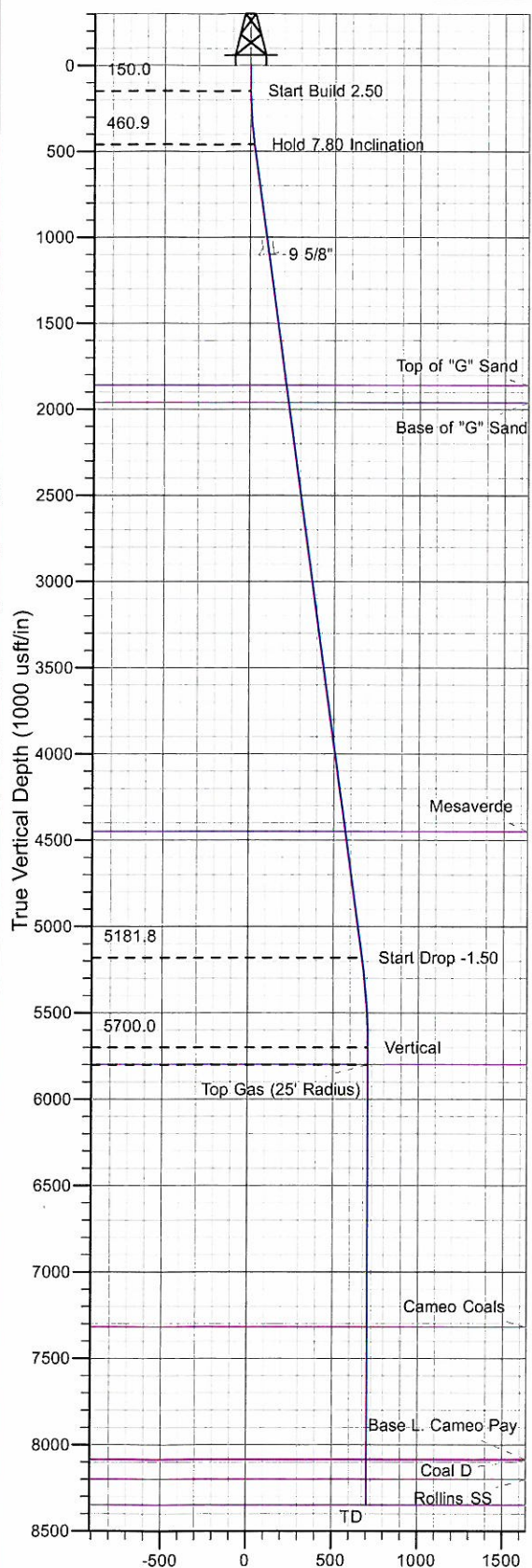
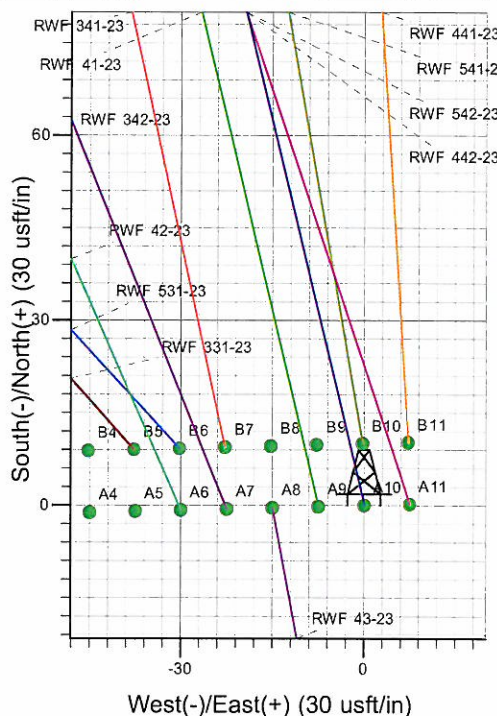
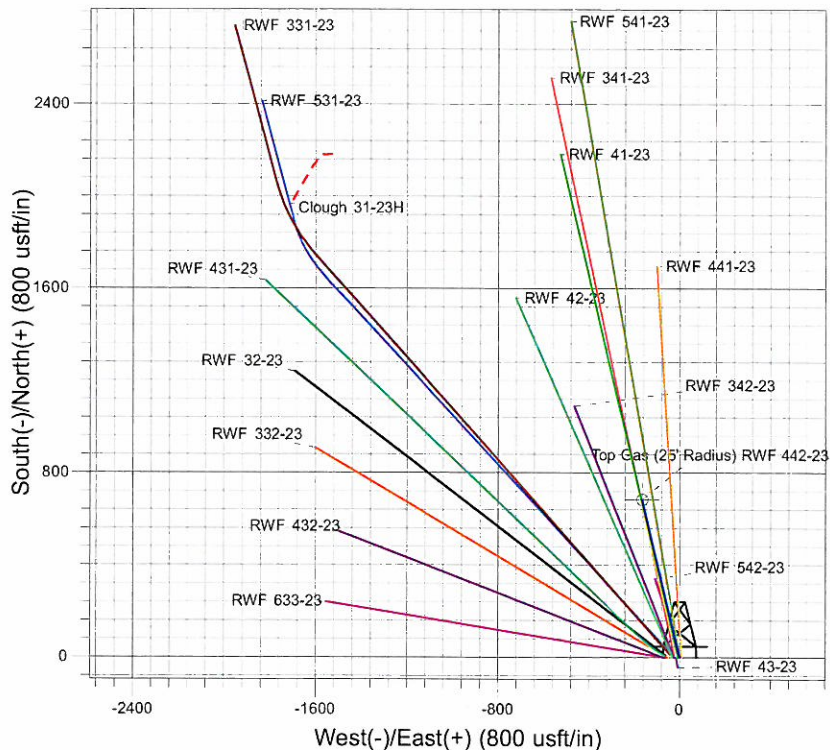




Well Name: RWF 442-23
 Surface Location: RWF 43-23 Pad
 North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
 Ground Elevation: 5599.0
 Northing 1619204.50 Easting 2337911.50 Latitude 39° 30' 36.057 N Longitude 107° 50' 48.811 W Slot A10
 KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)



Vertical Section at 346.40° (1000 usft/in)



Project: RU 23-06S-094W
 Site: RWF 43-23 Pad
 Well: RWF 442-23
 Plan #3 25Aug10 kjs



Azimuths to True North
 Magnetic North: 10.43°
 Magnetic Field
 Strength: 52394.8snT
 Dip Angle: 65.81°
 Date: 4/28/2010
 Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
150.0	150.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.50
460.9	461.9	7.80	346.40	20.6	-5.0	21.2	21.2	Hold 7.80 Inclination
5181.8	5226.8	7.80	346.40	649.0	-157.0	667.7	667.7	Start Drop -1.50
5700.0	5746.6	0.00	0.00	683.3	-165.3	703.0	703.0	Vertical
5800.0	5846.6	0.00	0.00	683.3	-165.3	703.0	703.0	Top Gas
8350.0	8396.6	0.00	0.00	683.3	-165.3	703.0	703.0	TD at 8396.6

PICEANCE VLY NAD 83

RU 23-06S-094W

RWF 43-23 Pad

RWF 442-23 - Slot A10

Wellbore #1

Plan: Plan #3 25Aug10 kjs

Standard Planning Report - Geographic

27 August, 2010

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 442-23 - Slot A10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Project:	RU 23-06S-094W	MD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Site:	RWF 43-23 Pad	North Reference:	True
Well:	RWF 442-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3 25Aug10 kjs		

Project	RU 23-06S-094W, Garfield County, CO, 23-06S-094W		
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	RWF 43-23 Pad			
Site Position:		Northing:	1,619,204.50 usft	Latitude: 39° 30' 36.053 N
From: Map		Easting:	2,337,897.00 usft	Longitude: 107° 50' 48.996 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence: -1.480 °

Well	RWF 442-23 - Slot A10			
Well Position	+N/-S	0.0 usft	Northing:	1,619,204.50 usft
	+E/-W	0.0 usft	Easting:	2,337,911.50 usft
Position Uncertainty	0.0 usft		Wellhead Elevation:	Ground Level: 5,599.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/28/2010	10.433	65.810	52,395

Design	Plan #3 25Aug10 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	346.40

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	
150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.00	0.00	0.000	
461.9	7.80	346.40	460.9	20.6	-5.0	2.50	2.50	0.00	346.399	
5,226.8	7.80	346.40	5,181.8	649.0	-157.0	0.00	0.00	0.00	0.000	
5,746.6	0.00	0.00	5,700.0	683.3	-165.3	1.50	-1.50	0.00	180.000	
5,846.6	0.00	0.00	5,800.0	683.3	-165.3	0.00	0.00	0.00	0.000	Top Gas (25' Radius)
8,396.6	0.00	0.00	8,350.0	683.3	-165.3	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 442-23 - Slot A10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Project:	RU 23-06S-094W	MD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Site:	RWF 43-23 Pad	North Reference:	True
Well:	RWF 442-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3 25Aug10 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	1,619,204.50	2,337,911.50	39° 30' 36.057 N	107° 50' 48.811 W
150.0	0.00	0.00	150.0	0.0	0.0	1,619,204.50	2,337,911.50	39° 30' 36.057 N	107° 50' 48.811 W
Start Build 2.50									
461.9	7.80	346.40	460.9	20.6	-5.0	1,619,225.22	2,337,907.05	39° 30' 36.260 N	107° 50' 48.875 W
Hold 7.80 Inclination									
1,106.9	7.80	346.40	1,100.0	105.7	-25.6	1,619,310.78	2,337,888.68	39° 30' 37.101 N	107° 50' 49.137 W
9 5/8"									
1,874.0	7.80	346.40	1,860.0	206.8	-50.0	1,619,412.53	2,337,866.83	39° 30' 38.101 N	107° 50' 49.450 W
Top of "G" Sand									
1,975.0	7.80	346.40	1,960.0	220.1	-53.3	1,619,425.92	2,337,863.95	39° 30' 38.232 N	107° 50' 49.491 W
Base of "G" Sand									
4,488.2	7.80	346.40	4,450.0	551.6	-133.4	1,619,759.29	2,337,792.36	39° 30' 41.508 N	107° 50' 50.514 W
Mesaverde									
5,226.8	7.80	346.40	5,181.8	649.0	-157.0	1,619,857.26	2,337,771.32	39° 30' 42.470 N	107° 50' 50.815 W
Start Drop -1.50									
5,746.6	0.00	0.00	5,700.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Vertical									
5,846.6	0.00	0.00	5,800.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Top Gas - Approx. Top Gas									
7,366.6	0.00	0.00	7,320.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Cameo Coals									
8,131.6	0.00	0.00	8,085.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Base L. Cameo Pay									
8,136.6	0.00	0.00	8,090.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Coal D									
8,246.6	0.00	0.00	8,200.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
Rollins SS									
8,396.6	0.00	0.00	8,350.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
TD at 8396.6									

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) R1	0.00	0.00	5,800.0	683.3	-165.3	1,619,891.80	2,337,763.90	39° 30' 42.810 N	107° 50' 50.921 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,106.9	1,100.0	9 5/8"	9.625	12.250	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well RWF 442-23 - Slot A10
Company:	PICEANCE VLY NAD 83	TVD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Project:	RU 23-06S-094W	MD Reference:	KELLY BUSHING @ 5623.0usft (H&P (24' RKB) kjs)
Site:	RWF 43-23 Pad	North Reference:	True
Well:	RWF 442-23	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #3 25Aug10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,874.0	1,860.0	Top of "G" Sand				
1,975.0	1,960.0	Base of "G" Sand				
4,488.2	4,450.0	Mesaverde				
5,846.6	5,800.0	Approx. Top Gas				
7,366.6	7,320.0	Cameo Coals				
8,131.6	8,085.0	Base L. Cameo Pay				
8,136.6	8,090.0	Coal D				
8,246.6	8,200.0	Rollins SS				
8,396.6	8,350.0	TD				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
150.0	150.0	0.0	0.0	Start Build 2.50	
461.9	460.9	20.6	-5.0	Hold 7.80 Inclination	
5,226.8	5,181.8	649.0	-157.0	Start Drop -1.50	
5,746.6	5,700.0	683.3	-165.3	Vertical	
5,846.6	5,800.0	683.3	-165.3	Top Gas	
8,396.6	8,350.0	683.3	-165.3	TD at 8396.6	