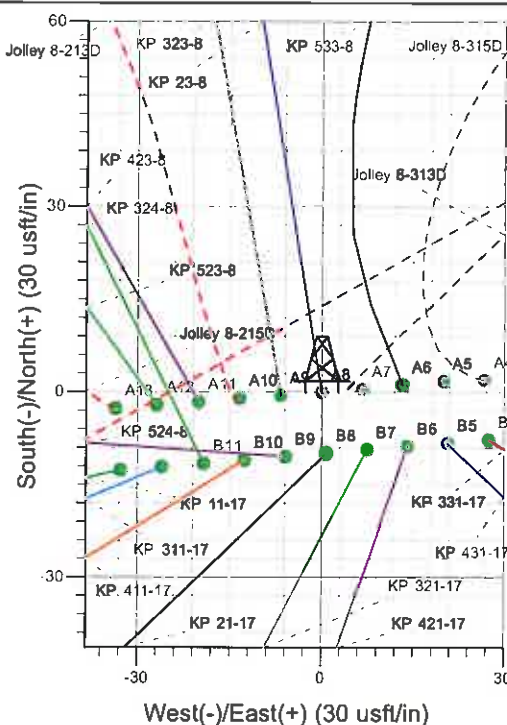
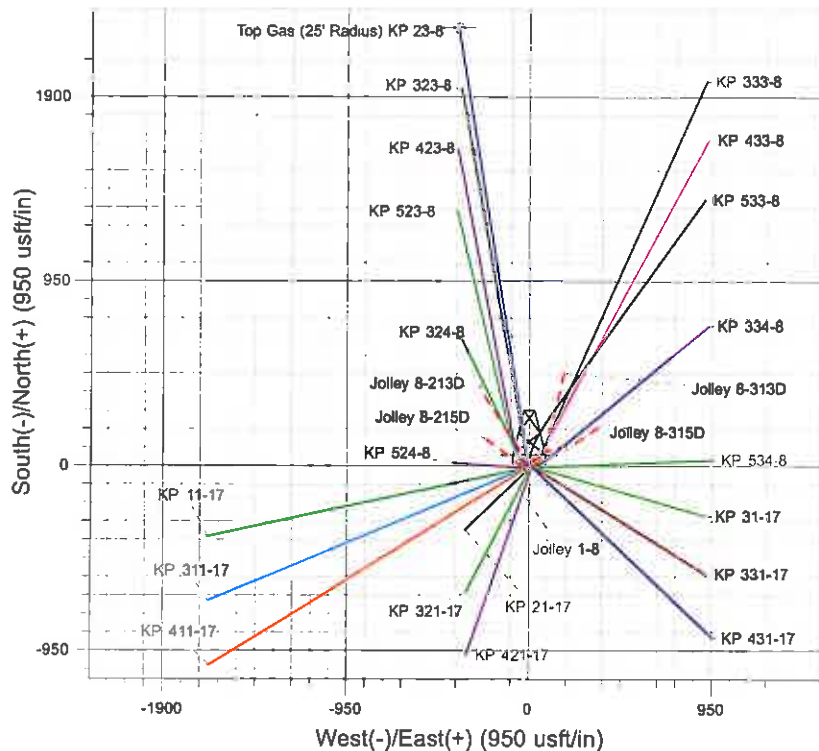
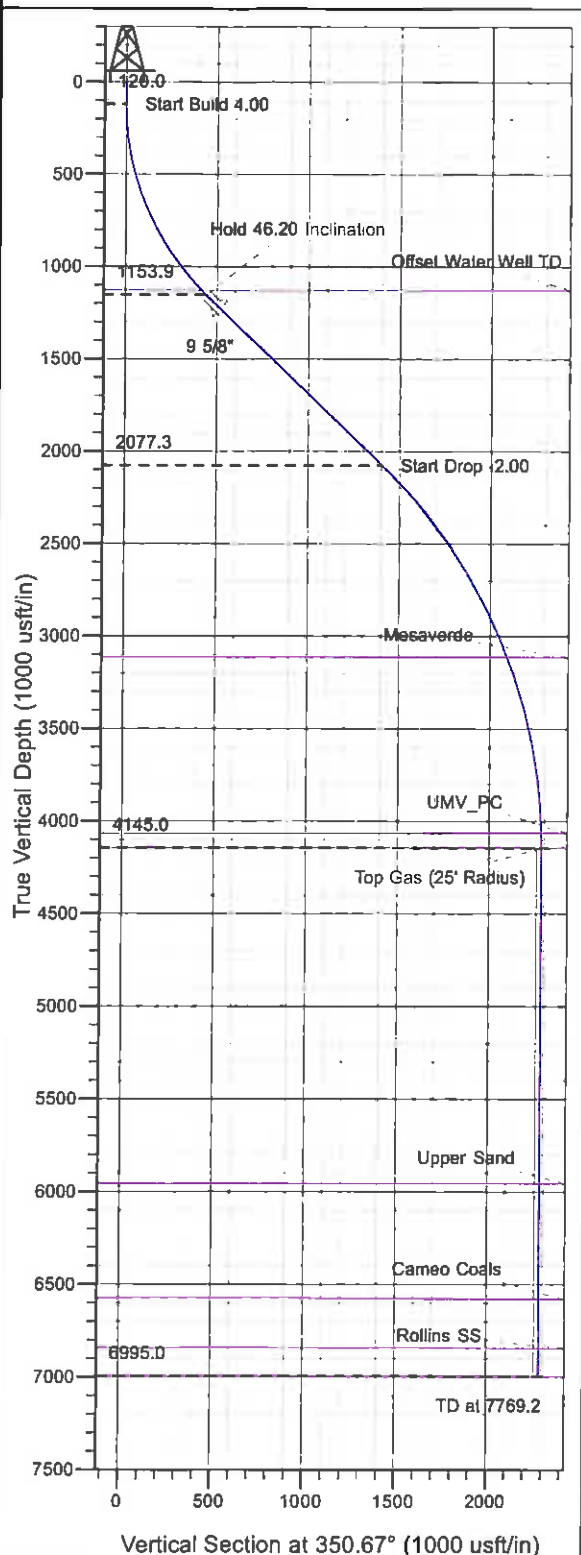




Well Name: KP 23-8  
 Surface Location: KP 24-8 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 6526.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1626662.20 2413469.40 39° 32' 7.936 N 107° 34' 47.165 W A8  
 KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)



Project: Sec. 08-T6S-R91W  
 Site: KP 24-8 Pad  
 Well: KP 23-8  
 Design #1 04May11 kjs



Azimuths to True North  
 Magnetic North: 10.16°  
 Magnetic Field  
 Strength: 52365.0nT  
 Dip Angle: 65.86°  
 Date: 5/3/2011  
 Model: IGRF200510

#### 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 4.00
1153.9	1275.0	46.20	350.67	435.1	-71.5	441.0	441.0	Hold 46.20 Inclination
2077.3	2609.2	46.20	350.67	1385.4	-227.5	1404.0	1404.0	Start Drop -2.00
4145.0	4919.2	0.00	0.00	2255.7	-370.4	2285.9	2285.9	Top Gas
6995.0	7769.2	0.00	0.00	2255.7	-370.4	2285.9	2285.9	TD at 7769.2

# **KOKOPELLI FIELD**

**Sec. 08-T6S-R91W**

**KP 24-8 Pad**

**KP 23-8 - Slot A8**

**Wellbore #1**

**Plan: Design #1 04May11 kjs**

## **Standard Planning Report - Geographic**

**23 June, 2011**

**Williams**  
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well KP 23-8 - Slot A8
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 08-T6S-R91W	MD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 24-8 Pad	North Reference:	True
Well:	KP 23-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 04May11 kjs		

Project	Sec. 08-T6S-R91W, Garfield County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		Using geodetic scale factor

Site	KP 24-8 Pad			
Site Position:		Northing:	1,626,664.90 usft	Latitude: 39° 32' 7.973 N
From:	Map	Easting:	2,413,516.10 usft	Longitude: 107° 34' 46.570 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 In	Grid Convergence: -1.312 °

Well	KP 23-8 - Slot A8			
Well Position	+N/-S	0.0 usft	Northing:	1,626,662.20 usft
	+E/-W	0.0 usft	Easting:	2,413,469.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level: 6,526.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/3/2011	10.156	65.865	52,365

Design	Design #1 04May11 kjs			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	350.67

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	
1,275.0	46.20	350.67	1,153.9	435.1	-71.5	4.00	4.00	0.00	350.674	
2,609.2	46.20	350.67	2,077.3	1,385.4	-227.5	0.00	0.00	0.00	0.000	
4,919.2	0.00	0.00	4,145.0	2,255.7	-370.4	2.00	-2.00	0.00	180.000	Top Gas (25' Radius)
7,769.2	0.00	0.00	6,995.0	2,255.7	-370.4	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 23-8 - Slot A8
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
<b>Project:</b>	Sec. 08-T6S-R91W	<b>MD Reference:</b>	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
<b>Site:</b>	KP 24-8 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 23-8	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 04May11 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	1,626,662.20	2,413,469.40	39° 32' 7.936 N	107° 34' 47.165 W
120.0	0.00	0.00	120.0	0.0	0.0	1,626,662.20	2,413,469.40	39° 32' 7.936 N	107° 34' 47.165 W
<b>Start Build 4.00</b>									
1,239.6	44.78	350.67	1,129.0	410.2	-67.4	1,627,073.62	2,413,411.45	39° 32' 11.990 N	107° 34' 48.025 W
<b>Offset Water Well TD</b>									
1,275.0	46.20	350.67	1,153.9	435.1	-71.5	1,627,098.85	2,413,407.92	39° 32' 12.236 N	107° 34' 48.077 W
<b>Hold 48.20 Inclination</b>									
1,383.6	46.20	350.67	1,229.0	512.5	-84.2	1,627,176.45	2,413,397.00	39° 32' 13.000 N	107° 34' 48.239 W
<b>9 5/8"</b>									
2,609.2	46.20	350.67	2,077.3	1,385.4	-227.5	1,628,052.39	2,413,273.67	39° 32' 21.628 N	107° 34' 50.069 W
<b>Start Drop -2.00</b>									
3,867.8	21.03	350.67	3,117.0	2,067.4	-339.5	1,628,736.77	2,413,177.30	39° 32' 28.368 N	107° 34' 51.499 W
<b>Mesaverde</b>									
4,841.2	1.56	350.67	4,067.0	2,254.6	-370.3	1,628,924.64	2,413,150.85	39° 32' 30.218 N	107° 34' 51.891 W
<b>UMV_PC</b>									
4,919.2	0.00	0.00	4,145.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W
<b>Top Gas - Approx. Top Gas</b>									
6,732.2	0.00	0.00	5,958.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W
<b>Upper Sand</b>									
7,355.2	0.00	0.00	6,581.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W
<b>Cameo Coals</b>									
7,619.2	0.00	0.00	6,845.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W
<b>Rollins SS</b>									
7,769.2	0.00	0.00	6,995.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W
<b>TD at 7769.2</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) KF - plan hits target center - Circle (radius 25.0)	0.00	0.00	4,145.0	2,255.7	-370.4	1,628,925.70	2,413,150.70	39° 32' 30.229 N	107° 34' 51.894 W

**Casing Points**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,383.6	1,229.0	9 5/8"	9.625	12.250

**Williams**  
Planning Report - Geographic

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Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 08-T6S-R91W	MD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 24-8 Pad	North Reference:	True
Well:	KP 23-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 04May11 kjs		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")
1,239.6	1,129.0	Offset Water Well TD			
3,867.8	3,117.0	Mesaverde			
4,841.2	4,067.0	UMV_PC			
4,919.2	4,145.0	Approx. Top Gas			
6,732.2	5,958.0	Upper Sand			
7,355.2	6,581.0	Cameo Coals			
7,619.2	6,845.0	Rollins SS			
7,769.2	6,995.0	TD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.0	120.0	0.0	0.0	Start Build 4.00
1,275.0	1,153.9	435.1	-71.5	Hold 46.20 Inclination
2,609.2	2,077.3	1,385.4	-227.5	Start Drop -2.00
4,919.2	4,145.0	2,255.7	-370.4	Top Gas
7,769.2	6,995.0	2,255.7	-370.4	TD at 7769.2