



Project: Sec. 16-T6S-R91W  
Site: KP 11-16 Pad  
Well: KP 534-9  
Design #1 15Aug11 kjs



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

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
1160.6	1284.7	46.59	71.01	145.8	423.6	448.0	448.0	Hold 46.59 Inclination
2412.6	3106.6	46.59	71.01	576.4	1675.1	1771.5	1771.5	Start Drop -2.00
4244.0	5186.0	5.00	71.01	864.5	2512.0	2656.6	2656.6	Top Gas
4493.7	5436.0	0.00	0.00	868.0	2522.3	2667.5	2667.5	Vertical
7194.0	8136.3	0.00	0.00	868.0	2522.3	2667.5	2667.5	TD at 8136.3

# **KOKOPELLI FIELD**

**Sec. 16-T6S-R91W**

**KP 11-16 Pad**

**KP 534-9 - Slot B10**

**Wellbore #1**

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

## **Standard Planning Report - Geographic**

**13 October, 2011**

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 534-9 - Slot B10
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 534-9	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:	Map	Northing:	1,625,762.90 usft
From:		Easting:	2,417,113.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0 "
		Grid Convergence:	-1.30 °

Well	KP 534-9 - Slot B10		
Well Position	+N-S	0.0 usft	Northing:
	+E-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	

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

Design	Design #1 15Aug11 kjs		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			71.01

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	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,284.7	46.59	71.01	1,160.6	145.8	423.6	4.00	4.00	0.00	71.01	
3,106.6	46.59	71.01	2,412.6	576.4	1,675.1	0.00	0.00	0.00	0.00	
5,186.0	5.00	71.01	4,244.0	864.5	2,512.0	2.00	-2.00	0.00	180.00	Top Gas (25' Radius)
5,436.0	0.00	0.00	4,493.7	868.0	2,522.3	2.00	-2.00	0.00	180.00	
8,136.3	0.00	0.00	7,194.0	868.0	2,522.3	0.00	0.00	0.00	0.00	

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Site:	KP 11-16 Pad	North Reference:	True
Well:	KP 534-9	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	1,625,768.50	2,417,122.70	39° 31' 59.929 N	107° 34' 0.287 W
120.0	0.00	0.00	120.0	0.0	0.0	1,625,768.50	2,417,122.70	39° 31' 59.929 N	107° 34' 0.287 W
<b>Start Build 4.00</b>									
1,284.7	46.59	71.01	1,160.6	145.8	423.6	1,625,904.61	2,417,549.54	39° 32' 1.370 N	107° 33' 54.880 W
<b>Hold 46.59 Inclination</b>									
1,336.3	46.59	71.01	1,196.0	158.0	459.1	1,625,915.99	2,417,585.24	39° 32' 1.490 N	107° 33' 54.427 W
<b>Offset Water Well TD</b>									
1,481.8	46.59	71.01	1,296.0	192.4	559.0	1,625,948.11	2,417,685.95	39° 32' 1.830 N	107° 33' 53.152 W
<b>9 5/8"</b>									
3,106.6	46.59	71.01	2,412.6	576.4	1,675.1	1,626,306.69	2,418,810.46	39° 32' 5.626 N	107° 33' 38.906 W
<b>Start Drop -2.00</b>									
4,154.0	25.64	71.01	3,254.0	776.2	2,255.6	1,626,493.20	2,418,395.35	39° 32' 7.600 N	107° 33' 31.496 W
<b>Mesaverde</b>									
5,108.6	6.55	71.01	4,167.0	861.9	2,504.7	1,626,573.23	2,419,646.33	39° 32' 8.447 N	107° 33' 28.317 W
<b>UMV_PC</b>									
5,186.0	5.00	71.01	4,244.0	864.5	2,512.0	1,626,575.60	2,419,653.75	39° 32' 8.472 N	107° 33' 28.223 W
<b>Top Gas - Approx. Top Gas</b>									
5,186.8	4.98	71.01	4,244.8	864.5	2,512.1	1,626,575.62	2,419,653.81	39° 32' 8.472 N	107° 33' 28.222 W
<b>Top Gas (25' Radius) KP 534-9</b>									
5,436.0	0.00	0.00	4,493.7	868.0	2,522.3	1,626,578.91	2,419,664.13	39° 32' 8.507 N	107° 33' 28.091 W
<b>Vertical</b>									
7,019.3	0.00	0.00	6,077.0	868.0	2,522.3	1,626,578.91	2,419,664.13	39° 32' 8.507 N	107° 33' 28.091 W
<b>Upper Sand</b>									
7,653.3	0.00	0.00	6,711.0	868.0	2,522.3	1,626,578.91	2,419,664.13	39° 32' 8.507 N	107° 33' 28.091 W
<b>Cameo Coale</b>									
7,886.3	0.00	0.00	6,944.0	868.0	2,522.3	1,626,578.91	2,419,664.13	39° 32' 8.507 N	107° 33' 28.091 W
<b>Rollins SS</b>									
8,136.3	0.00	0.00	7,194.0	868.0	2,522.3	1,626,578.91	2,419,664.13	39° 32' 8.507 N	107° 33' 28.091 W
<b>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									
Top Gas (25' Radius) KF	0.00	0.00	4,244.0	871.1	2,529.6	1,626,581.80	2,419,671.50	39° 32' 8.537 N	107° 33' 27.998 W
- plan misses target center by 18.8usft at 5186.8usft MD (4244.8 TVD, 864.5 N, 2512.1 E)									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)		Name	Casing Diameter (")	Hole Diameter (")
1,481.8	1,296.0	9 5/8"		9-5/8	12-1/4

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Well:	KP 534-9	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (")	Dip Direction (")
1,336.3	1,196.0	Offset Water Well TD			
4,154.0	3,254.0	Mesaverde			
5,108.6	4,167.0	UMV_PC			
5,186.0	4,244.0	Approx. Top Gas			
7,019.3	6,077.0	Upper Sand			
7,653.3	6,711.0	Cameo Coals			
7,886.3	6,944.0	Rollins SS			
8,136.3	7,194.0	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
1,284.7	1,160.6	145.8	423.6	Hold 46.59 Inclination
3,106.6	2,412.6	576.4	1,675.1	Start Drop -2.00
5,186.0	4,244.0	864.5	2,512.0	Top Gas
5,436.0	4,493.7	868.0	2,522.3	Vertical
8,136.3	7,194.0	868.0	2,522.3	TD at 8136.3