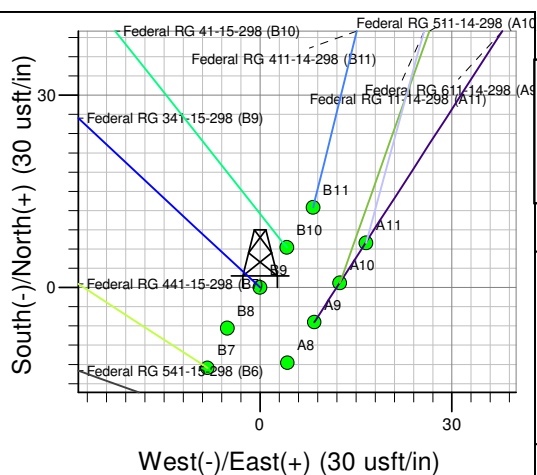
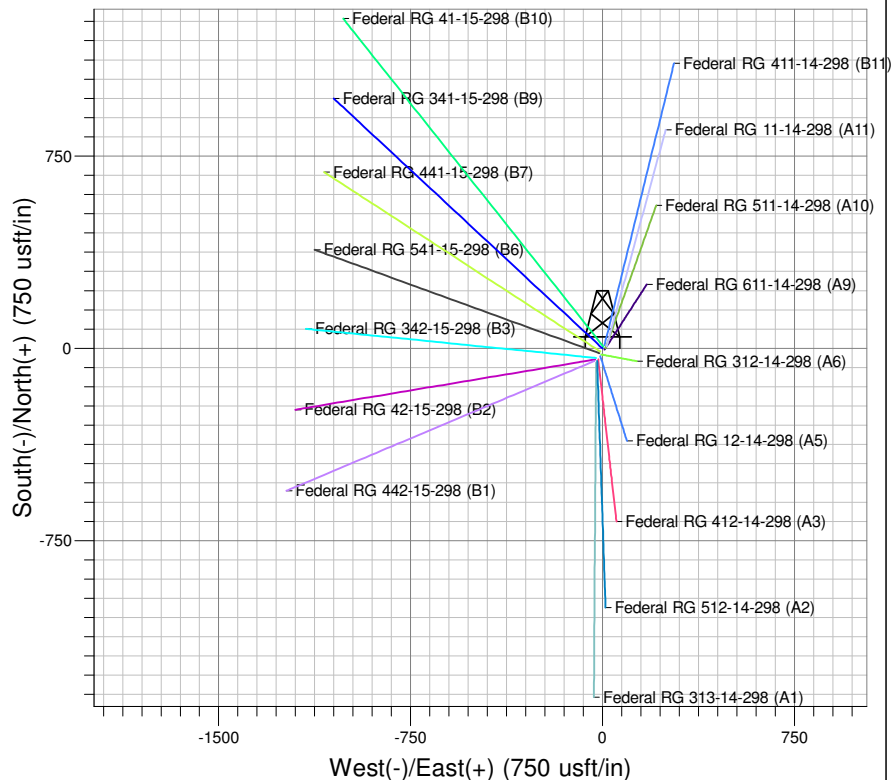


Well Name: Federal RG 341-15-298  
 Surface Location: RG 12-14-298 Pad  
 North American Datum 1983 US State Plane 1983 Colorado Central Zone  
 Ground Elevation: 6560.0  
 +N/-S +E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.0 1758349.70 2195531.90 39° 52' 50.288 N 108° 22' 0.617 W B9  
 KELLY BUSHING @ 6581.0usft



Project: RG 14-02S-098W  
 Site: RG 12-14-298 Pad  
 Well: Federal RG 341-15-298  
 Plan: Plan #1 22Mar10 kjs

Azimuths to True North  
 Magnetic North: 10.73°  
 Magnetic Field  
 Strength: 52529.7snT  
 Dip Angle: 66.02°  
 Date: 3/22/2010  
 Model: IGRF2010

#### 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	
854.3	14.69	312.86	846.3	63.7	-68.6	2.00	312.864	93.6	
5647.3	14.69	312.86	5482.7	890.2	-959.2	0.00	0.000	1308.7	
6626.3	0.00	0.00	6451.0	975.1	-1050.7	1.50	180.000	1433.4	Mesaverde (25' Radius) Federal RG 341-15-298
11126.3	0.00	0.00	10951.0	975.1	-1050.7	0.00	0.000	1433.4	

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 2.00
846.3	854.3	14.69	312.86	63.7	-68.6	93.6	93.6	Hold 14.69 Inc
5482.7	5647.3	14.69	312.86	890.2	-959.2	1308.7	1308.7	Start Drop -1.50
6451.0	6626.3	0.00	0.00	975.1	-1050.7	1433.4	1433.4	Vertical
10951.0	11126.3	0.00	0.00	975.1	-1050.7	1433.4	1433.4	TD at 11126

# **PICEANCE HL NAD 83**

**RG 14-02S-098W**

**RG 12-14-298 Pad**

**Federal RG 341-15-298 - Slot B9**

**Wellbore #1**

**Plan: Plan #1 22Mar10 kjs**

## **Standard Planning Report - Geographic**

**30 March, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well Federal RG 341-15-298 (B9) - Slot B9
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Project:</b>	RG 14-02S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Site:</b>	RG 12-14-298 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal RG 341-15-298	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 22Mar10 kjs		

<b>Project</b>	RG 14-02S-098W, Rio Blanco County, CO, RG 14-02S-098W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Central Zone		Using geodetic scale factor

<b>Site</b>	RG 12-14-298 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,758,307.10 usft
<b>From:</b>	Map	<b>Easting:</b>	2,195,514.10 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 52' 49.862 N
		<b>Longitude:</b>	108° 22' 0.828 W
		<b>Grid Convergence:</b>	-1.808 °

<b>Well</b>	Federal RG 341-15-298 - Slot B9		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b> 1,758,349.70 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b> 2,195,531.90 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	<b>Latitude:</b> 39° 52' 50.288 N
			<b>Longitude:</b> 108° 22' 0.617 W
			<b>Ground Level:</b> 6,560.0 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/22/2010	10.728	66.020	52,530

<b>Design</b>	Plan #1 22Mar10 kjs			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	312.86

<b>Plan Sections</b>										
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	
854.3	14.69	312.86	846.3	63.7	-68.6	2.00	2.00	0.00	312.864	
5,647.3	14.69	312.86	5,482.7	890.2	-959.2	0.00	0.00	0.00	0.000	
6,626.3	0.00	0.00	6,451.0	975.1	-1,050.7	1.50	-1.50	0.00	180.000	Mesaverde (25' Radiu
11,126.3	0.00	0.00	10,951.0	975.1	-1,050.7	0.00	0.00	0.00	0.000	

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well Federal RG 341-15-298 (B9) - Slot B9
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Project:</b>	RG 14-02S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Site:</b>	RG 12-14-298 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal RG 341-15-298	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 22Mar10 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	1,758,349.70	2,195,531.90	39° 52' 50.288 N	108° 22' 0.617 W
120.0	0.00	0.00	120.0	0.0	0.0	1,758,349.70	2,195,531.90	39° 52' 50.288 N	108° 22' 0.617 W
854.3	14.69	312.86	846.3	63.7	-68.6	1,758,415.50	2,195,465.35	39° 52' 50.917 N	108° 22' 1.497 W
5,647.3	14.69	312.86	5,482.7	890.2	-959.2	1,759,269.77	2,194,601.24	39° 52' 59.086 N	108° 22' 12.921 W
6,626.3	0.00	0.00	6,451.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 W
11,126.3	0.00	0.00	10,951.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 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
North Hardline Federal F - plan misses target center by 1433.4usft at 10.0usft MD (10.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	10.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 W
Point 1			10.0	39.0	-200.0	1,759,402.79	2,194,313.82		True
Point 2			10.0	39.0	200.0	1,759,390.17	2,194,713.64		True
East Hardline Federal R - plan misses target center by 1433.4usft at 10.0usft MD (10.0 TVD, 0.0 N, 0.0 E) - Polygon	0.00	0.00	10.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 W
Point 1			10.0	-200.0	55.0	1,759,155.86	2,194,561.16		True
Point 2			10.0	200.0	55.0	1,759,555.67	2,194,573.78		True
Mesaverde (50' Radius) - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,451.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 W
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	6,451.0	975.1	-1,050.7	1,759,357.50	2,194,512.50	39° 52' 59.924 N	108° 22' 14.095 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
3,080.0	2,999.3	9 5/8"	9.625	13.500	

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well Federal RG 341-15-298 (B9) - Slot B9
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Project:</b>	RG 14-02S-098W	<b>MD Reference:</b>	KELLY BUSHING @ 6581.0usft
<b>Site:</b>	RG 12-14-298 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Federal RG 341-15-298	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 22Mar10 kjs		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
761.3	756.0	Green River Fm				
921.2	911.0	A Groove				
1,107.3	1,091.0	B Groove				
1,427.7	1,401.0	Dissolution Surface				
2,187.6	2,136.0	Garden Gulch				
2,368.5	2,311.0	Orange Marker				
2,580.4	2,516.0	Wasatch				
4,560.1	4,431.0	G' Sand				
4,828.9	4,691.0	Ft. Union				
6,114.7	5,941.0	Ohio Creek				
6,626.3	6,451.0	Mesaverde				
7,616.3	7,441.0	Top Gas				
9,536.3	9,361.0	Cameo Coals				
9,936.3	9,761.0	Rollins SS				
10,061.3	9,886.0	Cozzette				
10,286.3	10,111.0	Corcoran				
10,631.3	10,456.0	Upper Sego				
10,876.3	10,701.0	Lower Sego				
11,126.3	10,951.0	TD		0.000		

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 2.00	
854.3	846.3	63.7	-68.6	Hold 14.69 Inc	
5,647.3	5,482.7	890.2	-959.2	Start Drop -1.50	
6,626.3	6,451.0	975.1	-1,050.7	Vertical	
11,126.3	10,951.0	975.1	-1,050.7	TD at 11126	