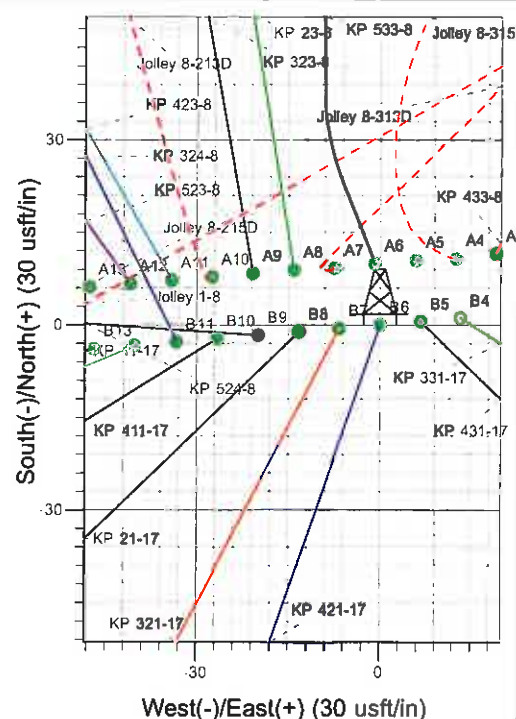
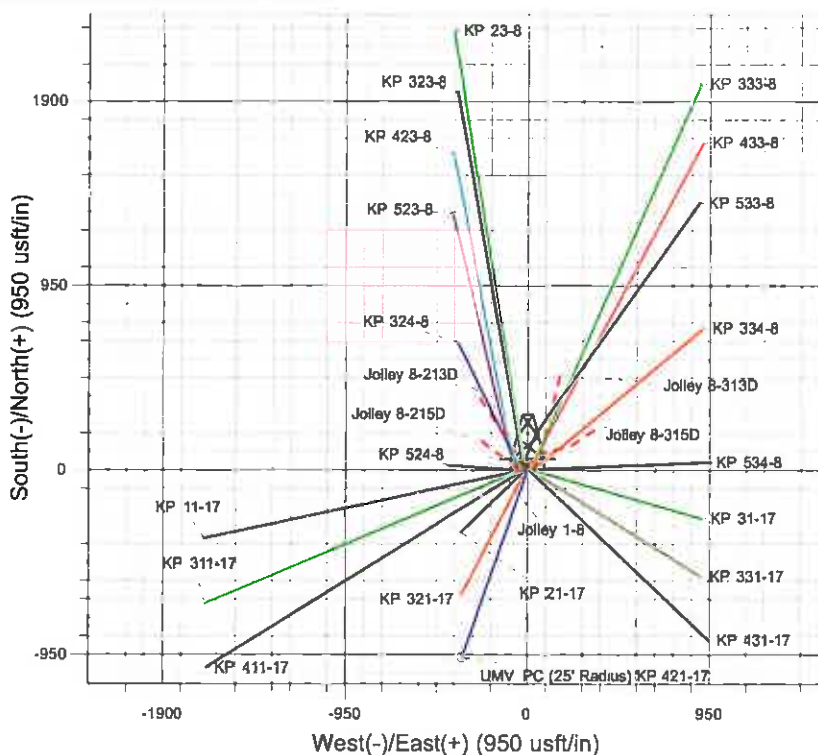
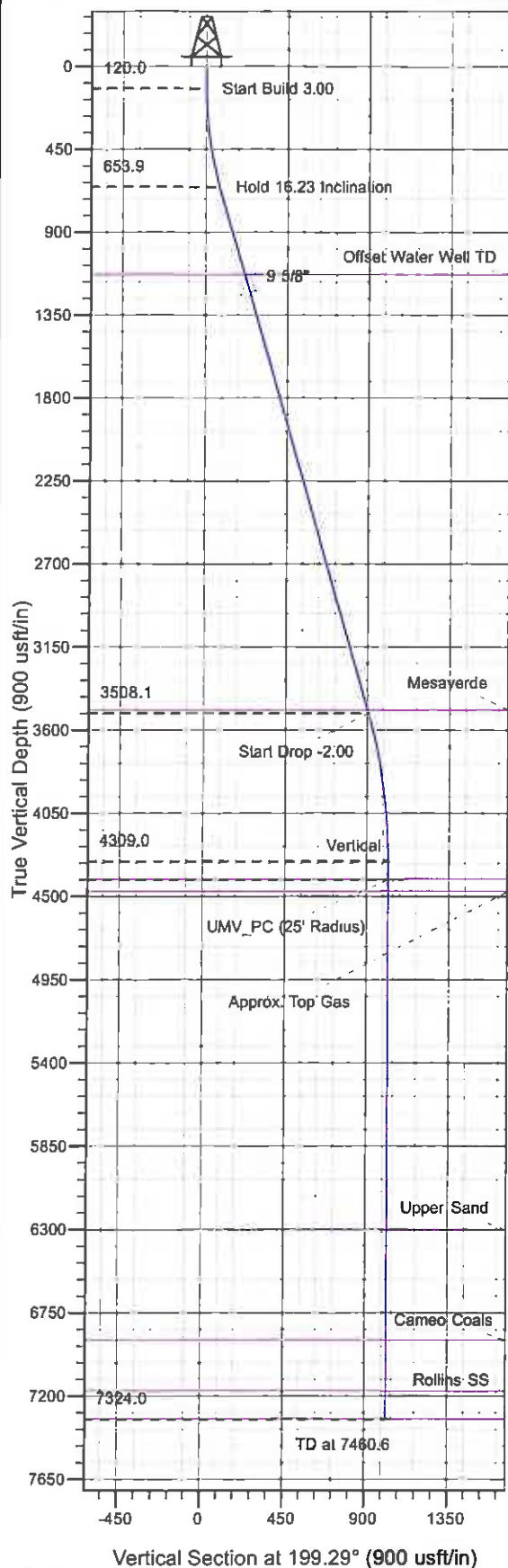




Well Name: KP 421-17  
 Surface Location: KP 24-8 Pad  
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
 Ground Elevation: 6526.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1626653.00	2413483.30	39° 32' 7.848 N	107° 34' 46.985 W	B6

KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)



Project: Sec. 08-T6S-R91W  
 Site: KP 24-8 Pad  
 Well: KP 421-17  
 Design #1 04May11 kjs



Azimuths to True North  
 Magnetic North: 10.16°

Magnetic Field  
 Strength: 52364.7nT  
 Dip Angle: 65.86°  
 Date: 5/4/2011  
 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 3.00
653.9	661.1	16.23	199.29	-71.9	-25.2	76.2	78.2	Hold 16.23 Inclination
3508.1	3633.8	16.23	199.29	-856.3	-299.7	907.2	907.2	Start Drop -2.00
4309.0	4445.6	0.00	0.00	-964.1	-337.4	1021.5	1021.5	Vertical
4409.0	4545.6	0.00	0.00	-964.1	-337.4	1021.5	1021.5	UMV_PC
7324.0	7460.6	0.00	0.00	-964.1	-337.4	1021.5	1021.5	TD at 7460.6

# **KOKOPELLI FIELD**

**Sec. 08-T6S-R91W**

**KP 24-8 Pad**

**KP 421-17 - Slot B6**

**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 421-17 - Slot B6
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 421-17	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 421-17 - Slot B6					
Well Position	+N/-S	0.0 usft	Northing:	1,626,653.00 usft	Latitude:	39° 32' 7.848 N
	+E/-W	0.0 usft	Easting:	2,413,483.30 usft	Longitude:	107° 34' 46.985 W
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level:	6,526.0 usft	

Wellbore	Wellbore #1			
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magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/4/2011	10.156	65.865	52,365

Design	Design #1 04May11 kjs			
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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	199.29

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	
661.1	16.23	199.29	653.9	-71.9	-25.2	3.00	3.00	0.00	199.290	
3,633.6	16.23	199.29	3,508.1	-856.3	-299.7	0.00	0.00	0.00	0.000	
4,445.6	0.00	0.00	4,309.0	-964.1	-337.4	2.00	-2.00	0.00	180.000	
4,545.6	0.00	0.00	4,409.0	-964.1	-337.4	0.00	0.00	0.00	0.000	UMV_PC (25' Radius)
7,460.6	0.00	0.00	7,324.0	-964.1	-337.4	0.00	0.00	0.00	0.000	

**Williams**  
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well KP 421-17 - Slot B6
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 421-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	1,626,653.00	2,413,483.30	39° 32' 7.848 N	107° 34' 46.985 W
120.0	0.00	0.00	120.0	0.0	0.0	1,626,653.00	2,413,483.30	39° 32' 7.848 N	107° 34' 46.985 W
Start Build 3.00									
661.1	16.23	199.29	653.9	-71.9	-25.2	1,626,581.71	2,413,456.51	39° 32' 7.137 N	107° 34' 47.306 W
Hold 16.23 Inclination									
1,155.9	16.23	199.29	1,129.0	-202.4	-70.9	1,626,452.24	2,413,407.84	39° 32' 5.847 N	107° 34' 47.889 W
Offset Water Well TD									
1,260.1	16.23	199.29	1,229.0	-229.9	-80.5	1,626,424.98	2,413,397.59	39° 32' 5.575 N	107° 34' 48.012 W
9 5/8"									
3,616.0	16.23	199.29	3,491.0	-851.6	-298.1	1,625,808.48	2,413,165.85	39° 31' 59.431 N	107° 34' 50.789 W
Mesaverde									
3,633.8	16.23	199.29	3,508.1	-856.3	-299.7	1,625,803.82	2,413,164.10	39° 31' 59.385 N	107° 34' 50.810 W
Start Drop -2.00									
4,445.6	0.00	0.00	4,309.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
Vertical									
4,545.6	0.00	0.00	4,409.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
UMV_PC - UMW_PC									
4,610.6	0.00	0.00	4,474.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
Approx. Top Gas									
6,441.6	0.00	0.00	6,305.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
Upper Sand									
7,035.6	0.00	0.00	6,899.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
Cameo Coals									
7,310.6	0.00	0.00	7,174.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
Rollins SS									
7,460.6	0.00	0.00	7,324.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
TD at 7460.6 - TD									

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	4,409.0	-964.1	-337.4	1,625,696.90	2,413,123.90	39° 31' 58.319 N	107° 34' 51.292 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,260.1	1,229.0	9 5/8"	9.625	12.250	

**Williams**  
Planning Report - Geographic

Database: Compass R5000 WIN AUTH  
Company: KOKOPELLI FIELD  
Project: Sec. 08-T6S-R91W  
Site: KP 24-8 Pad  
Well: KP 421-17  
Wellbore: Wellbore #1  
Design: Design #1 04May11 kjs

Local Co-ordinate Reference: Well KP 421-17 - Slot B6  
TVD Reference: KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)  
MD Reference: KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)  
North Reference: True  
Survey Calculation Method: Minimum Curvature

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")	
1,155.9	1,129.0	Offset Water Well TD				
3,616.0	3,491.0	Mesaverde				
4,545.6	4,409.0	UMV_PC				
4,610.6	4,474.0	Approx. Top Gas				
6,441.6	6,305.0	Upper Sand				
7,035.6	6,899.0	Cameo Coals				
7,310.6	7,174.0	Rollins SS				
7,460.6	7,324.0	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	
661.1	653.9	-71.9	-25.2	Hold 16.23 Inclination	
3,633.8	3,508.1	-856.3	-299.7	Start Drop -2.00	
4,445.6	4,309.0	-964.1	-337.4	Vertical	
4,545.6	4,409.0	-964.1	-337.4	UMV_PC	
7,460.6	7,324.0	-964.1	-337.4	TD at 7460.6	