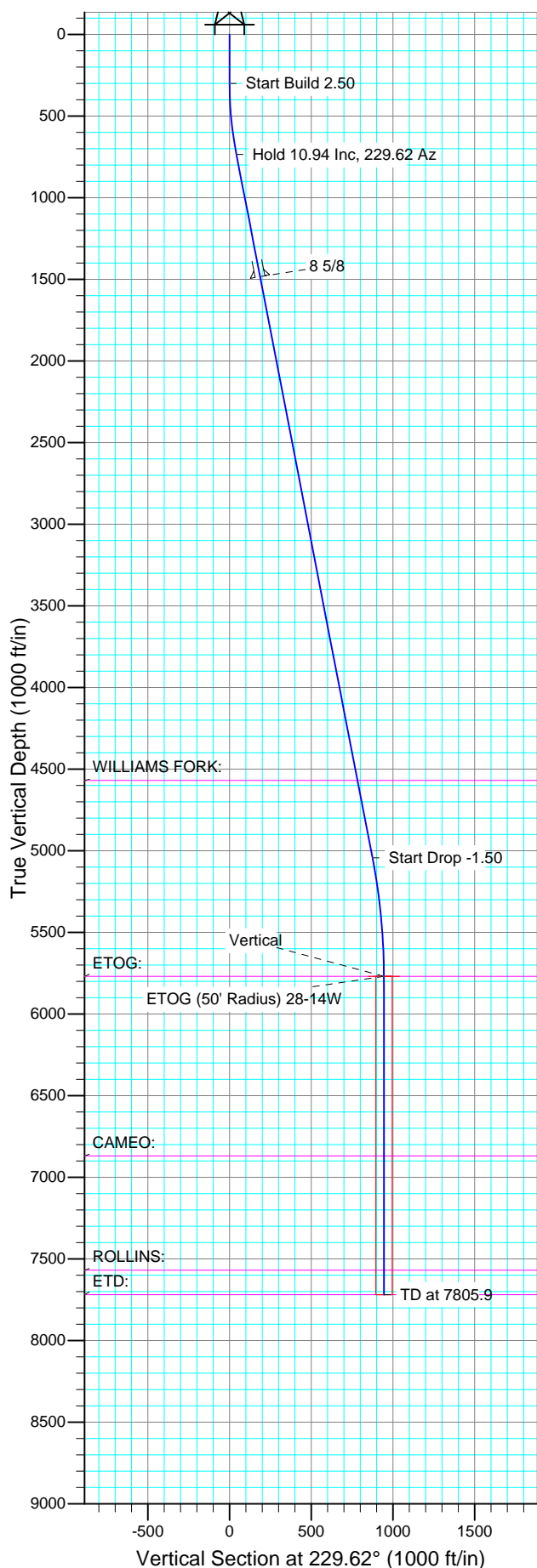




Well Name: Piceance 28-14W  
Surface Location: Piceance 28-11 Pad  
North American Datum 1983  
US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 7580.0  
WELL @ 7604.0ft (Original Well Elev)  
Easting Latitude  
Longitude Slot

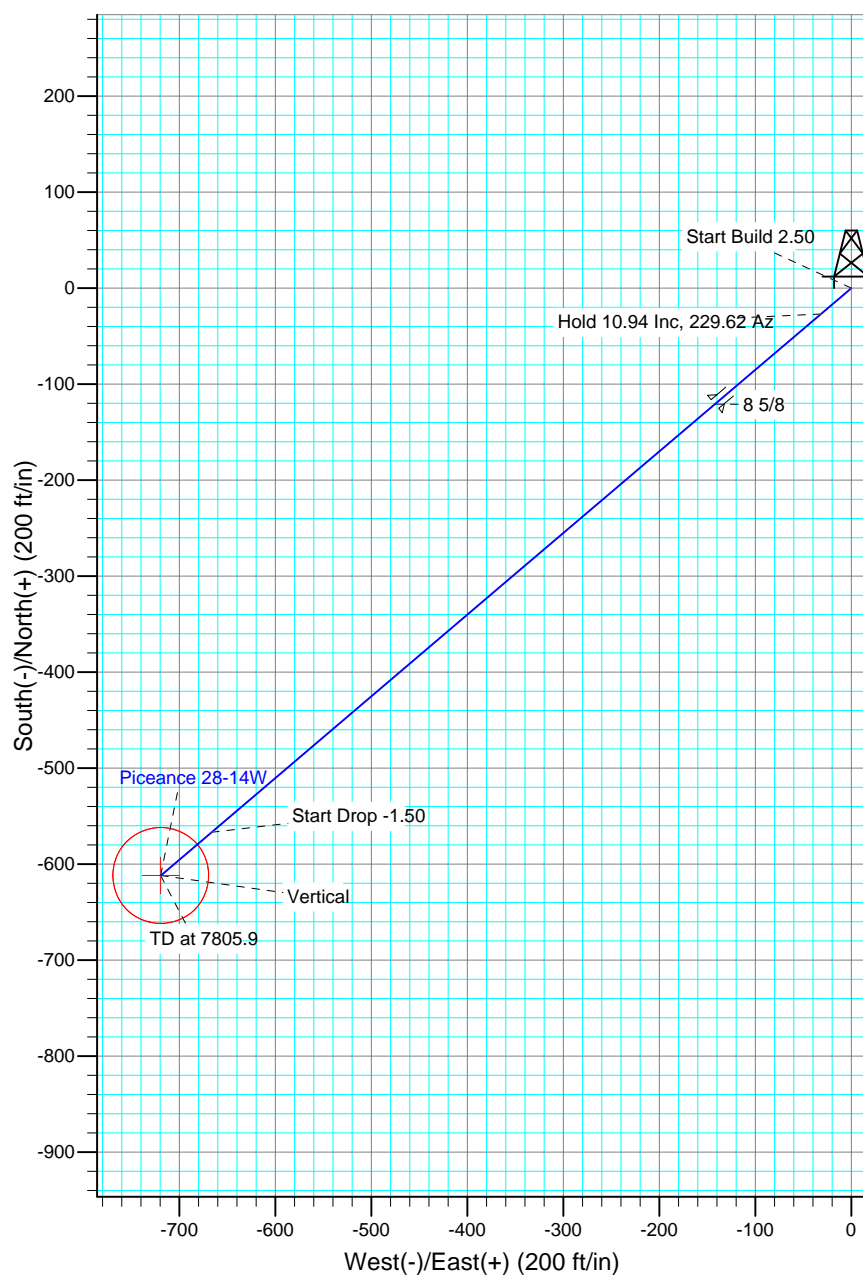
Project: Mesa County, CO  
Site: Piceance 28-11 Pad  
Well: Piceance 28-14W  
Wellbore: Wellbore #1  
Design: Plan #1 10May14 kjs

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1523215.99 2354916.49 39° 14' 51.900 N 107° 46' 41.196 W



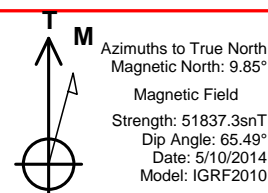
#### SECTION DETAILS

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	300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.0	
3	737.8	10.94	229.62	735.1	-27.0	-31.8	2.50	229.62	41.7	
4	5126.3	10.94	229.62	5043.8	-566.9	-666.4	0.00	0.00	874.9	
5	5855.9	0.00	0.00	5769.0	-611.9	-719.3	1.50	180.00	944.4	ETOG (50' Radius) 28-14W
6	7805.9	0.00	0.00	7719.0	-611.9	-719.3	0.00	0.00	944.4	



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4569.0	4642.7	WILLIAMS FORK:
5769.0	5855.9	ETOG:
6869.0	6955.9	CAMEO:
7569.0	7655.9	ROLLINS:
7719.0	7805.9	ETD:



# **Piceance Energy, LLC**

**Mesa County, CO**

**Piceance 28-11 Pad**

**Piceance 28-14W**

**Wellbore #1**

**Plan: Plan #1 10May14 kjs**

## **Standard Planning Report - Geographic**

**11 May, 2014**

# New Tech

## Planning Report - Geographic

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Piceance 28-14W
<b>Company:</b>	Piceance Energy, LLC	<b>TVD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Site:</b>	Piceance 28-11 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Piceance 28-14W	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 10May14 kjs		

Project	Mesa County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		Piceance 28-11 Pad			
Site Position:		Northing:	1,523,237.48 ft	Latitude:	39° 14' 52.116 N
From:	Lat/Long	Easting:	2,354,931.19 ft	Longitude:	107° 46' 41.016 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-1.44 °

Well	Piceance 28-14W					
Well Position	+N/-S	0.0 ft	Northing:	1,523,215.99 ft	Latitude:	39° 14' 51.900 N
	+E/-W	0.0 ft	Easting:	2,354,916.49 ft	Longitude:	107° 46' 41.196 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,580.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/10/2014	9.85	65.50	51,837

Design	Plan #1 10May14 kjs			
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	229.62

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	
300.0	0.00	0.00	300.0	0.0	0.0	0.00	0.00	0.00	0.00	
737.8	10.94	229.62	735.1	-27.0	-31.8	2.50	2.50	0.00	229.62	
5,126.3	10.94	229.62	5,043.8	-566.9	-666.4	0.00	0.00	0.00	0.00	
5,855.9	0.00	0.00	5,769.0	-611.9	-719.3	1.50	-1.50	0.00	180.00	ETOG (50' Radius) 2%
7,805.9	0.00	0.00	7,719.0	-611.9	-719.3	0.00	0.00	0.00	0.00	

# New Tech

## Planning Report - Geographic

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Piceance 28-14W
<b>Company:</b>	Piceance Energy, LLC	<b>TVD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Site:</b>	Piceance 28-11 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Piceance 28-14W	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 10May14 kjs		

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	1,523,215.99	2,354,916.49	39° 14' 51.900 N	107° 46' 41.196 W
200.0	0.00	0.00	200.0	0.0	0.0	1,523,215.99	2,354,916.49	39° 14' 51.900 N	107° 46' 41.196 W
300.0	0.00	0.00	300.0	0.0	0.0	1,523,215.99	2,354,916.49	39° 14' 51.900 N	107° 46' 41.196 W
<b>Start Build 2.50</b>									
400.0	2.50	229.62	400.0	-1.4	-1.7	1,523,214.62	2,354,914.79	39° 14' 51.886 N	107° 46' 41.217 W
600.0	7.50	229.62	599.1	-12.7	-14.9	1,523,203.67	2,354,901.24	39° 14' 51.774 N	107° 46' 41.386 W
737.8	10.94	229.62	735.1	-27.0	-31.8	1,523,189.79	2,354,884.07	39° 14' 51.633 N	107° 46' 41.600 W
<b>Hold 10.94 Inclination</b>									
800.0	10.94	229.62	796.2	-34.7	-40.7	1,523,182.36	2,354,874.88	39° 14' 51.557 N	107° 46' 41.714 W
1,000.0	10.94	229.62	992.6	-59.3	-69.7	1,523,158.49	2,354,845.35	39° 14' 51.314 N	107° 46' 42.082 W
1,200.0	10.94	229.62	1,188.9	-83.9	-98.6	1,523,134.62	2,354,815.82	39° 14' 51.071 N	107° 46' 42.449 W
1,400.0	10.94	229.62	1,385.3	-108.5	-127.5	1,523,110.75	2,354,786.29	39° 14' 50.828 N	107° 46' 42.817 W
1,500.0	10.94	229.62	1,483.5	-120.8	-142.0	1,523,098.82	2,354,771.52	39° 14' 50.706 N	107° 46' 43.001 W
<b>8 5/8</b>									
1,600.0	10.94	229.62	1,581.7	-133.1	-156.4	1,523,086.88	2,354,756.76	39° 14' 50.585 N	107° 46' 43.185 W
1,800.0	10.94	229.62	1,778.0	-157.7	-185.4	1,523,063.01	2,354,727.22	39° 14' 50.341 N	107° 46' 43.552 W
2,000.0	10.94	229.62	1,974.4	-182.3	-214.3	1,523,039.14	2,354,697.69	39° 14' 50.098 N	107° 46' 43.920 W
2,200.0	10.94	229.62	2,170.7	-206.9	-243.2	1,523,015.27	2,354,668.16	39° 14' 49.855 N	107° 46' 44.288 W
2,400.0	10.94	229.62	2,367.1	-231.5	-272.1	1,522,991.40	2,354,638.63	39° 14' 49.612 N	107° 46' 44.655 W
2,600.0	10.94	229.62	2,563.5	-256.1	-301.1	1,522,967.53	2,354,609.10	39° 14' 49.369 N	107° 46' 45.023 W
2,800.0	10.94	229.62	2,759.8	-280.7	-330.0	1,522,943.66	2,354,579.57	39° 14' 49.126 N	107° 46' 45.391 W
3,000.0	10.94	229.62	2,956.2	-305.3	-358.9	1,522,919.79	2,354,550.03	39° 14' 48.882 N	107° 46' 45.758 W
3,200.0	10.94	229.62	3,152.6	-329.9	-387.8	1,522,895.92	2,354,520.50	39° 14' 48.639 N	107° 46' 46.126 W
3,400.0	10.94	229.62	3,348.9	-354.5	-416.8	1,522,872.05	2,354,490.97	39° 14' 48.396 N	107° 46' 46.494 W
3,600.0	10.94	229.62	3,545.3	-379.1	-445.7	1,522,848.18	2,354,461.44	39° 14' 48.153 N	107° 46' 46.861 W
3,800.0	10.94	229.62	3,741.6	-403.7	-474.6	1,522,824.31	2,354,431.91	39° 14' 47.910 N	107° 46' 47.229 W
4,000.0	10.94	229.62	3,938.0	-428.3	-503.5	1,522,800.44	2,354,402.38	39° 14' 47.666 N	107° 46' 47.597 W
4,200.0	10.94	229.62	4,134.4	-452.9	-532.5	1,522,776.57	2,354,372.84	39° 14' 47.423 N	107° 46' 47.965 W
4,400.0	10.94	229.62	4,330.7	-477.5	-561.4	1,522,752.70	2,354,343.31	39° 14' 47.180 N	107° 46' 48.332 W
4,600.0	10.94	229.62	4,527.1	-502.1	-590.3	1,522,728.83	2,354,313.78	39° 14' 46.937 N	107° 46' 48.700 W
4,642.7	10.94	229.62	4,569.0	-507.4	-596.5	1,522,723.74	2,354,307.48	39° 14' 46.885 N	107° 46' 48.778 W
<b>WILLIAMS FORK:</b>									
4,800.0	10.94	229.62	4,723.5	-526.7	-619.2	1,522,704.96	2,354,284.25	39° 14' 46.694 N	107° 46' 49.068 W
5,000.0	10.94	229.62	4,919.8	-551.3	-648.2	1,522,681.09	2,354,254.72	39° 14' 46.450 N	107° 46' 49.435 W
5,126.3	10.94	229.62	5,043.8	-566.9	-666.4	1,522,666.02	2,354,236.07	39° 14' 46.297 N	107° 46' 49.667 W
<b>Start Drop -1.50</b>									
5,200.0	9.84	229.62	5,116.3	-575.5	-676.5	1,522,657.66	2,354,225.73	39° 14' 46.212 N	107° 46' 49.796 W
5,400.0	6.84	229.62	5,314.2	-594.3	-698.6	1,522,639.43	2,354,203.17	39° 14' 46.026 N	107° 46' 50.077 W
5,600.0	3.84	229.62	5,513.3	-606.3	-712.8	1,522,627.73	2,354,188.70	39° 14' 45.907 N	107° 46' 50.257 W
5,800.0	0.84	229.62	5,713.1	-611.6	-719.0	1,522,622.60	2,354,182.36	39° 14' 45.855 N	107° 46' 50.336 W
5,855.9	0.00	0.00	5,769.0	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
<b>Vertical @ ETOG - ETOG: - ETOG (50' Radius) 28-14W</b>									
6,000.0	0.00	0.00	5,913.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
6,200.0	0.00	0.00	6,113.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
6,400.0	0.00	0.00	6,313.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
6,600.0	0.00	0.00	6,513.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
6,800.0	0.00	0.00	6,713.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
6,955.9	0.00	0.00	6,869.0	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
<b>CAMEO:</b>									
7,000.0	0.00	0.00	6,913.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
7,200.0	0.00	0.00	7,113.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
7,400.0	0.00	0.00	7,313.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
7,600.0	0.00	0.00	7,513.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W

# New Tech

## Planning Report - Geographic

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Piceance 28-14W
<b>Company:</b>	Piceance Energy, LLC	<b>TVD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Project:</b>	Mesa County, CO	<b>MD Reference:</b>	WELL @ 7604.0ft (Original Well Elev)
<b>Site:</b>	Piceance 28-11 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Piceance 28-14W	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 10May14 kjs		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
7,655.9	0.00	0.00	7,569.0	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
<b>ROLLINS:</b>									
7,800.0	0.00	0.00	7,713.1	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
7,805.9	0.00	0.00	7,719.0	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
<b>TD at 7805.9 - ETD:</b>									

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									
ETOG (50' Radius) 28-1	0.00	0.00	5,769.0	-611.9	-719.3	1,522,622.35	2,354,182.04	39° 14' 45.852 N	107° 46' 50.340 W
- plan hits target									
- Circle (radius 50.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,500.0	1,483.5	8 5/8	8-5/8	8-5/8	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,955.9	6,869.0	CAMEO:			
5,855.9	5,769.0	ETOG:			
7,805.9	7,719.0	ETD:			
7,655.9	7,569.0	ROLLINS:			
4,642.7	4,569.0	WILLIAMS FORK:			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
300.0	300.0	0.0	0.0	Start Build 2.50
737.8	735.1	-27.0	-31.8	Hold 10.94 Inclination
5,126.3	5,043.8	-566.9	-666.4	Start Drop -1.50
5,855.9	5,769.0	-611.9	-719.3	Vertical @ ETOG
7,805.9	7,719.0	-611.9	-719.3	TD at 7805.9