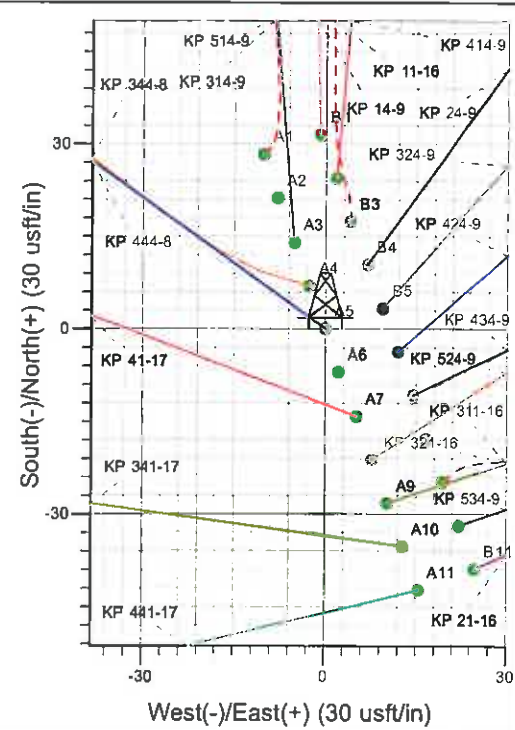
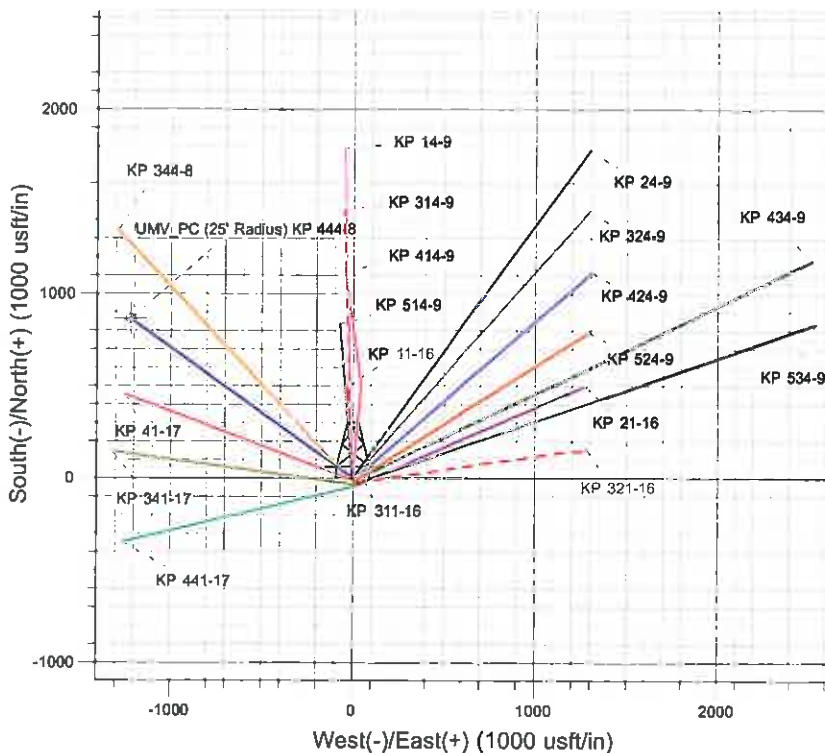
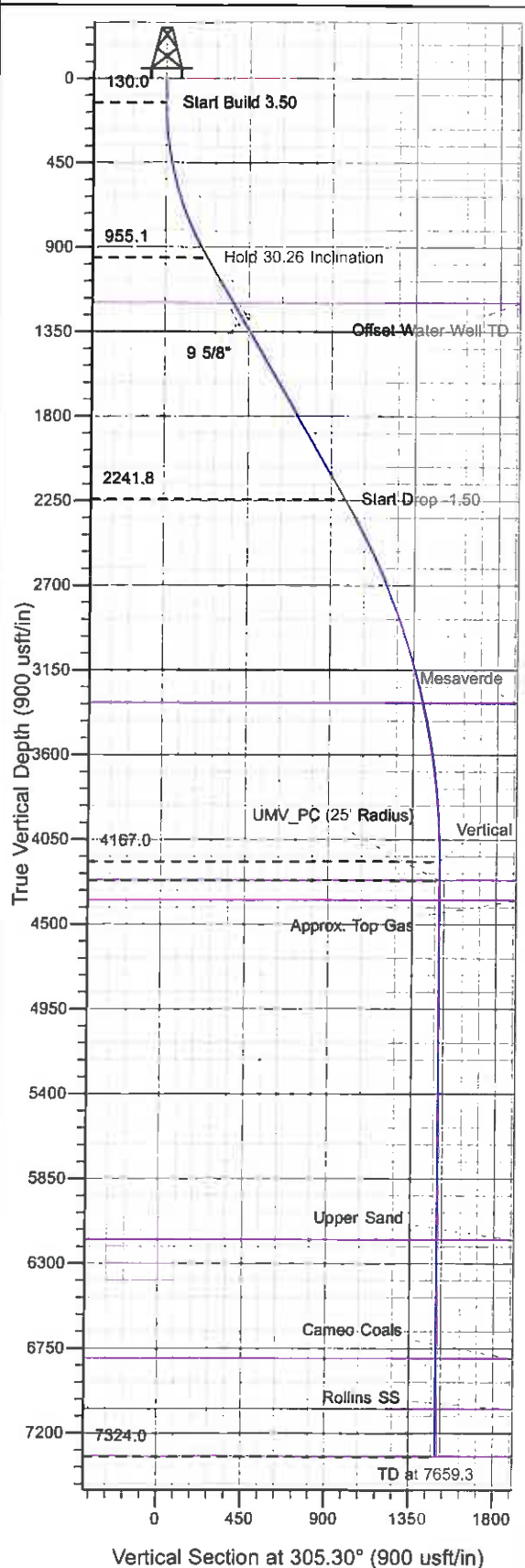




Well Name: KP 444-8  
 Surface Location: KP 11-16 Pad  
 North American Datum 1983, US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 6632.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1625800.90 2417101.20 39° 32' 0.244 N 107° 34' 0.570 W A5  
 KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)



Project: Sec. 16-T6S-R91W  
 Site: KP 11-16 Pad  
 Well: KP 444-8  
 Design #1 15Aug11 kjs

**M** Azimuths to True North  
 Magnetic North: 10.11°  
 Magnetic Field  
 Strength: 52336.6nT  
 Dip Angle: 65.86°  
 Date: 8/15/2011  
 Model: IGRF2005-10

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation	
130.0	130.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build	3.50
955.1	994.7	30.27	305.30	128.9	-182.1	223.1	223.1	Hold 30.26 Inclination	
2241.8	2484.6	30.27	305.30	562.9	-794.9	974.0	974.0	Start Drop -1.50	
4167.0	4502.3	0.00	0.00	863.8	-1219.8	1494.6	1494.6	Vertical	
4267.0	4602.3	0.00	0.00	863.8	-1219.8	1494.6	1494.6	UMV_PC	
7324.0	7659.3	0.00	0.00	863.8	-1219.8	1494.6	1494.6	TD at 7659.3	

# **KOKOPELLI FIELD**

**Sec. 16-T6S-R91W**

**KP 11-16 Pad**

**KP 444-8 - Slot A5**

**Wellbore #1**

**Plan: Design #1 15Aug11 kjs**

## **Standard Planning Report - Geographic**

**12 October, 2011**

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 444-8 - Slot A5
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 11-16 Pad	North Reference:	True
Well:	KP 444-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 15Aug11 kjs		

Project	Sec. 16-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		

Site	KP 11-16 Pad				
Site Position:		Northing:	1,625,762.90 usft	Latitude:	39° 31' 59.871 N
From:	Map	Easting:	2,417,113.40 usft	Longitude:	107° 34' 0.404 W
Position Uncertainty:	0.0 usft	Slot Radius:	0 "	Grid Convergence:	-1.30 °

Well	KP 444-B - Slot A5					
Well Position	+N/-S	0.0 usft	Northing:	1,625,800.90 usft	Latitude:	39° 32' 0.244 N
	+E/-W	0.0 usft	Easting:	2,417,101.20 usft	Longitude:	107° 34' 0.570 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,632.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	8/15/2011	10.11	65.86	52,337

Design	Design #1 15Aug11 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	305.30

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	0.00	
130.0	0.00	0.00	130.0	0.0	0.0	0.00	0.00	0.00	0.00	
994.7	30.27	305.30	955.1	128.9	-182.1	3.50	3.50	0.00	305.30	
2,484.6	30.27	305.30	2,241.8	562.9	-794.9	0.00	0.00	0.00	0.00	
4,502.3	0.00	0.00	4,167.0	863.8	-1,219.8	1.50	-1.50	0.00	180.00	
4,602.3	0.00	0.00	4,267.0	863.8	-1,219.8	0.00	0.00	0.00	0.00	UMV_PC (25' Radius)
7,659.3	0.00	0.00	7,324.0	863.8	-1,219.8	0.00	0.00	0.00	0.00	

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 444-8 - Slot A5
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 11-16 Pad	North Reference:	True
Well:	KP 444-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 15Aug11 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	1,625,800.90	2,417,101.20	39° 32' 0.244 N	107° 34' 0.570 W
130.0	0.00	0.00	130.0	0.0	0.0	1,625,800.90	2,417,101.20	39° 32' 0.244 N	107° 34' 0.570 W
<b>Start Build 3.50</b>									
994.7	30.27	305.30	955.1	128.9	-182.1	1,625,933.95	2,416,922.09	39° 32' 1.519 N	107° 34' 2.895 W
<b>Hold 30.26 Inclination</b>									
1,273.7	30.27	305.30	1,196.0	210.2	-296.8	1,626,017.79	2,416,809.23	39° 32' 2.322 N	107° 34' 4.359 W
<b>Offset Water Well TD</b>									
1,389.5	30.27	305.30	1,296.0	243.9	-344.5	1,626,052.59	2,416,762.39	39° 32' 2.655 N	107° 34' 4.967 W
<b>9 5/8"</b>									
2,484.6	30.27	305.30	2,241.8	562.9	-794.9	1,626,381.73	2,416,319.33	39° 32' 5.807 N	107° 34' 10.716 W
<b>Start Drop -1.50</b>									
3,654.3	12.72	305.30	3,326.0	809.6	-1,143.3	1,626,636.30	2,415,976.65	39° 32' 8.246 N	107° 34' 15.163 W
<b>Mesaverde</b>									
4,502.3	0.00	0.00	4,167.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>Vertical</b>									
4,602.3	0.00	0.00	4,267.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>UMV_PC - UMV_PC - UMV_PC (25' Radius) KP 444-8</b>									
4,709.3	0.00	0.00	4,374.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>Approx. Top Gas</b>									
6,510.3	0.00	0.00	6,175.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>Upper Sand</b>									
7,140.3	0.00	0.00	6,805.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>Cameo Coals</b>									
7,409.3	0.00	0.00	7,074.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>Rollins SS</b>									
7,659.3	0.00	0.00	7,324.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
<b>TD at 7659.3 - 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	4,267.0	863.8	-1,219.8	1,626,692.20	2,415,901.40	39° 32' 8.781 N	107° 34' 16.140 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,389.5	1,296.0	9 5/8"	9-5/8	12-1/4	

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 444-8 - Slot A5
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6654.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 11-16 Ped	North Reference:	True
Well:	KP 444-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 15Aug11 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")	
1,273.7	1,196.0	Offset Water Well TD				
3,654.3	3,326.0	Mesaverde				
4,602.3	4,267.0	UMV_PC				
4,709.3	4,374.0	Approx. Top Gas				
6,510.3	6,175.0	Upper Sand				
7,140.3	6,805.0	Cameo Coals				
7,409.3	7,074.0	Rollins SS				
7,659.3	7,324.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
130.0	130.0	0.0	0.0	Start Build 3.50	
994.7	955.1	128.9	-182.1	Hold 30.26 Inclination	
2,484.6	2,241.8	562.9	-794.9	Start Drop -1.50	
4,502.3	4,167.0	863.8	-1,219.8	Vertical	
4,602.3	4,267.0	863.8	-1,219.8	UMV_PC	
7,659.3	7,324.0	863.8	-1,219.8	TD at 7659.3	