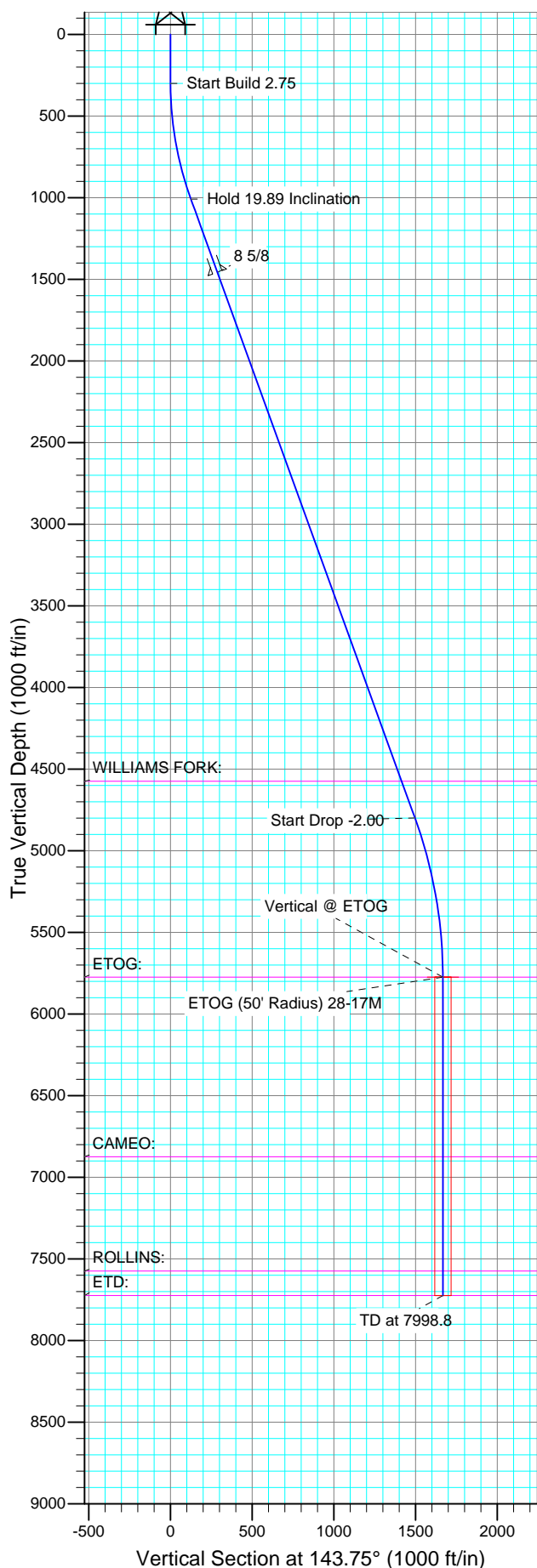




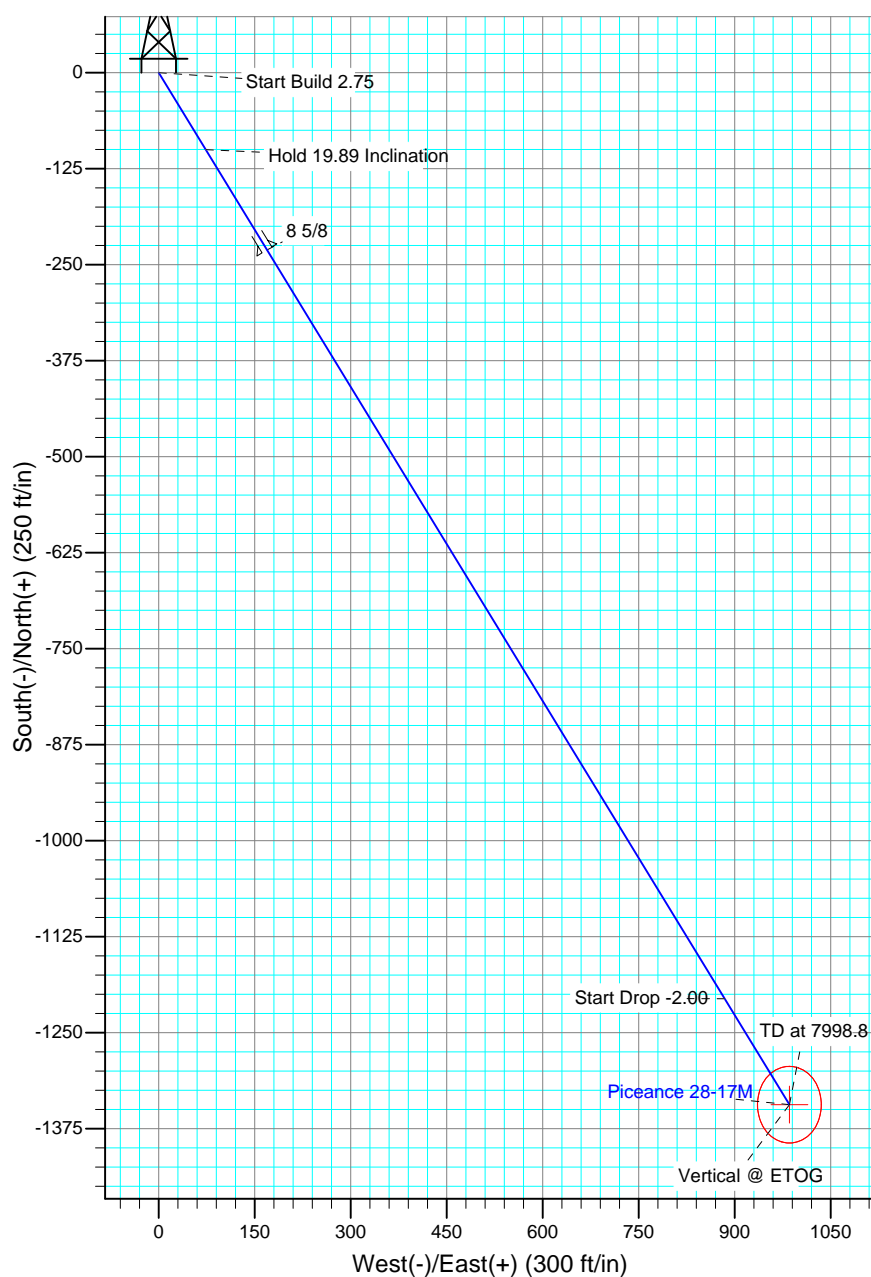
Well Name: Piceance 28-17M  
Surface Location: Piceance 28-11 Pad  
North American Datum 1983  
US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 7580.0  
WELL @ 7604.0ft (Original Well Elev)

Project: Mesa County, CO  
Site: Piceance 28-11 Pad  
Well: Piceance 28-17M  
Wellbore: Wellbore #1  
Design: Plan #1 10May14 kjs

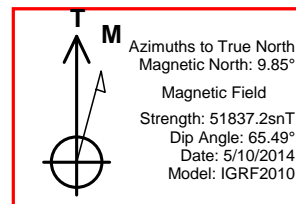
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1523186.79	2354918.59	39° 14' 51.612 N	107° 46' 41.160 W	



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	1023.3	19.89	143.75	1008.8	-100.2	73.5	2.75	143.75	124.3	
4	5054.2	19.89	143.75	4799.3	-1206.1	884.5	0.00	0.00	1495.7	
5	6048.8	0.00	0.00	5774.0	-1343.9	985.6	2.00	180.00	1666.6	ETOG (50' Radius) 28-17M
6	7998.8	0.00	0.00	7724.0	-1343.9	985.6	0.00	0.00	1666.6	



FORMATION TOP DETAILS		
TVDPPath	MDPath	Formation
4574.0	4814.6	WILLIAMS FORK:
5774.0	6048.8	ETOG:
6874.0	7148.8	CAMEO:
7574.0	7848.8	ROLLINS:
7724.0	7998.8	ETD:



# **Piceance Energy, LLC**

**Mesa County, CO**

**Piceance 28-11 Pad**

**Piceance 28-17M**

**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 28-17M
<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 28-17M	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #1 10May14 kjs		

<b>Project</b>	Mesa County, CO		
<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		

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 28-17M				
Well Position	+N/-S	0.0 ft	Northing:	1,523,186.79 ft	Latitude:	39° 14' 51.612 N
	+E/-W	0.0 ft	Easting:	2,354,918.59 ft	Longitude:	107° 46' 41.160 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	7,580.0 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</b>
			(°)	(°)	(nT)
	IGRF2010	5/10/2014	9.85	65.50	51,837

<b>Design</b>	Plan #1 10May14 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)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	143.75

<b>Plan Sections</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg</b>	<b>Build</b>	<b>Turn</b>	<b>TFO</b>	<b>Target</b>
<b>Depth</b>	<b>(°)</b>	<b>(°)</b>	<b>Depth</b>	<b>(ft)</b>	<b>(ft)</b>	<b>Rate</b>	<b>Rate</b>	<b>Rate</b>	<b>(°)</b>	
<b>(ft)</b>			<b>(ft)</b>			<b>(°/100ft)</b>	<b>(°/100ft)</b>	<b>(°/100ft)</b>		
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	
1,023.3	19.89	143.75	1,008.8	-100.2	73.5	2.75	2.75	0.00	143.75	
5,054.2	19.89	143.75	4,799.3	-1,206.1	884.5	0.00	0.00	0.00	0.00	
6,048.8	0.00	0.00	5,774.0	-1,343.9	985.6	2.00	-2.00	0.00	180.00	ETOG (50' Radius) 28
7,998.8	0.00	0.00	7,724.0	-1,343.9	985.6	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 28-17M
<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 28-17M	<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	1,523,186.79	2,354,918.59	39° 14' 51.612 N	107° 46' 41.160 W
200.0	0.00	0.00	200.0	0.0	0.0	1,523,186.79	2,354,918.59	39° 14' 51.612 N	107° 46' 41.160 W
300.0	0.00	0.00	300.0	0.0	0.0	1,523,186.79	2,354,918.59	39° 14' 51.612 N	107° 46' 41.160 W
<b>Start Build 2.75</b>									
400.0	2.75	143.75	400.0	-1.9	1.4	1,523,184.82	2,354,919.96	39° 14' 51.593 N	107° 46' 41.142 W
600.0	8.25	143.75	599.0	-17.4	12.8	1,523,169.09	2,354,930.90	39° 14' 51.440 N	107° 46' 40.998 W
800.0	13.75	143.75	795.2	-48.1	35.3	1,523,137.77	2,354,952.68	39° 14' 51.136 N	107° 46' 40.711 W
1,000.0	19.25	143.75	986.9	-93.9	68.9	1,523,091.16	2,354,985.10	39° 14' 50.683 N	107° 46' 40.284 W
1,023.3	19.89	143.75	1,008.8	-100.2	73.5	1,523,084.75	2,354,989.55	39° 14' 50.621 N	107° 46' 40.226 W
<b>Hold 19.89 Inclination</b>									
1,200.0	19.89	143.75	1,175.0	-148.7	109.1	1,523,035.39	2,355,023.88	39° 14' 50.142 N	107° 46' 39.774 W
1,400.0	19.89	143.75	1,363.1	-203.6	149.3	1,522,979.53	2,355,062.73	39° 14' 49.600 N	107° 46' 39.262 W
1,500.0	19.89	143.75	1,457.1	-231.0	169.4	1,522,951.60	2,355,082.16	39° 14' 49.329 N	107° 46' 39.006 W
<b>8 5/8</b>									
1,600.0	19.89	143.75	1,551.2	-258.4	189.5	1,522,923.67	2,355,101.58	39° 14' 49.057 N	107° 46' 38.751 W
1,800.0	19.89	143.75	1,739.2	-313.3	229.8	1,522,867.81	2,355,140.43	39° 14' 48.515 N	107° 46' 38.239 W
2,000.0	19.89	143.75	1,927.3	-368.2	270.0	1,522,811.95	2,355,179.28	39° 14' 47.973 N	107° 46' 37.728 W
2,200.0	19.89	143.75	2,115.4	-423.1	310.3	1,522,756.08	2,355,218.14	39° 14' 47.430 N	107° 46' 37.216 W
2,400.0	19.89	143.75	2,303.4	-477.9	350.5	1,522,700.22	2,355,256.99	39° 14' 46.888 N	107° 46' 36.705 W
2,600.0	19.89	143.75	2,491.5	-532.8	390.7	1,522,644.36	2,355,295.84	39° 14' 46.346 N	107° 46' 36.193 W
2,800.0	19.89	143.75	2,679.6	-587.7	431.0	1,522,588.50	2,355,334.69	39° 14' 45.803 N	107° 46' 35.682 W
3,000.0	19.89	143.75	2,867.6	-642.5	471.2	1,522,532.64	2,355,373.54	39° 14' 45.261 N	107° 46' 35.170 W
3,200.0	19.89	143.75	3,055.7	-697.4	511.4	1,522,476.77	2,355,412.39	39° 14' 44.719 N	107° 46' 34.659 W
3,400.0	19.89	143.75	3,243.8	-752.3	551.7	1,522,420.91	2,355,451.24	39° 14' 44.176 N	107° 46' 34.147 W
3,600.0	19.89	143.75	3,431.8	-807.2	591.9	1,522,365.05	2,355,490.09	39° 14' 43.634 N	107° 46' 33.636 W
3,800.0	19.89	143.75	3,619.9	-862.0	632.2	1,522,309.19	2,355,528.94	39° 14' 43.091 N	107° 46' 33.124 W
4,000.0	19.89	143.75	3,808.0	-916.9	672.4	1,522,253.32	2,355,567.79	39° 14' 42.549 N	107° 46' 32.613 W
4,200.0	19.89	143.75	3,996.1	-971.8	712.6	1,522,197.46	2,355,606.64	39° 14' 42.007 N	107° 46' 32.101 W
4,400.0	19.89	143.75	4,184.1	-1,026.6	752.9	1,522,141.60	2,355,645.49	39° 14' 41.464 N	107° 46' 31.590 W
4,600.0	19.89	143.75	4,372.2	-1,081.5	793.1	1,522,085.74	2,355,684.34	39° 14' 40.922 N	107° 46' 31.078 W
4,800.0	19.89	143.75	4,560.3	-1,136.4	833.4	1,522,029.88	2,355,723.19	39° 14' 40.380 N	107° 46' 30.567 W
4,814.6	19.89	143.75	4,574.0	-1,140.4	836.3	1,522,025.80	2,355,726.03	39° 14' 40.340 N	107° 46' 30.529 W
<b>WILLIAMS FORK:</b>									
5,000.0	19.89	143.75	4,748.3	-1,191.2	873.6	1,521,974.01	2,355,762.04	39° 14' 39.837 N	107° 46' 30.055 W
5,054.2	19.89	143.75	4,799.3	-1,206.1	884.5	1,521,958.86	2,355,772.58	39° 14' 39.690 N	107° 46' 29.917 W
<b>Start Drop -2.00</b>									
5,200.0	16.98	143.75	4,937.6	-1,243.3	911.8	1,521,921.03	2,355,798.89	39° 14' 39.323 N	107° 46' 29.570 W
5,400.0	12.98	143.75	5,130.8	-1,285.0	942.3	1,521,878.61	2,355,828.39	39° 14' 38.911 N	107° 46' 29.182 W
5,600.0	8.98	143.75	5,327.1	-1,315.7	964.8	1,521,847.36	2,355,850.13	39° 14' 38.608 N	107° 46' 28.896 W
5,800.0	4.98	143.75	5,525.6	-1,335.2	979.2	1,521,827.42	2,355,863.99	39° 14' 38.414 N	107° 46' 28.713 W
6,000.0	0.98	143.75	5,725.2	-1,343.6	985.3	1,521,818.90	2,355,869.92	39° 14' 38.331 N	107° 46' 28.635 W
6,048.8	0.00	0.00	5,774.0	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
<b>Vertical @ ETOG - ETOG: - ETOG (50' Radius) 28-17M</b>									
6,200.0	0.00	0.00	5,925.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
6,400.0	0.00	0.00	6,125.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
6,600.0	0.00	0.00	6,325.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
6,800.0	0.00	0.00	6,525.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
7,000.0	0.00	0.00	6,725.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
7,148.8	0.00	0.00	6,874.0	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
<b>CAMEO:</b>									
7,200.0	0.00	0.00	6,925.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
7,400.0	0.00	0.00	7,125.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
7,600.0	0.00	0.00	7,325.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W

# New Tech

## Planning Report - Geographic

<b>Database:</b>	EDM 2003.16 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Piceance 28-17M
<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 28-17M	<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
7,800.0	0.00	0.00	7,525.2	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
7,848.8	0.00	0.00	7,574.0	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
<b>ROLLINS:</b>									
7,998.8	0.00	0.00	7,724.0	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
<b>TD at 7998.8 - 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	5,774.0	-1,343.9	985.6	1,521,818.56	2,355,870.16	39° 14' 38.328 N	107° 46' 28.632 W
- plan hits target									
- Circle (radius 50.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,500.0	1,457.1	8 5/8	8-5/8	8-5/8	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
7,848.8	7,574.0	ROLLINS:				
7,148.8	6,874.0	CAMEO:				
6,048.8	5,774.0	ETOG:				
4,814.6	4,574.0	WILLIAMS FORK:				
7,998.8	7,724.0	ETD:				

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 2.75	
1,023.3	1,008.8	-100.2	73.5	Hold 19.89 Inclination	
5,054.2	4,799.3	-1,206.1	884.5	Start Drop -2.00	
6,048.8	5,774.0	-1,343.9	985.6	Vertical @ ETOG	
7,998.8	7,724.0	-1,343.9	985.6	TD at 7998.8	