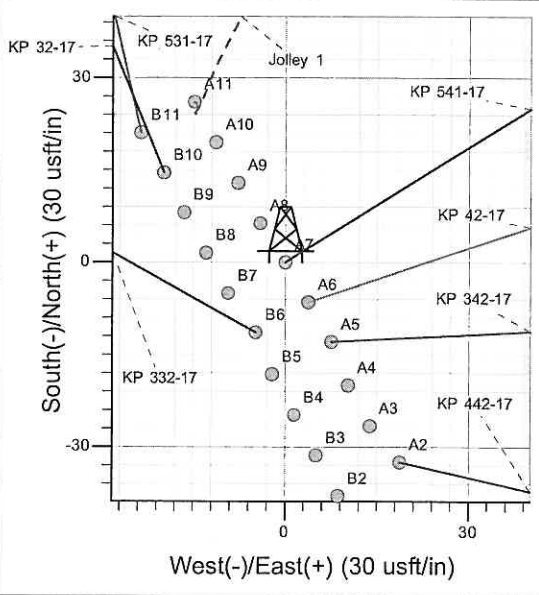
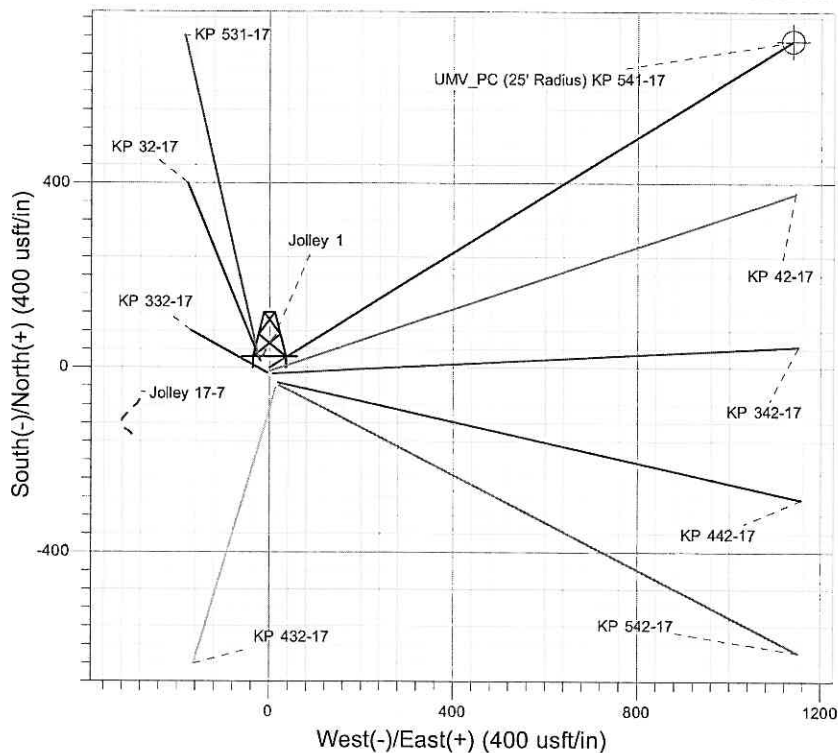
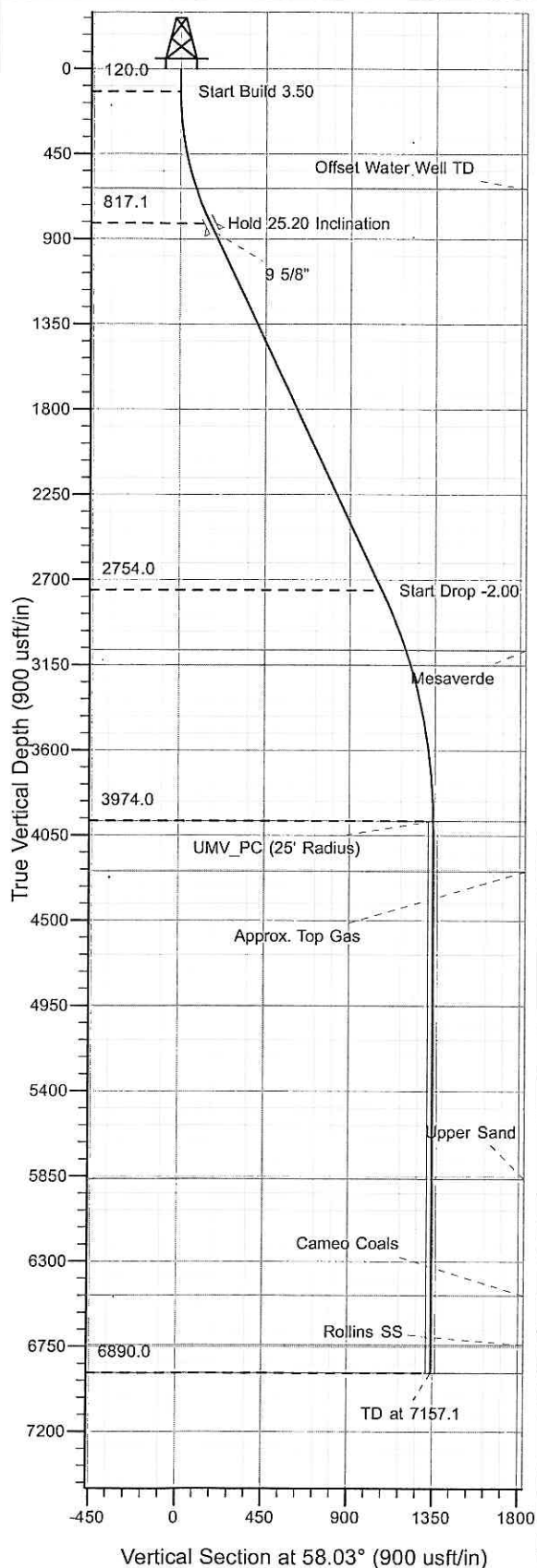
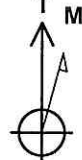




Well Name: KP 541-17  
 Surface Location: KP 32-17 Pad  
 North American Datum 1983, US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 6171.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1624627.10 2414601.90 39° 31' 48.083 N 107° 34' 32.120 W A7  
 KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)



Project: Sec. 17-06S-091W  
 Site: KP 32-17 Pad  
 Well: KP 541-17  
 Design #1 12Mar10 kjs


 Azimuths to True North  
 Magnetic North: 10.33°  
 Magnetic Field  
 Strength: 52449.7nT  
 Dip Angle: 65.88°  
 Date: 3/12/2010  
 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 3.50
817.1	840.1	25.20	58.03	82.5	132.2	155.9	155.9	Hold 25.20 Inclination
2754.0	2980.8	25.20	58.03	565.2	905.6	1067.5	1067.5	Start Drop -2.00
3974.0	4241.1	0.00	0.00	709.6	1137.0	1340.2	1340.2	UMV_PC
6890.0	7157.1	0.00	0.00	709.6	1137.0	1340.2	1340.2	TD at 7157.1

# **KOKOPELLI FIELD**

**Sec. 17-06S-091W**

**KP 32-17 Pad**

**KP 541-17 - Slot A7**

**Wellbore #1**

**Plan: Design #1 12Mar10 kjs**

## **Standard Planning Report - Geographic**

**30 April, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well KP 541-17 - Slot A7
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Project:</b>	Sec. 17-06S-091W	<b>MD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Site:</b>	KP 32-17 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 541-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 12Mar10 kjs		

<b>Project</b>	Sec. 17-06S-091W, 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 32-17 Pad				
Site Position:		Northing:	1,624,653.50 usft	Latitude:	39° 31' 48.340 N
From:	Map	Easting:	2,414,587.60 usft	Longitude:	107° 34' 32.310 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.309 °

Well	KP 541-17 - Slot A7					
Well Position	+N/-S	0.0 usft	Northing:	1,624,627.10 usft	Latitude:	39° 31' 48.083 N
	+E/-W	0.0 usft	Easting:	2,414,601.90 usft	Longitude:	107° 34' 32.120 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,171.0 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	3/12/2010	10.329	65.880	52,450

<b>Design</b>	Design #1 12Mar10 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	58.03

<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	
840.1	25.20	58.03	817.1	82.5	132.2	3.50	3.50	0.00	58.033	
2,980.8	25.20	58.03	2,754.0	565.2	905.6	0.00	0.00	0.00	0.000	
4,241.1	0.00	0.00	3,974.0	709.6	1,137.0	2.00	-2.00	0.00	180.000	UMV_PC (25' Radius)
7,157.1	0.00	0.00	6,890.0	709.6	1,137.0	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 541-17 - Slot A7
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Project:</b>	Sec. 17-06S-091W	<b>MD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Site:</b>	KP 32-17 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 541-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 12Mar10 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	1,624,627.10	2,414,601.90	39° 31' 48.083 N	107° 34' 32.120 W
120.0	0.00	0.00	120.0	0.0	0.0	1,624,627.10	2,414,601.90	39° 31' 48.083 N	107° 34' 32.120 W
<b>Start Build 3.50</b>									
642.8	18.30	58.03	634.0	43.8	70.2	1,624,669.31	2,414,673.12	39° 31' 48.516 N	107° 34' 31.224 W
<b>Offset Water Well TD</b>									
840.1	25.20	58.03	817.1	82.5	132.2	1,624,706.57	2,414,735.98	39° 31' 48.898 N	107° 34' 30.433 W
<b>Hold 25.20 Inclination</b>									
890.0	25.20	58.03	862.2	93.8	150.2	1,624,717.40	2,414,754.24	39° 31' 49.009 N	107° 34' 30.203 W
<b>9 5/8"</b>									
2,980.8	25.20	58.03	2,754.0	565.2	905.6	1,625,171.42	2,415,520.18	39° 31' 53.668 N	107° 34' 20.562 W
<b>Start Drop -2.00</b>									
3,321.3	18.39	58.03	3,070.0	632.1	1,012.8	1,625,235.86	2,415,628.89	39° 31' 54.330 N	107° 34' 19.193 W
<b>Mesaverde</b>									
4,241.1	0.00	0.00	3,974.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>UMV_PC - UMV_PC</b>									
4,507.1	0.00	0.00	4,240.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>Approx. Top Gas</b>									
6,130.1	0.00	0.00	5,863.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>Upper Sand</b>									
6,746.1	0.00	0.00	6,479.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>Cameo Coals</b>									
7,007.1	0.00	0.00	6,740.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>Rollins SS</b>									
7,157.1	0.00	0.00	6,890.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W
<b>TD at 7157.1 - 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
UMV_PC (25' Radius) K - plan hits target center - Circle (radius 25.0)	0.00	0.00	3,974.0	709.6	1,137.0	1,625,310.50	2,415,754.80	39° 31' 55.096 N	107° 34' 17.608 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (in)	Hole Diameter (in)
890.0	862.2	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 541-17 - Slot A7
<b>Company:</b>	KOKOPELLI FIELD	<b>TVD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Project:</b>	Sec. 17-06S-091W	<b>MD Reference:</b>	KELLY BUSHING @ 6194.0usft (Cyclone 30 23' KB JMS)
<b>Site:</b>	KP 32-17 Pad	<b>North Reference:</b>	True
<b>Well:</b>	KP 541-17	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Design #1 12Mar10 kjs		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
642.8	634.0	Offset Water Well TD			
3,321.3	3,070.0	Mesaverde			
4,241.1	3,974.0	UMV_PC			
4,507.1	4,240.0	Approx. Top Gas			
6,130.1	5,863.0	Upper Sand			
6,746.1	6,479.0	Cameo Coals			
7,007.1	6,740.0	Rollins SS			
7,157.1	6,890.0	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	
840.1	817.1	82.5	132.2	Hold 25.20 Inclination	
2,980.8	2,754.0	565.2	905.6	Start Drop -2.00	
4,241.1	3,974.0	709.6	1,137.0	UMV_PC	
7,157.1	6,890.0	709.6	1,137.0	TD at 7157.1	