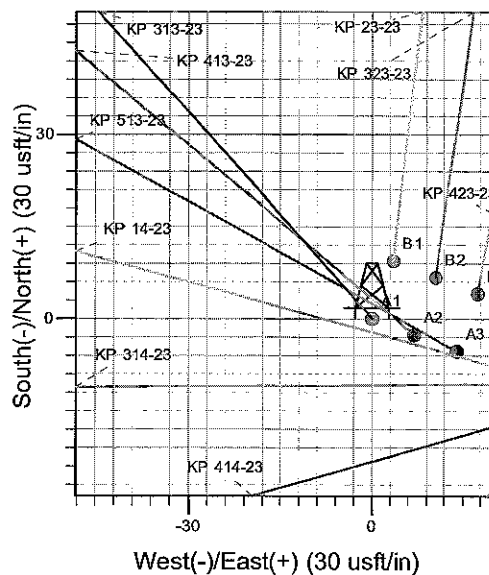
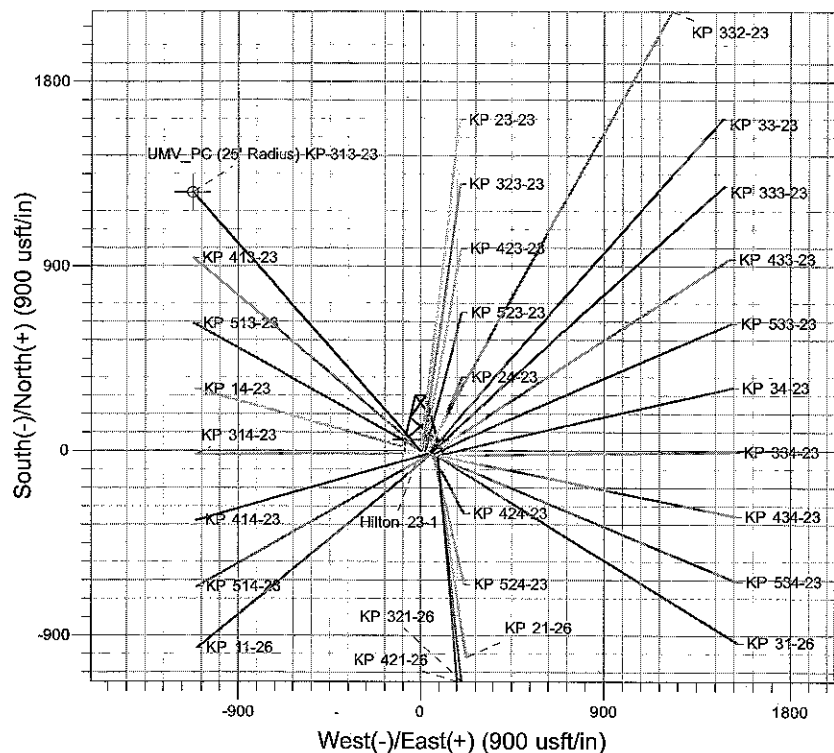
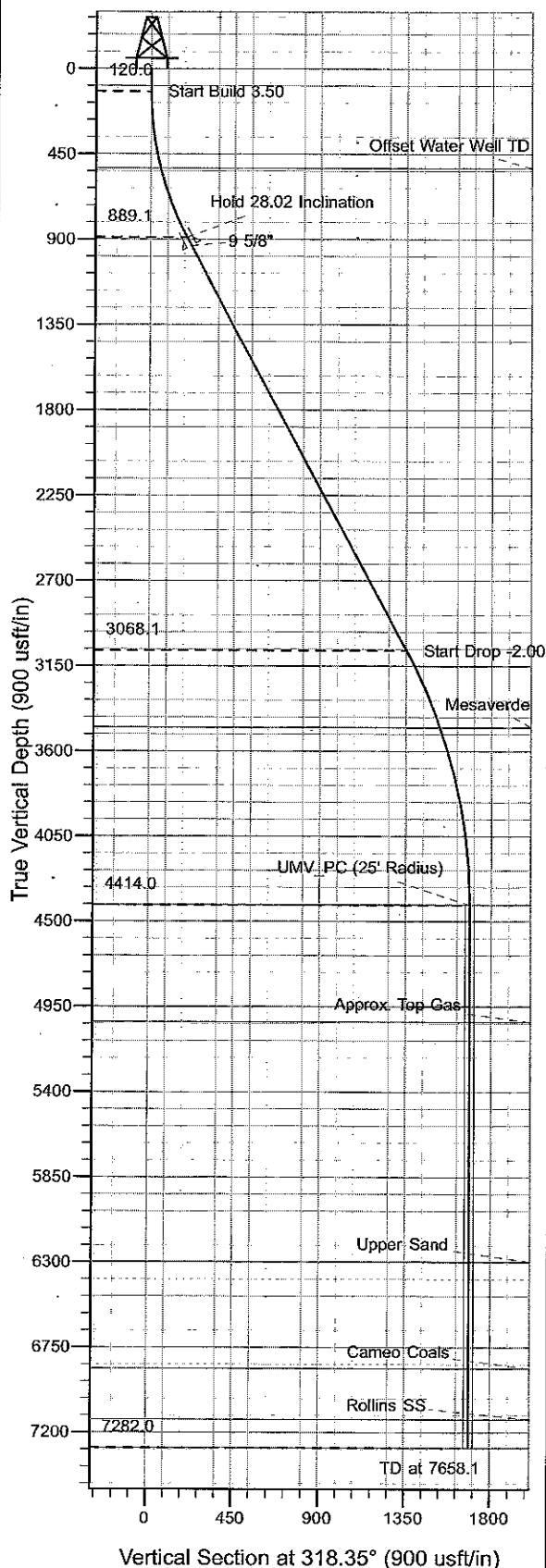




Well Name: KP 313-23  
 Surface Location: KP 24-23 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 6321.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1616670.17 2428790.50 39° 30' 32.625 N 107° 31' 28.812 W A1  
 KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)



Project: Sec. 23-T6S-R91W  
 Site: KP 24-23 Pad  
 Well: KP 313-23  
 Design #1 10Feb10 kjs

**M** Azimuths to True North  
 Magnetic North: 10.31°  
 Magnetic Field  
 Strength: 52452.1snT  
 Dip Angle: 65.87°  
 Date: 2/10/2010  
 Model: IGRF2010

#### 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 3.50
889.1	920.6	28.02	318.35	143.4	-127.5	191.9	191.9	Hold 28.02 Inclination
3068.1	3389.0	28.02	318.35	1009.9	-898.3	1351.6	1351.6	Start Drop -2.00
4414.0	4790.1	0.00	0.00	1260.8	-1121.5	1687.4	1687.4	UMV_PC
7282.0	7658.1	0.00	0.00	1260.8	-1121.5	1687.4	1687.4	TD at 7658.1

# **KOKOPELLI FIELD**

**Sec. 23-T6S-R91W**

**KP 24-23 Pad**

**KP 313-23 - Slot A1**

**Wellbore #1**

**Plan: Design #1 10Feb10 kjs**

## **Standard Planning Report - Geographic**

**29 March, 2010**

# Williams

## Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well KP 313-23 - Slot A1
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Project:</b>	Sec. 23-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Site:</b>	KP 24-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 313-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 10Feb10 kjs		

<b>Project</b>	Sec. 23-T6S-R91W, Garfield County, CO		
<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>	KP 24-23 Pad			
<b>Site Position:</b>		<b>Northing:</b>	1,616,658.70 usft	<b>Latitude:</b> 39° 30' 32.535 N
<b>From:</b>	Map	<b>Easting:</b>	2,428,899.10 usft	<b>Longitude:</b> 107° 31' 27.423 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> -1.277 °

<b>Well</b>	KP 313-23 - Slot A1			
<b>Well Position</b>	+N/-S	0.0 usft	<b>Northing:</b>	1,616,670.17 usft
	+E/-W	0.0 usft	<b>Easting:</b>	2,428,790.51 usft
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 6,321.0 usft

<b>Wellbore</b>	Wellbore #1			
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>
	IGRF2010	2/10/2010	10.314	65.875
				<b>Field Strength (nT)</b> 52,452

<b>Design</b>	Design #1 10Feb10 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 (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	318.35

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	
920.6	28.02	318.35	889.1	143.4	-127.5	3.50	3.50	0.00	318.348	
3,389.0	28.02	318.35	3,068.1	1,009.9	-898.3	0.00	0.00	0.00	0.000	
4,790.1	0.00	0.00	4,414.0	1,260.8	-1,121.5	2.00	-2.00	0.00	180.000	UMV_PC (25' Radius)
7,658.1	0.00	0.00	7,282.0	1,260.8	-1,121.5	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 KP 313-23 - Slot A1
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Project:</b>	Sec. 23-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Site:</b>	KP 24-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 313-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 10Feb10 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	1,616,670.17	2,428,790.51	39° 30' 32.625 N	107° 31' 28.812 W
120.0	0.00	0.00	120.0	0.0	0.0	1,616,670.17	2,428,790.51	39° 30' 32.625 N	107° 31' 28.812 W
Start Build 3.50									
529.2	14.32	318.35	525.0	38.0	-33.8	1,616,708.94	2,428,757.54	39° 30' 33.001 N	107° 31' 29.243 W
Offset Water Well TD									
920.6	28.02	318.35	889.1	143.4	-127.5	1,616,816.38	2,428,666.19	39° 30' 34.042 N	107° 31' 30.439 W
Hold 28.02 Inclination									
971.0	28.02	318.35	933.6	161.1	-143.3	1,616,834.40	2,428,650.86	39° 30' 34.217 N	107° 31' 30.640 W
9 5/8"									
3,389.0	28.02	318.35	3,068.1	1,009.9	-898.3	1,617,699.84	2,427,914.97	39° 30' 42.606 N	107° 31' 40.274 W
Start Drop -2.00									
3,832.4	19.15	318.35	3,474.0	1,142.3	-1,016.1	1,617,834.87	2,427,800.15	39° 30' 43.915 N	107° 31' 41.777 W
Mesaverde									
4,790.1	0.00	0.00	4,414.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
UMV_PC - UMW_PC									
5,408.1	0.00	0.00	5,032.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
Approx. Top Gas									
6,673.1	0.00	0.00	6,297.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
Upper Sand									
7,239.1	0.00	0.00	6,863.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
Cameo Coals									
7,508.1	0.00	0.00	7,132.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
Rollins SS									
7,658.1	0.00	0.00	7,282.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
TD at 7658.1 - TD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
UMV_PC (25' Radius) K	0.00	0.00	4,414.0	1,260.8	-1,121.5	1,617,955.70	2,427,697.40	39° 30' 45.086 N	107° 31' 43.122 W
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
971.0	933.6	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 KP 313-23 - Slot A1
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Project:</b>	Sec. 23-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
<b>Site:</b>	KP 24-23 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 313-23	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 10Feb10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")	
529.2	525.0	Offset Water Well TD				
3,832.4	3,474.0	Mesaverde				
4,790.1	4,414.0	UMV_PC				
5,408.1	5,032.0	Approx. Top Gas				
6,673.1	6,297.0	Upper Sand				
7,239.1	6,863.0	Cameo Coals				
7,508.1	7,132.0	Rollins SS				
7,658.1	7,282.0	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 3.50	
920.6	889.1	143.4	-127.5	Hold 28.02 Inclination	
3,389.0	3,068.1	1,009.9	-898.3	Start Drop -2.00	
4,790.1	4,414.0	1,260.8	-1,121.5	UMV_PC	
7,658.1	7,282.0	1,260.8	-1,121.5	TD at 7658.1	