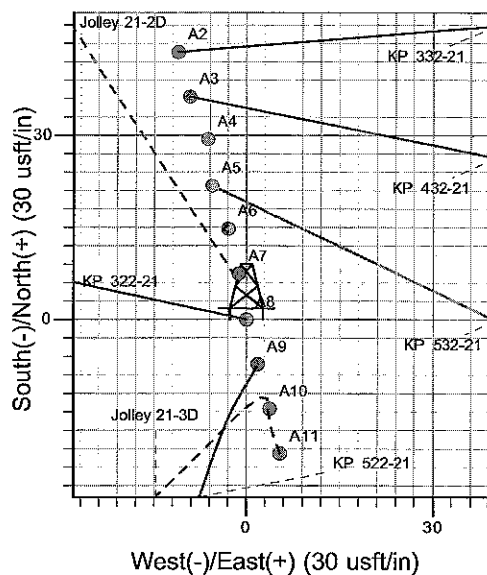
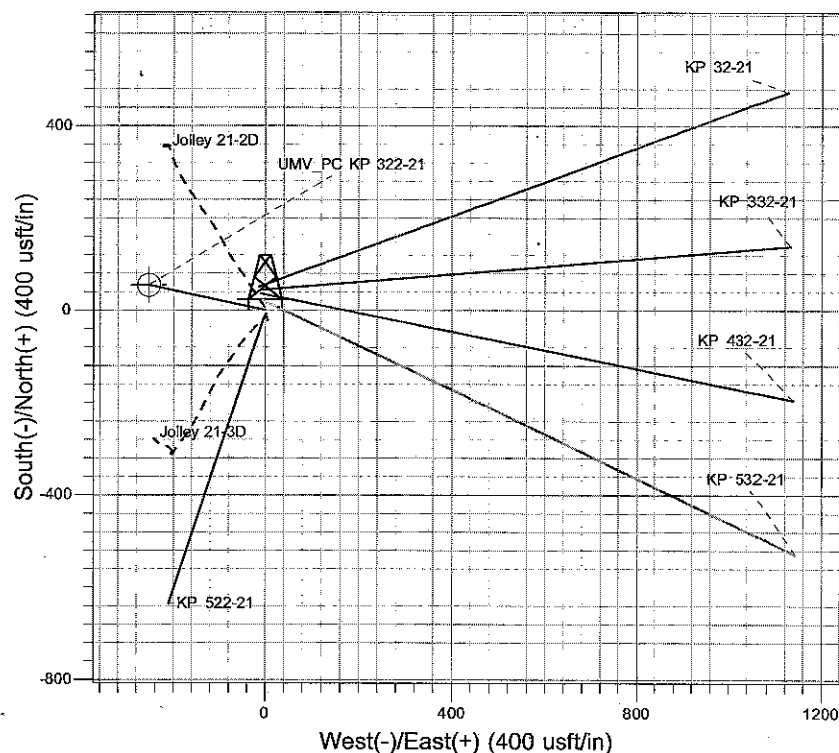
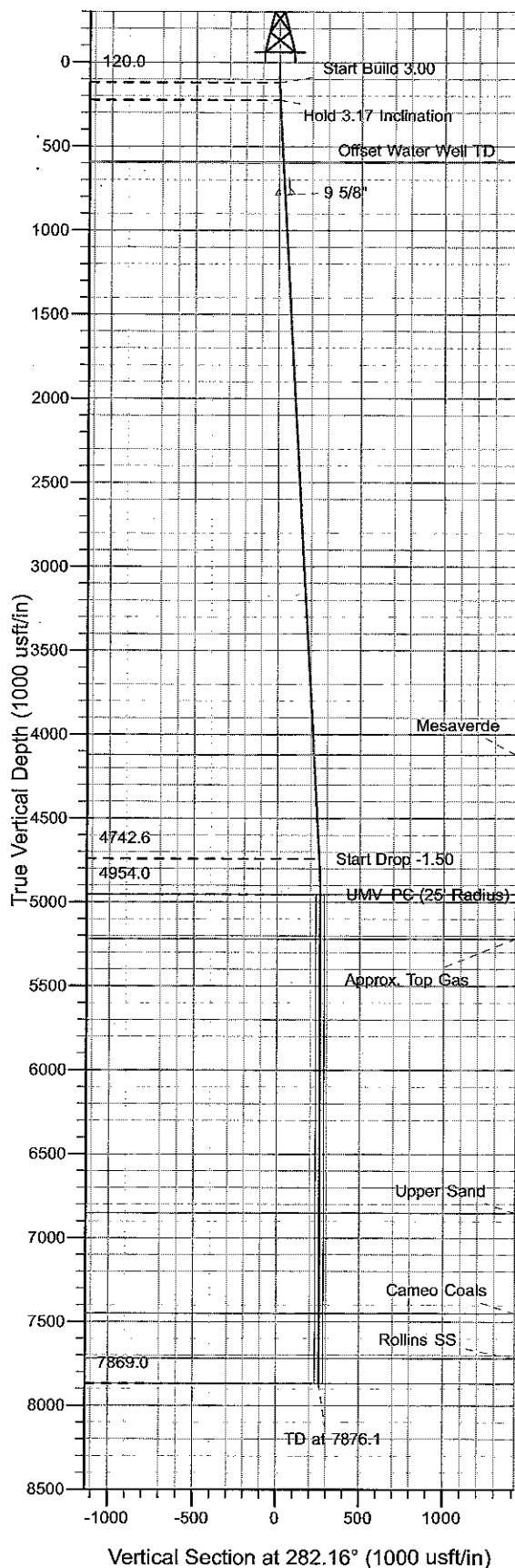




Well Name: KP 322-21  
 Surface Location: KP 22-21 Pad  
 North American Datum 1983, US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 6889.0  
 +N/-S 0.0 +E/-W 0.0 Northing 1619232.20 Easting 2418613.00 Latitude 39° 30' 55.679 N Longitude 107° 33' 39.377 W  
 Slot A8  
 KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)



Project: Sec. 21-T6S-R91W  
 Site: KP 22-21 Pad  
 Well: KP 322-21  
 Design #1 15Mar10 kjs



Azimuths to True North  
 Magnetic North: 10.32°  
 Magnetic Field  
 Strength: 52437.1snT  
 Dip Angle: 65.87°  
 Date: 3/15/2010  
 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
225.7	225.7	3.17	282.16	0.6	-2.9	2.9	2.9	Hold 3.17 Inclination
4742.6	4749.6	3.17	282.16	53.3	-247.6	253.3	253.3	Start Drop -1.50
4954.0	4961.1	0.00	0.00	54.6	-253.3	259.1	259.1	UMV_PC
7869.0	7876.1	0.00	0.00	54.6	-253.3	259.1	259.1	TD at 7876.1

# **KOKOPELLI FIELD**

**Sec. 21-T6S-R91W**

**KP 22-21 Pad**

**KP 322-21 - Slot A8**

**Wellbore #1**

**Plan: Design #1 15Mar10 kjs**

## **Standard Planning Report - Geographic**

**03 May, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well KP 322-21 - Slot A8
<b>Company:</b>	KOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Site:</b>	KP 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 322-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 15Mar10 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		

<b>Site</b>	KP 22-21 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,619,210.30 usft
<b>From:</b>	Map	<b>Easting:</b>	2,418,618.00 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 30' 55.463 N
		<b>Longitude:</b>	107° 33' 39.307 W
		<b>Grid Convergence:</b>	-1.300 °

<b>Well</b>	KP 322-21 - Slot A8		
<b>Well Position</b>	+N/-S	0.0 usft	<b>Northing:</b> 1,619,232.20 usft
	+E/-W	0.0 usft	<b>Easting:</b> 2,418,613.00 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 39° 30' 55.679 N
			<b>Longitude:</b> 107° 33' 39.377 W
			<b>Ground Level:</b> 6,889.0 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	3/15/2010	10.319	65.871	52,437

<b>Design</b>	Design #1 15Mar10 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	282.16

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	
225.7	3.17	282.16	225.7	0.6	-2.9	3.00	3.00	0.00	282.157	
4,749.6	3.17	282.16	4,742.6	53.3	-247.6	0.00	0.00	0.00	0.000	
4,961.1	0.00	0.00	4,954.0	54.6	-253.3	1.50	-1.50	0.00	180.000	UMV_PC (25' Radius)
7,876.1	0.00	0.00	7,869.0	54.6	-253.3	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 KP 322-21 - Slot A8
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Site:</b>	KP 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 322-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 15Mar10 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	1,619,232.20	2,418,613.00	39° 30' 55.679 N	107° 33' 39.377 W
120.0	0.00	0.00	120.0	0.0	0.0	1,619,232.20	2,418,613.00	39° 30' 55.679 N	107° 33' 39.377 W
<b>Start Build 3.00</b>									
225.7	3.17	282.16	225.7	0.6	-2.9	1,619,232.88	2,418,610.16	39° 30' 55.685 N	107° 33' 39.414 W
<b>Hold 3.17 Inclination</b>									
592.6	3.17	282.16	592.0	4.9	-22.7	1,619,237.60	2,418,590.41	39° 30' 55.727 N	107° 33' 39.667 W
<b>Offset Water Well TD</b>									
788.0	3.17	282.16	787.1	7.2	-33.3	1,619,240.12	2,418,579.90	39° 30' 55.749 N	107° 33' 39.802 W
<b>9 5/8"</b>									
4,127.0	3.17	282.16	4,121.0	46.1	-213.9	1,619,283.12	2,418,400.20	39° 30' 56.134 N	107° 33' 42.107 W
<b>Mesaverde</b>									
4,749.6	3.17	282.16	4,742.6	53.3	-247.6	1,619,291.13	2,418,366.70	39° 30' 56.206 N	107° 33' 42.537 W
<b>Start Drop -1.50</b>									
4,961.1	0.00	0.00	4,954.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>UMV_PC - UMV_PC</b>									
5,226.1	0.00	0.00	5,219.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>Approx. Top Gas</b>									
6,859.1	0.00	0.00	6,852.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>Upper Sand</b>									
7,458.1	0.00	0.00	7,451.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>Carneo Coals</b>									
7,726.1	0.00	0.00	7,719.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>Rollins SS</b>									
7,876.1	0.00	0.00	7,869.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 W
<b>TD at 7876.1 - TD</b>									

**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	4,954.0	54.6	-253.3	1,619,292.50	2,418,361.00	39° 30' 56.218 N	107° 33' 42.610 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)
788.0	787.1	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 322-21 - Slot A8
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Project:</b>	Sec. 21-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6912.0usft (Cyclone 30 23'KB JMS)
<b>Site:</b>	KP 22-21 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 322-21	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 15Mar10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
592.6	592.0	Offset Water Well TD				
4,127.0	4,121.0	Mesaverde				
4,961.1	4,954.0	UMV_PC				
5,226.1	5,219.0	Approx. Top Gas				
6,859.1	6,852.0	Upper Sand				
7,458.1	7,451.0	Cameo Coals				
7,726.1	7,719.0	Rollins SS				
7,876.1	7,869.0	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	
225.7	225.7	0.6	-2.9	Hold 3.17 Inclination	
4,749.6	4,742.6	53.3	-247.6	Start Drop -1.50	
4,961.1	4,954.0	54.6	-253.3	UMV_PC	
7,876.1	7,869.0	54.6	-253.3	TD at 7876.1	