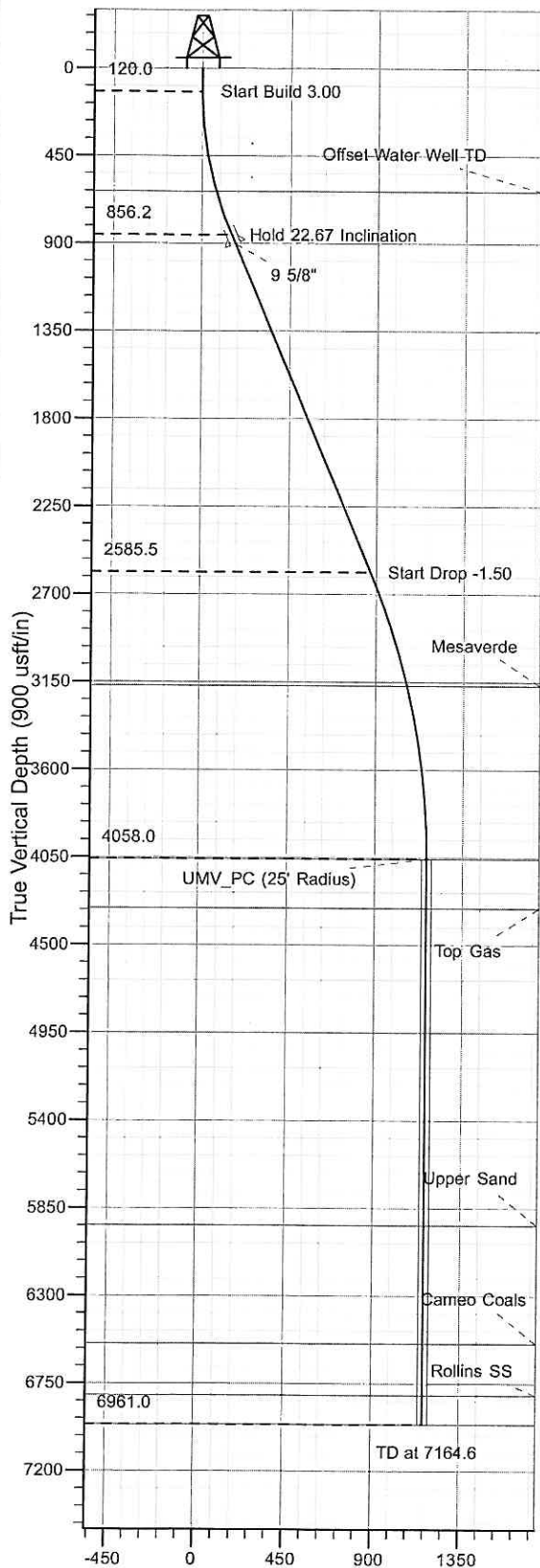
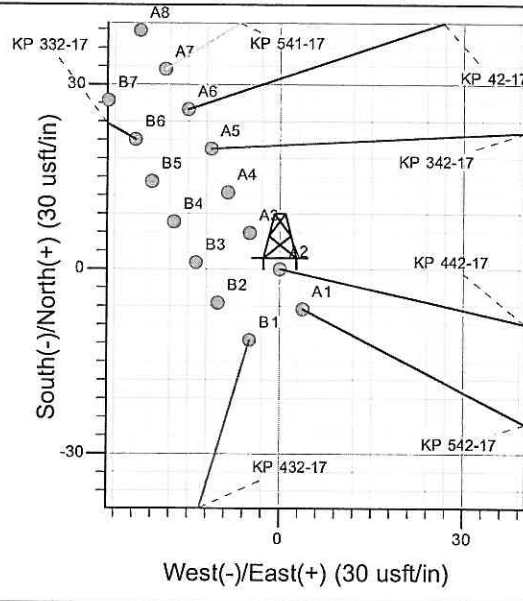
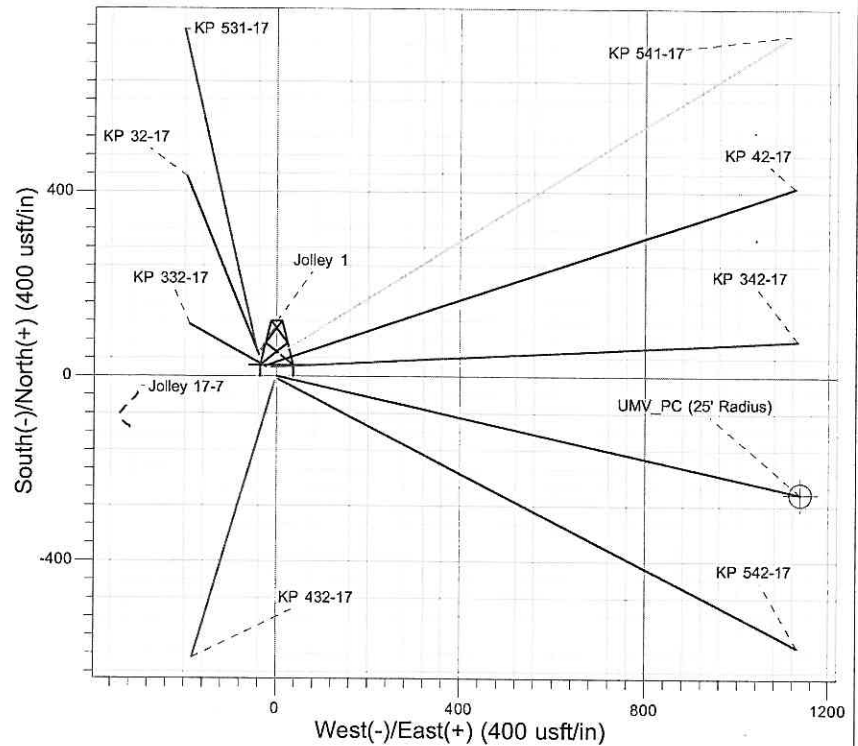




Well Name: KP 442-17  
 Surface Location: KP 32-17 Pad  
 North American Datum 1983, US State Plane 1983, Colorado Central Zone  
 Ground Elevation: 6171.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1624594.20 2414619.90 39° 31' 47.762 N 107° 34' 31.881 W A2  
 KELLY BUSHING @ 6194.0usft (Cyclone 30 23'KB JMS)



Vertical Section at 102.56° (900 usft/in)



Project: Sec. 17-06S-091W  
 Site: KP 32-17 Pad  
 Well: KP 442-17  
 Design #1 12Mar10 kjs

**Compass Rose**  
 T M  
 Azimuths to True North  
 Magnetic North: 10.33°  
 Magnetic Field  
 Strength: 52449.7snT  
 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 3.00
856.2	875.8	22.67	102.56	-32.1	144.1	147.6	147.6	Hold 22.67 Inclination
2585.5	2750.0	22.67	102.56	-189.3	849.2	870.1	870.1	Start Drop -1.50
4058.0	4261.6	0.00	0.00	-253.5	1137.4	1165.3	1165.3	UMV_PC
6961.0	7164.6	0.00	0.00	-253.5	1137.4	1165.3	1165.3	TD at 7164.6

# **KOKOPELLI FIELD**

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

**KP 32-17 Pad**

**KP 442-17 - Slot A2**

**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 442-17 - Slot A2
<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 442-17	<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		

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

<b>Well</b>	KP 442-17 - Slot A2		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	
		<b>Latitude:</b>	39° 31' 47.762 N
		<b>Longitude:</b>	107° 34' 31.881 W
		<b>Ground Level:</b>	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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	102.56

<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	
875.8	22.67	102.56	856.2	-32.1	144.1	3.00	3.00	0.00	102.564	
2,750.0	22.67	102.56	2,585.5	-189.3	849.2	0.00	0.00	0.00	0.000	
4,261.6	0.00	0.00	4,058.0	-253.5	1,137.4	1.50	-1.50	0.00	180.000	UMV_PC (25' Radius)
7,164.6	0.00	0.00	6,961.0	-253.5	1,137.4	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 442-17 - Slot A2
<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 442-17	<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	1,624,594.20	2,414,619.90	39° 31' 47.762 N	107° 34' 31.881 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,624,594.20	2,414,619.90	39° 31' 47.762 N	107° 34' 31.881 W	
<b>Start Build 3.00</b>										
640.4	15.61	102.56	634.0	-15.3	68.8	1,624,577.30	2,414,688.31	39° 31' 47.610 N	107° 34' 31.003 W	
<b>Offset Water Well TD</b>										
875.8	22.67	102.56	856.2	-32.1	144.1	1,624,558.80	2,414,763.21	39° 31' 47.444 N	107° 34' 30.042 W	
<b>Hold 22.67 Inclination</b>										
926.0	22.67	102.56	902.5	-36.3	163.0	1,624,554.16	2,414,781.99	39° 31' 47.403 N	107° 34' 29.801 W	
<b>9 5/8"</b>										
2,750.0	22.67	102.56	2,585.5	-189.3	849.2	1,624,385.58	2,415,464.60	39° 31' 45.891 N	107° 34' 21.042 W	
<b>Start Drop -1.50</b>										
3,363.3	13.47	102.56	3,168.0	-230.6	1,034.8	1,624,340.00	2,415,649.14	39° 31' 45.482 N	107° 34' 18.674 W	
<b>Mesaverde</b>										
4,261.6	0.00	0.00	4,058.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>UMV_PC - UMV_PC</b>										
4,514.6	0.00	0.00	4,311.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>Approx. Top Gas</b>										
6,140.6	0.00	0.00	5,937.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>Upper Sand</b>										
6,749.6	0.00	0.00	6,546.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>Cameo Coals</b>										
7,014.6	0.00	0.00	6,811.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>Rollins SS</b>										
7,164.6	0.00	0.00	6,961.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W	
<b>TD at 7164.6 - TD</b>										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
UMV_PC (25' Radius) K	0.00	0.00	4,058.0	-253.5	1,137.4	1,624,314.80	2,415,751.20	39° 31' 45.256 N	107° 34' 17.364 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
926.0	902.5	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 442-17 - Slot A2
<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 442-17	<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 (°)	
640.4	634.0	Offset Water Well TD				
3,363.3	3,168.0	Mesaverde				
4,261.6	4,058.0	UMV_PC				
4,514.6	4,311.0	Approx. Top Gas				
6,140.6	5,937.0	Upper Sand				
6,749.6	6,546.0	Cameo Coals				
7,014.6	6,811.0	Rollins SS				
7,164.6	6,961.0	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 3.00	
875.8	856.2	-32.1	144.1	Hold 22.67 Inclination	
2,750.0	2,585.5	-189.3	849.2	Start Drop -1.50	
4,261.6	4,058.0	-253.5	1,137.4	UMV_PC	
7,164.6	6,961.0	-253.5	1,137.4	TD at 7164.6	