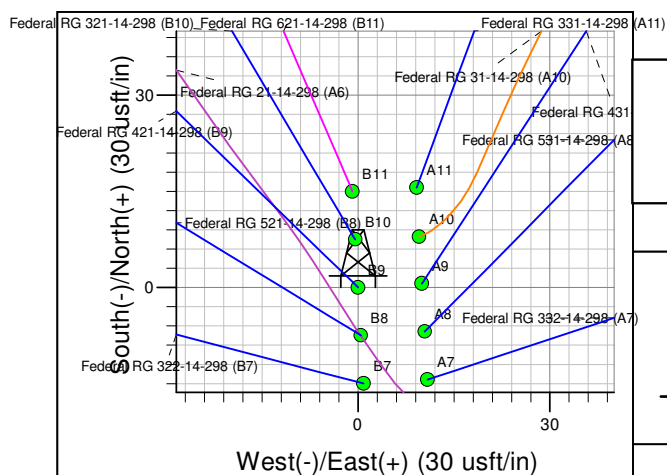
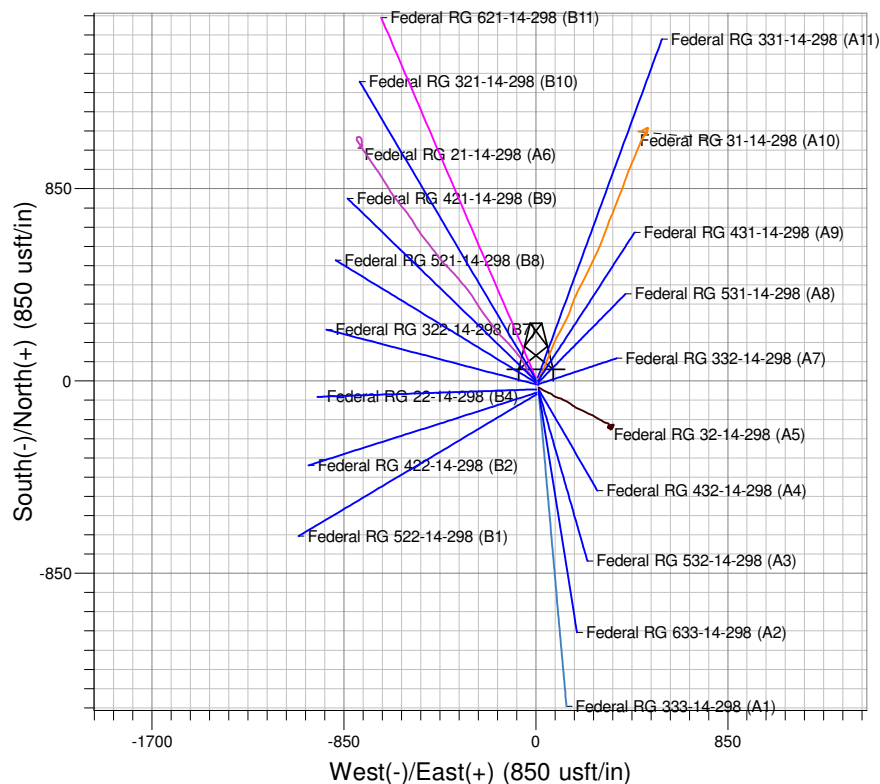


Well Name: Federal RG 421-14-298
 Surface Location: RG 32-14-298 Pad
 Federal RG 421-14-298
 North American Datum 1983 , US State Plane 1983 Colorado Central Zone
 Ground Elevation: 6545.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1758159.40 2197912.50 39° 52' 49.150 N 108° 21' 30.019 W B9
 Cyclone 29 (21' RKB) FULLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jib)



Project: RG 14-02S-098W
 Site: RG 32-14-298 Pad
 Well: Federal RG 421-14-298
 Plan: Plan #2 17Mar10 kjs

Azimuths to True North
 Magnetic North: 11.04°
 Magnetic Field
 Strength: 52809.0snT
 Dip Angle: 66.10°
 Date: 8/29/2007
 Model: IGRF2005-10

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.000	0.0	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.000	0.0	
622.4	12.56	314.06	618.4	38.1	-39.4	2.50	314.060	54.7	
5284.9	12.56	314.06	5169.3	743.3	-768.1	0.00	0.000	1065.6	
6122.3	0.00	0.00	6000.0	806.8	-833.8	1.50	180.000	1156.7	Mesaverde (25' Radius) Federal RG 421-14-298
11238.3	0.00	0.00	11116.0	806.8	-833.8	0.00	0.000	1156.7	

TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation
120.0	120.0	0.00	0.0	0.0	0.0	0.0	0.0	Start Build 2.50
618.4	622.4	12.56	314.06	38.1	-39.4	54.7	54.9	Hold 1256 Inc
5169.3	5284.9	12.56	314.06	743.3	-768.1	1065.6	1068.8	Start Drop -1.50
6000.0	6122.3	0.00	0.00	806.8	-833.8	1156.7	1160.2	Vertical 646' above target for AC purposes
11116.0	11238.3	0.00	0.00	806.8	-833.8	1156.7	1160.2	TD at 11238

PICEANCE HL NAD 83

RG 14-02S-098W

RG 32-14-298 Pad

Federal RG 421-14-298 - Slot B9

Federal RG 421-14-298

Plan: Plan #2 17Mar10 kjs

Standard Planning Report - Geographic

25 March, 2010

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RG 421-14-298 (B9) - Slot B9
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jib)
Project:	RG 14-02S-098W	MD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jib)
Site:	RG 32-14-298 Pad	North Reference:	True
Well:	Federal RG 421-14-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RG 421-14-298		
Design:	Plan #2 17Mar10 kjs		

Project	RG 14-02S-098W, Rio Blanco County, CO, RG 14-02S-098W		
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	RG 32-14-298 Pad		
Site Position:		Northing:	1,758,130.50 usft
From:	Map	Easting:	2,197,923.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in
		Latitude:	39° 52' 48.868 N
		Longitude:	108° 21' 29.862 W
		Grid Convergence:	-1.803 °

Well	Federal RG 421-14-298 - Slot B9		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Federal RG 421-14-298				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	8/29/2007	11.039	66.097	52,809

Design	Plan #2 17Mar10 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	309.57

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	
622.4	12.56	314.06	618.4	38.1	-39.4	2.50	2.50	0.00	314.060	
5,284.9	12.56	314.06	5,169.3	743.3	-768.1	0.00	0.00	0.00	0.000	
6,122.3	0.00	0.00	6,000.0	806.8	-833.8	1.50	-1.50	0.00	180.000	Mesaverde (25' Radiu
11,238.3	0.00	0.00	11,116.0	806.8	-833.8	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RG 421-14-298 (B9) - Slot B9
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jjb)
Project:	RG 14-02S-098W	MD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jjb)
Site:	RG 32-14-298 Pad	North Reference:	True
Well:	Federal RG 421-14-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RG 421-14-298		
Design:	Plan #2 17Mar10 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	1,758,159.40	2,197,912.50	39° 52' 49.150 N	108° 21' 30.019 W
120.0	0.00	0.00	120.0	0.0	0.0	1,758,159.40	2,197,912.50	39° 52' 49.150 N	108° 21' 30.019 W
622.4	12.56	314.06	618.4	38.1	-39.4	1,758,198.77	2,197,874.30	39° 52' 49.527 N	108° 21' 30.525 W
5,284.9	12.56	314.06	5,169.3	743.3	-768.1	1,758,926.49	2,197,168.17	39° 52' 56.495 N	108° 21' 39.872 W
6,122.3	0.00	0.00	6,000.0	806.8	-833.8	1,758,992.10	2,197,104.50	39° 52' 57.123 N	108° 21' 40.715 W
11,238.3	0.00	0.00	11,116.0	806.8	-833.8	1,758,992.10	2,197,104.50	39° 52' 57.123 N	108° 21' 40.715 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									
Mesaverde (25' Radius)	0.00	0.00	6,000.0	806.8	-833.8	1,758,992.10	2,197,104.50	39° 52' 57.123 N	108° 21' 40.715 W
- plan hits target center									
- Circle (radius 25.0)									
Mesaverde (50' Radius)	0.00	0.00	6,646.0	806.8	-833.8	1,758,992.10	2,197,104.50	39° 52' 57.123 N	108° 21' 40.715 W
- plan misses target center by 646.0usft at 6122.3usft MD (6000.0 TVD, 806.8 N, -833.8 E)									
- Circle (radius 50.0)									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,067.0	3,004.5	9 5/8"	9.625	13.500	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RG 421-14-298 (B9) - Slot B9
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jjb)
Project:	RG 14-02S-098W	MD Reference:	KELLY BUSHING @ 6566.0usft (Cyclone 29 (21' RKB) jjb)
Site:	RG 32-14-298 Pad	North Reference:	True
Well:	Federal RG 421-14-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RG 421-14-298		
Design:	Plan #2 17Mar10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
753.1	746.0	Green River Fm				
911.9	901.0	A Groove				
1,096.4	1,081.0	B Groove				
1,419.1	1,396.0	Dissolution Surface				
2,177.2	2,136.0	Garden Gulch				
2,361.6	2,316.0	Orange Marker				
2,566.5	2,516.0	Wasatch				
4,579.7	4,481.0	G' Sand				
4,871.7	4,766.0	Ft. Union				
6,228.3	6,106.0	Ohio Creek				
6,768.3	6,646.0	Mesaverde				
7,658.3	7,536.0	Top Gas				
9,638.3	9,516.0	Cameo Coals				
10,028.3	9,906.0	Rollins SS				
10,158.3	10,036.0	Cozzette				
10,378.3	10,256.0	Corcoran				
10,743.3	10,621.0	Upper Sego				
10,988.3	10,866.0	Lower Sego				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
120.0	120.0	0.0	0.0	Start Build 2.50	
622.4	618.4	38.1	-39.4	Hold 1256 Inc	
5,284.9	5,169.3	743.3	-768.1	Start Drop -1.50	
6,122.3	6,000.0	806.8	-833.8	Vertical 646' above target for AC purposes	
11,238.3	11,116.0	806.8	-833.8	TD at 11238	