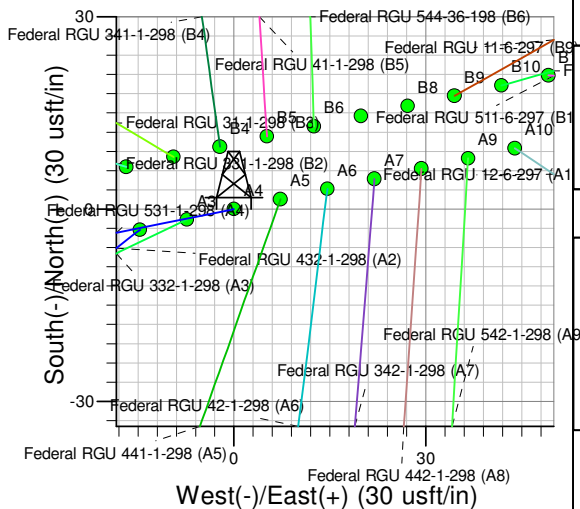
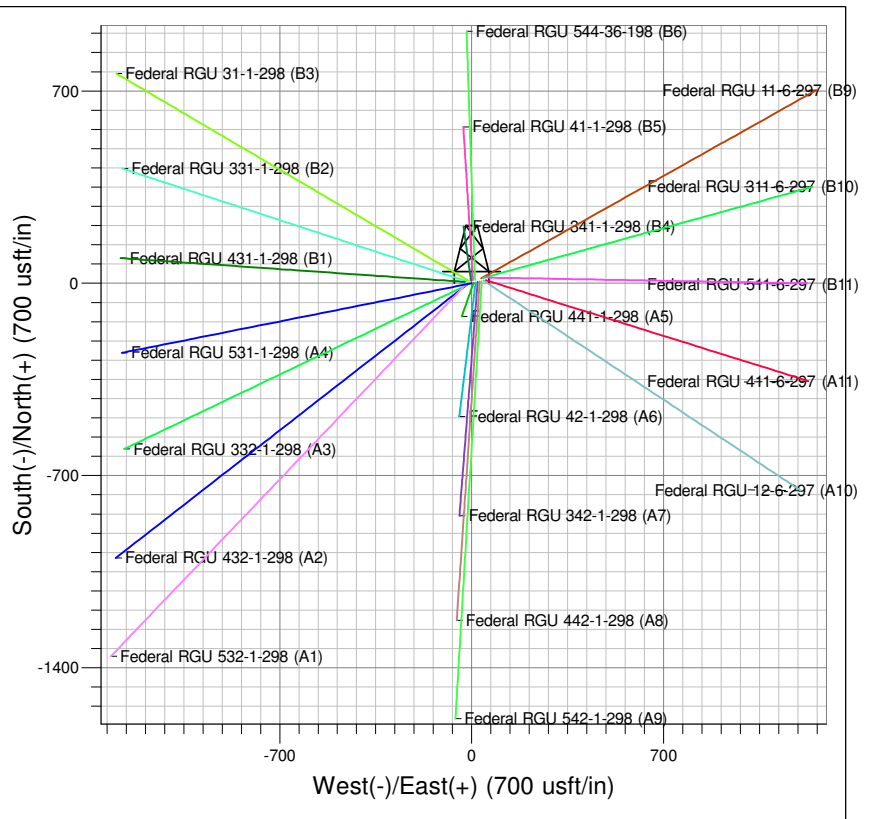
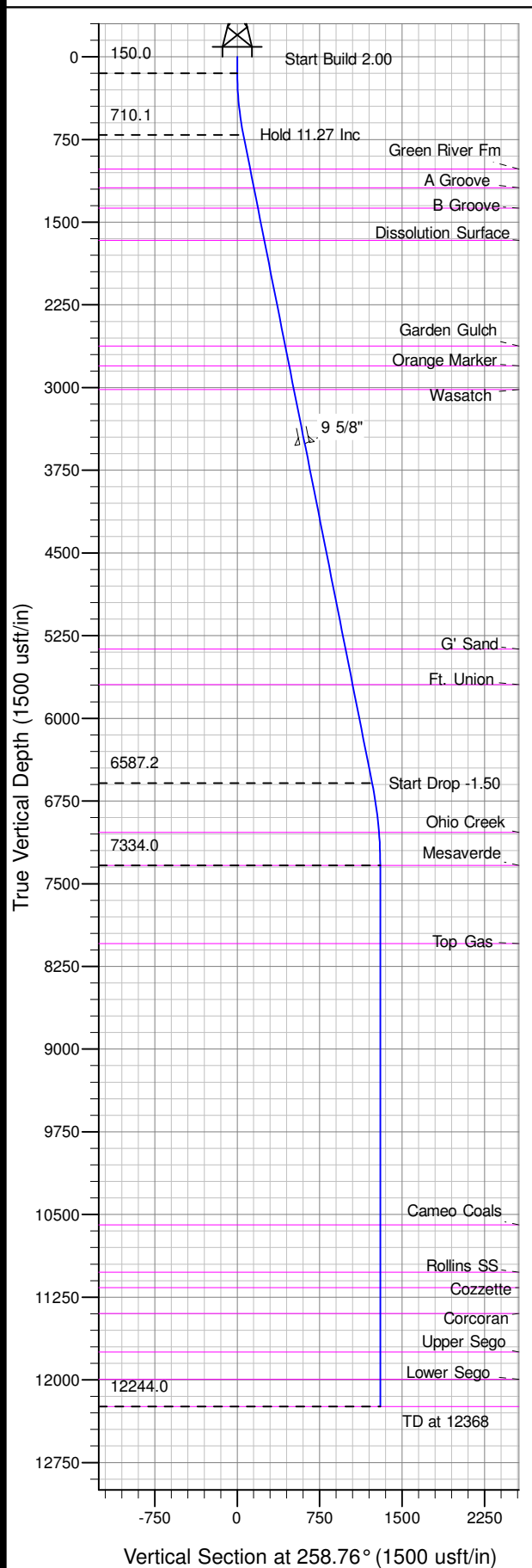




Well Name: Federal RGU 531-1-298
Surface Location: RGU 41-1-298 Pad
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone
Ground Elevation: 6573.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1768860.10 2204770.00 39° 54' 36.967 N 108° 20' 6.384 W A4
KELLY BUSHING @ 6594.0usft



Project: RG 01-02S-098W
Site: RGU 41-1-298 Pad
Well: Federal RGU 531-1-298
Plan #2 30Mar10 kjs

Azimuths to True North
Magnetic North: 10.56°
Magnetic Field
Strength: 52423.6snT
Dip Angle: 66.02°
Date: 6/22/2011
Model: IGRF2010

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.000	0.0	
2	150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.000	0.0	
3	713.7	11.27	258.76	710.1	-10.8	-54.2	2.00	258.764	55.3	
4	6706.5	11.27	258.76	6587.2	-239.1	-1203.4	0.00	0.000	1226.9	
5	7458.1	0.00	0.00	7334.0	-253.4	-1275.7	1.50	180.000	1300.6	Mesaverde (25' Radius) Federal RGU 531-1-298
6	12244.0	0.00	0.00	12244.0	-253.4	-1275.7	0.00	0.000	1300.6	

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 2.00		
710.1	713.7	11.27	258.76	-10.8	-54.2	55.3	55.3	Hold 11.27 Inc		
6587.2	6706.5	11.27	258.76	-239.1	-1203.4	1226.9	1226.9	Start Drop -1.50		
7334.0	7458.1	0.00	0.00	-253.4	-1275.7	1300.6	1300.6	Vertical		
12244.0	12368.1	0.00	0.00	-253.4	-1275.7	1300.6	1300.6	TD at 12368		

PICEANCE HL NAD 83

RG 01-02S-098W

RGU 41-1-298 Pad

Federal RGU 531-1-298 - Slot A4

Federal RGU 531-1-298

Plan: Plan #2 30Mar10 kjs

Standard Planning Report - Geographic

25 August, 2010

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 531-1-298 (A4) - Slot A4
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6594.0usft
Project:	RG 01-02S-098W	MD Reference:	KELLY BUSHING @ 6594.0usft
Site:	RGU 41-1-298 Pad	North Reference:	True
Well:	Federal RGU 531-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RGU 531-1-298		
Design:	Plan #2 30Mar10 kjs		

Project	RG 01-02S-098W, Rio Blanco County, CO, RG 01-02S-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		RGU 41-1-298 Pad			
Site Position:		Northing:	1,768,871.26 usft	Latitude:	39° 54' 37.079 N
From:	Map	Easting:	2,204,775.51 usft	Longitude:	108° 20' 6.318 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	-1.788 °

Well		Federal RGU 531-1-298 - Slot A4				
Well Position	+N/-S	0.0 usft	Northing:	1,768,860.10 usft	Latitude:	39° 54' 36.967 N
	+E/-W	0.0 usft	Easting:	2,204,770.00 usft	Longitude:	108° 20' 6.384 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	6,573.0 usft

Wellbore	Federal RGU 531-1-298				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/22/2011	10.556	66.016	52,424

Design	Plan #2 30Mar10 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	258.76

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	
713.7	11.27	258.76	710.1	-10.8	-54.2	2.00	2.00	0.00	258.764	
6,706.5	11.27	258.76	6,587.2	-239.1	-1,203.4	0.00	0.00	0.00	0.000	
7,458.1	0.00	0.00	7,334.0	-253.4	-1,275.7	1.50	-1.50	0.00	180.000	Mesaverde (25' Radiu
12,368.1	0.00	0.00	12,244.0	-253.4	-1,275.7	0.00	0.00	0.00	0.000	

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 531-1-298 (A4) - Slot A4
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6594.0usft
Project:	RG 01-02S-098W	MD Reference:	KELLY BUSHING @ 6594.0usft
Site:	RGU 41-1-298 Pad	North Reference:	True
Well:	Federal RGU 531-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RGU 531-1-298		
Design:	Plan #2 30Mar10 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	1,768,860.10	2,204,770.00	39° 54' 36.967 N	108° 20' 6.384 W	
150.0	0.00	0.00	150.0	0.0	0.0	1,768,860.10	2,204,770.00	39° 54' 36.967 N	108° 20' 6.384 W	
713.7	11.27	258.76	710.1	-10.8	-54.2	1,768,851.02	2,204,715.47	39° 54' 36.861 N	108° 20' 7.080 W	
6,706.5	11.27	258.76	6,587.2	-239.1	-1,203.4	1,768,658.70	2,203,559.71	39° 54' 34.605 N	108° 20' 21.827 W	
7,458.1	0.00	0.00	7,334.0	-253.4	-1,275.7	1,768,646.60	2,203,487.00	39° 54' 34.463 N	108° 20' 22.755 W	
12,368.1	0.00	0.00	12,244.0	-253.4	-1,275.7	1,768,646.60	2,203,487.00	39° 54' 34.463 N	108° 20' 22.755 W	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	7,334.0	-253.4	-1,275.7	1,768,646.60	2,203,487.00	39° 54' 34.463 N	108° 20' 22.755 W	
Mesaverde (50' Radius) - plan hits target center - Circle (radius 50.0)	0.00	0.00	7,334.0	-253.4	-1,275.7	1,768,646.60	2,203,487.00	39° 54' 34.463 N	108° 20' 22.755 W	

Casing Points							Casing Diameter (in)	Hole Diameter (in)
Measured Depth (usft)	Vertical Depth (usft)	Name						
3,568.0	3,509.3	9 5/8"					9.625	13.500

Williams
Planning Report - Geographic

Database:	Compass R5000 WIN AUTH	Local Co-ordinate Reference:	Well Federal RGU 531-1-298 (A4) - Slot A4
Company:	PICEANCE HL NAD 83	TVD Reference:	KELLY BUSHING @ 6594.0usft
Project:	RG 01-02S-098W	MD Reference:	KELLY BUSHING @ 6594.0usft
Site:	RGU 41-1-298 Pad	North Reference:	True
Well:	Federal RGU 531-1-298	Survey Calculation Method:	Minimum Curvature
Wellbore:	Federal RGU 531-1-298		
Design:	Plan #2 30Mar10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,028.7	1,019.0	Green River Fm				
1,202.1	1,189.0	A Groove				
1,390.7	1,374.0	B Groove				
1,686.4	1,664.0	Dissolution Surface				
2,665.3	2,624.0	Garden Gulch				
2,848.8	2,804.0	Orange Marker				
3,068.1	3,019.0	Wasatch				
5,469.4	5,374.0	G' Sand				
5,795.7	5,694.0	Ft. Union				
7,157.8	7,034.0	Ohio Creek				
7,458.1	7,334.0	Mesaverde				
8,168.1	8,044.0	Top Gas				
10,718.1	10,594.0	Cameo Coals				
11,148.1	11,024.0	Rollins SS				
11,288.1	11,164.0	Cozzette				
11,523.1	11,399.0	Corcoran				
11,873.1	11,749.0	Upper Sego				
12,118.1	11,994.0	Lower Sego				
12,368.1	12,244.0	TD		0.000		

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 2.00	
713.7	710.1	-10.8	-54.2	Hold 11.27 Inc	
6,706.5	6,587.2	-239.1	-1,203.4	Start Drop -1.50	
7,458.1	7,334.0	-253.4	-1,275.7	Vertical	
12,368.1	12,244.0	-253.4	-1,275.7	TD at 12368	