



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	
1076.8	1122.2	30.07	56.85	140.5	215.1	257.0	257.0	Hold 30.07 Inclination	
2961.8	3300.2	30.07	56.85	737.1	1128.7	1348.1	1348.1	Start Drop -2.00	
4397.0	4803.4	0.00	0.00	947.9	1451.5	1733.6	1733.6	UMV_PC	
7249.0	7655.4	0.00	0.00	947.9	1451.5	1733.6	1733.6	TD at 7655.4	

KOKOPELLI FIELD

Sec. 23-T6S-R91W

KP 24-23 Pad

KP 433-23 - Slot B9

Wellbore #1

Plan: Design #1 10Feb10 kjs

Standard Planning Report - Geographic

29 March, 2010

Williams

Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well KP 433-23 - Slot B9
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
Project:	Sec. 23-T6S-R91W	MD Reference:	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
Site:	KP 24-23 Pad	North Reference:	True
Well:	KP 433-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 10Feb10 kjs		

Project	Sec. 23-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 24-23 Pad		
Site Position:		Northing:	1,616,658.70 usft
From:	Map	Easting:	2,428,899.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in
		Latitude:	39° 30' 32.535 N
		Longitude:	107° 31' 27.423 W
		Grid Convergence:	-1.277 °

Well	KP 433-23 - Slot B9		
Well Position	+N-S	0.0 usft	Northing: 1,616,656.99 usft
	+E-W	0.0 usft	Easting: 2,428,849.89 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 39° 30' 32.508 N
			Longitude: 107° 31' 28.051 W
			Ground Level: 6,321.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	2/10/2010	10.314
			Dip Angle (°)
			65.875
			Field Strength (nT)
			52,452

Design	Design #1 10Feb10 kjs		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°)
			56.85

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	
1,122.2	30.07	56.85	1,076.8	140.5	215.1	3.00	3.00	0.00	56.853	
3,300.2	30.07	56.85	2,961.8	737.1	1,128.7	0.00	0.00	0.00	0.000	
4,803.4	0.00	0.00	4,397.0	947.9	1,451.5	2.00	-2.00	0.00	180.000	UMV_PC (25' Radius)
7,655.4	0.00	0.00	7,249.0	947.9	1,451.5	0.00	0.00	0.00	0.000	

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Project:	Sec. 23-T6S-R91W	MD Reference:	KELLY BUSHING @ 6345.0usft (Koko Rig 2 (24' KB) kjs)
Site:	KP 24-23 Pad	North Reference:	True
Well:	KP 433-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 10Feb10 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	1,616,656.99	2,428,849.89	39° 30' 32.508 N	107° 31' 28.051 W	
120.0	0.00	0.00	120.0	0.0	0.0	1,616,656.99	2,428,849.89	39° 30' 32.508 N	107° 31' 28.051 W	
Start Build 3.00										
528.1	12.24	56.85	525.0	23.8	36.4	1,616,679.92	2,428,886.78	39° 30' 32.742 N	107° 31' 27.587 W	
Offset Water Well TD										
1,122.2	30.07	56.85	1,076.8	140.5	215.1	1,616,792.66	2,429,068.11	39° 30' 33.896 N	107° 31' 25.306 W	
Hold 30.07 Inclination										
1,172.0	30.07	56.85	1,119.9	154.2	236.0	1,616,805.84	2,429,089.31	39° 30' 34.031 N	107° 31' 25.039 W	
9 5/8"										
3,300.2	30.07	56.85	2,961.8	737.1	1,128.7	1,617,368.79	2,429,994.77	39° 30' 39.793 N	107° 31' 13.648 W	
Start Drop -2.00										
3,779.8	20.47	56.85	3,395.0	848.9	1,300.0	1,617,476.76	2,430,168.44	39° 30' 40.898 N	107° 31' 11.464 W	
Mesaverde										
4,803.4	0.00	0.00	4,397.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
UMV_PC - UMV_PC										
5,405.4	0.00	0.00	4,999.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
Approx. Top Gas										
6,688.4	0.00	0.00	6,282.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
Upper Sand										
7,231.4	0.00	0.00	6,825.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
Cameo Coals										
7,505.4	0.00	0.00	7,099.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
Rollins SS										
7,655.4	0.00	0.00	7,249.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
TD at 7655.4 - TD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
UMV_PC (25' Radius) K	0.00	0.00	4,397.0	947.9	1,451.5	1,617,572.30	2,430,322.10	39° 30' 41.876 N	107° 31' 9.531 W	
- hit/miss target										
- Shape										
- plan hits target center										
- Circle (radius 25.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,172.0	1,119.9	9 5/8"	9.625	12.250	

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Site:	KP 24-23 Pad	North Reference:	True
Well:	KP 433-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 10Feb10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
528.1	525.0	Offset Water Well TD				
3,779.8	3,395.0	Mesaverde				
4,803.4	4,397.0	UMV_PC				
5,405.4	4,999.0	Approx. Top Gas				
6,688.4	6,282.0	Upper Sand				
7,231.4	6,825.0	Cameo Coals				
7,505.4	7,099.0	Rollins SS				
7,655.4	7,249.0	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	
1,122.2	1,076.8	140.5	215.1	Hold 30.07 Inclination	
3,300.2	2,961.8	737.1	1,128.7	Start Drop -2.00	
4,803.4	4,397.0	947.9	1,451.5	UMV_PC	
7,655.4	7,249.0	947.9	1,451.5	TD at 7655.4	