

Catamount Energy Partners

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

Lateral 1

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
 Design: Plan 1

WELL DETAILS

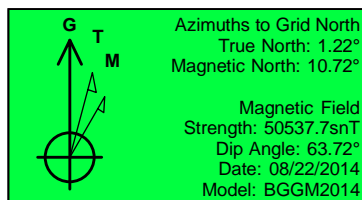
Carpenter 32-6-3 #2
 Ground Level: 6372.0
 +N/-S +E/-W Northing Easting Latitude Longitude
 0.0 0.0 1144155.18 2420736.52 37° 2' 44.379 N 107° 29' 5.342 W

SITE DETAILS:

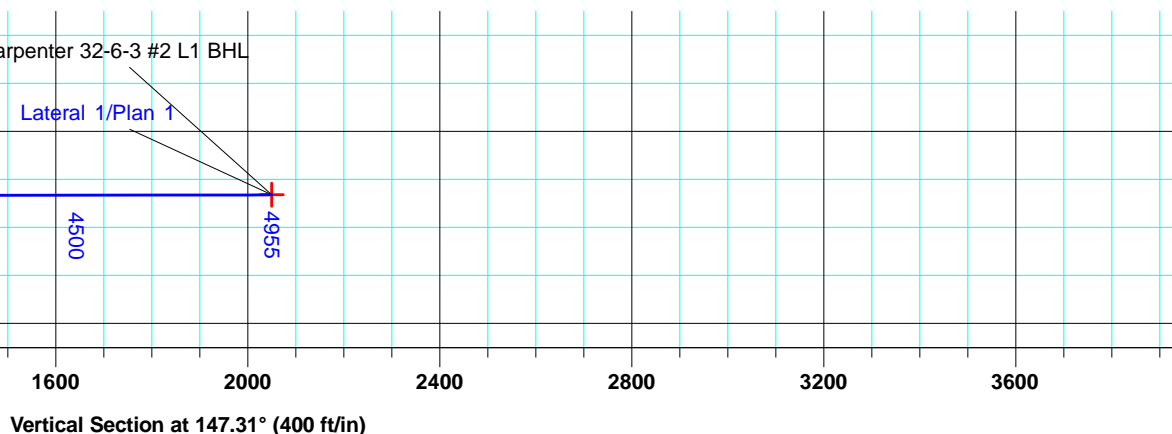
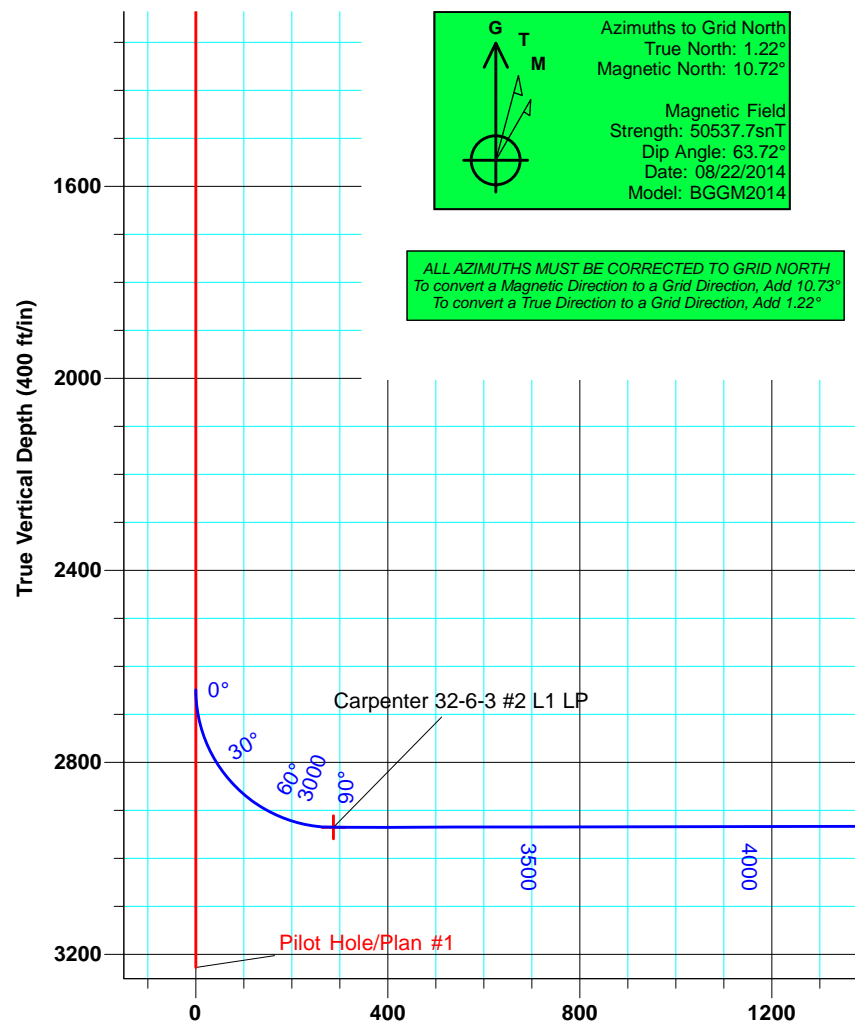
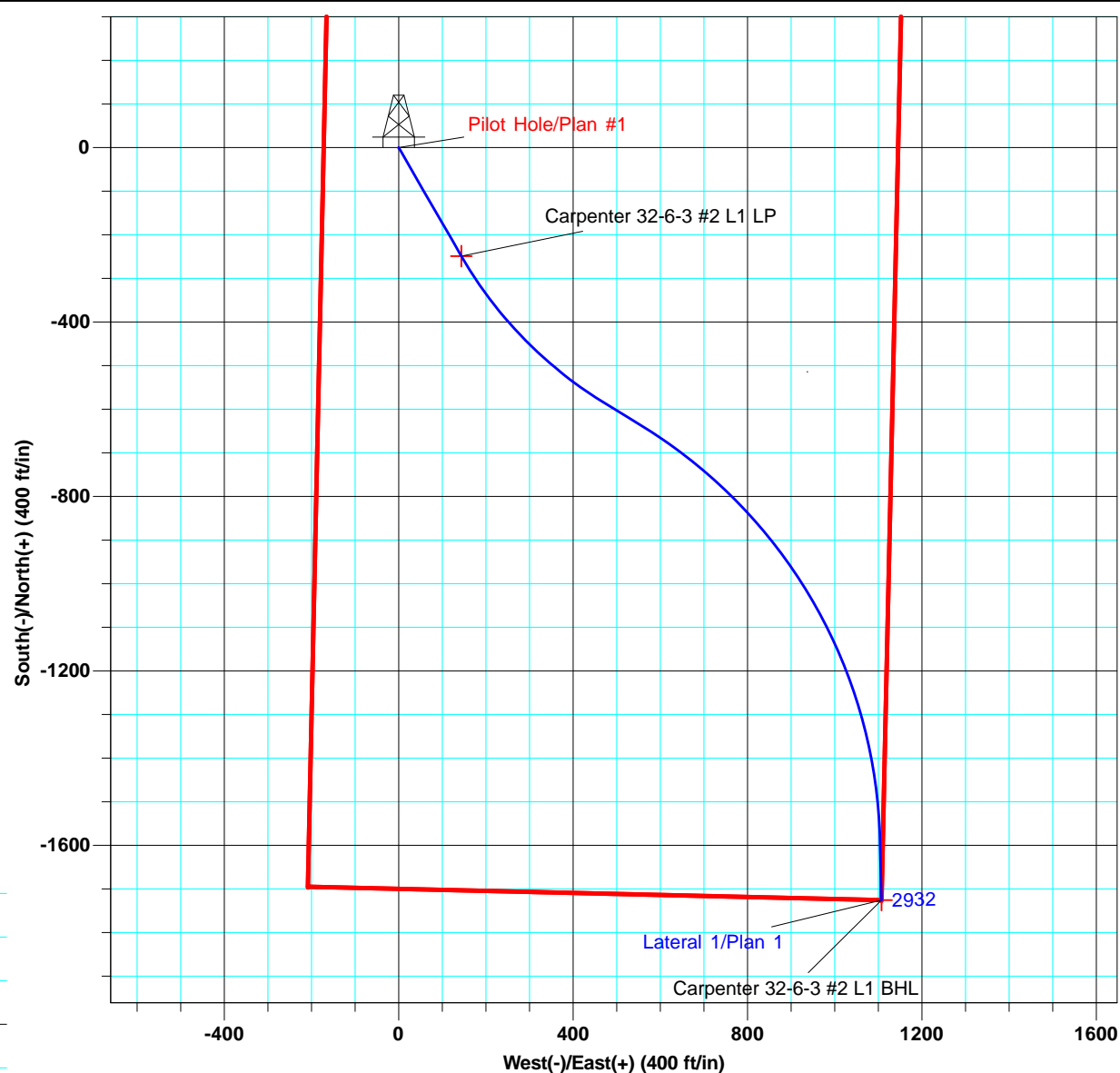
La Plata County CO
 Site Centre Northing: 760788.19
 Easting: 2556100.64
 Positional Uncertainty: 0.0
 Convergence: -0.92
 Local North: Grid

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°



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		
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	Latitude:	37° 2' 44.379 N
	+E/-W	-135,303.3 ft	Easting:	2,420,736.52 usft	Longitude:	107° 29' 5.342 W
Position Uncertainty		1.0 ft	Wellhead Elevation:		Ground Level:	6,372.0 ft

Wellbore	Lateral 1				
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:	2,648.5	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	147.31	

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
2,648.5	0.00	0.00	2,648.5	0.0	0.0	0.00	0.00	0.00	0.00	
3,099.0	90.10	150.00	2,935.0	-248.5	143.5	20.00	20.00	33.30	150.00	Carpenter 32-6-3 #:
3,574.0	90.09	121.50	2,934.2	-585.3	471.5	6.00	0.00	-6.00	-90.00	
3,674.0	90.09	121.50	2,934.0	-637.5	556.8	0.00	0.00	0.00	0.00	
4,815.7	90.08	178.58	2,932.2	-1,586.3	1,103.6	5.00	0.00	5.00	89.96	
4,954.7	90.08	178.58	2,932.0	-1,725.3	1,107.1	0.00	0.00	0.00	0.00	Carpenter 32-6-3 #:

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		
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	1.2	20.00	20.00	0.00
2,700.0	10.30	150.00	2,699.7	-4.0	2.3	4.6	20.00	20.00	0.00
2,725.0	15.30	150.00	2,724.1	-8.8	5.1	10.1	20.00	20.00	0.00
2,750.0	20.30	150.00	2,747.9	-15.4	8.9	17.8	20.00	20.00	0.00
2,775.0	25.30	150.00	2,770.9	-23.8	13.7	27.5	20.00	20.00	0.00
2,800.0	30.30	150.00	2,793.0	-33.9	19.6	39.1	20.00	20.00	0.00
2,825.0	35.30	150.00	2,814.0	-45.6	26.3	52.6	20.00	20.00	0.00
2,850.0	40.30	150.00	2,833.8	-58.9	34.0	67.9	20.00	20.00	0.00
2,875.0	45.30	150.00	2,852.1	-73.6	42.5	84.9	20.00	20.00	0.00
2,900.0	50.30	150.00	2,868.9	-89.6	51.7	103.4	20.00	20.00	0.00
2,925.0	55.30	150.00	2,884.0	-106.9	61.7	123.3	20.00	20.00	0.00
2,950.0	60.30	150.00	2,897.3	-125.2	72.3	144.4	20.00	20.00	0.00
2,975.0	65.30	150.00	2,908.8	-144.4	83.4	166.6	20.00	20.00	0.00
3,000.0	70.30	150.00	2,918.2	-164.5	95.0	189.7	20.00	20.00	0.00
3,025.0	75.30	150.00	2,925.6	-185.1	106.9	213.6	20.00	20.00	0.00
3,050.0	80.30	150.00	2,930.9	-206.3	119.1	238.0	20.00	20.00	0.00
3,075.0	85.30	150.00	2,934.0	-227.8	131.5	262.7	20.00	20.00	0.00
3,099.0	90.10	150.00	2,935.0	-248.5	143.5	286.7	20.00	20.00	0.00
Carpenter 32-6-3 #2 L1 LP									
3,100.0	90.10	149.94	2,935.0	-249.4	144.0	287.7	6.00	0.00	-6.00
3,150.0	90.10	146.94	2,934.9	-292.0	170.2	337.7	6.00	0.00	-6.00
3,200.0	90.10	143.94	2,934.8	-333.2	198.5	387.6	6.00	0.00	-6.00
3,250.0	90.10	140.94	2,934.7	-372.8	229.0	437.4	6.00	0.00	-6.00
3,300.0	90.10	137.94	2,934.6	-410.8	261.5	487.0	6.00	0.00	-6.00
3,350.0	90.10	134.94	2,934.5	-447.0	296.0	536.1	6.00	0.00	-6.00

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		
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)
3,400.0	90.10	131.94	2,934.5	-481.4	332.3	584.6	6.00	0.00	-6.00
3,450.0	90.09	128.94	2,934.4	-513.8	370.3	632.4	6.00	0.00	-6.00
3,500.0	90.09	125.94	2,934.3	-544.2	410.0	679.4	6.00	0.00	-6.00
3,550.0	90.09	122.94	2,934.2	-572.5	451.2	725.5	6.00	0.00	-6.00
3,574.0	90.09	121.50	2,934.2	-585.3	471.5	747.2	6.00	0.00	-6.00
3,600.0	90.09	121.50	2,934.1	-598.9	493.7	770.7	0.00	0.00	0.00
3,674.0	90.09	121.50	2,934.0	-637.5	556.8	837.3	0.00	0.00	0.00
3,700.0	90.09	122.80	2,934.0	-651.4	578.8	860.8	5.00	0.00	5.00
3,800.0	90.09	127.80	2,933.8	-709.1	660.4	953.5	5.00	0.00	5.00
3,900.0	90.09	132.80	2,933.7	-773.8	736.6	1,049.1	5.00	0.00	5.00
4,000.0	90.10	137.80	2,933.5	-844.9	807.0	1,146.9	5.00	0.00	5.00
4,100.0	90.10	142.80	2,933.3	-921.8	870.8	1,246.1	5.00	0.00	5.00
4,200.0	90.10	147.80	2,933.2	-1,004.0	927.7	1,346.0	5.00	0.00	5.00
4,300.0	90.10	152.80	2,933.0	-1,090.8	977.3	1,445.8	5.00	0.00	5.00
Carpenter Drilling Window									
4,400.0	90.09	157.80	2,932.8	-1,181.6	1,019.0	1,544.8	5.00	0.00	5.00
4,500.0	90.09	162.80	2,932.7	-1,275.7	1,052.7	1,642.2	5.00	0.00	5.00
4,600.0	90.09	167.80	2,932.5	-1,372.4	1,078.1	1,737.3	5.00	0.00	5.00
4,700.0	90.09	172.80	2,932.4	-1,471.0	1,094.9	1,829.3	5.00	0.00	5.00
4,800.0	90.08	177.80	2,932.2	-1,570.6	1,103.1	1,917.6	5.00	0.00	5.00
4,815.7	90.08	178.58	2,932.2	-1,586.3	1,103.6	1,931.1	5.00	0.00	5.00
4,900.0	90.08	178.58	2,932.1	-1,670.6	1,105.7	2,003.1	0.00	0.00	0.00
4,954.7	90.08	178.58	2,932.0	-1,725.3	1,107.1	2,049.9	0.00	0.00	0.00
Carpenter 32-6-3 #2 L1 BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- 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 2677951.3ft at 4300.0ft MD (2933.0 TVD, -1090.8 N, 977.3 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	360.00	2,932.0	-1,725.3	1,107.1	1,142,429.85	2,421,843.62	37° 2' 27.557 N	107° 28' 51.238 W
- plan hits target center									
- Point									
Carpenter 32-6-3 #2 L	0.00	360.00	2,935.0	-248.5	143.5	1,143,906.63	2,420,880.02	37° 2' 41.952 N	107° 29' 3.507 W
- plan hits target center									
- Point									