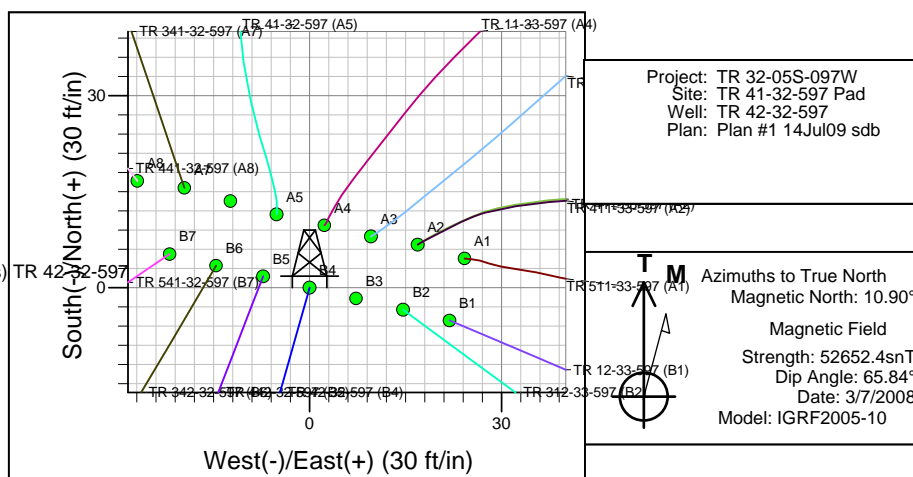
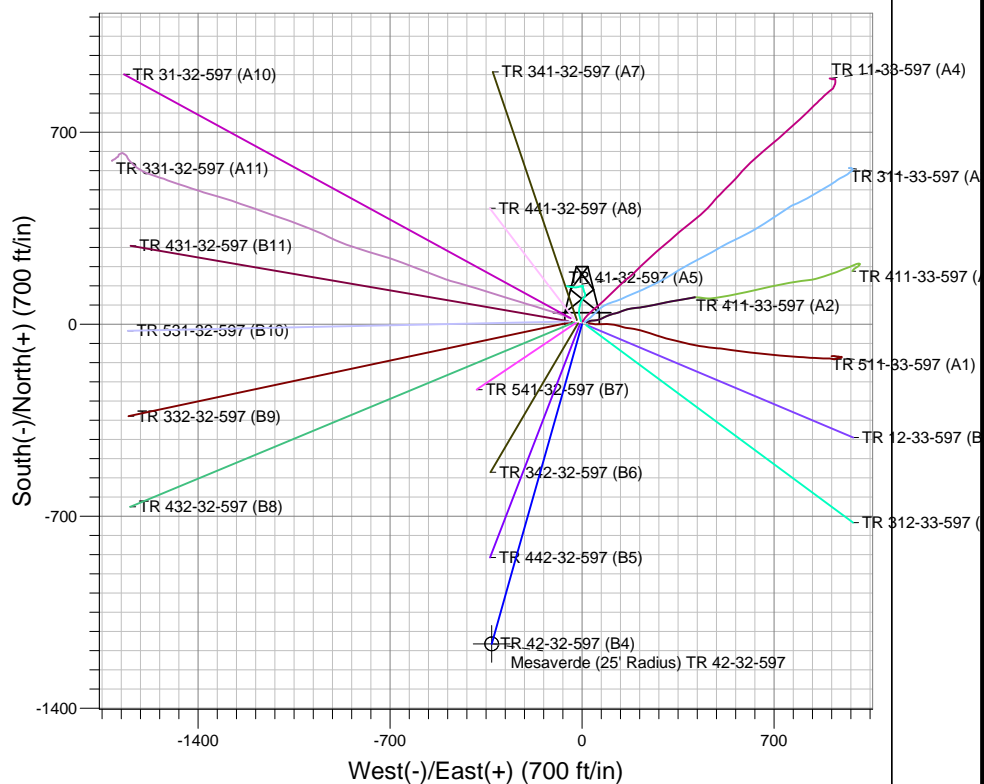
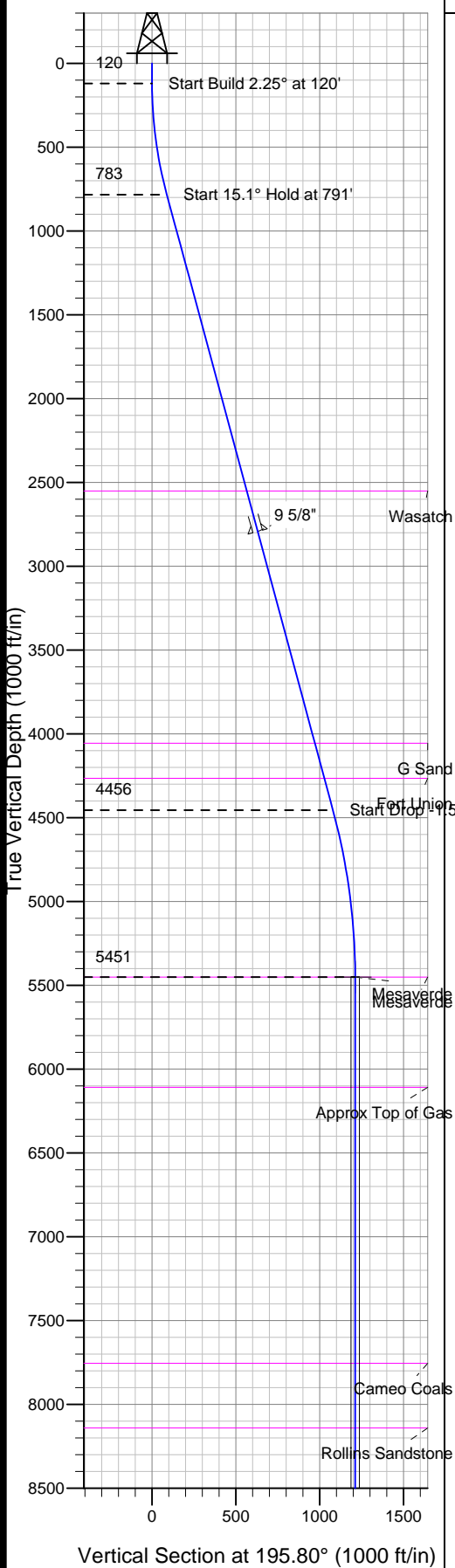


Well Name: TR 42-32-597  
 Surface Location: TR 41-32-597 Pad  
 NAD 1927 (NADCON CONUS), US State Plane 1927 (Exact solution)  
 Ground Elevation: 8260.0  
 Colorado Central 502  
 +N/-E/-W Northing Easting Latitude Longitude Slot  
 0.0 0.646264 30.12821 30.34' 28.55503 17' 34.500 W B4  
 Frontier 11 (28' RKBELL @ 8288.0ft (Frontier 11 (28' RKB))



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	0.00	0.00	0.0	
2	120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.0	
3	791.1	15.10	195.80	783.4	-84.6	-23.9	2.25	195.80	87.9	
4	4595.0	15.10	195.80	4455.9	-1038.1	-293.7	0.00	0.00	1078.9	
5	5601.7	0.00	0.00	5451.0	-1165.0	-329.7	1.50	180.00	1210.8	Mesaverde (25' Radius) TR 42-32-597
6	8691.7	0.00	0.00	8541.0	-1165.0	-329.7	0.00	0.00	1210.8	

TVD	MD	Annotation
120.0	120.0	Start Build 2.25° at 120'
783.4	791.1	Start 15.1° Hold at 791'
4455.9	4595.0	Start Drop -1.5° at 4595'
5451.0	5601.7	Start 0° Hold at 5602'
8541.0	8691.7	TD at 8692'

# **PICEANCE HL**

**TR 32-05S-097W**

**TR 41-32-597 Pad**

**TR 42-32-597 - Slot B4**

**Wellbore #1**

**Plan: Plan #1 14Jul09 sdb**

## **Standard Planning Report - Geographic**

**06 August, 2009**

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well TR 42-32-597 (B4) - Slot B4
<b>Company:</b>	PICEANCE HL	<b>TVD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Project:</b>	TR 32-05S-097W	<b>MD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Site:</b>	TR 41-32-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 42-32-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 14Jul09 sdb		

<b>Project</b>	TR 32-05S-097W, Garfield County, CO, 32-05S-097W		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Colorado Central 502		Using geodetic scale factor

<b>Site</b>	TR 41-32-597 Pad		
<b>Site Position:</b>		<b>Northing:</b>	646,275.90 ft
<b>From:</b>	Map	<b>Easting:</b>	1,212,816.50 ft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	39° 34' 28.668 N
		<b>Longitude:</b>	108° 17' 34.566 W
		<b>Grid Convergence:</b>	-1.76 °

<b>Well</b>	TR 42-32-597 - Slot B4		
<b>Well Position</b>	<b>+N/-S</b>	0.0 ft	<b>Northing:</b> 646,264.30 ft
	<b>+E/-W</b>	0.0 ft	<b>Easting:</b> 1,212,821.30 ft
<b>Position Uncertainty</b>	0.0 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 34' 28.555 N
		<b>Longitude:</b>	108° 17' 34.500 W
		<b>Ground Level:</b>	8,260.0 ft

<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>
	IGRF2005-10	3/7/2008	10.90	65.84	52,652

<b>Design</b>	Plan #1 14Jul09 sdb			
<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) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	195.80

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
120.0	0.00	0.00	120.0	0.0	0.0	0.00	0.00	0.00	0.00	
791.1	15.10	195.80	783.4	-84.6	-23.9	2.25	2.25	0.00	195.80	
4,595.0	15.10	195.80	4,455.9	-1,038.1	-293.7	0.00	0.00	0.00	0.00	
5,601.7	0.00	0.00	5,451.0	-1,165.0	-329.7	1.50	-1.50	0.00	180.00	Mesaverde (25' Radiu
8,691.7	0.00	0.00	8,541.0	-1,165.0	-329.7	0.00	0.00	0.00	0.00	

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well TR 42-32-597 (B4) - Slot B4
<b>Company:</b>	PICEANCE HL	<b>TVD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Project:</b>	TR 32-05S-097W	<b>MD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Site:</b>	TR 41-32-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 42-32-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 14Jul09 sdb		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	646,264.30	1,212,821.30	39° 34' 28.555 N	108° 17' 34.500 W	
120.0	0.00	0.00	120.0	0.0	0.0	646,264.30	1,212,821.30	39° 34' 28.555 N	108° 17' 34.500 W	
Start Build 2.25° at 120'										
791.1	15.10	195.80	783.4	-84.6	-23.9	646,180.47	1,212,794.77	39° 34' 27.719 N	108° 17' 34.806 W	
Start 15.1° Hold at 791'										
2,623.0	15.10	195.80	2,552.0	-543.8	-153.9	645,725.51	1,212,650.79	39° 34' 23.181 N	108° 17' 36.465 W	
Wasatch										
2,873.0	15.10	195.80	2,793.4	-606.5	-171.6	645,663.42	1,212,631.14	39° 34' 22.561 N	108° 17' 36.691 W	
9 5/8"										
4,180.8	15.10	195.80	4,056.0	-934.3	-264.4	645,338.62	1,212,528.35	39° 34' 19.321 N	108° 17' 37.876 W	
G Sand										
4,397.3	15.10	195.80	4,265.0	-988.5	-279.7	645,284.85	1,212,511.34	39° 34' 18.785 N	108° 17' 38.072 W	
Fort Union										
4,595.0	15.10	195.80	4,455.9	-1,038.1	-293.7	645,235.74	1,212,495.79	39° 34' 18.295 N	108° 17' 38.251 W	
Start Drop -1.5° at 4595'										
5,601.7	0.00	0.00	5,451.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
Start 0° Hold at 5602' - Mesaverde - Mesaverde (25' Radius) TR 42-32-597										
6,258.7	0.00	0.00	6,108.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
Approx Top of Gas										
7,905.7	0.00	0.00	7,755.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
Cameo Coals										
8,291.7	0.00	0.00	8,141.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
Rollins Sandstone										
8,691.7	0.00	0.00	8,541.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
TD at 8692' - TD										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Mesaverde (25' Radius)	0.00	0.00	5,451.0	-1,165.0	-329.7	645,110.00	1,212,456.00	39° 34' 17.041 N	108° 17' 38.710 W	
- plan hits target										
- Circle (radius 25.0)										

Casing Points										
Measured Depth (ft)	Vertical Depth (ft)	Name				Casing Diameter (in)	Hole Diameter (in)			
2,873.0	2,793.4	9 5/8"				9.625	14.750			

# Williams Production RMT Company

## Planning Report - Geographic

<b>Database:</b>	EDMDB_COMPASS	<b>Local Co-ordinate Reference:</b>	Well TR 42-32-597 (B4) - Slot B4
<b>Company:</b>	PICEANCE HL	<b>TVD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Project:</b>	TR 32-05S-097W	<b>MD Reference:</b>	WELL @ 8288.0ft (Frontier 11 (28' RKB))
<b>Site:</b>	TR 41-32-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	TR 42-32-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 14Jul09 sdb		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,623.0	2,552.00	Wasatch		0.00		
4,180.8	4,056.00	G Sand		0.00		
4,397.3	4,265.00	Fort Union		0.00		
5,601.7	5,451.00	Mesaverde		0.00		
6,258.7	6,108.00	Approx Top of Gas		0.00		
7,905.7	7,755.00	Cameo Coals		0.00		
8,291.7	8,141.00	Rollins Sandstone		0.00		
8,691.7	8,541.00	TD		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
120.0	120.0	0.0	0.0	Start Build 2.25° at 120'	
791.1	783.4	-84.6	-23.9	Start 15.1° Hold at 791'	
4,595.0	4,455.9	-1,038.1	-293.7	Start Drop -1.5° at 4595'	
5,601.7	5,451.0	-1,165.0	-329.7	Start 0° Hold at 5602'	
8,691.7	8,541.0	-1,165.0	-329.7	TD at 8692'	