

Catamount Energy Partners

**San Juan Basin
La Plata County CO
Carpenter 32-6-3 #2**

Lateral 1 ST1

Plan: Plan 1

Standard Planning Report

22 August, 2014





Project: San Juan Basin
Site: La Plata County CO
Well: Carpenter 32-6-3 #2
Wellbore: Lateral 1 ST1
Design: Plan 1

WELL DETAILS

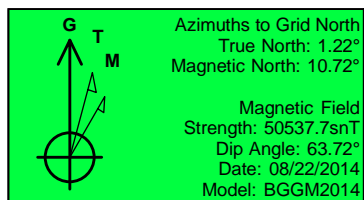
Carpenter 32-6-3 #2
Ground Level: 6372.0
+N/-S +E/-W Northing Easting Latitude Longitude
0.0 0.0 1144155.18 2420736.52 37° 2' 44.379 N 107° 29' 5.342 W

SITE DETAILS:

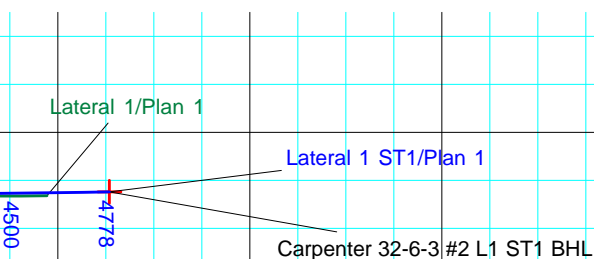
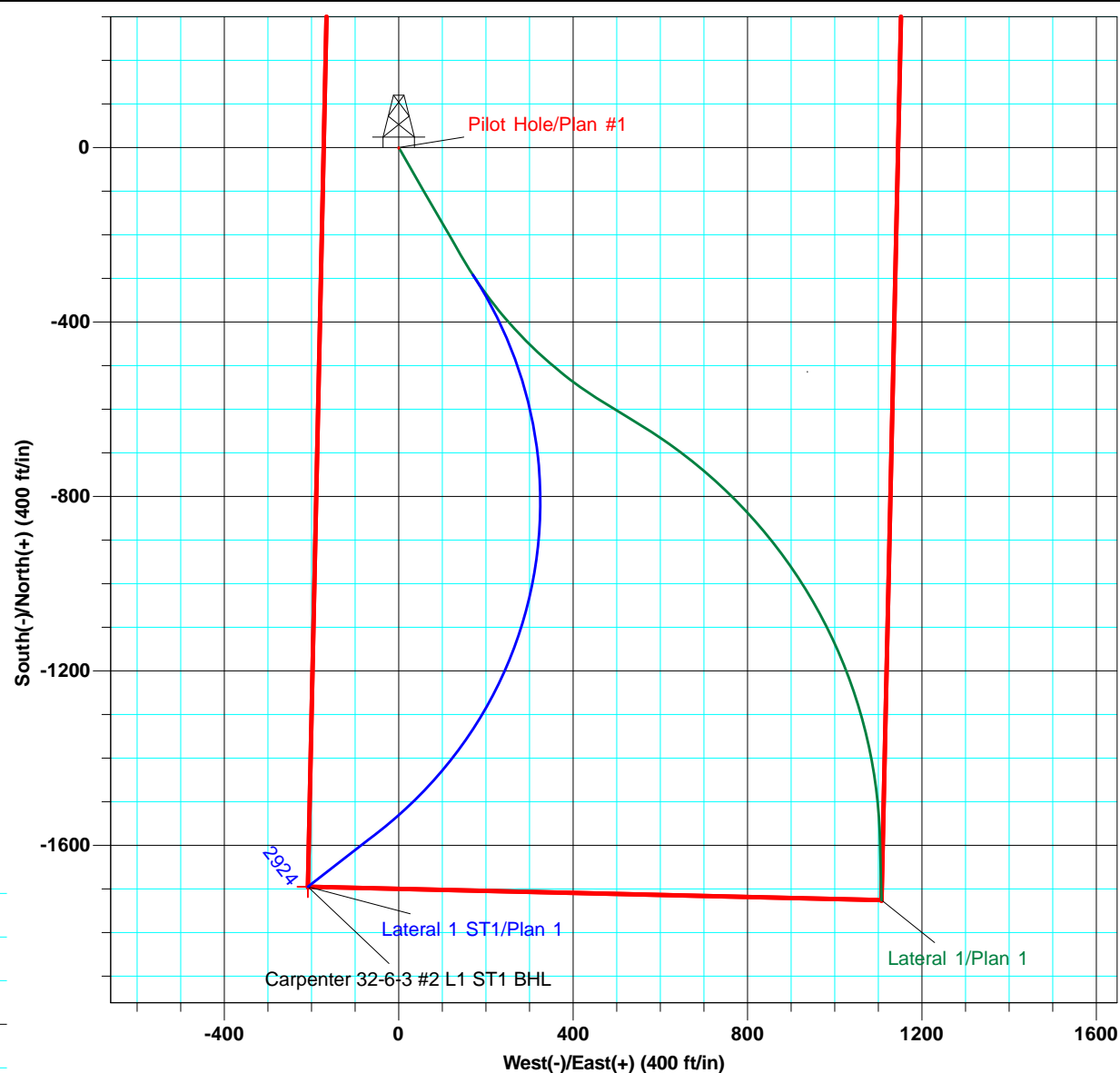
La Plata County CO
Site Centre Northing: 760788.19
Easting: 2556100.64
Positional Uncertainty: 0.0
Convergence: -0.92
Local North: Grid

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 10.73°
To convert a True Direction to a Grid Direction, Add 1.22°



Vertical Section at 187.00° (400 ft/in)

Database:	EDM 5000.1 Old	Local Co-ordinate Reference:	Well Carpenter 32-6-3 #2
Company:	Catamount Energy Partners	TVD Reference:	DFE @ 6385.5ft (GL + 13.5')
Project:	San Juan Basin	MD Reference:	DFE @ 6385.5ft (GL + 13.5')
Site:	La Plata County CO	North Reference:	Grid
Well:	Carpenter 32-6-3 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	Plan 1		

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

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

Well	Carpenter 32-6-3 #2, Fruitland Coal HZ		
Well Position	+N/-S	383,194.7 ft	Northing: 1,144,155.18 usft
	+E/-W	-135,303.3 ft	Easting: 2,420,736.52 usft
Position Uncertainty		1.0 ft	Wellhead Elevation:
			Ground Level: 6,372.0 ft

Wellbore	Lateral 1 ST1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	08/22/14	9.51	63.72	50,538

Design	Plan 1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	3,150.0	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	187.00	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
3,150.0	90.10	146.94	2,934.9	-292.0	170.2	0.00	0.00	0.00	0.00	
4,568.6	90.49	232.06	2,925.8	-1,566.0	-43.0	6.00	0.03	6.00	89.51	
4,778.1	90.49	232.06	2,924.0	-1,694.8	-208.2	0.00	0.00	0.00	0.00	Carpenter 32-6-3 #2

Database:	EDM 5000.1 Old	Local Co-ordinate Reference:	Well Carpenter 32-6-3 #2
Company:	Catamount Energy Partners	TVD Reference:	DFE @ 6385.5ft (GL + 13.5')
Project:	San Juan Basin	MD Reference:	DFE @ 6385.5ft (GL + 13.5')
Site:	La Plata County CO	North Reference:	Grid
Well:	Carpenter 32-6-3 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	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
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,648.5	0.00	0.00	2,648.5	0.0	0.0	0.0	0.00	0.00	0.00
2,650.0	0.30	150.00	2,650.0	0.0	0.0	0.0	20.00	20.00	0.00
2,675.0	5.30	150.00	2,675.0	-1.1	0.6	1.0	20.00	20.00	0.00
2,700.0	10.30	150.00	2,699.7	-4.0	2.3	3.7	20.00	20.00	0.00
2,725.0	15.30	150.00	2,724.1	-8.8	5.1	8.1	20.00	20.00	0.00
2,750.0	20.30	150.00	2,747.9	-15.4	8.9	14.2	20.00	20.00	0.00
2,775.0	25.30	150.00	2,770.9	-23.8	13.7	21.9	20.00	20.00	0.00
2,800.0	30.30	150.00	2,793.0	-33.9	19.6	31.3	20.00	20.00	0.00
2,825.0	35.30	150.00	2,814.0	-45.6	26.3	42.1	20.00	20.00	0.00
2,850.0	40.30	150.00	2,833.8	-58.9	34.0	54.3	20.00	20.00	0.00
2,875.0	45.30	150.00	2,852.1	-73.6	42.5	67.9	20.00	20.00	0.00
2,900.0	50.30	150.00	2,868.9	-89.6	51.7	82.6	20.00	20.00	0.00
2,925.0	55.30	150.00	2,884.0	-106.9	61.7	98.5	20.00	20.00	0.00
2,950.0	60.30	150.00	2,897.3	-125.2	72.3	115.4	20.00	20.00	0.00
2,975.0	65.30	150.00	2,908.8	-144.4	83.4	133.2	20.00	20.00	0.00
3,000.0	70.30	150.00	2,918.2	-164.5	95.0	151.7	20.00	20.00	0.00
3,025.0	75.30	150.00	2,925.6	-185.1	106.9	170.7	20.00	20.00	0.00
3,050.0	80.30	150.00	2,930.9	-206.3	119.1	190.2	20.00	20.00	0.00
3,075.0	85.30	150.00	2,934.0	-227.8	131.5	210.0	20.00	20.00	0.00
3,099.0	90.10	150.00	2,935.0	-248.5	143.5	229.2	20.00	20.00	0.00
3,150.0	90.10	146.94	2,934.9	-292.0	170.2	269.1	6.00	0.00	-6.00
3,200.0	90.13	149.94	2,934.8	-334.6	196.3	308.2	6.00	0.05	6.00
3,250.0	90.15	152.94	2,934.7	-378.5	220.2	348.8	6.00	0.05	6.00
3,300.0	90.17	155.94	2,934.5	-423.6	241.8	391.0	6.00	0.05	6.00
Carpenter Drilling Window									
3,350.0	90.20	158.94	2,934.4	-469.8	261.0	434.4	6.00	0.05	6.00
3,400.0	90.22	161.94	2,934.2	-516.9	277.7	479.2	6.00	0.05	6.00

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Site:	La Plata County CO	North Reference:	Grid
Well:	Carpenter 32-6-3 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1 ST1		
Design:	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)	
3,450.0	90.25	164.94	2,934.0	-564.8	292.0	525.0	6.00	0.05	6.00	
3,500.0	90.27	167.94	2,933.8	-613.4	303.7	571.8	6.00	0.04	6.00	
3,550.0	90.29	170.94	2,933.5	-662.6	312.8	619.5	6.00	0.04	6.00	
3,600.0	90.31	173.94	2,933.2	-712.1	319.4	667.8	6.00	0.04	6.00	
3,650.0	90.33	176.94	2,933.0	-761.9	323.4	716.8	6.00	0.04	6.00	
3,700.0	90.35	179.94	2,932.7	-811.9	324.8	766.3	6.00	0.04	6.00	
3,750.0	90.37	182.94	2,932.4	-861.9	323.5	816.0	6.00	0.04	6.00	
3,800.0	90.38	185.94	2,932.0	-911.7	319.6	866.0	6.00	0.03	6.00	
3,850.0	90.40	188.94	2,931.7	-961.3	313.2	916.0	6.00	0.03	6.00	
3,900.0	90.42	191.94	2,931.3	-1,010.5	304.1	965.9	6.00	0.03	6.00	
3,950.0	90.43	194.94	2,931.0	-1,059.1	292.5	1,015.5	6.00	0.03	6.00	
4,000.0	90.44	197.94	2,930.6	-1,107.1	278.3	1,064.9	6.00	0.03	6.00	
4,050.0	90.45	200.94	2,930.2	-1,154.2	261.7	1,113.7	6.00	0.02	6.00	
4,100.0	90.46	203.94	2,929.8	-1,200.4	242.6	1,161.9	6.00	0.02	6.00	
4,150.0	90.47	206.94	2,929.4	-1,245.5	221.1	1,209.3	6.00	0.02	6.00	
4,200.0	90.48	209.94	2,929.0	-1,289.5	197.3	1,255.8	6.00	0.02	6.00	
4,250.0	90.49	212.94	2,928.6	-1,332.2	171.3	1,301.3	6.00	0.01	6.00	
4,300.0	90.49	215.94	2,928.1	-1,373.4	143.0	1,345.7	6.00	0.01	6.00	
4,350.0	90.49	218.94	2,927.7	-1,413.1	112.6	1,388.8	6.00	0.01	6.00	
4,400.0	90.50	221.94	2,927.3	-1,451.1	80.2	1,430.5	6.00	0.00	6.00	
4,450.0	90.50	224.94	2,926.8	-1,487.4	45.8	1,470.7	6.00	0.00	6.00	
4,500.0	90.50	227.94	2,926.4	-1,521.9	9.6	1,509.4	6.00	0.00	6.00	
4,550.0	90.49	230.94	2,926.0	-1,554.4	-28.4	1,546.3	6.00	0.00	6.00	
4,568.6	90.49	232.06	2,925.8	-1,566.0	-43.0	1,559.5	6.00	-0.01	6.00	
4,600.0	90.49	232.06	2,925.5	-1,585.3	-67.7	1,581.7	0.00	0.00	0.00	
4,700.0	90.49	232.06	2,924.7	-1,646.8	-146.6	1,652.3	0.00	0.00	0.00	
4,778.1	90.49	232.06	2,924.0	-1,694.8	-208.2	1,707.5	0.00	0.00	0.00	
Carpenter 32-6-3 #2 L1 ST1 BHL										

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- Shape										
Carpenter Drilling Win	0.00	0.00	0.0	1,146,418.4	2,420,612.9	2,290,616.43	4,841,439.91	40° 1' 55.281 N	98° 55' 23.731 W	
- plan misses target center by 2678330.0ft at 3300.0ft MD (2934.5 TVD, -423.6 N, 241.8 E)										
- Polygon										
Point 1			0.0	1,144,180.9	2,419,418.3	1,146,392.78	2,421,931.23			
Point 2			0.0	1,148,143.7	2,419,505.9	1,142,429.83	2,421,843.63			
Point 3			0.0	1,148,113.2	2,420,821.2	1,142,460.33	2,420,528.28			
Point 4			0.0	1,144,155.3	2,420,736.5	1,146,418.38	2,420,612.98			
Point 5			0.0	1,144,180.9	2,419,418.3	1,146,392.78	2,421,931.23			
Carpenter 32-6-3 #2 L	0.00	0.00	2,924.0	-1,694.8	-208.2	1,142,460.32	2,420,528.31	37° 2' 27.582 N	107° 29' 7.465 W	
- plan hits target center										
- Point										