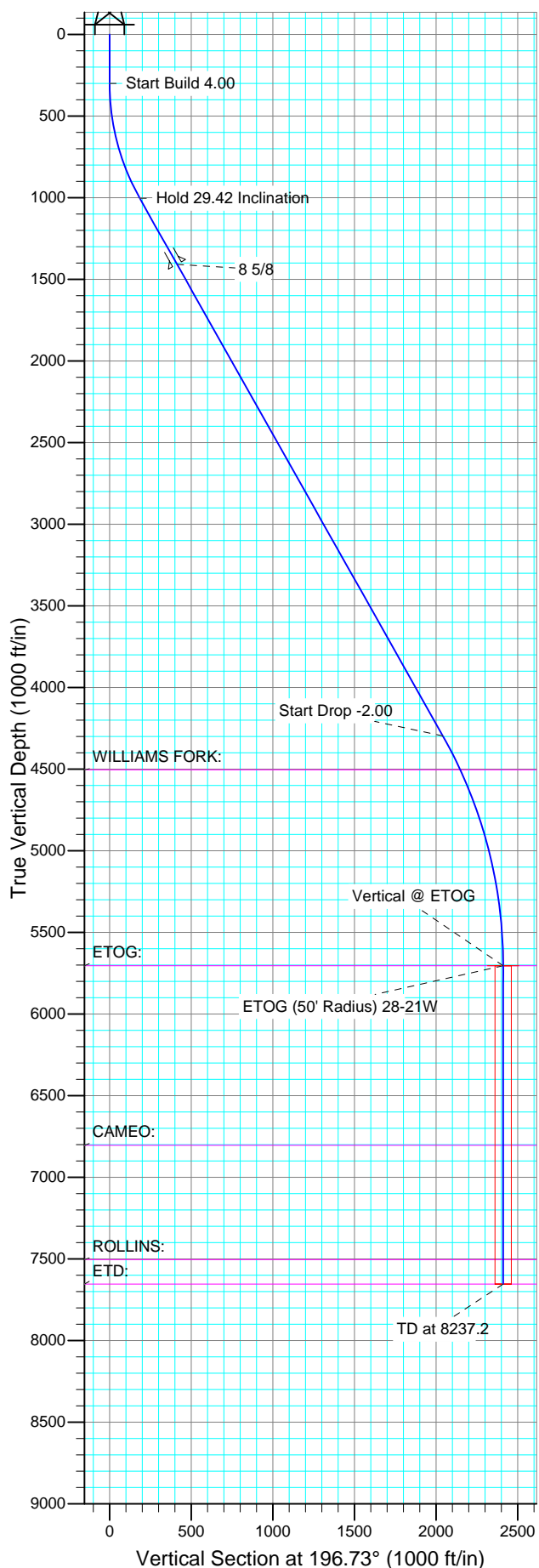




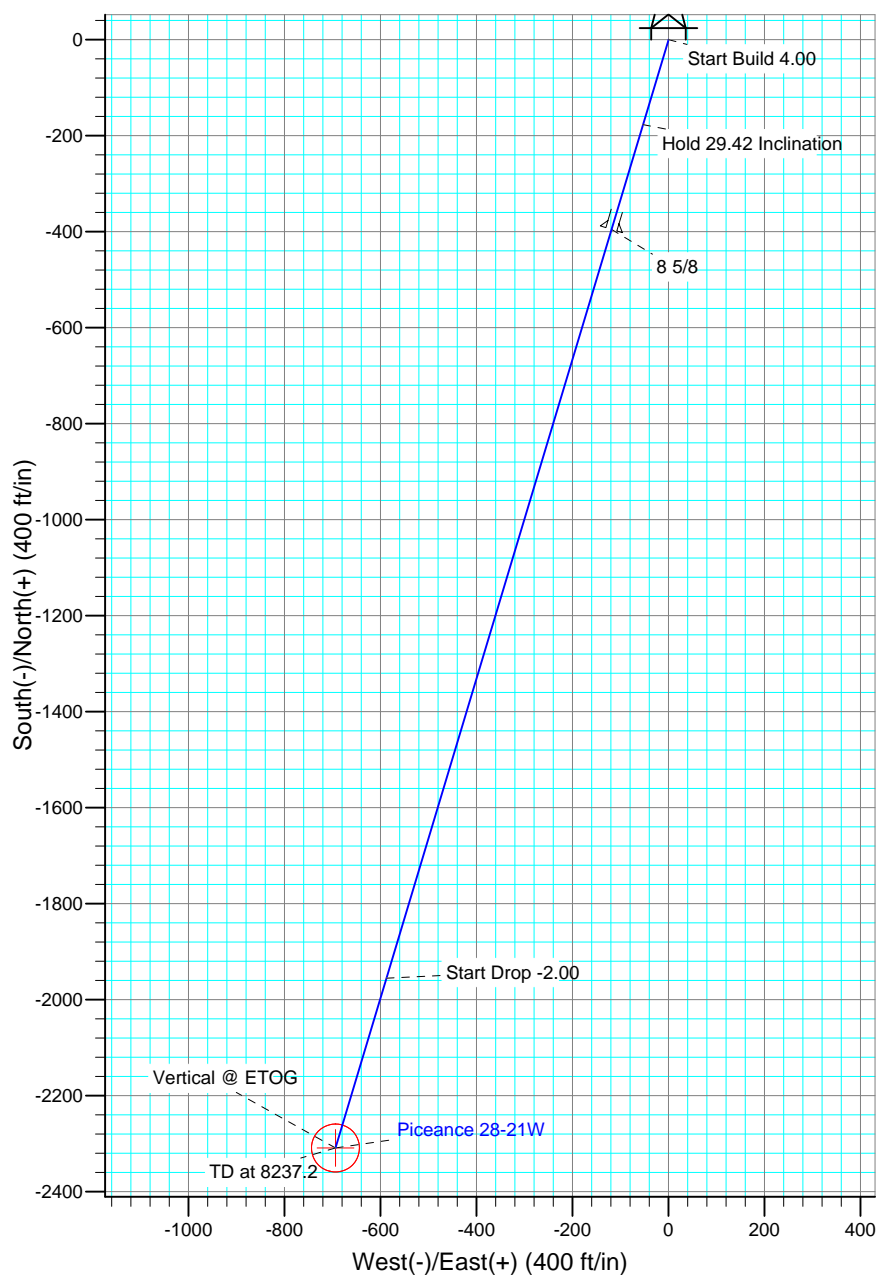
Well Name: Piceance 28-21W
Surface Location: Piceance 28-11 Pad
North American Datum 1983
US State Plane 1983 , Colorado Central Zone
Ground Elevation: 7580.0
WELL @ 7604.0ft (Original Well Elev)

Project: Mesa County, CO
Site: Piceance 28-11 Pad
Well: Piceance 28-21W
Wellbore: Wellbore #1
Design: Plan #1 10May14 kjs

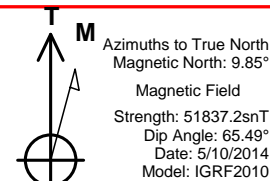
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1523161.80	2354898.13	39° 14' 51.360 N	107° 46' 41.412 W	



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	1035.4	29.42	196.73	1003.6	-176.9	-53.2	4.00	196.73	184.7	
4	4816.3	29.42	196.73	4296.9	-1955.4	-587.6	0.00	0.00	2041.7	
5	6287.2	0.00	0.00	5704.0	-2309.1	-693.9	2.00	180.00	2411.1	ETOG (50' Radius) 28-21W
6	8237.2	0.00	0.00	7654.0	-2309.1	-693.9	0.00	0.00	2411.1	



FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4504.0	5049.0	WILLIAMS FORK:
5704.0	6287.2	ETOG:
6804.0	7387.2	CAMEO:
7504.0	8087.2	ROLLINS:
7654.0	8237.2	ETD:



Piceance Energy, LLC

Mesa County, CO

Piceance 28-11 Pad

Piceance 28-21W

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 28-21W
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 28-21W	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 28-21W				
Well Position	+N/-S	0.0 ft	Northing:	1,523,161.80 ft	Latitude:	39° 14' 51.360 N
	+E/-W	0.0 ft	Easting:	2,354,898.13 ft	Longitude:	107° 46' 41.412 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)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	196.73

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100ft)	(°/100ft)	(°/100ft)		
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	
1,035.4	29.42	196.73	1,003.6	-176.9	-53.2	4.00	4.00	0.00	196.73	
4,816.3	29.42	196.73	4,296.9	-1,955.4	-587.6	0.00	0.00	0.00	0.00	
6,287.2	0.00	0.00	5,704.0	-2,309.1	-693.9	2.00	-2.00	0.00	180.00	ETOG (50' Radius) 2%
8,237.2	0.00	0.00	7,654.0	-2,309.1	-693.9	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 28-21W
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 28-21W	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	1,523,161.80	2,354,898.13	39° 14' 51.360 N	107° 46' 41.412 W
200.0	0.00	0.00	200.0	0.0	0.0	1,523,161.80	2,354,898.13	39° 14' 51.360 N	107° 46' 41.412 W
300.0	0.00	0.00	300.0	0.0	0.0	1,523,161.80	2,354,898.13	39° 14' 51.360 N	107° 46' 41.412 W
Start Build 4.00									
400.0	4.00	196.73	399.9	-3.3	-1.0	1,523,158.49	2,354,897.05	39° 14' 51.327 N	107° 46' 41.425 W
600.0	12.00	196.73	597.8	-30.0	-9.0	1,523,132.06	2,354,888.38	39° 14' 51.064 N	107° 46' 41.527 W
800.0	20.00	196.73	789.9	-82.7	-24.9	1,523,079.72	2,354,871.21	39° 14' 50.542 N	107° 46' 41.728 W
1,000.0	28.00	196.73	972.5	-160.6	-48.3	1,523,002.49	2,354,845.87	39° 14' 49.773 N	107° 46' 42.025 W
1,035.4	29.42	196.73	1,003.6	-176.9	-53.2	1,522,986.31	2,354,840.56	39° 14' 49.612 N	107° 46' 42.088 W
Hold 29.42 Inclination									
1,200.0	29.42	196.73	1,146.9	-254.3	-76.4	1,522,909.51	2,354,815.37	39° 14' 48.847 N	107° 46' 42.383 W
1,400.0	29.42	196.73	1,321.1	-348.4	-104.7	1,522,816.17	2,354,784.75	39° 14' 47.917 N	107° 46' 42.743 W
1,500.0	29.42	196.73	1,408.2	-395.4	-118.8	1,522,769.50	2,354,769.44	39° 14' 47.452 N	107° 46' 42.922 W
8 5/8									
1,600.0	29.42	196.73	1,495.3	-442.4	-133.0	1,522,722.83	2,354,754.13	39° 14' 46.987 N	107° 46' 43.102 W
1,800.0	29.42	196.73	1,669.5	-536.5	-161.2	1,522,629.49	2,354,723.51	39° 14' 46.057 N	107° 46' 43.461 W
2,000.0	29.42	196.73	1,843.7	-630.6	-189.5	1,522,536.15	2,354,692.88	39° 14' 45.127 N	107° 46' 43.821 W
2,200.0	29.42	196.73	2,018.0	-724.7	-217.8	1,522,442.81	2,354,662.26	39° 14' 44.197 N	107° 46' 44.180 W
2,400.0	29.42	196.73	2,192.2	-818.8	-246.0	1,522,349.47	2,354,631.64	39° 14' 43.267 N	107° 46' 44.540 W
2,600.0	29.42	196.73	2,366.4	-912.8	-274.3	1,522,256.13	2,354,601.02	39° 14' 42.337 N	107° 46' 44.899 W
2,800.0	29.42	196.73	2,540.6	-1,006.9	-302.6	1,522,162.79	2,354,570.40	39° 14' 41.407 N	107° 46' 45.258 W
3,000.0	29.42	196.73	2,714.8	-1,101.0	-330.9	1,522,069.45	2,354,539.78	39° 14' 40.477 N	107° 46' 45.618 W
3,200.0	29.42	196.73	2,889.0	-1,195.1	-359.1	1,521,976.11	2,354,509.16	39° 14' 39.548 N	107° 46' 45.977 W
3,400.0	29.42	196.73	3,063.2	-1,289.2	-387.4	1,521,882.76	2,354,478.54	39° 14' 38.618 N	107° 46' 46.336 W
3,600.0	29.42	196.73	3,237.4	-1,383.2	-415.7	1,521,789.42	2,354,447.92	39° 14' 37.688 N	107° 46' 46.696 W
3,800.0	29.42	196.73	3,411.6	-1,477.3	-443.9	1,521,696.08	2,354,417.30	39° 14' 36.758 N	107° 46' 47.055 W
4,000.0	29.42	196.73	3,585.9	-1,571.4	-472.2	1,521,602.74	2,354,386.67	39° 14' 35.828 N	107° 46' 47.414 W
4,200.0	29.42	196.73	3,760.1	-1,665.5	-500.5	1,521,509.40	2,354,356.05	39° 14' 34.898 N	107° 46' 47.774 W
4,400.0	29.42	196.73	3,934.3	-1,759.6	-528.7	1,521,416.06	2,354,325.43	39° 14' 33.968 N	107° 46' 48.133 W
4,600.0	29.42	196.73	4,108.5	-1,853.6	-557.0	1,521,322.72	2,354,294.81	39° 14' 33.038 N	107° 46' 48.492 W
4,800.0	29.42	196.73	4,282.7	-1,947.7	-585.3	1,521,229.38	2,354,264.19	39° 14' 32.108 N	107° 46' 48.852 W
4,816.3	29.42	196.73	4,296.9	-1,955.4	-587.6	1,521,221.78	2,354,261.70	39° 14' 32.033 N	107° 46' 48.881 W
Start Drop -2.00									
5,000.0	25.74	196.73	4,459.7	-2,036.8	-612.1	1,521,140.97	2,354,235.19	39° 14' 31.228 N	107° 46' 49.192 W
5,049.0	24.76	196.73	4,504.0	-2,056.8	-618.1	1,521,121.12	2,354,228.68	39° 14' 31.030 N	107° 46' 49.268 W
WILLIAMS FORK:									
5,200.0	21.74	196.73	4,642.7	-2,113.9	-635.2	1,521,064.47	2,354,210.09	39° 14' 30.465 N	107° 46' 49.486 W
5,400.0	17.74	196.73	4,830.9	-2,178.6	-654.7	1,521,000.29	2,354,189.04	39° 14' 29.826 N	107° 46' 49.734 W
5,600.0	13.74	196.73	5,023.4	-2,230.6	-670.3	1,520,948.74	2,354,172.12	39° 14' 29.312 N	107° 46' 49.932 W
5,800.0	9.74	196.73	5,219.2	-2,269.5	-682.0	1,520,910.07	2,354,159.44	39° 14' 28.927 N	107° 46' 50.081 W
6,000.0	5.74	196.73	5,417.3	-2,295.4	-689.8	1,520,884.47	2,354,151.04	39° 14' 28.672 N	107° 46' 50.179 W
6,200.0	1.74	196.73	5,616.8	-2,307.9	-693.5	1,520,872.06	2,354,146.97	39° 14' 28.549 N	107° 46' 50.227 W
6,287.2	0.00	0.00	5,704.0	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
Vertical @ ETOG - ETOG: - ETOG (50' Radius) 28-21W									
6,400.0	0.00	0.00	5,816.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
6,600.0	0.00	0.00	6,016.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
6,800.0	0.00	0.00	6,216.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
7,000.0	0.00	0.00	6,416.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
7,200.0	0.00	0.00	6,616.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
7,387.2	0.00	0.00	6,804.0	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
CAMEO:									
7,400.0	0.00	0.00	6,816.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
7,600.0	0.00	0.00	7,016.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W

New Tech

Planning Report - Geographic

Database:	EDM 2003.16 Single User Db	Local Co-ordinate Reference:	Well Piceance 28-21W
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 28-21W	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
7,800.0	0.00	0.00	7,216.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
8,000.0	0.00	0.00	7,416.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
8,087.2	0.00	0.00	7,504.0	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
ROLLINS:									
8,200.0	0.00	0.00	7,616.8	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
8,237.2	0.00	0.00	7,654.0	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W
TD at 8237.2 - ETD:									

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
ETOG (50' Radius) 28-2 - plan hits target - Circle (radius 50.0)	0.00	0.00	5,704.0	-2,309.1	-693.9	1,520,870.80	2,354,146.56	39° 14' 28.536 N	107° 46' 50.232 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
1,500.0	1,408.2	8 5/8	8-5/8	8-5/8	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,287.2	5,704.0	ETOG:			
7,387.2	6,804.0	CAMEO:			
5,049.0	4,504.0	WILLIAMS FORK:			
8,237.2	7,654.0	ETD:			
8,087.2	7,504.0	ROLLINS:			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.0	300.0	0.0	0.0	Start Build 4.00
1,035.4	1,003.6	-176.9	-53.2	Hold 29.42 Inclination
4,816.3	4,296.9	-1,955.4	-587.6	Start Drop -2.00
6,287.2	5,704.0	-2,309.1	-693.9	Vertical @ ETOG
8,237.2	7,654.0	-2,309.1	-693.9	TD at 8237.2