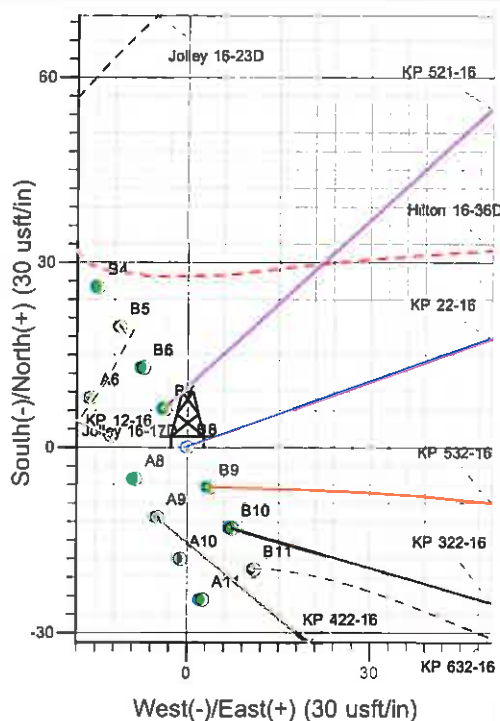
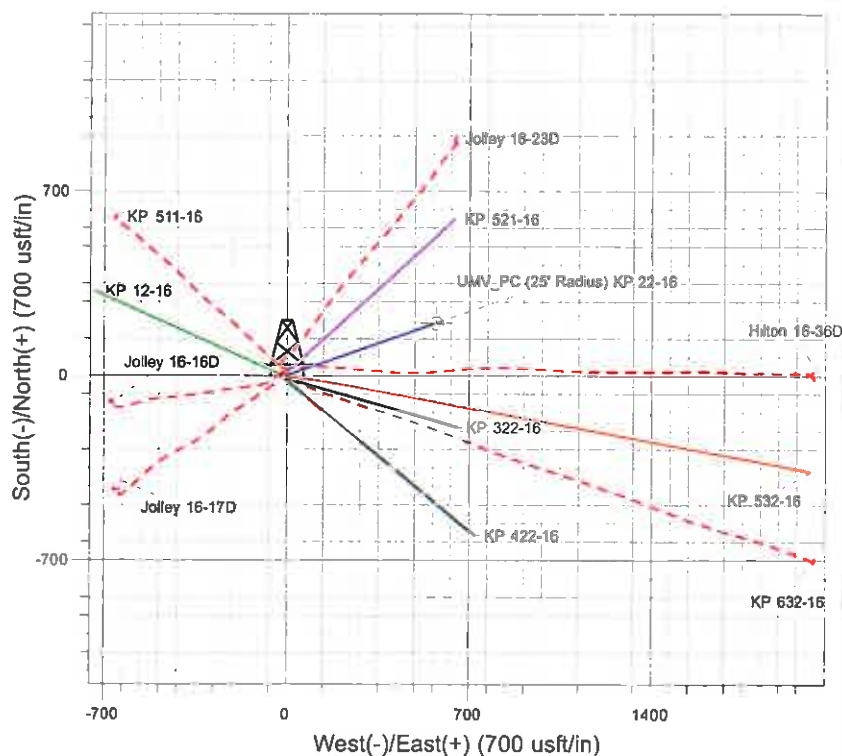
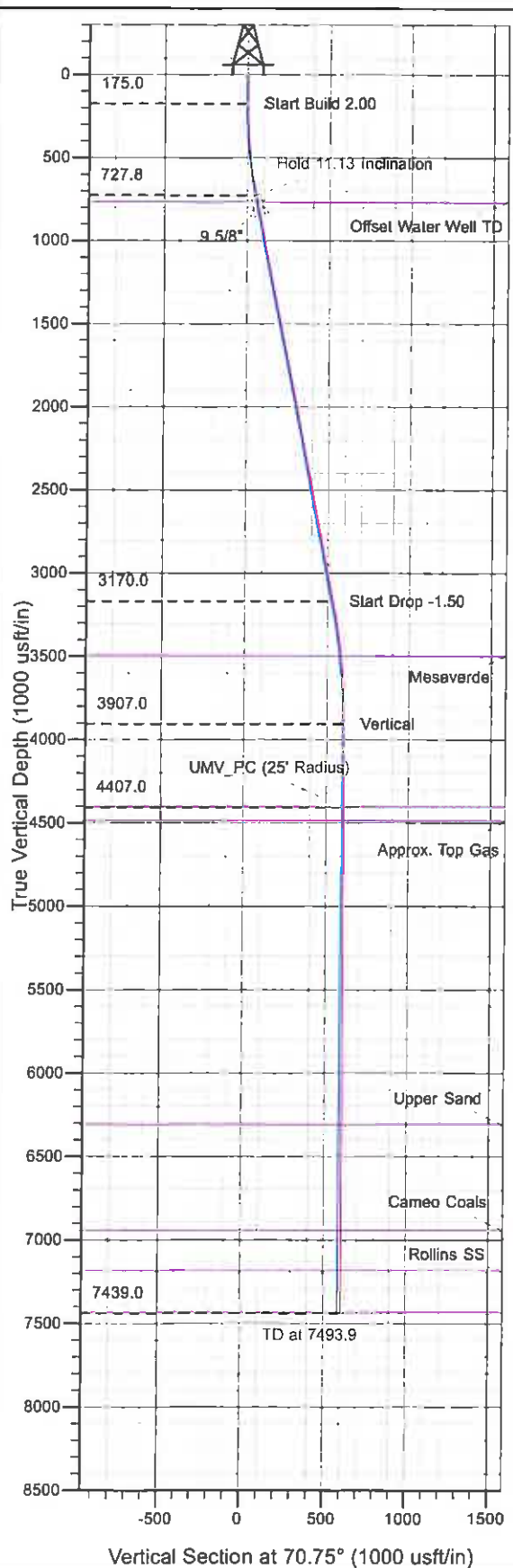
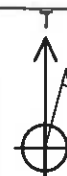




Well Name: KP 22-16  
 Surface Location: KP 22-16 Pad  
 North American Datum 1983 , US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 6674.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1624725.80 2417728.00 39° 31' 49.762 N 107° 33' 52.260 W B8  
 KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)



Project: Sec. 16-T6S-R91W  
 Site: KP 22-16 Pad  
 Well: KP 22-16  
 Plan #2 10Aug11 kjs



Azimuths to True North  
 Magnetic North: 10.36°  
 Magnetic Field  
 Strength: 52522 1nT  
 Dip Angle: 65.91°  
 Date: 9/18/2009  
 Model: IGRF2005-10

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
175.0	175.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.00
727.8	731.3	11.13	70.75	17.7	50.8	53.8	53.8	Hold 11.13 Inclination
3170.0	3220.2	11.13	70.75	176.1	504.2	534.1	534.1	Start Drop -1.50
3907.0	3961.9	0.00	0.00	199.7	572.0	605.9	605.9	Vertical
4407.0	4461.9	0.00	0.00	199.7	572.0	605.9	605.9	UMV_PC
7439.0	7493.9	0.00	0.00	199.7	572.0	605.9	605.9	TD at 7493.9

# **KOKOPELLI FIELD**

**Sec. 16-T6S-R91W**

**KP 22-16 Pad**

**KP 22-16 - Slot B8**

**Wellbore #1**

**Plan: Plan #2 10Aug11 kjs**

## **Standard Planning Report - Geographic**

**16 September, 2011**

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 22-16 - Slot B8
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Site:	KP 22-16 Pad	North Reference:	True
Well:	KP 22-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 10Aug11 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 22-16 Pad				
Site Position:		Northing:	1,624,771.94 usft	Latitude:	39° 31' 50.213 N
From:	Lat/Long	Easting:	2,417,703.43 usft	Longitude:	107° 33' 52.587 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-1.30 "

Well	KP 22-16 - Slot B8					
Well Position	+N-S	0.0 usft	Northing:	1,624,725.80 usft	Latitude:	39° 31' 49.762 N
	+E-W	0.0 usft	Easting:	2,417,728.00 usft	Longitude:	107° 33' 52.260 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,674.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	9/18/2009	10.36	65.91	52,522

Design	Plan #2 10Aug11 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	70.75

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	
175.0	0.00	0.00	175.0	0.0	0.0	0.00	0.00	0.00	0.00	
731.3	11.13	70.75	727.8	17.7	50.8	2.00	2.00	0.00	70.75	
3,220.2	11.13	70.75	3,170.0	176.1	504.2	0.00	0.00	0.00	0.00	
3,961.9	0.00	0.00	3,907.0	199.7	572.0	1.50	-1.50	0.00	180.00	
4,461.9	0.00	0.00	4,407.0	199.7	572.0	0.00	0.00	0.00	0.00	UMV_PC (25' Radius)
7,493.9	0.00	0.00	7,439.0	199.7	572.0	0.00	0.00	0.00	0.00	

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 22-16 - Slot B8
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Site:	KP 22-16 Pad	North Reference:	True
Well:	KP 22-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 10Aug11 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	1,624,725.80	2,417,728.00	39° 31' 49.762 N	107° 33' 52.260 W
175.0	0.00	0.00	175.0	0.0	0.0	1,624,725.80	2,417,728.00	39° 31' 49.762 N	107° 33' 52.260 W
<b>Start BuBd 2.00</b>									
731.3	11.13	70.75	727.8	17.7	50.8	1,624,742.39	2,417,779.22	39° 31' 49.937 N	107° 33' 51.612 W
<b>Hold 11.13 Inclination</b>									
771.2	11.13	70.75	767.0	20.3	58.1	1,624,744.76	2,417,786.56	39° 31' 49.963 N	107° 33' 51.519 W
<b>Offset Water Well TD</b>									
849.0	11.13	70.75	843.3	25.2	72.3	1,624,749.39	2,417,800.83	39° 31' 50.011 N	107° 33' 51.338 W
<b>9 5/8"</b>									
3,220.2	11.13	70.75	3,170.0	176.1	504.2	1,624,890.38	2,418,236.11	39° 31' 51.502 N	107° 33' 45.825 W
<b>Start Drop -1.50</b>									
3,553.1	6.13	70.75	3,499.0	192.5	551.4	1,624,905.76	2,418,283.61	39° 31' 51.665 N	107° 33' 45.223 W
<b>Mesaverde</b>									
3,961.9	0.00	0.00	3,907.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>Vertical</b>									
4,461.9	0.00	0.00	4,407.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>UMV_PC - UMW_PC - UMW_PC (25' Radius) KP 22-16</b>									
4,543.9	0.00	0.00	4,489.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>Approx. Top Gas</b>									
6,366.9	0.00	0.00	6,312.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>Upper Sand</b>									
7,000.9	0.00	0.00	6,946.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>Cameo Coals</b>									
7,243.9	0.00	0.00	7,189.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>Rolline SS</b>									
7,493.9	0.00	0.00	7,439.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
<b>TD at 7493.9 - 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	4,407.0	199.7	572.0	1,624,912.50	2,418,304.40	39° 31' 51.736 N	107° 33' 44.960 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
849.0	843.3	9 5/8"	9-5/8	12-1/4	

**Williams**  
Planning Report - Geographic

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Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Project:	Sec. 16-T6S-R91W	MD Reference:	KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)
Site:	KP 22-16 Pad	North Reference:	True
Well:	KP 22-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 10Aug11 kjs		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
771.2	767.0	Offset Water Well TD			
3,553.1	3,499.0	Mesaverde			
4,461.9	4,407.0	UMV_PC			
4,543.9	4,489.0	Approx. Top Gas			
6,366.9	6,312.0	Upper Sand			
7,000.9	6,946.0	Cameo Coals			
7,243.9	7,189.0	Rollins SS			
7,493.9	7,439.0	TD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
175.0	175.0	0.0	0.0	Start Build 2.00
731.3	727.8	17.7	50.8	Hold 11.13 Inclination
3,220.2	3,170.0	176.1	504.2	Start Drop -1.50
3,961.9	3,907.0	199.7	572.0	Vertical
4,461.9	4,407.0	199.7	572.0	UMV_PC
7,493.9	7,439.0	199.7	572.0	TD at 7493.9