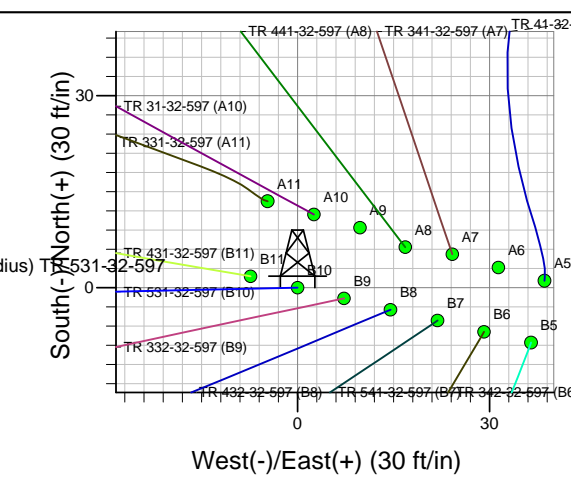
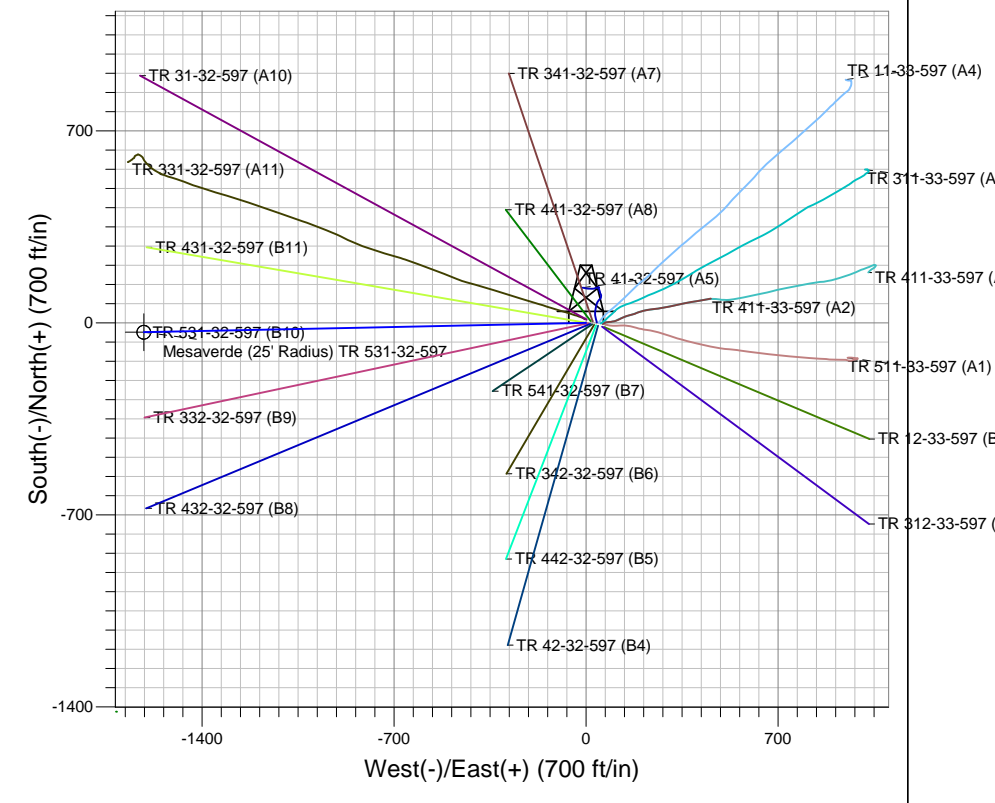
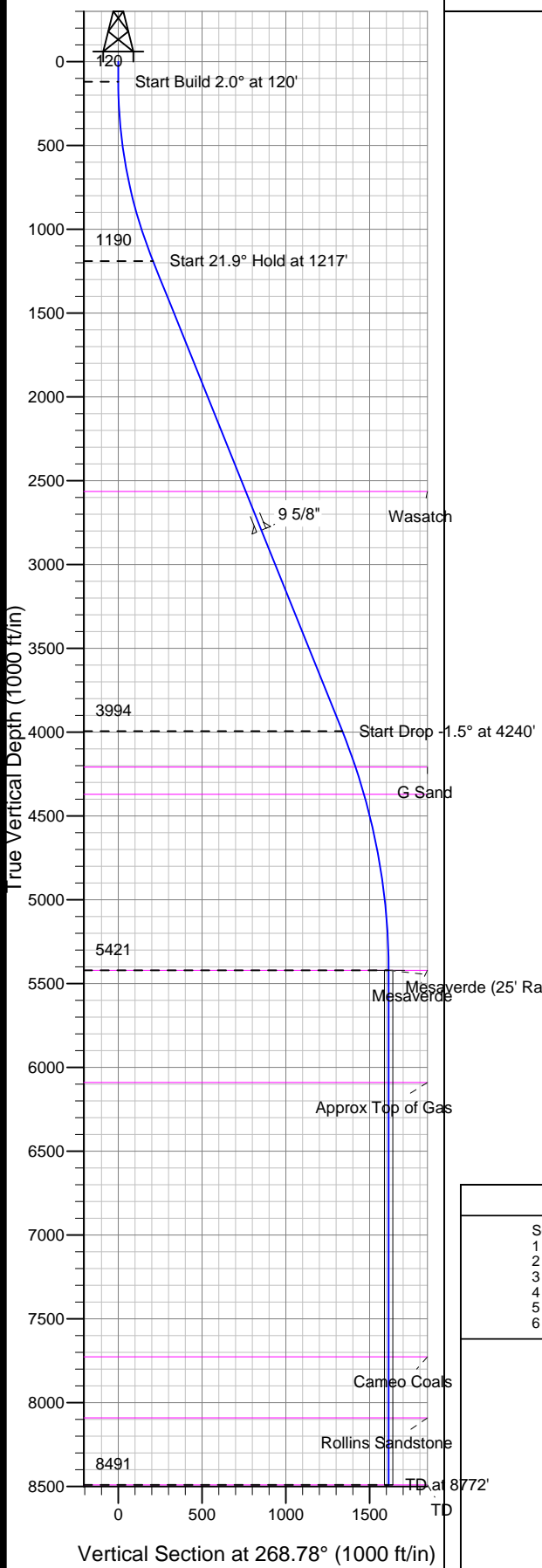




PICEANCE HL

Well Name: TR 531-32-597
 Surface Location: TR 41-32-597 Pad
 NAD 1927 (NADCON CONUS), US State Plane 1927 (Exact solution)
 Colorado Central 502
 Ground Elevation: 8260.0
 +N/-E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0646276 0.0212777 39° 34' 28.65708" 17° 35.059' W B10
 Frontier 11 (28' RKB) @ 8288.0ft (Frontier 11 (28' RKB))



Project: TR 32-05S-097W
 Site: TR 41-32-597 Pad
 Well: TR 531-32-597
 Plan: Plan #1 14Jul09 sdb

M Azimuths to True North
 Magnetic North: 10.90°
 Magnetic Field
 Strength: 52652.4snT
 Dip Angle: 65.84°
 Date: 3/7/2008
 Model: IGRF2005-10

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	1216.7	21.93	268.78	1190.1	-4.4	-207.3	2.00	268.78	207.4	
4	4239.6	21.93	268.78	3994.2	-28.4	-1336.2	0.00	0.00	1336.5	
5	5701.9	0.00	0.00	5421.0	-34.3	-1612.7	1.50	180.00	1613.0	Mesaverde (25' Radius) TR 531-32-597
6	8771.9	0.00	0.00	8491.0	-34.3	-1612.7	0.00	0.00	1613.0	

TVD	MD	Annotation
120.0	120.0	Start Build 2.0° at 120'
1190.1	1216.7	Start 21.9° Hold at 1217'
3994.2	4239.6	Start Drop -1.5° at 4240'
5421.0	5701.9	Start 0° Hold at 5702'
8491.0	8771.9	TD at 8772'

PICEANCE HL

TR 32-05S-097W

TR 41-32-597 Pad

TR 531-32-597 - Slot B10

Wellbore #1

Plan: Plan #1 14Jul09 sdb

Standard Planning Report - Geographic

06 August, 2009

Williams Production RMT Company

Planning Report - Geographic

Database: EDMDB_COMPASS	Local Co-ordinate Reference: Well TR 531-32-597 (B10) - Slot B10
Company: PICEANCE HL	TVD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Project: TR 32-05S-097W	MD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Site: TR 41-32-597 Pad	North Reference: True
Well: TR 531-32-597	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: Plan #1 14Jul09 sdb	

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

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

Well TR 531-32-597 - Slot B10			
Well Position	+N/-S 0.0 ft	Northing: 646,276.00 ft	Latitude: 39° 34' 28.657 N
	+E/-W 0.0 ft	Easting: 1,212,777.90 ft	Longitude: 108° 17' 35.059 W
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 8,260.0 ft

Wellbore Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	3/7/2008	10.90	65.84	52,652

Design Plan #1 14Jul09 sdb				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	268.78

Plan Sections										
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	
1,216.7	21.93	268.78	1,190.1	-4.4	-207.3	2.00	2.00	0.00	268.78	
4,239.6	21.93	268.78	3,994.2	-28.4	-1,336.2	0.00	0.00	0.00	0.00	
5,701.9	0.00	0.00	5,421.0	-34.3	-1,612.7	1.50	-1.50	0.00	180.00	Mesaverde (25' Radiu
8,771.9	0.00	0.00	8,491.0	-34.3	-1,612.7	0.00	0.00	0.00	0.00	

Williams Production RMT Company

Planning Report - Geographic

Database: EDMDB_COMPASS	Local Co-ordinate Reference: Well TR 531-32-597 (B10) - Slot B10
Company: PICEANCE HL	TVD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Project: TR 32-05S-097W	MD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Site: TR 41-32-597 Pad	North Reference: True
Well: TR 531-32-597	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: 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	646,276.00	1,212,777.90	39° 34' 28.657 N	108° 17' 35.059 W	
120.0	0.00	0.00	120.0	0.0	0.0	646,276.00	1,212,777.90	39° 34' 28.657 N	108° 17' 35.059 W	
Start Build 2.0° at 120'										
1,216.7	21.93	268.78	1,190.1	-4.4	-207.3	646,277.97	1,212,570.55	39° 34' 28.614 N	108° 17' 37.706 W	
Start 21.9° Hold at 1217'										
2,697.8	21.93	268.78	2,564.0	-16.2	-760.4	646,283.21	1,212,017.34	39° 34' 28.498 N	108° 17' 44.770 W	
Wasatch										
2,948.0	21.93	268.78	2,796.1	-18.2	-853.9	646,284.10	1,211,923.89	39° 34' 28.478 N	108° 17' 45.963 W	
9 5/8"										
4,239.6	21.93	268.78	3,994.2	-28.4	-1,336.2	646,288.68	1,211,441.47	39° 34' 28.376 N	108° 17' 52.123 W	
Start Drop -1.5° at 4240'										
4,467.5	18.52	268.78	4,208.0	-30.1	-1,415.0	646,289.42	1,211,362.70	39° 34' 28.360 N	108° 17' 53.129 W	
G Sand										
4,638.2	15.96	268.78	4,371.0	-31.2	-1,465.5	646,289.90	1,211,312.14	39° 34' 28.349 N	108° 17' 53.774 W	
Fort Union										
5,701.9	0.00	0.00	5,421.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	
Start 0° Hold at 5702' - Mesaverde - Mesaverde (25' Radius) TR 531-32-597										
6,370.9	0.00	0.00	6,090.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	
Approx Top of Gas										
8,007.9	0.00	0.00	7,727.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	
Cameo Coals										
8,371.9	0.00	0.00	8,091.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	
Rollins Sandstone										
8,771.9	0.00	0.00	8,491.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	
TD at 8772' - TD										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
Mesaverde (25' Radius) - hit/miss target - Shape - Circle (radius 25.0)	0.00	0.00	5,421.0	-34.3	-1,612.7	646,291.30	1,211,165.00	39° 34' 28.318 N	108° 17' 55.653 W	

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,948.0	2,796.1	9 5/8"	9.625	14.750		

Williams Production RMT Company

Planning Report - Geographic

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Company: PICEANCE HL	TVD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Project: TR 32-05S-097W	MD Reference: WELL @ 8288.0ft (Frontier 11 (28' RKB))
Site: TR 41-32-597 Pad	North Reference: True
Well: TR 531-32-597	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: Plan #1 14Jul09 sdb	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,697.8	2,564.00	Wasatch		0.00		
4,467.5	4,208.00	G Sand		0.00		
4,638.2	4,371.00	Fort Union		0.00		
5,701.9	5,421.00	Mesaverde		0.00		
6,370.9	6,090.00	Approx Top of Gas		0.00		
8,007.9	7,727.00	Cameo Coals		0.00		
8,371.9	8,091.00	Rollins Sandstone		0.00		
8,771.9	8,491.00	TD		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
120.0	120.0	0.0	0.0	Start Build 2.0° at 120'	
1,216.7	1,190.1	-4.4	-207.3	Start 21.9° Hold at 1217'	
4,239.6	3,994.2	-28.4	-1,336.2	Start Drop -1.5° at 4240'	
5,701.9	5,421.0	-34.3	-1,612.7	Start 0° Hold at 5702'	
8,771.9	8,491.0	-34.3	-1,612.7	TD at 8772'	