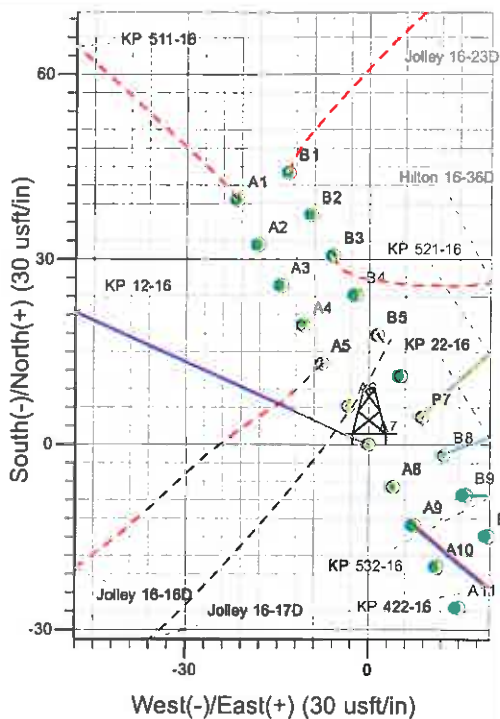
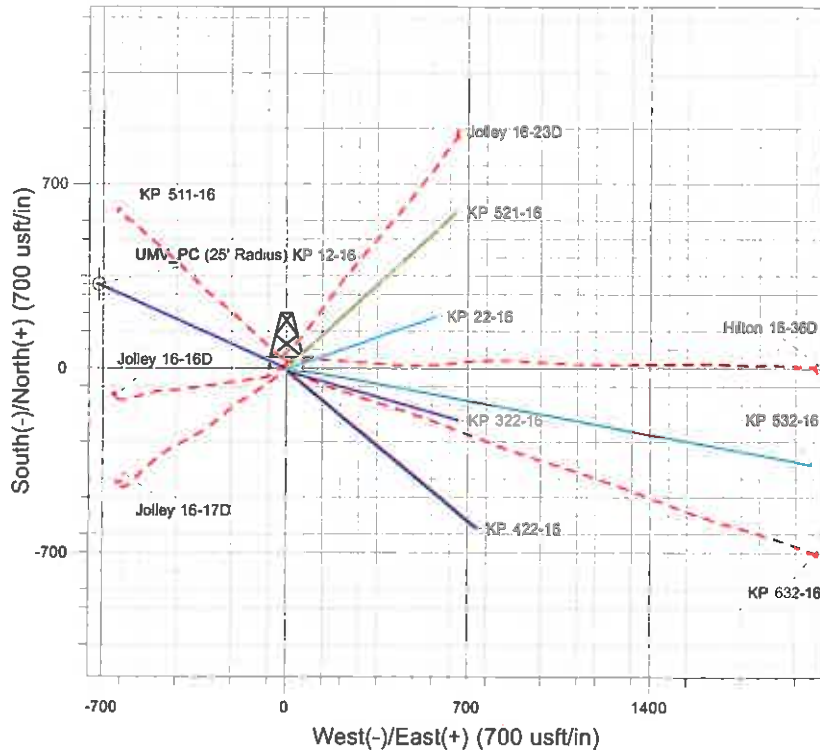
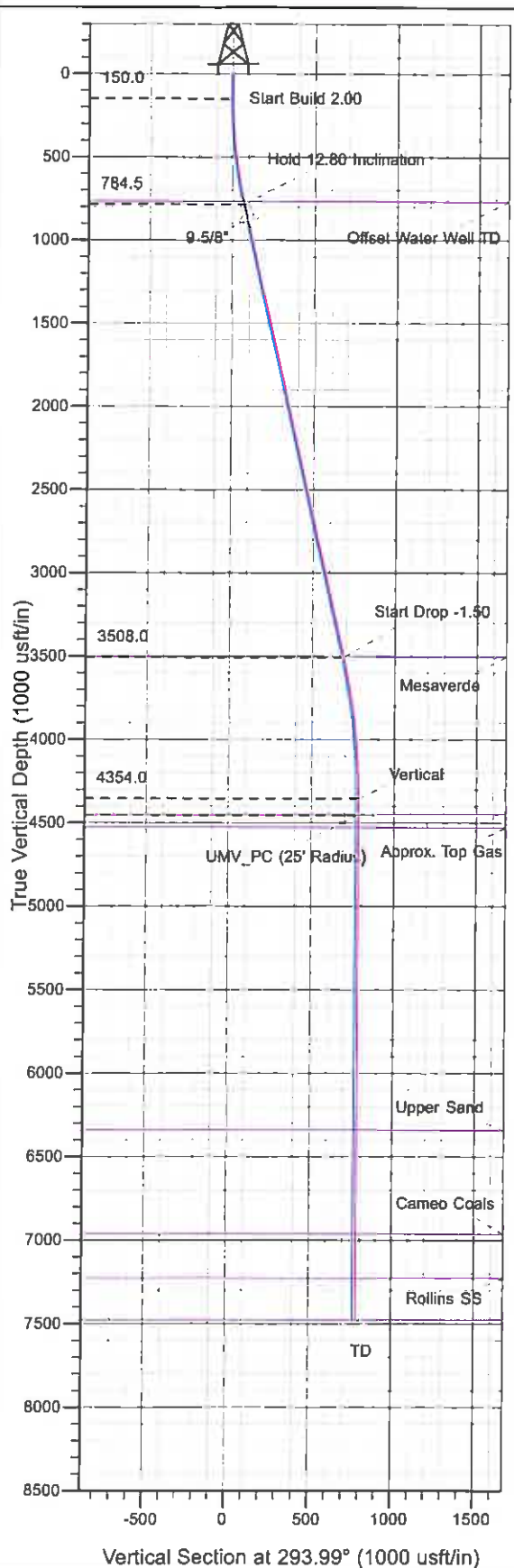




Well Name: KP 12-16  
 Surface Location: KP 22-16 Pad  
 North American Datum 1983 , US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 6674.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1624727.90 2417715.60 39° 31' 49.780 N 107° 33' 52.419 W A7  
 KELLY BUSHING @ 6697.0usft (Cyclone 30 (23' RKB) kjs)



Project: Sec. 16-T6S-R91W  
 Site: KP 22-16 Pad  
 Well: KP 12-16  
 Plan #2 10Aug11 kjs

Azimuths to True North  
 Magnetic North: 10.36°  
 Magnetic Field  
 Strength 52522.4nT  
 Dip Angle: 65.91°  
 Date: 9/17/2009  
 Model: IGRF2005-10

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
150.0	150.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.00
784.5	789.8	12.80	293.99	28.9	-65.0	71.2	71.2	Hold 12.80 Inclination
3508.0	3582.6	12.80	293.99	280.4	-630.2	689.7	689.7	Start Drop -1.50
4354.0	4435.7	0.00	0.00	319.0	-716.8	784.6	784.6	Vertical
4454.0	4535.7	0.00	0.00	319.0	-716.8	784.6	784.6	UMV_PC
7480.0	7561.7	0.00	0.00	319.0	-716.8	784.6	784.6	TD at 7561.7

# **KOKOPELLI FIELD**

**Sec. 16-T6S-R91W**

**KP 22-16 Pad**

**KP 12-16 - Slot A7**

**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 12-16 - Slot A7
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 12-16	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 12-16 - Slot A7					
Well Position	+N-S	0.0 usft	Northing:	1,624,727.90 usft	Latitude:	39° 31' 49.780 N
	+E-W	0.0 usft	Easting:	2,417,715.60 usft	Longitude:	107° 33' 52.419 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	9/17/2009	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	293.99

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	
150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.00	0.00	0.00	
789.8	12.80	293.99	784.5	28.9	-65.0	2.00	2.00	0.00	293.99	
3,582.6	12.80	293.99	3,508.0	280.4	-630.2	0.00	0.00	0.00	0.00	
4,435.7	0.00	0.00	4,354.0	319.0	-716.8	1.50	-1.50	0.00	180.00	
4,535.7	0.00	0.00	4,454.0	319.0	-716.8	0.00	0.00	0.00	0.00	UMV_PC (25' Radius
7,561.7	0.00	0.00	7,480.0	319.0	-716.8	0.00	0.00	0.00	0.00	

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 12-16 - Slot A7
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 12-16	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	1,624,727.90	2,417,715.60	39° 31' 49.780 N	107° 33' 52.419 W
150.0	0.00	0.00	150.0	0.0	0.0	1,624,727.90	2,417,715.60	39° 31' 49.780 N	107° 33' 52.419 W
<b>Start Build 2.00</b>									
771.9	12.44	293.99	767.0	27.3	-61.4	1,624,756.62	2,417,654.82	39° 31' 50.050 N	107° 33' 53.203 W
<b>Offset Water Well TD</b>									
789.8	12.80	293.99	784.5	28.9	-65.0	1,624,758.29	2,417,651.27	39° 31' 50.066 N	107° 33' 53.249 W
<b>Hold 12.80 Inclination</b>									
890.0	12.80	293.99	882.2	37.9	-85.3	1,624,767.77	2,417,631.21	39° 31' 50.155 N	107° 33' 53.508 W
<b>9 5/8"</b>									
3,579.6	12.80	293.99	3,505.0	280.1	-629.5	1,625,022.28	2,417,092.59	39° 31' 52.549 N	107° 34' 0.454 W
<b>Mesaverde</b>									
3,582.6	12.80	293.99	3,508.0	280.4	-630.2	1,625,022.57	2,417,091.98	39° 31' 52.551 N	107° 34' 0.462 W
<b>Start Drop -1.50</b>									
4,435.7	0.00	0.00	4,354.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>Vertical</b>									
4,535.7	0.00	0.00	4,454.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>UMV_PC - UMW_PC - UMW_PC (25' Radius) KP 12-16</b>									
4,611.7	0.00	0.00	4,530.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>Approx. Top Gas</b>									
6,426.7	0.00	0.00	6,345.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>Upper Sand</b>									
7,048.7	0.00	0.00	6,967.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>Cameo Coals</b>									
7,311.7	0.00	0.00	7,230.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>Rollins SS</b>									
7,561.7	0.00	0.00	7,480.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
<b>TD at 7561.7 - TD</b>									

Design Targets									
Target Name	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hits target									
- Shape									
UMV_PC (25' Radius) K	0.00	0.00	4,454.0	319.0	-716.8	1,625,063.10	2,417,006.20	39° 31' 52.933 N	107° 34' 1.568 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
890.0	882.2	9 5/8"	9-5/8	12-1/4	

**Williams**  
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 12-16 - Slot A7
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 12-16	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 (")
771.9	767.0	Offset Water Well TD			
3,579.6	3,505.0	Mesaverde			
4,535.7	4,454.0	UMV_PC			
4,611.7	4,530.0	Approx. Top Gas			
6,426.7	6,345.0	Upper Sand			
7,048.7	6,967.0	Cameo Coals			
7,311.7	7,230.0	Rollins SS			
7,561.7	7,480.0	TD			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
150.0	150.0	0.0	0.0	Start Build 2.00
789.8	784.5	28.9	-65.0	Hold 12.80 Inclination
3,582.6	3,508.0	280.4	-630.2	Start Drop -1.50
4,435.7	4,354.0	319.0	-716.8	Vertical
4,535.7	4,454.0	319.0	-716.8	UMV_PC
7,561.7	7,480.0	319.0	-716.8	TD at 7561.7