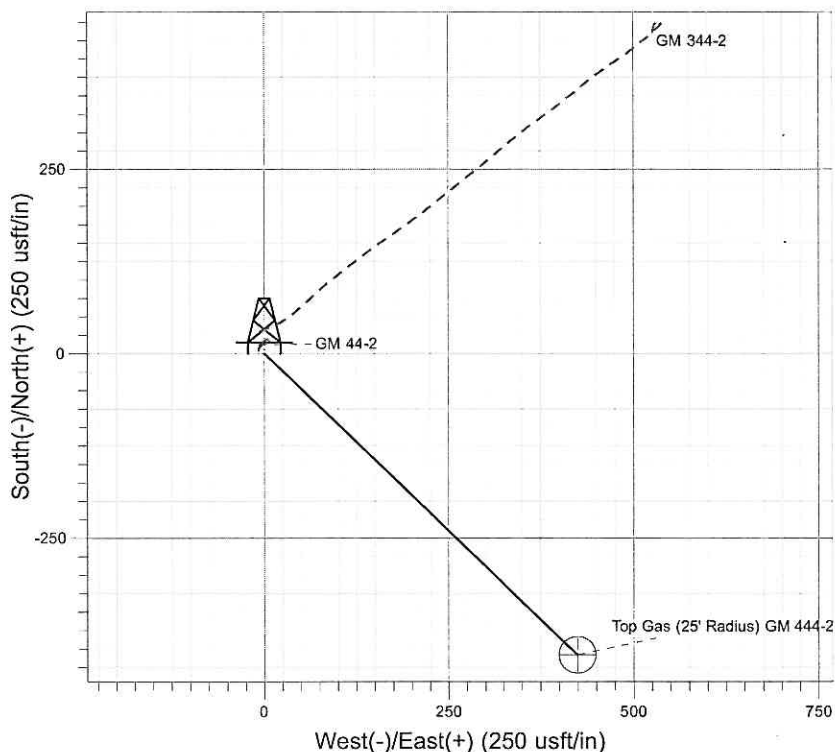
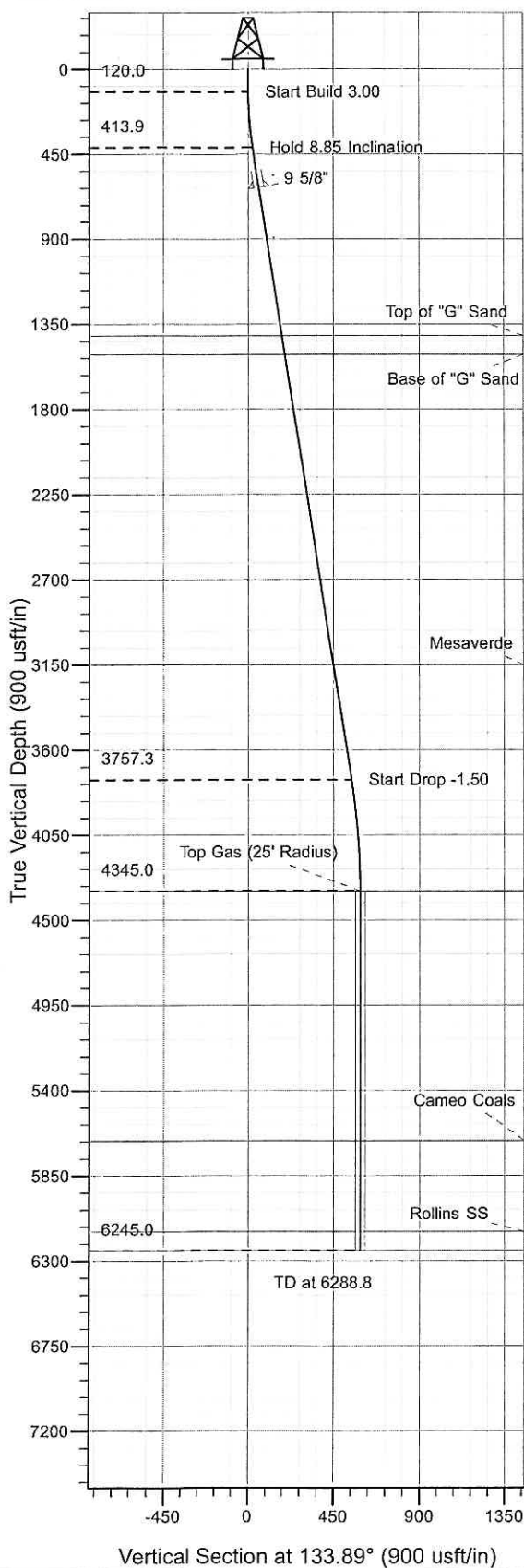
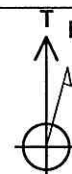




Well Name: GM 444-2  
 Surface Location: GM 44-2 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 5177.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1603110.70 2274233.20 39° 27' 40.017 N 108° 4' 15.175 W A3  
 KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)



Project: GV 02-07S-096W  
 Site: GM 44-2 Pad  
 Well: GM 444-2  
 Plan #1 17Jul09 kjs



M Azimuths to True North  
 Magnetic North: 10.61°  
 Magnetic Field  
 Strength: 52447.1snT  
 Dip Angle: 65.76°  
 Date: 7/17/2009  
 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
413.9	415.0	8.85	133.89	-15.8	16.4	22.7	22.7	Hold 8.85 Inclination
3757.3	3798.8	8.85	133.89	-376.7	391.6	543.4	543.4	Start Drop -1.50
4345.0	4388.8	0.00	0.00	-408.3	424.3	588.9	588.9	Top Gas
6245.0	6288.8	0.00	0.00	-408.3	424.3	588.9	588.9	TD at 6288.8

# **PICEANCE VLY NAD 83**

**GV 02-07S-096W**

**GM 44-2 Pad**

**GM 444-2 - Slot A3**

**Wellbore #1**

**Plan: Plan #1 17Jul09 kjs**

## **Standard Planning Report - Geographic**

**29 January, 2010**

# Williams

## Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well GM 444-2 - Slot A3
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Project:</b>	GV 02-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Site:</b>	GM 44-2 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 444-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 17Jul09 kjs		

<b>Project</b>	GV 02-07S-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

Site	GM 44-2 Pad					
Site Position:		Northing:	1,603,125.50 usft	Latitude:	39° 27' 40.162 N	
From:	Map	Easting:	2,274,231.00 usft	Longitude:	108° 4' 15.209 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.621 °

Well	GM 444-2 - Slot A3					
Well Position	+N/-S	0.0 usft	Northing:	1,603,110.70 usft	Latitude:	39° 27' 40.017 N
	+E/-W	0.0 usft	Easting:	2,274,233.20 usft	Longitude:	108° 4' 15.175 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	5,177.0 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	7/17/2009	10.607	65.758	52,447

<b>Design</b>	Plan #1 17Jul09 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>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	133.89	

<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	
415.0	8.85	133.89	413.9	-15.8	16.4	3.00	3.00	0.00	133.895	
3,798.7	8.85	133.89	3,757.3	-376.7	391.6	0.00	0.00	0.00	0.000	
4,388.8	0.00	0.00	4,345.0	-408.3	424.3	1.50	-1.50	0.00	180.000	Top Gas (25' Radius)
6,288.8	0.00	0.00	6,245.0	-408.3	424.3	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 444-2 - Slot A3
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Project:</b>	GV 02-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Site:</b>	GM 44-2 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 444-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 17Jul09 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	1,603,110.70	2,274,233.20	39° 27' 40.017 N	108° 4' 15.175 W
120.0	0.00	0.00	120.0	0.0	0.0	1,603,110.70	2,274,233.20	39° 27' 40.017 N	108° 4' 15.175 W
<b>Start Build 3.00</b>									
415.0	8.85	133.89	413.9	-15.8	16.4	1,603,094.47	2,274,249.14	39° 27' 39.861 N	108° 4' 14.966 W
<b>Hold 8.85 Inclination</b>									
629.0	8.85	133.89	625.3	-38.6	40.1	1,603,070.98	2,274,272.20	39° 27' 39.635 N	108° 4' 14.664 W
<b>9 5/8"</b>									
1,423.2	8.85	133.89	1,410.0	-123.3	128.2	1,602,983.81	2,274,357.82	39° 27' 38.798 N	108° 4' 13.541 W
<b>Top of "G" Sand</b>									
1,524.4	8.85	133.89	1,510.0	-134.1	139.4	1,602,972.70	2,274,368.73	39° 27' 38.691 N	108° 4' 13.398 W
<b>Base of "G" Sand</b>									
3,184.1	8.85	133.89	3,150.0	-311.2	323.4	1,602,790.51	2,274,547.67	39° 27' 36.941 N	108° 4' 11.052 W
<b>Mesaverde</b>									
3,798.7	8.85	133.89	3,757.3	-376.7	391.6	1,602,723.05	2,274,613.93	39° 27' 36.293 N	108° 4' 10.183 W
<b>Start Drop -1.50</b>									
4,388.8	0.00	0.00	4,345.0	-408.3	424.3	1,602,690.60	2,274,645.80	39° 27' 35.982 N	108° 4' 9.765 W
<b>Top Gas - Approx. Top Gas</b>									
5,708.8	0.00	0.00	5,665.0	-408.3	424.3	1,602,690.60	2,274,645.80	39° 27' 35.982 N	108° 4' 9.765 W
<b>Cameo Coals</b>									
6,188.8	0.00	0.00	6,145.0	-408.3	424.3	1,602,690.60	2,274,645.80	39° 27' 35.982 N	108° 4' 9.765 W
<b>Rollins SS</b>									
6,288.8	0.00	0.00	6,245.0	-408.3	424.3	1,602,690.60	2,274,645.80	39° 27' 35.982 N	108° 4' 9.765 W
<b>TD at 6288.8 - TD</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 Gas (25' Radius) GI - plan hits target center - Circle (radius 25.0)	0.00	0.00	4,345.0	-408.3	424.3	1,602,690.60	2,274,645.80	39° 27' 35.982 N	108° 4' 9.765 W

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
629.0	625.3	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 444-2 - Slot A3
<b>Company:</b>	PICEANCE VLY NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Project:</b>	GV 02-07S-096W	<b>MD Reference:</b>	KELLY BUSHING @ 5200.0usft (Cyclone 30 (23') kjs)
<b>Site:</b>	GM 44-2 Pad	<b>North Reference:</b>	True
<b>Well:</b>	GM 444-2	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 17Jul09 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,423.2	1,410.0	Top of "G" Sand				
1,524.4	1,510.0	Base of "G" Sand				
3,184.1	3,150.0	Mesaverde				
4,388.8	4,345.0	Approx. Top Gas				
5,708.8	5,665.0	Cameo Coals				
6,188.8	6,145.0	Rollins SS				
6,288.8	6,245.0	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	
415.0	413.9	-15.8	16.4	Hold 8.85 Inclination	
3,798.7	3,757.3	-376.7	391.6	Start Drop -1.50	
4,388.8	4,345.0	-408.3	424.3	Top Gas	
6,288.8	6,245.0	-408.3	424.3	TD at 6288.8	