

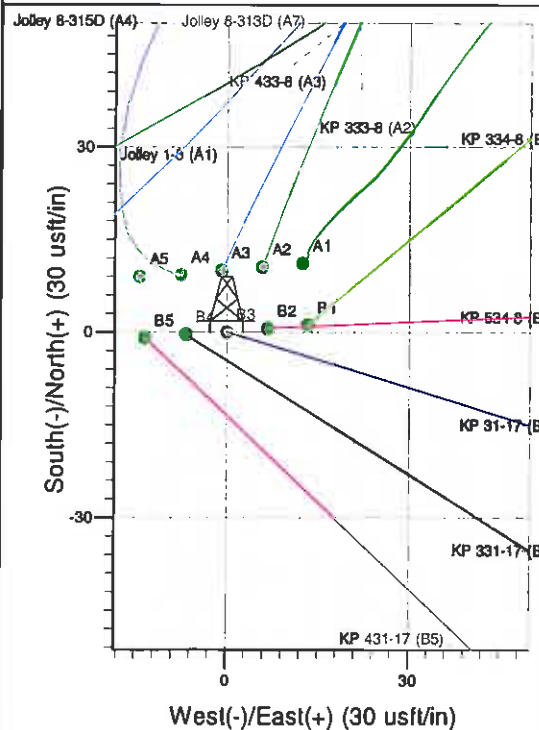
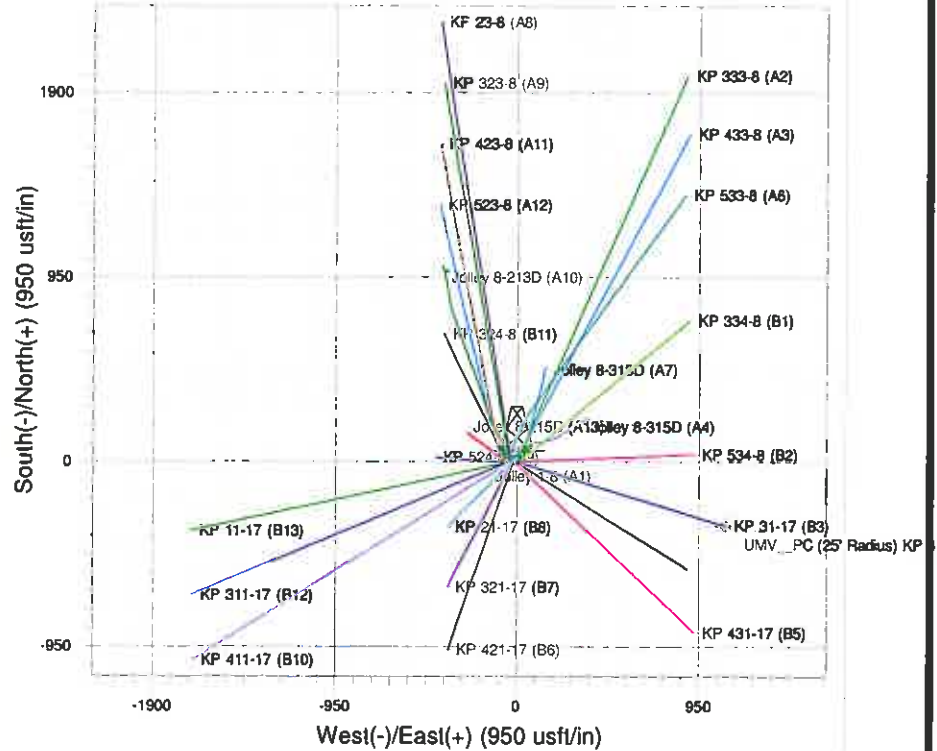
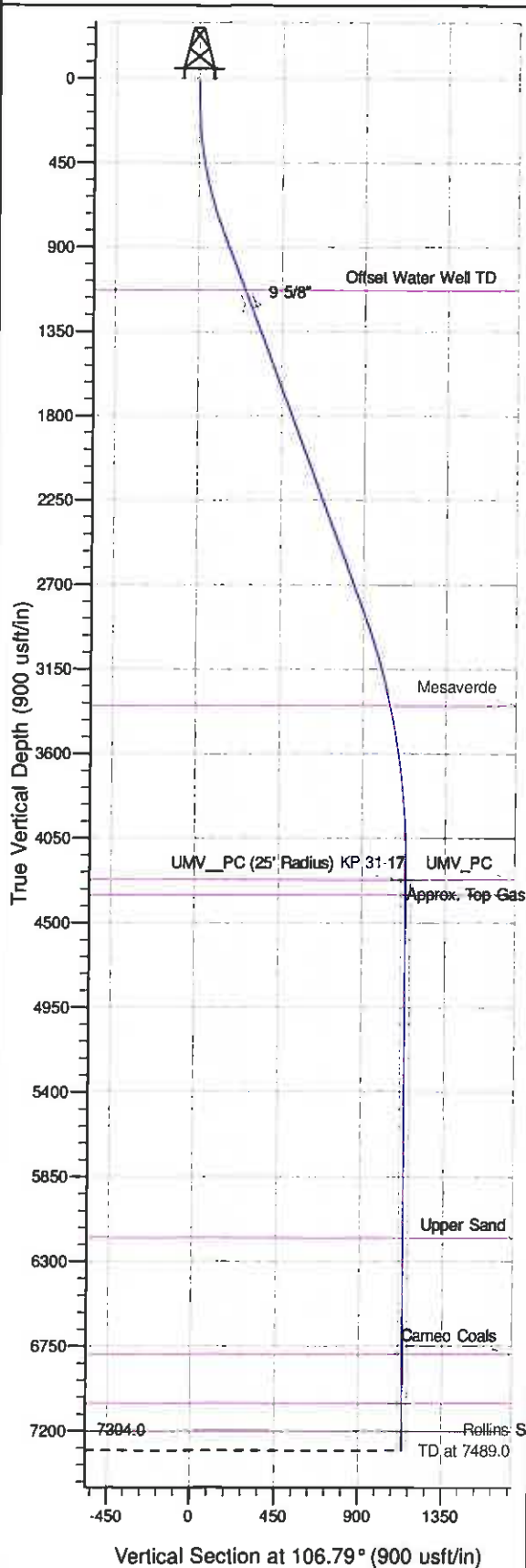


Well Name: KP 31-17
 Surface Location: KP 24-8 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6526.0
 Northing 1626654.10 Easting 2413503.40 Latitude 39° 32' 7.863 N Longitude 107° 34' 46.729 W
 KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)

+N/-S
 0.0

+E/-W
 0.0

Slot
 B3



Project: Sec. 08-T6S-R91W
 Site: KP 24-8 Pad
 Well: KP 31-17
 Design #1 04May11 kjs

Azimuths to True North
 Magnetic North: 10.18°
 Magnetic Field
 Strength: 52364.7snT
 Dip Angle: 65.86°
 Date: 5/4/2011
 Model: IGRF200510

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
795.8	810.8	20.72	108.79	-35.7	118.3	123.6	123.6	Hold 20.72 Inc
2821.4	2978.5	20.72	108.79	-257.1	852.0	889.9	889.9	Start Drop -1.50
4173.0	4358.0	0.00	0.00	-328.5	1088.5	1137.0	1137.0	Vertical
4273.0	4458.0	0.00	0.00	-328.5	1088.5	1137.0	1137.0	Top Gas
7304.0	7489.0	0.00	0.00	-328.5	1088.5	1137.0	1137.0	TD at 7489.0

KOKOPELLI FIELD

Sec. 08-T6S-R91W

KP 24-8 Pad

KP 31-17 - Slot B3

Wellbore #1

Plan: Design #1 04May11 kjs

Standard Planning Report - Geographic

05 October, 2011

Williams
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 31-17 (B3) - Slot B3
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 08-T6S-R91W	MD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 24-8 Pad	North Reference:	True
Well:	KP 31-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 04May11 kjs		

Project	Sec. 08-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		Using geodetic scale factor

Site	KP 24-8 Pad			
Site Position:		Northing:	1,626,664.90 usft	Latitude: 39° 32' 7.973 N
From:	Map	Easting:	2,413,516.10 usft	Longitude: 107° 34' 46.570 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence: -1.312 °

Well	KP 31-17 - Slot B3			
Well Position	+N/-S	0.0 usft	Northing:	1,626,654.10 usft
	+E/-W	0.0 usft	Easting:	2,413,503.40 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	Ground Level: 6,526.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/4/2011	10.156	65.865	52,365

Design	Design #1 04May11 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	106.79

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	
810.8	20.72	106.79	795.8	-35.7	118.3	3.00	3.00	0.00	106.792	
2,976.5	20.72	106.79	2,821.4	-257.1	852.0	0.00	0.00	0.00	0.000	
4,358.0	0.00	0.00	4,173.0	-328.5	1,088.5	1.50	-1.50	0.00	180.000	
4,458.0	0.00	0.00	4,273.0	-328.5	1,088.5	0.00	0.00	0.00	0.000	UMV_PC (25' Radiu
7,489.0	0.00	0.00	7,304.0	-328.5	1,088.5	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	COMPASS-PICEANCE	Local Co-ordinate Reference:	Well KP 31-17 (B3) - Slot B3
Company:	KOKOPELLI FIELD	TVD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Project:	Sec. 08-T6S-R91W	MD Reference:	KELLY BUSHING @ 6548.0usft (Cyclone 17 (22' RKB) kjs)
Site:	KP 24-8 Pad	North Reference:	True
Well:	KP 31-17	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 04May11 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	1,626,654.10	2,413,503.40	39° 32' 7.863 N	107° 34' 46.729 W
120.0	0.00	0.00	120.0	0.0	0.0	1,626,654.10	2,413,503.40	39° 32' 7.863 N	107° 34' 46.729 W
810.8	20.72	106.79	795.8	-35.7	118.3	1,626,615.70	2,413,620.85	39° 32' 7.510 N	107° 34' 45.219 W
2,976.5	20.72	106.79	2,821.4	-257.1	852.0	1,626,377.58	2,414,349.22	39° 32' 5.322 N	107° 34' 35.855 W
4,358.0	0.00	0.00	4,173.0	-328.5	1,088.5	1,626,300.80	2,414,584.10	39° 32' 4.617 N	107° 34' 32.835 W
4,458.0	0.00	0.00	4,273.0	-328.5	1,088.5	1,626,300.80	2,414,584.10	39° 32' 4.617 N	107° 34' 32.835 W
7,489.0	0.00	0.00	7,304.0	-328.5	1,088.5	1,626,300.80	2,414,584.10	39° 32' 4.617 N	107° 34' 32.835 W

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)	0.00	0.00	4,273.0	-328.5	1,088.5	1,626,300.80	2,414,584.10	39° 32' 4.617 N	107° 34' 32.835 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,273.9	1,229.0	9 5/8"	9.625	12.250	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,167.0	1,129.0	Offset Water Well TD				
3,525.4	3,347.0	Mesaverde				
4,458.0	4,273.0	UMV_PC				
4,539.0	4,354.0	Approx. Top Gas				
6,362.0	6,177.0	Upper Sand				
6,979.0	6,794.0	Cameo Coals				
7,239.0	7,054.0	Rollins SS				
7,389.0	7,204.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
120.0	120.0	0.0	0.0	Start Build 3.00	
810.8	795.8	-35.7	118.3	Hold 20.72 Inc	
2,976.5	2,821.4	-257.1	852.0	Start Drop -1.50	
4,358.0	4,173.0	-328.5	1,088.5	Vertical	
4,458.0	4,273.0	-328.5	1,088.5	Top Gas	
7,489.0	7,304.0	-328.5	1,088.5	TD at 7489.0	