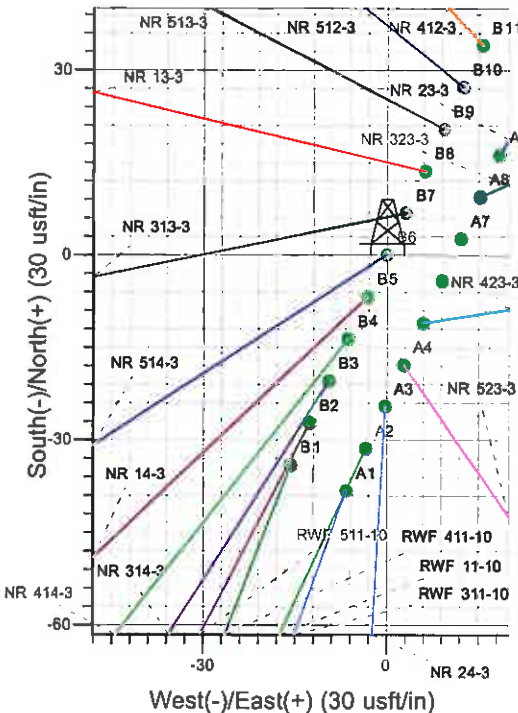
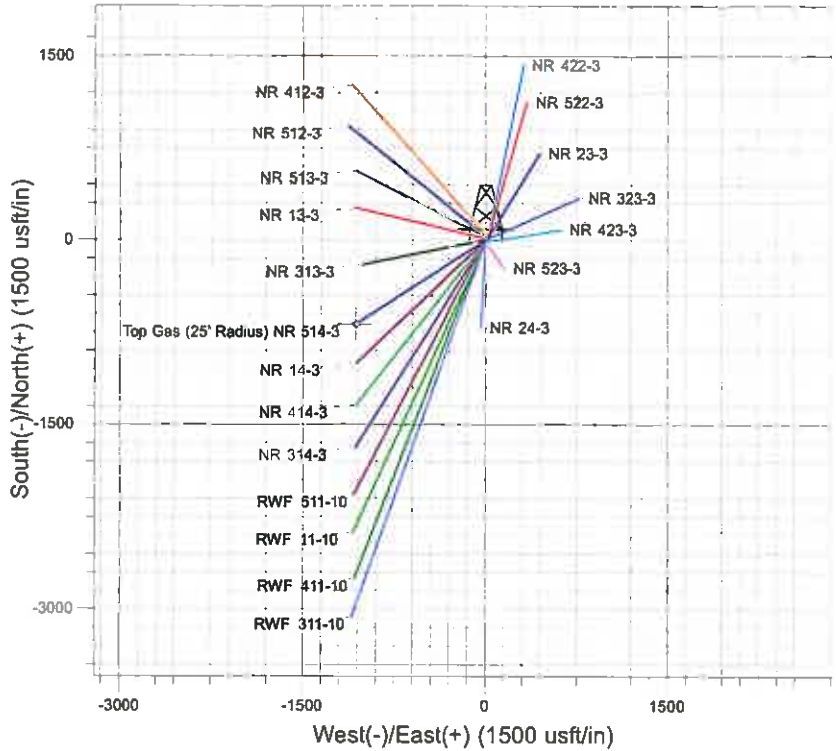
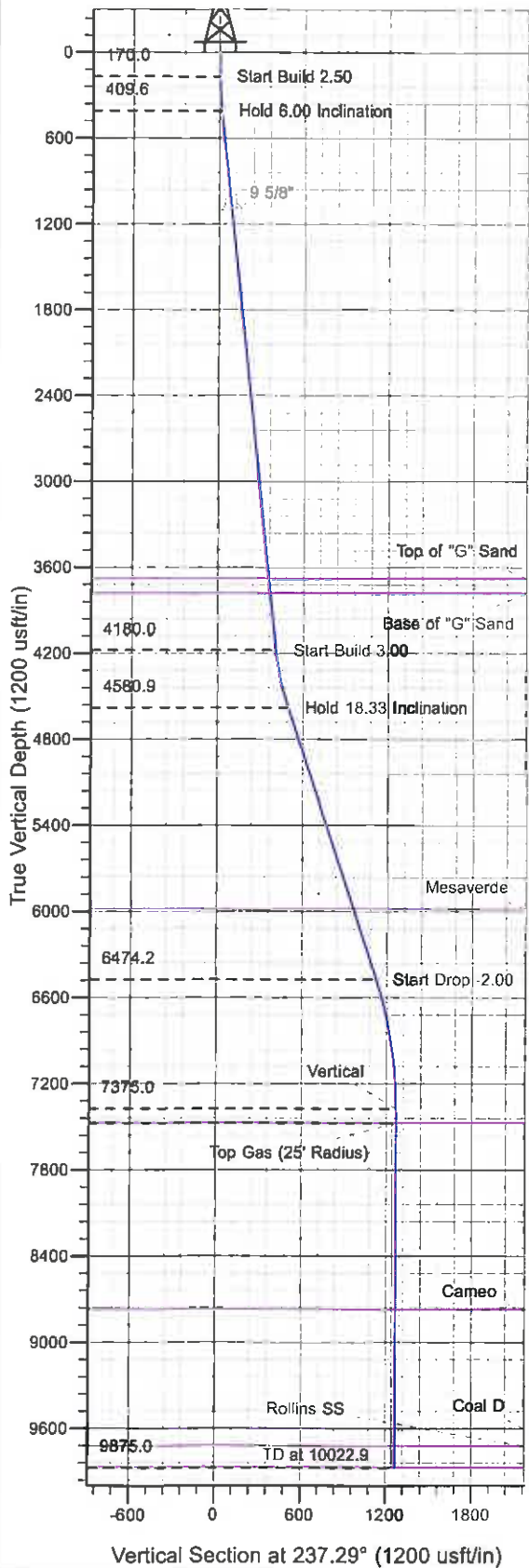




Well Name: NR 514-3
 Surface Location: NR 23-3 Pad (West)
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6720.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1634976.00 2329715.10 39° 33' 9.775 N 107° 52' 38.622 W B6
 KELLY BUSHING @ 6744.0usft (H&P (24') kjs)



Project: RU 03-06S-094W
 Site: NR 23-3 Pad (West)
 Well: NR 514-3
 Design #1 30Aug10 kjs

M Azimuths to True North
 Magnetic North: 10.41°

Magnetic Field
 Strength: 52370.6nT
 Dip Angle: 65.83°
 Date: 8/30/2010
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V	Sed	Departure	Annotation
170.0	170.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	Start Build 2.50
409.6	410.0	6.00	237.29	-8.8	-10.6	12.6	12.6	12.6	Hold 6.00 Inclination
4180.0	4201.2	6.00	237.29	-220.9	-344.0	408.8	408.8	408.8	Start Build 3.00
4580.9	4612.1	18.33	237.29	-267.6	-416.7	495.2	495.2	495.2	Hold 18.33 Inclination
6474.2	6606.6	18.33	237.29	-606.5	-944.4	1122.4	1122.4	1122.4	Start Drop -2.00
7375.0	7522.9	0.00	0.00	-685.0	-1066.6	1267.7	1267.7	1267.7	Vertical
7475.0	7622.9	0.00	0.00	-685.0	-1066.6	1267.7	1267.7	1267.7	Top Gas
9875.0	10022.9	0.00	0.00	-685.0	-1066.6	1267.7	1267.7	1267.7	TD at 10022.9

PICEANCE VLY NAD 83

RU 03-06S-094W

NR 23-3 Pad (West)

NR 514-3 - Slot B6

Wellbore #1

Plan: Design #1 30Aug10 kjs

Standard Planning Report - Geographic

22 February, 2011

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well NR 514-3 - Slot B6
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6744.0usft (H&P (24') kjs)
Project:	RU 03-06S-094W	MD Reference:	KELLY BUSHING @ 6744.0usft (H&P (24') kjs)
Site:	NR 23-3 Pad (West)	North Reference:	True
Well:	NR 514-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Aug10 kjs		

Project	RU 03-06S-094W, 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	NR 23-3 Pad (West)				
Site Position:		Northing:	1,634,937.90 usft	Latitude:	39° 33' 9.397 N
From:	Map	Easting:	2,329,707.50 usft	Longitude:	107° 52' 38.707 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.499 °

Well	NR 514-3 - Slot B6					
Well Position	+N/-S	0.0 usft	Northing:	1,634,976.00 usft	Latitude:	39° 33' 9.775 N
	+E/-W	0.0 usft	Easting:	2,329,715.10 usft	Longitude:	107° 52' 38.622 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,720.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/30/2010	10.408	65.830	52,371

Design	Design #1 30Aug10 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	237.29	

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	
170.0	0.00	0.00	170.0	0.0	0.0	0.00	0.00	0.00	0.000	
410.0	6.00	237.29	409.6	-6.8	-10.6	2.50	2.50	0.00	237.290	
4,201.2	6.00	237.29	4,180.0	-220.9	-344.0	0.00	0.00	0.00	0.000	
4,612.1	18.33	237.29	4,580.9	-267.6	-416.7	3.00	3.00	0.00	0.000	
6,606.6	18.33	237.29	6,474.2	-606.5	-944.4	0.00	0.00	0.00	0.000	
7,522.9	0.00	0.00	7,375.0	-685.0	-1,066.6	2.00	-2.00	0.00	180.000	
7,622.9	0.00	0.00	7,475.0	-685.0	-1,066.6	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
10,022.9	0.00	0.00	9,875.0	-685.0	-1,066.6	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well NR 514-3 - Slot B6
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6744.0usfl (H&P (24') kjs)
Project:	RU 03-06S-094W	MD Reference:	KELLY BUSHING @ 6744.0usfl (H&P (24') kjs)
Site:	NR 23-3 Pad (West)	North Reference:	True
Well:	NR 514-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Aug10 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	1,634,976.00	2,329,715.10	39° 33' 9.775 N	107° 52' 38.622 W	
170.0	0.00	0.00	170.0	0.0	0.0	1,634,976.00	2,329,715.10	39° 33' 9.775 N	107° 52' 38.622 W	
Start Build 2.50										
410.0	6.00	237.29	409.6	-6.8	-10.6	1,634,969.49	2,329,704.36	39° 33' 9.708 N	107° 52' 38.757 W	
Hold 6.00 Inclination										
1,104.2	6.00	237.29	1,100.0	-46.0	-71.6	1,634,931.89	2,329,642.30	39° 33' 9.321 N	107° 52' 39.537 W	
9 5/8"										
3,698.5	6.00	237.29	3,680.0	-192.5	-299.8	1,634,791.37	2,329,410.38	39° 33' 7.872 N	107° 52' 42.450 W	
Top of "G" Sand										
3,799.0	6.00	237.29	3,780.0	-198.2	-308.6	1,634,785.92	2,329,401.39	39° 33' 7.816 N	107° 52' 42.563 W	
Base of "G" Sand										
4,201.2	6.00	237.29	4,180.0	-220.9	-344.0	1,634,764.14	2,329,365.43	39° 33' 7.592 N	107° 52' 43.014 W	
Start Build 3.00										
4,612.1	18.33	237.29	4,580.9	-267.6	-416.7	1,634,719.37	2,329,291.53	39° 33' 7.130 N	107° 52' 43.943 W	
Hold 18.33 Inclination										
6,091.2	18.33	237.29	5,985.0	-519.0	-808.0	1,634,478.36	2,328,893.76	39° 33' 4.646 N	107° 52' 46.939 W	
Mesaverde										
6,606.6	18.33	237.29	6,474.2	-606.5	-944.4	1,634,394.39	2,328,755.17	39° 33' 3.781 N	107° 52' 50.679 W	
Start Drop -2.00										
7,522.9	0.00	0.00	7,375.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
Vertical										
7,622.9	0.00	0.00	7,475.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
Top Gas - Approx. Top Gas										
8,922.9	0.00	0.00	8,775.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
Cameo										
9,752.9	0.00	0.00	9,605.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
Coal D										
9,872.9	0.00	0.00	9,725.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
Rollins SS										
10,022.9	0.00	0.00	9,875.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 W	
TD at 10022.9 - TD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Top Gas (25' Radius) NF	0.00	0.00	7,475.0	-685.0	-1,066.6	1,634,319.10	2,328,630.90	39° 33' 3.005 N	107° 52' 52.240 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)	
1,104.2	1,100.0	9 5/8"	9.625	12.250	

Williams
 Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well NR 514-3 - Sloi B6
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 6744.0usfl (H&P (24') kjs)
Project:	RU 03-06S-094W	MD Reference:	KELLY BUSHING @ 6744.0usfl (H&P (24') kjs)
Site:	NR 23-3 Pad (West)	North Reference:	True
Well:	NR 514-3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1 30Aug10 kjs		

Formations:						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,698.5	3,680.0	Top of "G" Sand				
3,799.0	3,780.0	Base of "G" Sand				
6,091.2	5,985.0	Mesaverde				
7,622.9	7,475.0	Approx. Top Gas				
8,922.9	8,775.0	Cameo				
9,752.9	9,605.0	Coal D				
9,872.9	9,725.0	Rollins SS				
10,022.9	9,875.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
170.0	170.0	0.0	0.0	Start Build 2.50	
410.0	409.6	-6.8	-10.6	Hold 6.00 Inclination	
4,201.2	4,180.0	-220.9	-344.0	Start Build 3.00	
4,612.1	4,580.9	-267.6	-416.7	Hold 18.33 Inclination	
6,606.6	6,474.2	-606.5	-944.4	Start Drop -2.00	
7,522.9	7,375.0	-685.0	-1,066.6	Vertical	
7,622.9	7,475.0	-685.0	-1,066.6	Top Gas	
10,022.9	9,875.0	-685.0	-1,066.6	TD at 10022.9	