

# **Catamount Energy Partners**

**San Juan Basin  
La Plata County CO  
Campbell 33-7-4 #1H**

**Lateral #1**

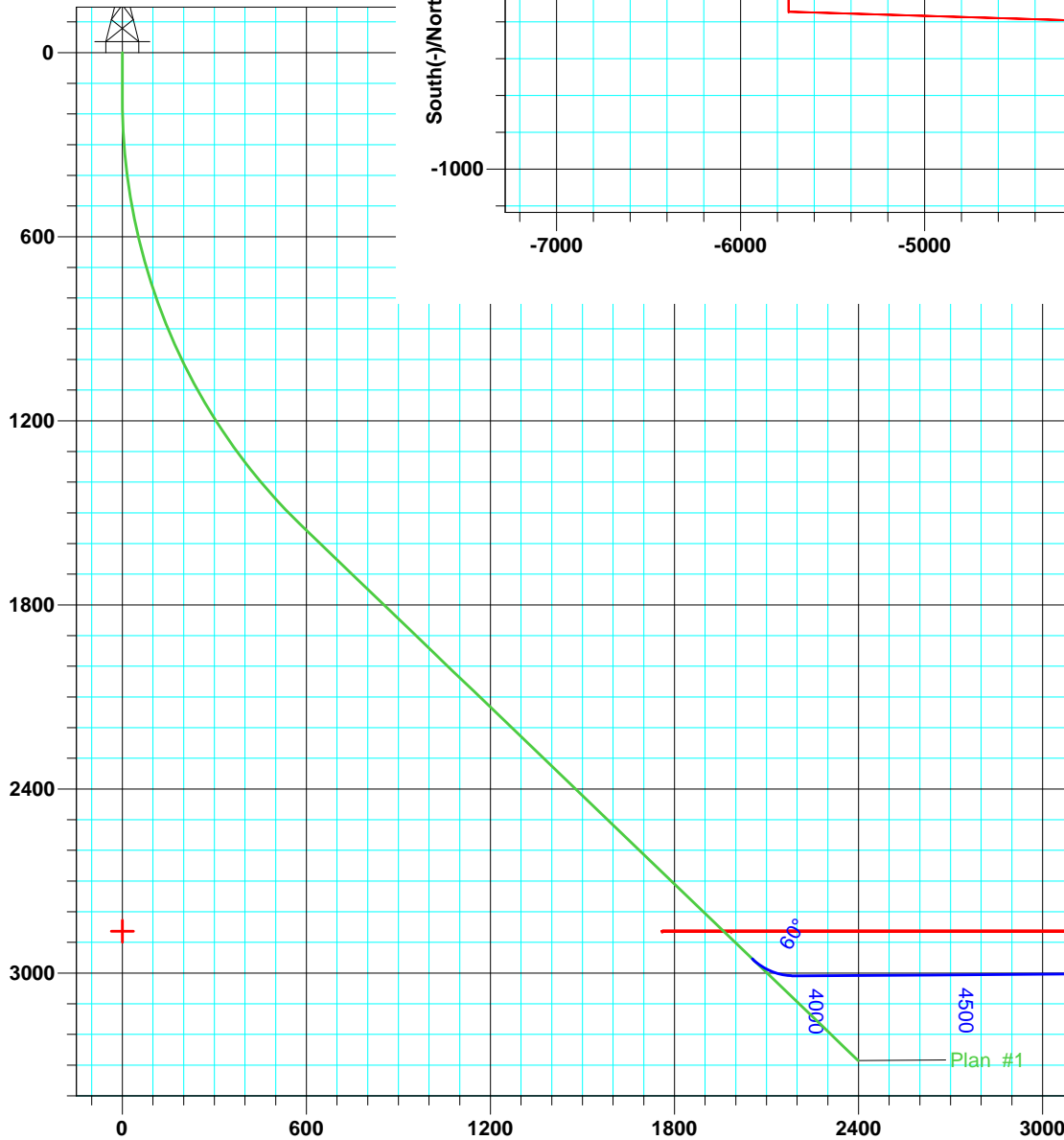
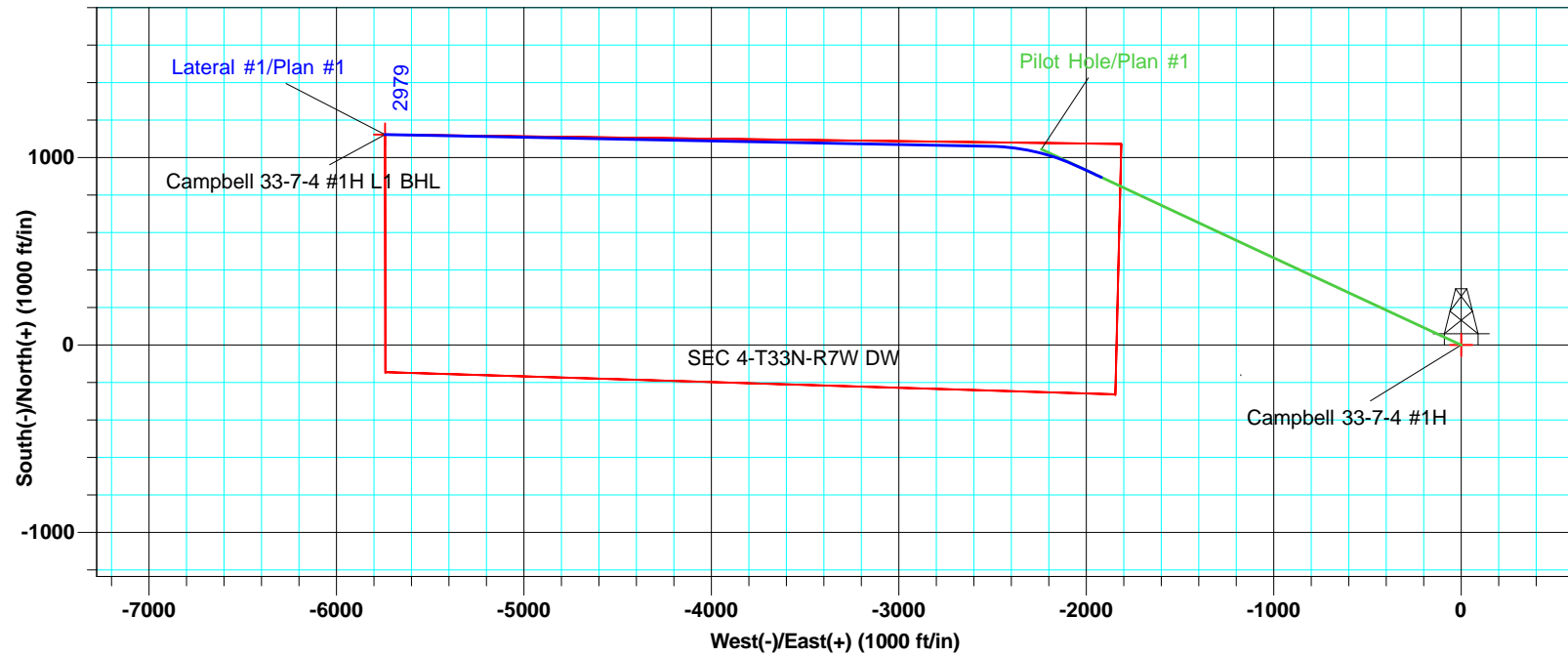
**Plan: Plan #1**

## **Standard Planning Report**

**30 October, 2013**



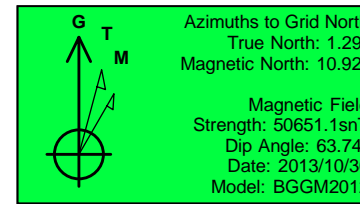
Project: San Juan Basin  
 Site: La Plata County CO  
 Well: Campbell 33-7-4 #1H  
 Wellbore: Lateral #1  
 Design: Plan #1



WELL DETAILS Campbell 33-7-4 #1H						
			Ground Level	6689.0		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.0	0.0	1175003.26	2387498.59	37° 7' 42.114 N	107° 36' 3.762 W	

SITE DETAILS: La Plata County CO			
Site Centre Northing:	760788.19		
Easting:	2556100.64		
Positional Uncertainty:	0.0		
Convergence:	-0.92		
Local North:	Grid		

PROJECT DETAILS: San Juan Basin	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	Colorado Southern Zone
System Datum:	Mean Sea Level



ALL AZIMUTHS MUST BE CORRECTED TO GRID NORTH  
 To convert a Magnetic Direction to a Grid Direction, Add 10.92°  
 To convert a True Direction to a Grid Direction, Add 1.29°

Campbell 33-7-4 #1H L1 BHL  
 Plan #1

Vertical Section at 281.07° (600 ft/in)

<b>Database:</b>	EDM 5000.1 Old	<b>Local Co-ordinate Reference:</b>	Well Campbell 33-7-4 #1H
<b>Company:</b>	Catamount Energy Partners	<b>TVD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Project:</b>	San Juan Basin	<b>MD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Site:</b>	La Plata County CO	<b>North Reference:</b>	Grid
<b>Well:</b>	Campbell 33-7-4 #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

<b>Project</b>	San Juan Basin, Southern Colorado, Fruitland Coal HZ		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Southern Zone		Using geodetic scale factor

<b>Site</b>	La Plata County CO		
<b>Site Position:</b>		<b>Northing:</b>	760,788.19 usft
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,556,100.64 usft
<b>Position Uncertainty:</b>	0.0 ft	<b>Slot Radius:</b>	6-1/8 "
		<b>Latitude:</b>	36° 0' 0.000 N
		<b>Longitude:</b>	107° 0' 0.000 W
		<b>Grid Convergence:</b>	-0.92 °

<b>Well</b>	Campbell 33-7-4 #1H, Fruitland Coal HZ		
<b>Well Position</b>	<b>+N/-S</b>	414,028.9 ft	<b>Northing:</b>
	<b>+E/-W</b>	-168,526.3 ft	<b>Easting:</b>
<b>Position Uncertainty</b>		1.0 ft	<b>Wellhead Elevation:</b>
			<b>Latitude:</b>
			<b>Longitude:</b>
			<b>Ground Level:</b>

<b>Wellbore</b>	Lateral #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2012	2013/10/30	9.63	63.74	50,651

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	3,780.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	281.07

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	<b>TFO (°)</b>	<b>Target</b>
3,780.0	47.00	295.00	2,954.0	894.4	-1,918.1	0.00	0.00	0.00	0.00	
3,933.6	90.00	295.00	3,008.9	953.4	-2,044.6	28.00	28.00	0.00	0.00	
4,411.5	90.49	271.11	3,006.9	1,060.6	-2,506.8	5.00	0.10	-5.00	-88.78	
7,645.5	90.49	271.11	2,979.0	1,123.0	-5,740.0	0.00	0.00	0.00	0.00	Campbell 33-7-4 #1

<b>Database:</b>	EDM 5000.1 Old	<b>Local Co-ordinate Reference:</b>	Well Campbell 33-7-4 #1H
<b>Company:</b>	Catamount Energy Partners	<b>TVD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Project:</b>	San Juan Basin	<b>MD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Site:</b>	La Plata County CO	<b>North Reference:</b>	Grid
<b>Well:</b>	Campbell 33-7-4 #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	1.50	295.00	200.0	0.3	-0.6	0.6	3.00	3.00	0.00
300.0	4.50	295.00	299.8	2.5	-5.3	5.7	3.00	3.00	0.00
400.0	7.50	295.00	399.3	6.9	-14.8	15.9	3.00	3.00	0.00
500.0	10.50	295.00	498.0	13.5	-29.0	31.0	3.00	3.00	0.00
600.0	13.50	295.00	595.8	22.3	-47.8	51.2	3.00	3.00	0.00
700.0	16.50	295.00	692.4	33.2	-71.3	76.3	3.00	3.00	0.00
800.0	19.50	295.00	787.5	46.3	-99.3	106.3	3.00	3.00	0.00
900.0	22.50	295.00	880.9	61.4	-131.8	141.1	3.00	3.00	0.00
1,000.0	25.50	295.00	972.2	78.6	-168.6	180.6	3.00	3.00	0.00
1,100.0	28.50	295.00	1,061.3	97.8	-209.8	224.6	3.00	3.00	0.00
1,200.0	31.50	295.00	1,147.9	118.9	-255.1	273.2	3.00	3.00	0.00
1,300.0	34.50	295.00	1,231.8	142.0	-304.4	326.0	3.00	3.00	0.00
1,400.0	37.50	295.00	1,312.6	166.8	-357.7	383.1	3.00	3.00	0.00
1,500.0	40.50	295.00	1,390.4	193.4	-414.7	444.1	3.00	3.00	0.00
1,600.0	43.50	295.00	1,464.7	221.7	-475.4	509.1	3.00	3.00	0.00
1,700.0	46.50	295.00	1,535.4	251.5	-539.4	577.7	3.00	3.00	0.00
1,716.7	47.00	295.00	1,546.8	256.7	-550.4	589.5	3.00	3.00	0.00
1,800.0	47.00	295.00	1,603.6	282.4	-605.7	648.6	0.00	0.00	0.00
1,900.0	47.00	295.00	1,671.8	313.3	-672.0	719.6	0.00	0.00	0.00
2,000.0	47.00	295.00	1,740.0	344.2	-738.2	790.6	0.00	0.00	0.00
2,100.0	47.00	295.00	1,808.2	375.2	-804.5	861.6	0.00	0.00	0.00
2,170.8	47.00	295.00	1,856.5	397.0	-851.5	911.9	0.00	0.00	0.00
<b>SEC 4-T33N-R7W DW</b>									
2,200.0	47.00	295.00	1,876.4	406.1	-870.8	932.6	0.00	0.00	0.00
2,300.0	47.00	295.00	1,944.6	437.0	-937.1	1,003.5	0.00	0.00	0.00
2,400.0	47.00	295.00	2,012.8	467.9	-1,003.4	1,074.5	0.00	0.00	0.00
2,500.0	47.00	295.00	2,081.0	498.8	-1,069.7	1,145.5	0.00	0.00	0.00
2,600.0	47.00	295.00	2,149.2	529.7	-1,135.9	1,216.5	0.00	0.00	0.00
2,700.0	47.00	295.00	2,217.4	560.6	-1,202.2	1,287.5	0.00	0.00	0.00
2,800.0	47.00	295.00	2,285.6	591.5	-1,268.5	1,358.5	0.00	0.00	0.00
2,900.0	47.00	295.00	2,353.8	622.4	-1,334.8	1,429.5	0.00	0.00	0.00
3,000.0	47.00	295.00	2,422.0	653.3	-1,401.1	1,500.4	0.00	0.00	0.00
3,100.0	47.00	295.00	2,490.2	684.2	-1,467.4	1,571.4	0.00	0.00	0.00
3,200.0	47.00	295.00	2,558.4	715.1	-1,533.6	1,642.4	0.00	0.00	0.00
3,300.0	47.00	295.00	2,626.6	746.1	-1,599.9	1,713.4	0.00	0.00	0.00
3,400.0	47.00	295.00	2,694.8	777.0	-1,666.2	1,784.4	0.00	0.00	0.00
3,500.0	47.00	295.00	2,763.0	807.9	-1,732.5	1,855.4	0.00	0.00	0.00
3,600.0	47.00	295.00	2,831.2	838.8	-1,798.8	1,926.3	0.00	0.00	0.00
3,648.1	47.00	295.00	2,864.0	853.6	-1,830.6	1,960.5	0.00	0.00	0.00
3,700.0	47.00	295.00	2,899.4	869.7	-1,865.1	1,997.3	0.00	0.00	0.00
3,780.0	47.00	295.00	2,954.0	894.4	-1,918.1	2,054.1	0.00	0.00	0.00
3,800.0	52.60	295.00	2,966.9	900.9	-1,931.9	2,068.9	28.00	28.00	0.00
3,820.0	58.20	295.00	2,978.2	907.8	-1,946.8	2,084.9	28.00	28.00	0.00
3,840.0	63.80	295.00	2,987.9	915.2	-1,962.7	2,101.9	28.00	28.00	0.00
3,860.0	69.40	295.00	2,995.9	923.0	-1,979.3	2,119.7	28.00	28.00	0.00
3,880.0	75.00	295.00	3,002.0	931.0	-1,996.6	2,138.2	28.00	28.00	0.00
3,900.0	80.60	295.00	3,006.2	939.3	-2,014.3	2,157.1	28.00	28.00	0.00
3,920.0	86.20	295.00	3,008.5	947.7	-2,032.3	2,176.4	28.00	28.00	0.00
3,933.6	90.00	295.00	3,008.9	953.4	-2,044.6	2,189.6	28.00	28.00	0.00
4,000.0	90.07	291.68	3,008.9	979.7	-2,105.5	2,254.5	5.00	0.11	-5.00
4,100.0	90.18	286.68	3,008.7	1,012.5	-2,200.0	2,353.4	5.00	0.11	-5.00

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<b>Project:</b>	San Juan Basin	<b>MD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Site:</b>	La Plata County CO	<b>North Reference:</b>	Grid
<b>Well:</b>	Campbell 33-7-4 #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,200.0	90.28	281.68	3,008.3	1,037.0	-2,296.9	2,453.3	5.00	0.10	-5.00	
4,300.0	90.38	276.68	3,007.7	1,053.0	-2,395.6	2,553.2	5.00	0.10	-5.00	
4,400.0	90.48	271.68	3,007.0	1,060.3	-2,495.3	2,652.4	5.00	0.10	-5.00	
4,411.5	90.49	271.11	3,006.9	1,060.6	-2,506.8	2,663.8	5.00	0.10	-5.00	
4,500.0	90.49	271.11	3,006.1	1,062.3	-2,595.2	2,750.9	0.00	0.00	0.00	
4,600.0	90.49	271.11	3,005.2	1,064.2	-2,695.2	2,849.4	0.00	0.00	0.00	
4,700.0	90.49	271.11	3,004.4	1,066.1	-2,795.2	2,947.9	0.00	0.00	0.00	
4,800.0	90.49	271.11	3,003.5	1,068.1	-2,895.2	3,046.4	0.00	0.00	0.00	
4,900.0	90.49	271.11	3,002.6	1,070.0	-2,995.2	3,144.9	0.00	0.00	0.00	
5,000.0	90.49	271.11	3,001.8	1,071.9	-3,095.1	3,243.3	0.00	0.00	0.00	
5,100.0	90.49	271.11	3,000.9	1,073.9	-3,195.1	3,341.8	0.00	0.00	0.00	
5,200.0	90.49	271.11	3,000.1	1,075.8	-3,295.1	3,440.3	0.00	0.00	0.00	
5,300.0	90.49	271.11	2,999.2	1,077.7	-3,395.1	3,538.8	0.00	0.00	0.00	
5,400.0	90.49	271.11	2,998.3	1,079.6	-3,495.0	3,637.3	0.00	0.00	0.00	
5,500.0	90.49	271.11	2,997.5	1,081.6	-3,595.0	3,735.8	0.00	0.00	0.00	
5,600.0	90.49	271.11	2,996.6	1,083.5	-3,695.0	3,834.3	0.00	0.00	0.00	
5,700.0	90.49	271.11	2,995.8	1,085.4	-3,795.0	3,932.8	0.00	0.00	0.00	
5,800.0	90.49	271.11	2,994.9	1,087.4	-3,895.0	4,031.3	0.00	0.00	0.00	
5,900.0	90.49	271.11	2,994.0	1,089.3	-3,994.9	4,129.7	0.00	0.00	0.00	
6,000.0	90.49	271.11	2,993.2	1,091.2	-4,094.9	4,228.2	0.00	0.00	0.00	
6,100.0	90.49	271.11	2,992.3	1,093.2	-4,194.9	4,326.7	0.00	0.00	0.00	
6,200.0	90.49	271.11	2,991.5	1,095.1	-4,294.9	4,425.2	0.00	0.00	0.00	
6,300.0	90.49	271.11	2,990.6	1,097.0	-4,394.8	4,523.7	0.00	0.00	0.00	
6,400.0	90.49	271.11	2,989.7	1,099.0	-4,494.8	4,622.2	0.00	0.00	0.00	
6,500.0	90.49	271.11	2,988.9	1,100.9	-4,594.8	4,720.7	0.00	0.00	0.00	
6,600.0	90.49	271.11	2,988.0	1,102.8	-4,694.8	4,819.2	0.00	0.00	0.00	
6,700.0	90.49	271.11	2,987.1	1,104.7	-4,794.8	4,917.7	0.00	0.00	0.00	
6,800.0	90.49	271.11	2,986.3	1,106.7	-4,894.7	5,016.1	0.00	0.00	0.00	
6,900.0	90.49	271.11	2,985.4	1,108.6	-4,994.7	5,114.6	0.00	0.00	0.00	
7,000.0	90.49	271.11	2,984.6	1,110.5	-5,094.7	5,213.1	0.00	0.00	0.00	
7,100.0	90.49	271.11	2,983.7	1,112.5	-5,194.7	5,311.6	0.00	0.00	0.00	
7,200.0	90.49	271.11	2,982.8	1,114.4	-5,294.6	5,410.1	0.00	0.00	0.00	
7,300.0	90.49	271.11	2,982.0	1,116.3	-5,394.6	5,508.6	0.00	0.00	0.00	
7,400.0	90.49	271.11	2,981.1	1,118.3	-5,494.6	5,607.1	0.00	0.00	0.00	
7,500.0	90.49	271.11	2,980.3	1,120.2	-5,594.6	5,705.6	0.00	0.00	0.00	
7,600.0	90.49	271.11	2,979.4	1,122.1	-5,694.6	5,804.0	0.00	0.00	0.00	
7,645.5	90.49	271.11	2,979.0	1,123.0	-5,740.0	5,848.8	0.00	0.00	0.00	
Campbell 33-7-4 #1H L1 BHL										

<b>Database:</b>	EDM 5000.1 Old	<b>Local Co-ordinate Reference:</b>	Well Campbell 33-7-4 #1H
<b>Company:</b>	Catamount Energy Partners	<b>TVD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Project:</b>	San Juan Basin	<b>MD Reference:</b>	KB @ 6701.0ft (Original Well Elev)
<b>Site:</b>	La Plata County CO	<b>North Reference:</b>	Grid
<b>Well:</b>	Campbell 33-7-4 #1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Lateral #1		
<b>Design:</b>	Plan #1		

#### Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SEC 4-T33N-R7W DV	0.00	360.00	2,864.0	0.0	0.0	1,175,003.26	2,387,498.59	37° 7' 42.114 N	107° 36' 3.762 W
- plan misses target center by 1377.6ft at 2170.8ft MD (1856.5 TVD, 397.0 N, -851.5 E)									
- Polygon									
Point 1			2,864.0	1,123.7	-5,740.9	1,176,126.98	2,381,757.59		
Point 2			2,864.0	1,073.2	-1,812.7	1,176,076.48	2,385,685.86		
Point 3			2,864.0	-262.2	-1,845.0	1,174,741.05	2,385,653.56		
Point 4			2,864.0	-144.1	-5,738.1	1,174,859.15	2,381,760.39		
Campbell 33-7-4 #1H	0.00	360.00	2,979.0	1,123.0	-5,740.0	1,176,126.28	2,381,758.49	37° 7' 51.932 N	107° 37' 14.937 W
- plan hits target center									
- Point									