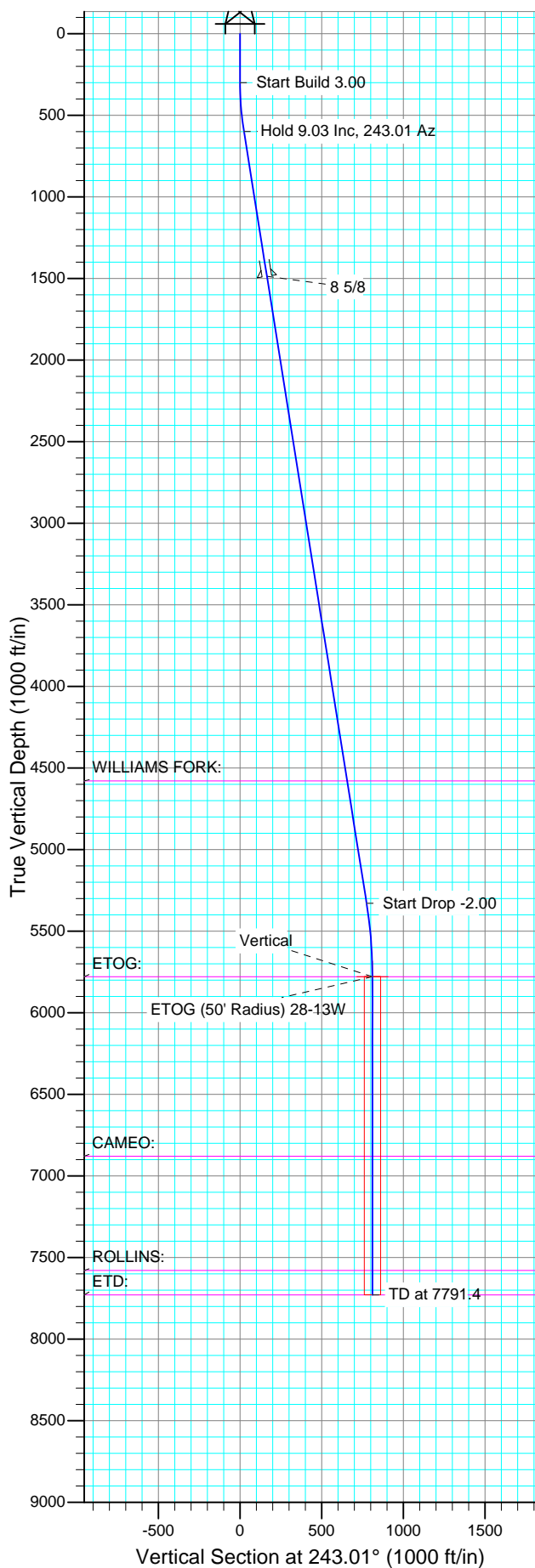




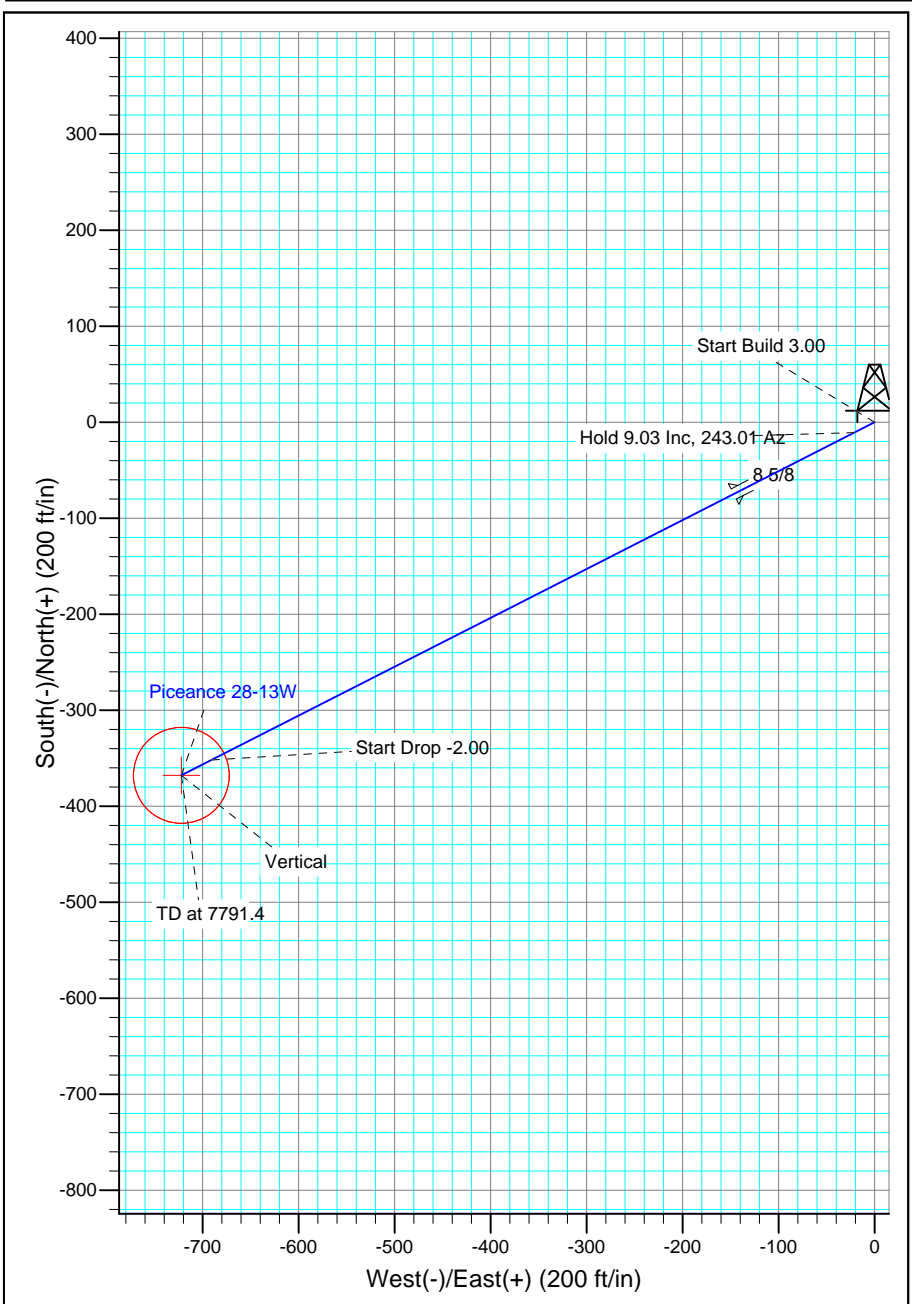
Well Name: Piceance 28-13W
Surface Location: Piceance 28-11 Pad
North American Datum 1983
US State Plane 1983 , Colorado Central Zone
Ground Elevation: 7580.0
WELL @ 7604.0ft (Original Well Elev)

Project: Mesa County, CO
Site: Piceance 28-11 Pad
Well: Piceance 28-13W
Wellbore: Wellbore #1
Design: Plan #1 10May14 kjs

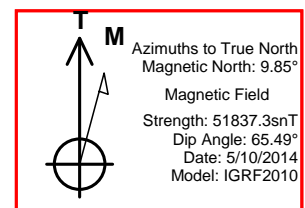
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1523223.27	2354916.67	39° 14' 51.972 N	107° 46' 41.196 W	



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	600.9	9.03	243.01	599.6	-10.7	-21.1	3.00	243.01	23.6	
4	5390.1	9.03	243.01	5329.6	-351.7	-690.6	0.00	0.00	775.0	
5	5841.4	0.00	0.00	5779.0	-367.8	-722.2	2.00	180.00	810.4	ETOG (50' Radius) 28-13W
6	7791.4	0.00	0.00	7729.0	-367.8	-722.2	0.00	0.00	810.4	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4579.0	4630.1	WILLIAMS FORK:
5779.0	5841.4	ETOG:
6879.0	6941.4	CAMEO:
7579.0	7641.4	ROLLINS:
7729.0	7791.4	ETD:



Piceance Energy, LLC

Mesa County, CO

Piceance 28-11 Pad

Piceance 28-13W

Wellbore #1

Plan: Plan #1 10May14 kjs

Standard Planning Report - Geographic

11 May, 2014

New Tech

Planning Report - Geographic

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well Piceance 28-13W
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7604.0ft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7604.0ft (Original Well Elev)
Site:	Piceance 28-11 Pad	North Reference:	True
Well:	Piceance 28-13W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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 28-13W					
Well Position	+N/-S	0.0 ft	Northing:	1,523,223.27 ft	Latitude:	39° 14' 51.972 N
	+E/-W	0.0 ft	Easting:	2,354,916.67 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	243.01

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	
600.9	9.03	243.01	599.6	-10.7	-21.1	3.00	3.00	0.00	243.01	
5,390.1	9.03	243.01	5,329.6	-351.7	-690.6	0.00	0.00	0.00	0.00	
5,841.4	0.00	0.00	5,779.0	-367.8	-722.2	2.00	-2.00	0.00	180.00	ETOG (50' Radius) 243.01
7,791.4	0.00	0.00	7,729.0	-367.8	-722.2	0.00	0.00	0.00	0.00	

New Tech

Planning Report - Geographic

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well Piceance 28-13W
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7604.0ft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7604.0ft (Original Well Elev)
Site:	Piceance 28-11 Pad	North Reference:	True
Well:	Piceance 28-13W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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	1,523,223.27	2,354,916.67	39° 14' 51.972 N	107° 46' 41.196 W
200.0	0.00	0.00	200.0	0.0	0.0	1,523,223.27	2,354,916.67	39° 14' 51.972 N	107° 46' 41.196 W
300.0	0.00	0.00	300.0	0.0	0.0	1,523,223.27	2,354,916.67	39° 14' 51.972 N	107° 46' 41.196 W
Start Build 3.00									
400.0	3.00	243.01	400.0	-1.2	-2.3	1,523,222.14	2,354,914.31	39° 14' 51.960 N	107° 46' 41.226 W
600.0	9.00	243.01	598.8	-10.7	-21.0	1,523,213.13	2,354,895.46	39° 14' 51.866 N	107° 46' 41.462 W
600.9	9.03	243.01	599.6	-10.7	-21.1	1,523,213.07	2,354,895.34	39° 14' 51.866 N	107° 46' 41.464 W
Hold 9.03 Inclination									
800.0	9.03	243.01	796.3	-24.9	-48.9	1,523,199.59	2,354,867.15	39° 14' 51.726 N	107° 46' 41.818 W
1,000.0	9.03	243.01	993.8	-39.2	-76.9	1,523,186.06	2,354,838.85	39° 14' 51.585 N	107° 46' 42.173 W
1,200.0	9.03	243.01	1,191.3	-53.4	-104.8	1,523,172.52	2,354,810.54	39° 14' 51.444 N	107° 46' 42.529 W
1,400.0	9.03	243.01	1,388.9	-67.6	-132.8	1,523,158.99	2,354,782.24	39° 14' 51.303 N	107° 46' 42.884 W
1,500.0	9.03	243.01	1,487.6	-74.8	-146.8	1,523,152.22	2,354,768.08	39° 14' 51.233 N	107° 46' 43.062 W
8 5/8									
1,600.0	9.03	243.01	1,586.4	-81.9	-160.7	1,523,145.45	2,354,753.93	39° 14' 51.163 N	107° 46' 43.239 W
1,800.0	9.03	243.01	1,783.9	-96.1	-188.7	1,523,131.92	2,354,725.62	39° 14' 51.022 N	107° 46' 43.595 W
2,000.0	9.03	243.01	1,981.4	-110.4	-216.7	1,523,118.38	2,354,697.32	39° 14' 50.881 N	107° 46' 43.950 W
2,200.0	9.03	243.01	2,179.0	-124.6	-244.6	1,523,104.85	2,354,669.01	39° 14' 50.740 N	107° 46' 44.306 W
2,400.0	9.03	243.01	2,376.5	-138.8	-272.6	1,523,091.31	2,354,640.71	39° 14' 50.600 N	107° 46' 44.661 W
2,600.0	9.03	243.01	2,574.0	-153.1	-300.5	1,523,077.78	2,354,612.40	39° 14' 50.459 N	107° 46' 45.016 W
2,800.0	9.03	243.01	2,771.5	-167.3	-328.5	1,523,064.24	2,354,584.10	39° 14' 50.318 N	107° 46' 45.372 W
3,000.0	9.03	243.01	2,969.1	-181.6	-356.4	1,523,050.70	2,354,555.79	39° 14' 50.177 N	107° 46' 45.727 W
3,200.0	9.03	243.01	3,166.6	-195.8	-384.4	1,523,037.17	2,354,527.48	39° 14' 50.037 N	107° 46' 46.082 W
3,400.0	9.03	243.01	3,364.1	-210.0	-412.4	1,523,023.63	2,354,499.18	39° 14' 49.896 N	107° 46' 46.438 W
3,600.0	9.03	243.01	3,561.6	-224.3	-440.3	1,523,010.10	2,354,470.87	39° 14' 49.755 N	107° 46' 46.793 W
3,800.0	9.03	243.01	3,759.1	-238.5	-468.3	1,522,996.56	2,354,442.57	39° 14' 49.614 N	107° 46' 47.149 W
4,000.0	9.03	243.01	3,956.7	-252.8	-496.2	1,522,983.03	2,354,414.26	39° 14' 49.474 N	107° 46' 47.504 W
4,200.0	9.03	243.01	4,154.2	-267.0	-524.2	1,522,969.49	2,354,385.95	39° 14' 49.333 N	107° 46' 47.859 W
4,400.0	9.03	243.01	4,351.7	-281.2	-552.1	1,522,955.96	2,354,357.65	39° 14' 49.192 N	107° 46' 48.215 W
4,600.0	9.03	243.01	4,549.2	-295.5	-580.1	1,522,942.42	2,354,329.34	39° 14' 49.051 N	107° 46' 48.570 W
4,630.1	9.03	243.01	4,579.0	-297.6	-584.3	1,522,940.38	2,354,325.08	39° 14' 49.030 N	107° 46' 48.624 W
WILLIAMS FORK:									
4,800.0	9.03	243.01	4,746.8	-309.7	-608.1	1,522,928.89	2,354,301.04	39° 14' 48.910 N	107° 46' 48.926 W
5,000.0	9.03	243.01	4,944.3	-324.0	-636.0	1,522,915.35	2,354,272.73	39° 14' 48.770 N	107° 46' 49.281 W
5,200.0	9.03	243.01	5,141.8	-338.2	-664.0	1,522,901.82	2,354,244.43	39° 14' 48.629 N	107° 46' 49.636 W
5,390.1	9.03	243.01	5,329.6	-351.7	-690.6	1,522,888.95	2,354,217.52	39° 14' 48.495 N	107° 46' 49.974 W
Start Drop -2.00									
5,400.0	8.83	243.01	5,339.3	-352.4	-691.9	1,522,888.29	2,354,216.13	39° 14' 48.488 N	107° 46' 49.992 W
5,600.0	4.83	243.01	5,537.9	-363.2	-713.1	1,522,878.03	2,354,194.69	39° 14' 48.382 N	107° 46' 50.261 W
5,800.0	0.83	243.01	5,737.6	-367.7	-721.9	1,522,873.78	2,354,185.79	39° 14' 48.337 N	107° 46' 50.373 W
5,841.4	0.00	0.00	5,779.0	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
Vertical @ ETOG - ETOG: - ETOG (50' Radius) 28-13W									
6,000.0	0.00	0.00	5,937.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
6,200.0	0.00	0.00	6,137.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
6,400.0	0.00	0.00	6,337.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
6,600.0	0.00	0.00	6,537.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
6,800.0	0.00	0.00	6,737.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
6,941.4	0.00	0.00	6,879.0	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
CAMEO:									
7,000.0	0.00	0.00	6,937.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
7,200.0	0.00	0.00	7,137.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
7,400.0	0.00	0.00	7,337.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
7,600.0	0.00	0.00	7,537.6	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W

New Tech

Planning Report - Geographic

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well Piceance 28-13W
Company:	Piceance Energy, LLC	TVD Reference:	WELL @ 7604.0ft (Original Well Elev)
Project:	Mesa County, CO	MD Reference:	WELL @ 7604.0ft (Original Well Elev)
Site:	Piceance 28-11 Pad	North Reference:	True
Well:	Piceance 28-13W	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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
7,641.4	0.00	0.00	7,579.0	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
ROLLINS:									
7,791.4	0.00	0.00	7,729.0	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
TD at 7791.4 - ETD:									

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	5,779.0	-367.8	-722.2	1,522,873.65	2,354,185.52	39° 14' 48.336 N	107° 46' 50.376 W
- plan hits target									
- Circle (radius 50.0)									

Casing Points						Casing Diameter (")	Hole Diameter (")
Measured Depth (ft)	Vertical Depth (ft)	Name					
1,500.0	1,487.6	8 5/8				8-5/8	8-5/8

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
7,641.4	7,579.0	ROLLINS:				
6,941.4	6,879.0	CAMEO:				
5,841.4	5,779.0	ETOG:				
7,791.4	7,729.0	ETD:				
4,630.1	4,579.0	WILLIAMS FORK:				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.0	300.0	0.0	0.0	Start Build 3.00	
600.9	599.6	-10.7	-21.1	Hold 9.03 Inclination	
5,390.1	5,329.6	-351.7	-690.6	Start Drop -2.00	
5,841.4	5,779.0	-367.8	-722.2	Vertical @ ETOG	
7,791.4	7,729.0	-367.8	-722.2	TD at 7791.4	