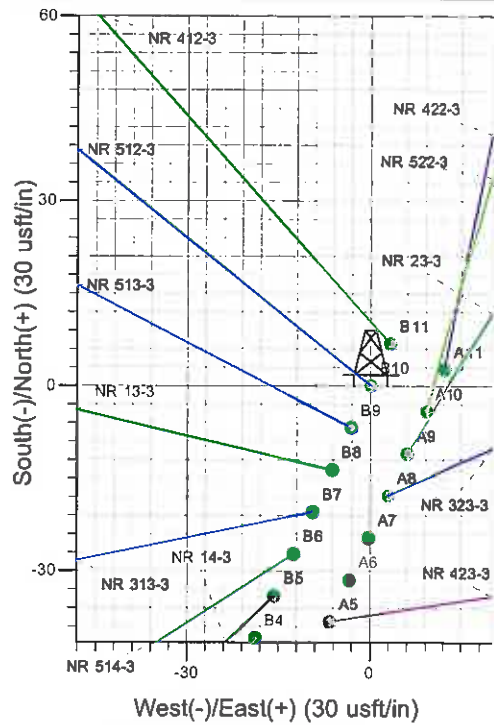
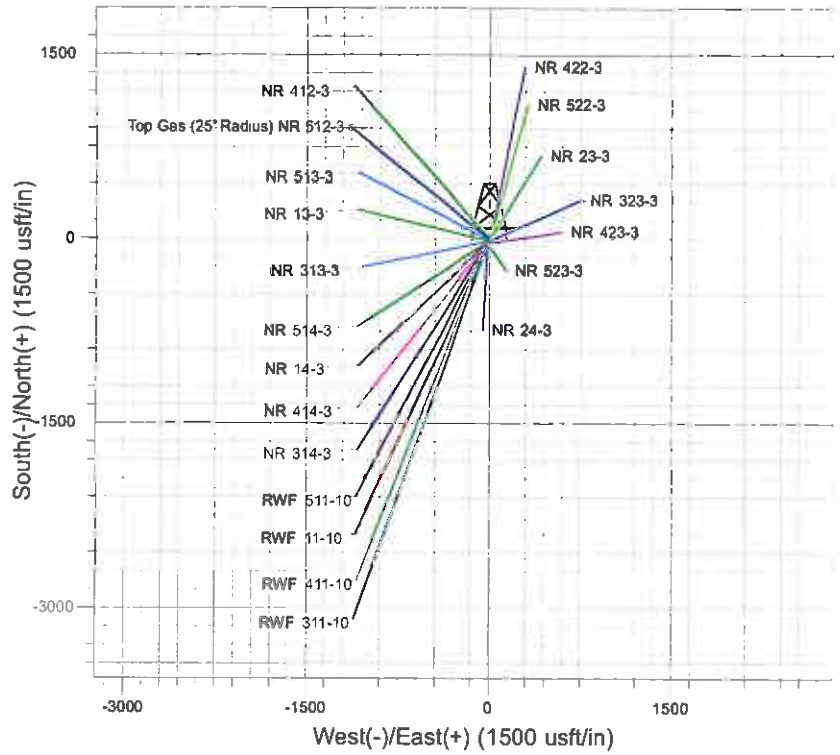
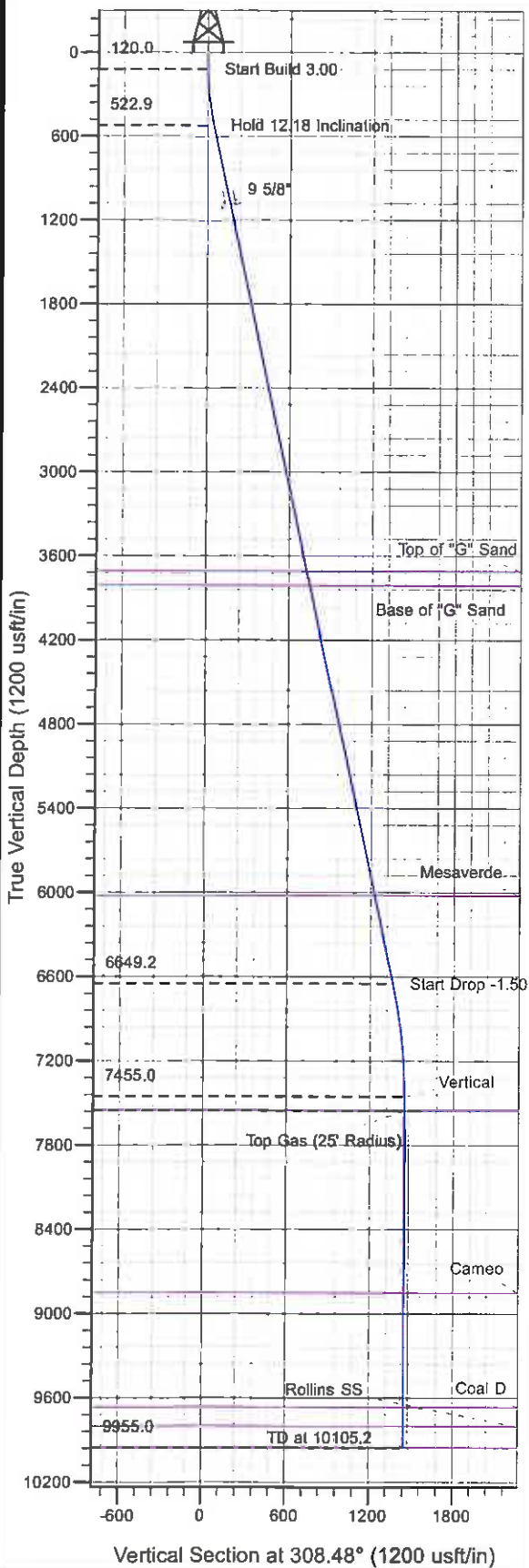




Well Name: NR 512-3
 Surface Location: NR 23-3 Pad (West)
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 6720.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1635002.90 2329728.30 39° 33' 10.045 N 107° 52' 38.463 W B10
 KELLY BUSHING @ 6744.0usft (H&P (24') kjs)



Project: RU 03-06S-094W
 Site: NR 23-3 Pad (West)
 Well: NR 512-3
 Design #1 30Aug10 kjs

M Azimuths to True North
 Magnetic North: 10.41°
 Magnetic Field
 Strength: 52370.7nT
 Dip Angle: 65.83°
 Date: 8/30/2010
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSD	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 3.00
522.9	525.9	12.18	308.48	26.7	-33.6	43.0	43.0	Hold 12.18 Inclination
6649.2	6793.3	12.18	308.48	849.4	-1068.6	1365.1	1365.1	Start Drop -1.50
7455.0	7605.2	0.00	0.00	902.9	-1135.9	1451.0	1451.0	Vertical
7555.0	7705.2	0.00	0.00	902.9	-1135.9	1451.0	1451.0	Top Gas
9955.0	10105.2	0.00	0.00	902.9	-1135.9	1451.0	1451.0	TD at 10105.2

PICEANCE VLY NAD 83

RU 03-06S-094W

NR 23-3 Pad (West)

NR 512-3 - Slot B10

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 512-3 - Slot B10
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 512-3	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
From:	Map	Easting:	2,329,707.50 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in
		Latitude:	39° 33' 9.397 N
		Longitude:	107° 52' 38.707 W
		Grid Convergence:	-1.499 °

Well	NR 512-3 - Slot B10		
Well Position	+N-S	0.0 usft	Northing: 1,635,002.90 usft
	+E-W	0.0 usft	Easting: 2,329,728.30 usft
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	308.48

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	
525.9	12.18	308.48	522.9	26.7	-33.6	3.00	3.00	0.00	308.480	
6,793.3	12.18	308.48	6,649.2	849.4	-1,068.6	0.00	0.00	0.00	0.000	
7,605.2	0.00	0.00	7,455.0	902.9	-1,135.9	1.50	-1.50	0.00	180.000	
7,705.2	0.00	0.00	7,555.0	902.9	-1,135.9	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
10,105.2	0.00	0.00	9,955.0	902.9	-1,135.9	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well NR 512-3 - Slot B10
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 512-3	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	1,635,002.90	2,329,728.30	39° 33' 10.045 N	107° 52' 38.463 W
120.0	0.00	0.00	120.0	0.0	0.0	1,635,002.90	2,329,728.30	39° 33' 10.045 N	107° 52' 38.463 W
Start Build 3.00									
525.9	12.18	308.48	522.9	26.7	-33.6	1,635,030.51	2,329,695.37	39° 33' 10.309 N	107° 52' 38.893 W
Hold 12.18 Inclination									
1,116.3	12.18	308.48	1,100.0	104.2	-131.1	1,635,110.53	2,329,599.93	39° 33' 11.075 N	107° 52' 40.137 W
9 5/8"									
3,786.4	12.18	308.48	3,710.0	454.7	-572.1	1,635,472.43	2,329,168.32	39° 33' 14.539 N	107° 52' 45.767 W
Top of "G" Sand									
3,888.7	12.18	308.48	3,810.0	468.1	-589.0	1,635,486.29	2,329,151.79	39° 33' 14.671 N	107° 52' 45.983 W
Base of "G" Sand									
6,154.7	12.18	308.48	6,025.0	765.6	-963.2	1,635,793.42	2,328,785.50	39° 33' 17.611 N	107° 52' 50.780 W
Mesaverde									
6,793.3	12.18	308.48	6,649.2	849.4	-1,068.6	1,635,879.97	2,328,682.27	39° 33' 18.439 N	107° 52' 52.107 W
Start Drop -1.50									
7,605.2	0.00	0.00	7,455.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
Vertical									
7,705.2	0.00	0.00	7,555.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
Top Gas - Approx. Top Gas									
9,005.2	0.00	0.00	8,855.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
Cameo									
9,820.2	0.00	0.00	9,670.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
Coal D									
9,955.2	0.00	0.00	9,805.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
Rollins SS									
10,105.2	0.00	0.00	9,955.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
TD at 10105.2 - TD									

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									
Top Gas (25' Radius) NF	0.00	0.00	7,555.0	902.9	-1,135.9	1,635,935.20	2,328,616.40	39° 33' 18.968 N	107° 52' 52.966 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,116.3	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 512-3 - Slot B10
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 512-3	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 (°)
3,786.4	3,710.0	Top of "G" Sand			
3,888.7	3,810.0	Base of "G" Sand			
6,154.7	6,025.0	Mesaverde			
7,705.2	7,555.0	Approx. Top Gas			
9,005.2	8,855.0	Cameo			
9,820.2	9,670.0	Coal D			
9,955.2	9,805.0	Rollins SS			
10,105.2	9,955.0	TD			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.0	120.0	0.0	0.0	Start Build 3.00
525.9	522.9	26.7	-33.6	Hold 12.18 Inclination
6,793.3	6,649.2	849.4	-1,068.6	Start Drop -1.50
7,605.2	7,455.0	902.9	-1,135.9	Vertical
7,705.2	7,555.0	902.9	-1,135.9	Top Gas
10,105.2	9,955.0	902.9	-1,135.9	TD at 10105.2