



Well Name: Chevron TR 531-21-597

Surface Location: TR 32-21-597 Pad

North American Datum 1983 , US State Plane 1983 , Colorado Central Zone

Ground Elevation: 8576.0

+N/-S  
0.0

+E/-W  
0.0

Northing  
1656452.20

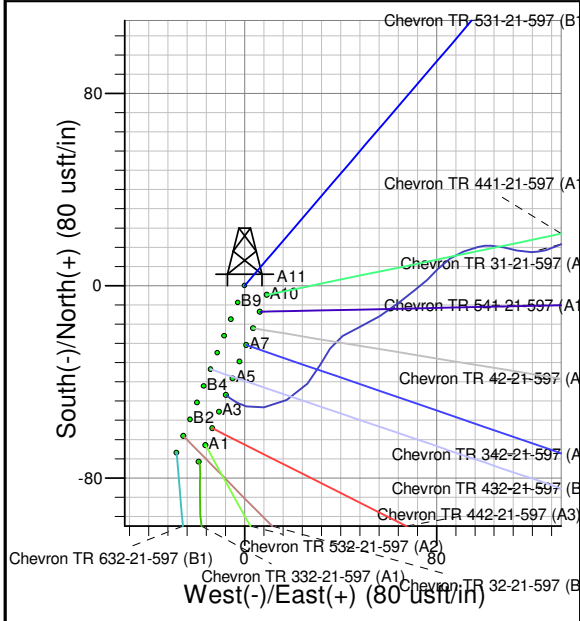
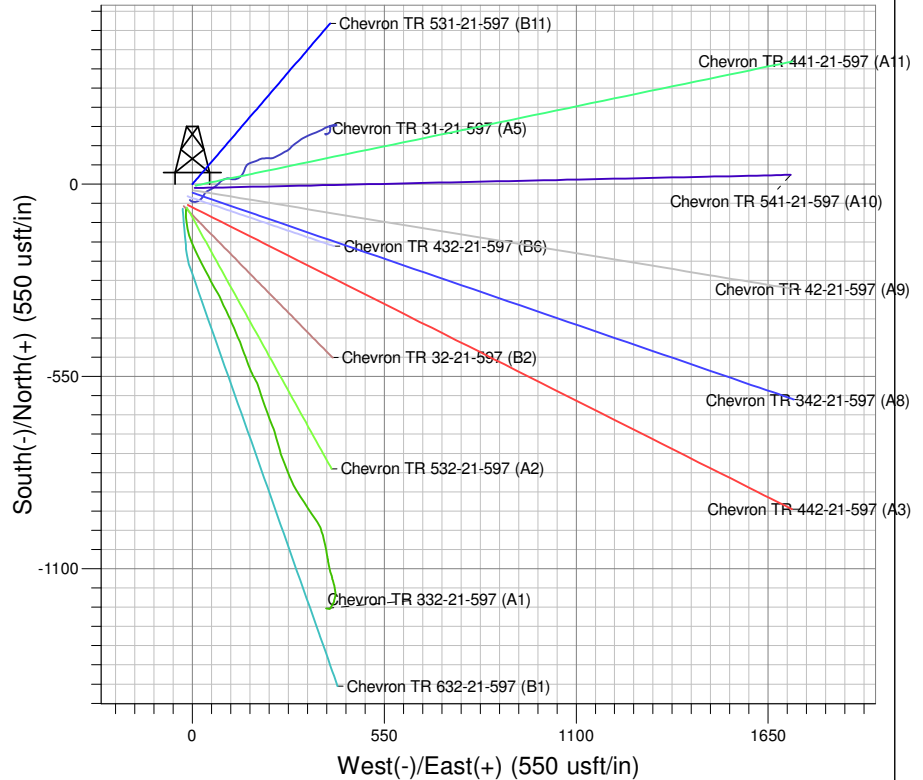
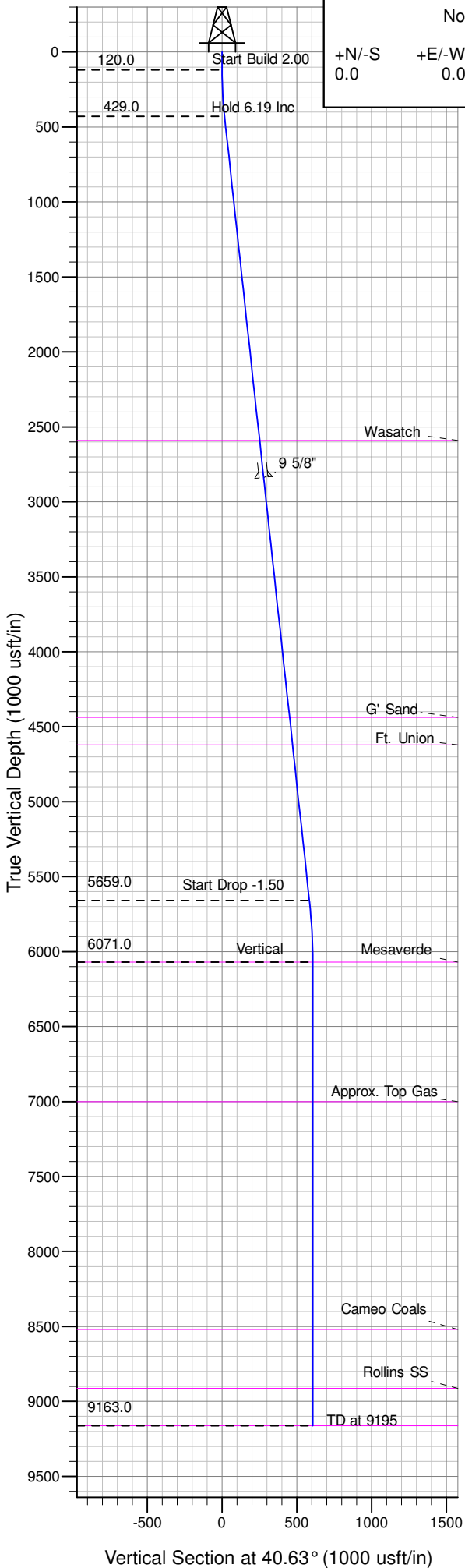
Easting  
2216174.00

Latitude  
39° 36' 10.085 N

Longitude  
108° 16' 55.943 W

Slot  
B11

KELLY BUSHING @ 8604.0usft (Frontier10 (28' RKB) jjb)



Project: TR 21-05S-097W  
Site: TR 32-21-597 Pad  
Well: Chevron TR 531-21-597  
Plan #2 26Oct09 kjs

Azimuths to True North  
Magnetic North: 11.16°  
Magnetic Field  
Strength: 52794.6snT  
Dip Angle: 65.92°  
Date: 3/10/2006  
Model: IGRF2005-10

#### ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure	Annotation
120.0	120.0	0.00	0.00	0.0	0.0	0.0	0.0	Start Build 2.00
429.0	429.6	6.19	40.63	12.7	10.9	16.7	16.7	Hold 6.19 Inc
5659.0	5690.3	6.19	40.63	443.3	380.4	584.1	584.1	Start Drop -1.50
6071.0	6103.1	0.00	0.00	460.2	394.9	606.4	606.4	Vertical
9163.0	9195.1	0.00	0.00	460.2	394.9	606.4	606.4	TD at 9195

# **PICEANCE HL NAD 83**

**TR 21-05S-097W**

**TR 32-21-597 Pad**

**Chevron TR 531-21-597 - Slot B11**

**Chevron TR 531-21-597**

**Plan: Plan #2 26Oct09 kjs**

## **Standard Planning Report - Geographic**

**03 May, 2010**

**Williams**  
Planning Report - Geographic

<b>Database:</b>	Compass R5000 WIN AUTH	<b>Local Co-ordinate Reference:</b>	Well Chevron TR 531-21-597 (B11) - Slot B11
<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 8604.0usft (Frontier10 (28' RKB) jib)
<b>Project:</b>	TR 21-05S-097W	<b>MD Reference:</b>	KELLY BUSHING @ 8604.0usft (Frontier10 (28' RKB) jib)
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Chevron TR 531-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Chevron TR 531-21-597		
<b>Design:</b>	Plan #2 26Oct09 kjs		

<b>Project</b>	TR 21-05S-097W, Garfield County, CO, TR 21-05S-097W		
<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		

<b>Site</b>	TR 32-21-597 Pad		
<b>Site Position:</b>		<b>Northing:</b>	1,656,390.50 usft
<b>From:</b>	Map	<b>Easting:</b>	2,216,146.60 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13.200 in
		<b>Latitude:</b>	39° 36' 9.467 N
		<b>Longitude:</b>	108° 16' 56.268 W
		<b>Grid Convergence:</b>	-1.755 °

Well	Chevron TR 531-21-597 - Slot B11					
Well Position	+N/-S	0.0 usft	Northing:	1,656,452.20 usft	Latitude:	39° 36' 10.085 N
	+E/-W	0.0 usft	Easting:	2,216,174.00 usft	Longitude:	108° 16' 55.943 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	8,576.0 usft

<b>Wellbore</b>	Chevron TR 531-21-597				
<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	3/10/2006	11.156	65.919	52,795

<b>Design</b>	Plan #2 26Oct09 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	40.63	

<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	
429.6	6.19	40.63	429.0	12.7	10.9	2.00	2.00	0.00	40.632	
5,690.3	6.19	40.63	5,659.0	443.3	380.4	0.00	0.00	0.00	0.000	
6,103.1	0.00	0.00	6,071.0	460.2	394.9	1.50	-1.50	0.00	180.000	Mesaverde (25' Radiu
9,195.1	0.00	0.00	9,163.0	460.2	394.9	0.00	0.00	0.00	0.000	

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Planning Report - Geographic

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<b>Company:</b>	PICEANCE HL NAD 83	<b>TVD Reference:</b>	KELLY BUSHING @ 8604.0usft (Frontier10 (28' RKB) jjb)
<b>Project:</b>	TR 21-05S-097W	<b>MD Reference:</b>	KELLY BUSHING @ 8604.0usft (Frontier10 (28' RKB) jjb)
<b>Site:</b>	TR 32-21-597 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Chevron TR 531-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Chevron TR 531-21-597		
<b>Design:</b>	Plan #2 26Oct09 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	1,656,452.20	2,216,174.00	39° 36' 10.085 N	108° 16' 55.943 W
120.0	0.00	0.00	120.0	0.0	0.0	1,656,452.20	2,216,174.00	39° 36' 10.085 N	108° 16' 55.943 W
429.6	6.19	40.63	429.0	12.7	10.9	1,656,464.54	2,216,185.27	39° 36' 10.210 N	108° 16' 55.804 W
5,690.3	6.19	40.63	5,659.0	443.3	380.4	1,656,883.64	2,216,567.78	39° 36' 14.466 N	108° 16' 51.083 W
6,103.1	0.00	0.00	6,071.0	460.2	394.9	1,656,900.10	2,216,582.80	39° 36' 14.633 N	108° 16' 50.897 W
9,195.1	0.00	0.00	9,163.0	460.2	394.9	1,656,900.10	2,216,582.80	39° 36' 14.633 N	108° 16' 50.897 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 (50' Radius) - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,071.0	460.2	394.9	1,656,900.10	2,216,582.80	39° 36' 14.633 N	108° 16' 50.897 W
Mesaverde (25' Radius) - plan hits target center - Circle (radius 25.0)	0.00	0.00	6,071.0	460.2	394.9	1,656,900.10	2,216,582.80	39° 36' 14.633 N	108° 16' 50.897 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,853.0	2,838.3	9 5/8"	9.625	14.750	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,603.3	2,590.0	Wasatch				
4,461.1	4,437.0	G' Sand				
4,646.2	4,621.0	Ft. Union				
6,103.1	6,071.0	Mesaverde				
7,032.1	7,000.0	Approx. Top Gas				
8,552.1	8,520.0	Cameo Coals				
8,945.1	8,913.0	Rollins SS				
9,195.1	9,163.0	TD				

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<b>Well:</b>	Chevron TR 531-21-597	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Chevron TR 531-21-597		
<b>Design:</b>	Plan #2 26Oct09 kjs		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
120.0	120.0	0.0	0.0	Start Build 2.00
429.6	429.0	12.7	10.9	Hold 6.19 Inc
5,690.3	5,659.0	443.3	380.4	Start Drop -1.50
6,103.1	6,071.0	460.2	394.9	Vertical
9,195.1	9,163.0	460.2	394.9	TD at 9195