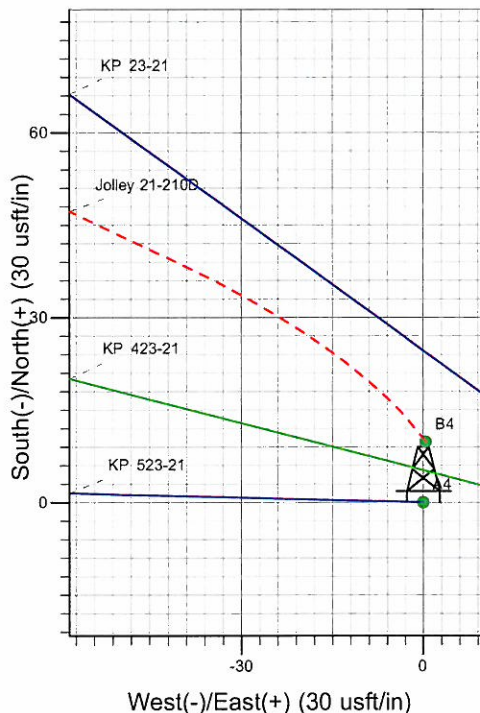
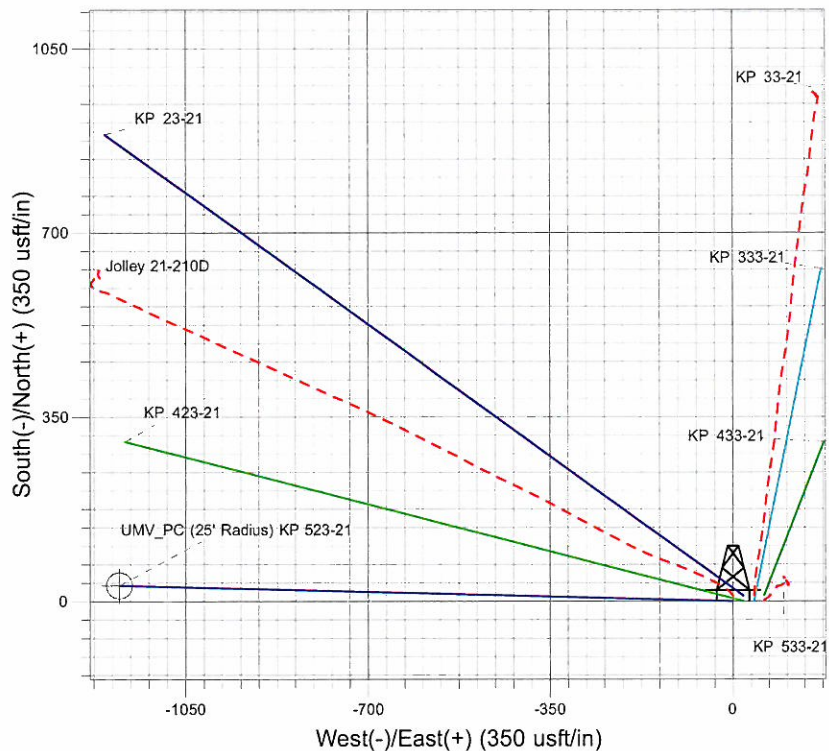
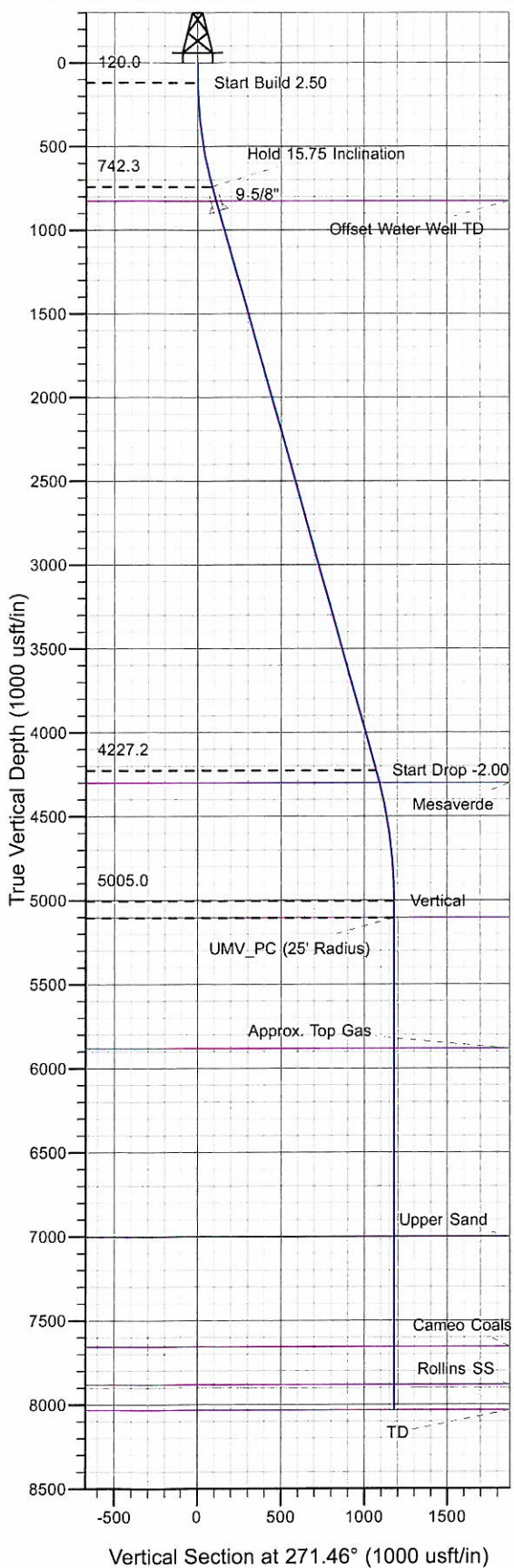




Well Name: KP 523-21  
 Surface Location: KP 33-21 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 6969.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1617397.20 2419553.70 39° 30' 37.758 N 107° 33' 26.847 W A4  
 KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)



Project: Sec. 21-T6S-R91W  
 Site: KP 33-21 Pad  
 Well: KP 523-21  
 Plan #2 06Oct10 kjs



Azimuths to True North  
 Magnetic North: 10.36°  
 Magnetic Field  
 Strength: 52511.6snT  
 Dip Angle: 65.89°  
 Date: 9/11/2009  
 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 2.50
742.3	750.2	15.75	271.46	2.2	-86.1	86.1	86.1	Hold 15.75 Inclination
4227.2	4371.1	15.75	271.46	27.3	-1068.9	1069.2	1069.2	Start Drop -2.00
5005.0	5158.8	0.00	0.00	30.1	-1176.5	1176.9	1176.9	Vertical
5105.0	5258.8	0.00	0.00	30.1	-1176.5	1176.9	1176.9	UMV_PC
8034.0	8187.8	0.00	0.00	30.1	-1176.5	1176.9	1176.9	TD at 8187.8

# **KOKOPELLI FIELD**

**Sec. 21-T6S-R91W**

**KP 33-21 Pad**

**KP 523-21 - Slot A4**

**Wellbore #1**

**Plan: Plan #2 06Oct10 kjs**

## **Standard Planning Report - Geographic**

**09 November, 2010**



**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well KP 523-21 - Slot A4
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Site:</b>	KP 33-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 523-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 06Oct10 kjs		

<b>Project</b>	Sec. 21-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		

Site		KP 33-21 Pad			
Site Position:		Northing:	1,617,407.00 usft	Latitude:	39° 30' 37.855 N
From:	Map	Easting:	2,419,554.30 usft	Longitude:	107° 33' 26.842 W
Position Uncertainty:	0.0 usft	Slot Radius:	0.000 in	Grid Convergence:	-1.298 °

Well	KP 523-21 - Slot A4					
Well Position	+N/-S	0.0 usft	Northing:	1,617,397.20 usft	Latitude:	39° 30' 37.758 N
	+E/-W	0.0 usft	Easting:	2,419,553.70 usft	Longitude:	107° 33' 26.847 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,969.0 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	9/11/2009	10.359	65.892	52,512

<b>Design</b>	Plan #2 06Oct10 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	271.46

<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	
750.2	15.75	271.46	742.3	2.2	-86.1	2.50	2.50	0.00	271.464	
4,371.1	15.75	271.46	4,227.2	27.3	-1,068.9	0.00	0.00	0.00	0.000	
5,158.8	0.00	0.00	5,005.0	30.1	-1,176.5	2.00	-2.00	0.00	180.000	
5,258.8	0.00	0.00	5,105.0	30.1	-1,176.5	0.00	0.00	0.00	0.000	UMV_PC (25' Radius)
8,187.8	0.00	0.00	8,034.0	30.1	-1,176.5	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 523-21 - Slot A4
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Site:</b>	KP 33-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 523-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 06Oct10 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	1,617,397.20	2,419,553.70	39° 30' 37.758 N	107° 33' 26.847 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,617,397.20	2,419,553.70	39° 30' 37.758 N	107° 33' 26.847 W	
Start Build 2.50										
750.2	15.75	271.46	742.3	2.2	-86.1	1,617,401.34	2,419,467.71	39° 30' 37.779 N	107° 33' 27.945 W	
Hold 15.75 Inclination										
838.2	15.75	271.46	827.0	2.8	-110.0	1,617,402.50	2,419,443.83	39° 30' 37.785 N	107° 33' 28.250 W	
Offset Water Well TD										
900.6	15.75	271.46	887.0	3.2	-126.9	1,617,403.31	2,419,426.93	39° 30' 37.790 N	107° 33' 28.466 W	
9 5/8"										
4,371.1	15.75	271.46	4,227.2	27.3	-1,068.9	1,617,448.71	2,418,485.70	39° 30' 38.027 N	107° 33' 40.485 W	
Start Drop -2.00										
4,447.5	14.23	271.46	4,301.0	27.8	-1,088.7	1,617,449.66	2,418,465.95	39° 30' 38.032 N	107° 33' 40.737 W	
Mesaverde										
5,158.8	0.00	0.00	5,005.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
Vertical										
5,258.8	0.00	0.00	5,105.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
UMV_PC - UMV_PC										
6,037.8	0.00	0.00	5,884.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
Approx. Top Gas										
7,158.8	0.00	0.00	7,005.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
Upper Sand										
7,811.8	0.00	0.00	7,658.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
Cameo Coals										
8,037.8	0.00	0.00	7,884.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
Rollins SS										
8,187.8	0.00	0.00	8,034.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N	107° 33' 41.858 W	
TD at 8187.8 - TD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hi/miss target										
- Shape										
UMV_PC (25' Radius) K	0.00	0.00	5,105.0	30.1	-1,176.5	1,617,453.90	2,418,378.20	39° 30' 38.054 N		107° 33' 41.858 W
- plan hits target center										
- Circle (radius 25.0)										

Casing Points						Casing Diameter (in)	Hole Diameter (in)
Measured Depth (usft)	Vertical Depth (usft)	Name					
900.6	887.0	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 523-21 - Slot A4
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6995.0usft (Nabors 574 (26' KB) kjs)
<b>Site:</b>	KP 33-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 523-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #2 06Oct10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
838.2	827.0	Offset Water Well TD				
4,447.5	4,301.0	Mesaverde				
5,258.8	5,105.0	UMV_PC				
6,037.8	5,884.0	Approx. Top Gas				
7,158.8	7,005.0	Upper Sand				
7,811.8	7,658.0	Cameo Coals				
8,037.8	7,884.0	Rollins SS				
8,187.8	8,034.0	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 2.50	
750.2	742.3	2.2	-86.1	Hold 15.75 Inclination	
4,371.1	4,227.2	27.3	-1,068.9	Start Drop -2.00	
5,158.8	5,005.0	30.1	-1,176.5	Vertical	
5,258.8	5,105.0	30.1	-1,176.5	UMV_PC	
8,187.8	8,034.0	30.1	-1,176.5	TD at 8187.8	