

Catamount Energy Partners

**San Juan Basin
La Plata County CO
Lynch 34-6-18U #1**

Original Hole

Plan: Plan #1

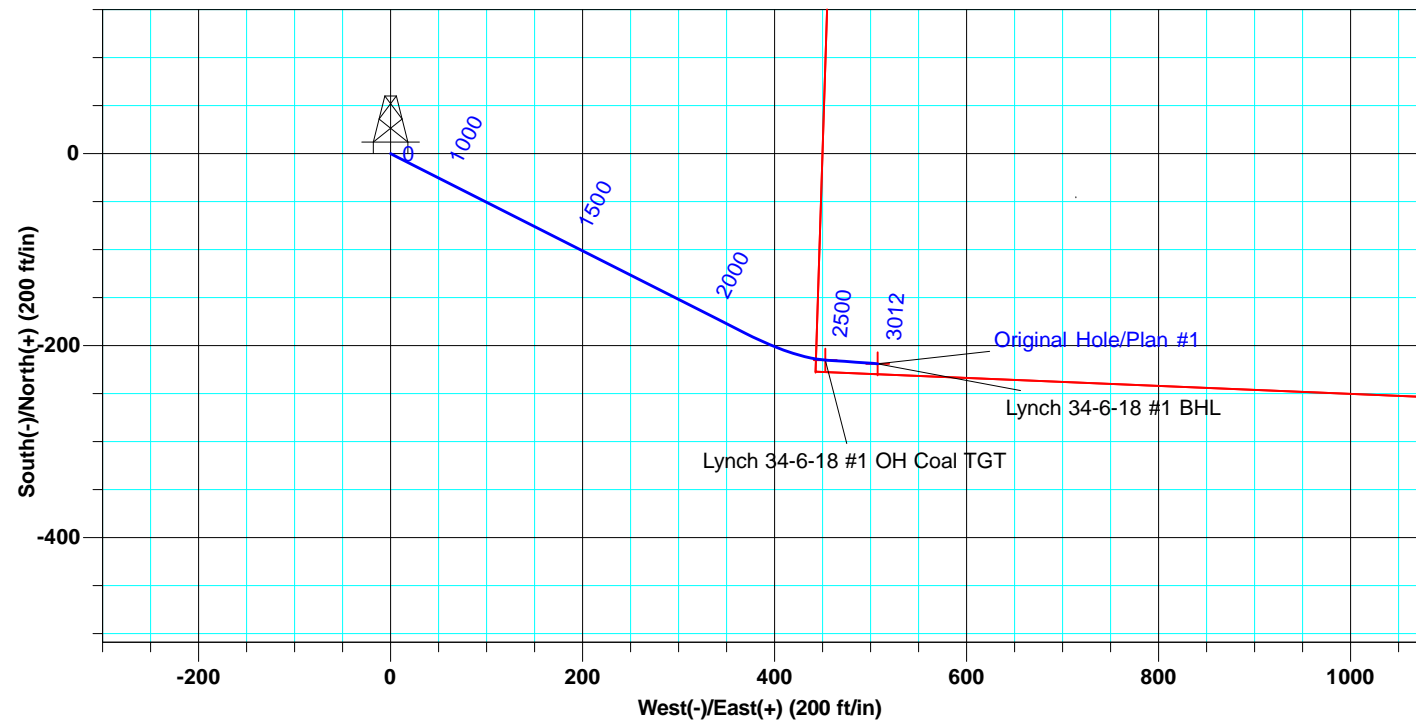
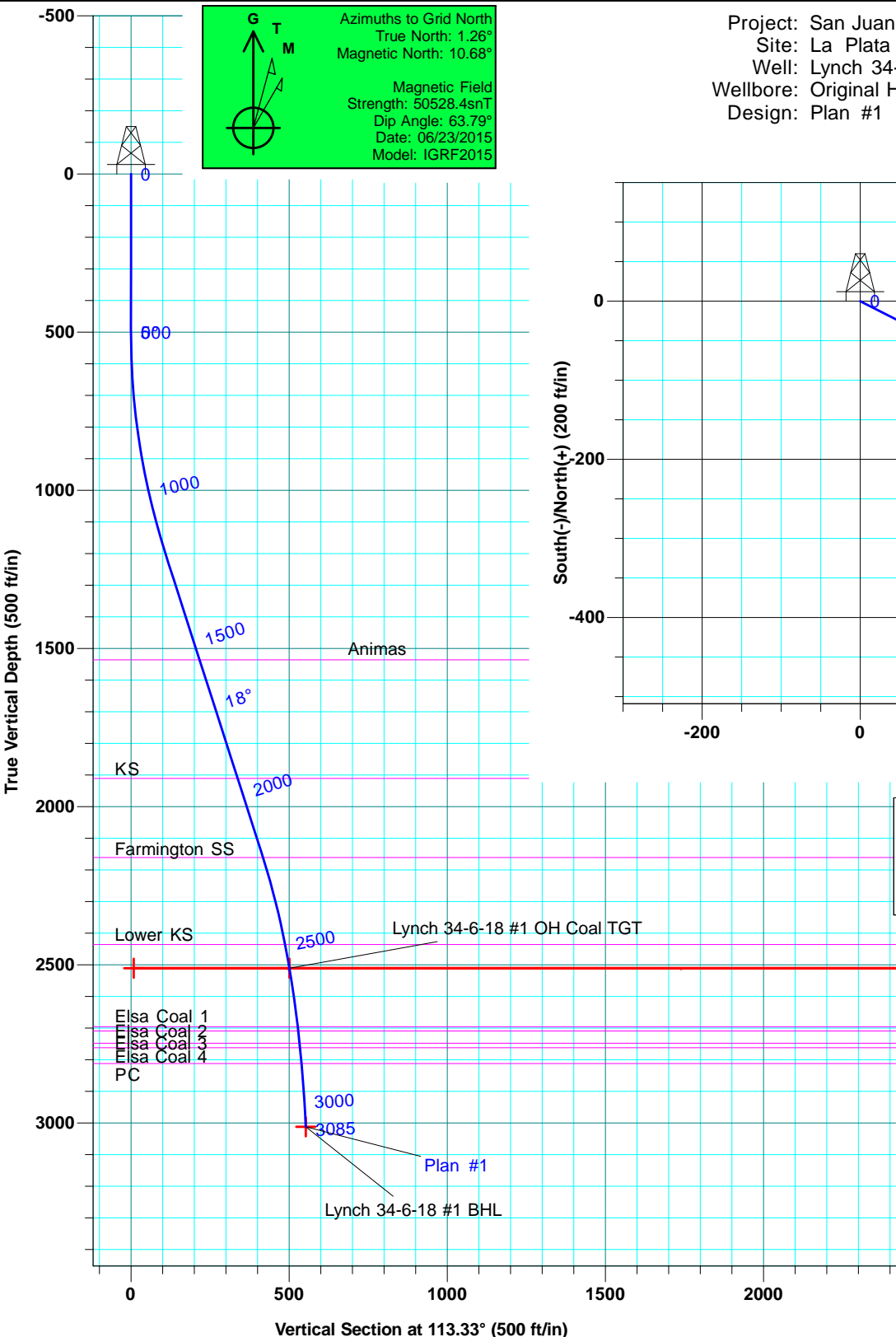
Standard Planning Report

24 June, 2015



Azimuths to Grid North
 True North: 1.26°
 Magnetic North: 10.68°
 Magnetic Field
 Strength: 50528.4snT
 Dip Angle: 63.79°
 Date: 06/23/2015
 Model: IGRF2015

Project: San Juan Basin
 Site: La Plata County CO
 Well: Lynch 34-6-18U #1
 Wellbore: Original Hole
 Design: Plan #1



DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Lynch 34-6-18 #1 OH Coal TGT	2511.0	-215.0	453.0	1198172.29	2403477.38	Point
Lynch 34-6-18 DW	2511.0	1101.5	484.4	1199488.84	2403508.81	Polygon
Lynch 34-6-18 #1 BHL	3012.0	-218.8	507.4	1198168.49	2403531.78	Point

WELL DETAILS Lynch 34-6-18U #1			
GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)			
Northing	Easting	Latitude	Longitude
1198387.29	2403024.38	37° 11' 36.665 N	107° 32' 58.432 W

SITE DETAILS: La Plata County CO
 Site Centre Northing: 760788.19
 Easting: 2556100.64
 Positional Uncertainty: 0.0
 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 10.68°
 To convert a True Direction to a Grid Direction, Add 1.26°

Database:	EDM 5000.1 Old	Local Co-ordinate Reference:	Well Lynch 34-6-18U #1
Company:	Catamount Energy Partners	TVD Reference:	GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)
Project:	San Juan Basin	MD Reference:	GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)
Site:	La Plata County CO	North Reference:	Grid
Well:	Lynch 34-6-18U #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
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		
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	Lynch 34-6-18U #1, FC HZ		
Well Position	+N/-S	437,402.4 ft	Northing: 1,198,387.29 usft
	+E/-W	-153,007.5 ft	Easting: 2,403,024.38 usft
Position Uncertainty	1.5 ft	Wellhead Elevation:	Latitude: 37° 11' 36.665 N
			Longitude: 107° 32' 58.432 W
			Ground Level: 6,858.0 ft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	06/23/15	9.43	63.79	50,528

Design	Plan #1			
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	113.33

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,212.5	17.81	116.84	1,201.1	-49.6	98.0	2.50	2.50	0.00	116.84	
2,204.7	17.81	116.84	2,145.8	-186.7	368.9	0.00	0.00	0.00	0.00	
2,581.0	10.00	94.00	2,511.0	-215.0	453.0	2.50	-2.08	-6.07	-155.64	Lynch 34-6-18 #1 C
3,085.4	2.44	94.00	3,012.0	-218.8	507.4	1.50	-1.50	0.00	180.00	Lynch 34-6-18 #1 B

Database:	EDM 5000.1 Old	Local Co-ordinate Reference:	Well Lynch 34-6-18U #1
Company:	Catamount Energy Partners	TVD Reference:	GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)
Project:	San Juan Basin	MD Reference:	GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)
Site:	La Plata County CO	North Reference:	Grid
Well:	Lynch 34-6-18U #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
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	2.50	116.84	600.0	-1.0	1.9	2.2	2.50	2.50	0.00
700.0	5.00	116.84	699.7	-3.9	7.8	8.7	2.50	2.50	0.00
800.0	7.50	116.84	799.1	-8.9	17.5	19.6	2.50	2.50	0.00
900.0	10.00	116.84	898.0	-15.7	31.1	34.8	2.50	2.50	0.00
1,000.0	12.50	116.84	996.0	-24.5	48.5	54.2	2.50	2.50	0.00
1,100.0	15.00	116.84	1,093.2	-35.3	69.7	77.9	2.50	2.50	0.00
1,200.0	17.50	116.84	1,189.2	-47.9	94.6	105.9	2.50	2.50	0.00
1,212.5	17.81	116.84	1,201.1	-49.6	98.0	109.7	2.50	2.50	0.00
1,300.0	17.81	116.84	1,284.4	-61.7	121.9	136.4	0.00	0.00	0.00
1,400.0	17.81	116.84	1,379.6	-75.5	149.2	166.9	0.00	0.00	0.00
1,500.0	17.81	116.84	1,474.8	-89.3	176.5	197.4	0.00	0.00	0.00
1,564.3	17.81	116.84	1,536.0	-98.2	194.0	217.1	0.00	0.00	0.00
Animas									
1,600.0	17.81	116.84	1,570.0	-103.1	203.8	228.0	0.00	0.00	0.00
1,700.0	17.81	116.84	1,665.2	-116.9	231.1	258.5	0.00	0.00	0.00
1,800.0	17.81	116.84	1,760.4	-130.8	258.4	289.0	0.00	0.00	0.00
1,900.0	17.81	116.84	1,855.6	-144.6	285.7	319.6	0.00	0.00	0.00
1,958.2	17.81	116.84	1,911.0	-152.6	301.6	337.3	0.00	0.00	0.00
KS									
2,000.0	17.81	116.84	1,950.8	-158.4	313.0	350.1	0.00	0.00	0.00
2,100.0	17.81	116.84	2,046.0	-172.2	340.3	380.6	0.00	0.00	0.00
2,204.7	17.81	116.84	2,145.8	-186.7	368.9	412.6	0.00	0.00	0.00
2,220.7	17.45	116.29	2,161.0	-188.8	373.2	417.5	2.50	-2.27	-3.44
Farmington SS									
2,300.0	15.67	113.21	2,237.0	-198.3	393.7	440.0	2.50	-2.24	-3.89
2,400.0	13.51	108.20	2,333.7	-207.3	417.2	465.2	2.50	-2.16	-5.00
2,500.0	11.49	101.41	2,431.4	-212.9	438.1	486.6	2.50	-2.03	-6.79
2,504.7	11.39	101.03	2,436.0	-213.1	439.0	487.5	2.50	-1.93	-8.02
Lower KS									
2,553.9	10.48	96.71	2,484.3	-214.5	448.2	496.5	2.50	-1.86	-8.79
Lynch 34-6-18 DW									
2,581.0	10.00	94.00	2,511.0	-215.0	453.0	501.1	2.50	-1.76	-9.99
Lynch 34-6-18 #1 OH Coal TGT									
2,600.0	9.72	94.00	2,529.7	-215.2	456.2	504.2	1.50	-1.50	0.00
2,700.0	8.22	94.00	2,628.4	-216.3	471.8	518.9	1.50	-1.50	0.00
2,768.2	7.19	94.00	2,696.0	-217.0	480.9	527.5	1.50	-1.50	0.00
Elsa Coal 1									
2,781.3	7.00	94.00	2,709.0	-217.1	482.5	529.0	1.50	-1.50	0.00
Elsa Coal 2									
2,800.0	6.72	94.00	2,727.6	-217.2	484.7	531.1	1.50	-1.50	0.00
2,820.5	6.41	94.00	2,748.0	-217.4	487.1	533.3	1.50	-1.50	0.00
Elsa Coal 3									
2,834.6	6.20	94.00	2,762.0	-217.5	488.6	534.8	1.50	-1.50	0.00
Elsa Coal 4									
2,884.9	5.44	94.00	2,812.0	-217.8	493.7	539.6	1.50	-1.50	0.00

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Project:	San Juan Basin	MD Reference:	GL 6858' + DFE 16' @ 6874.0ft (Original Well Elev)
Site:	La Plata County CO	North Reference:	Grid
Well:	Lynch 34-6-18U #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
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)
PC									
2,900.0	5.22	94.00	2,827.1	-217.9	495.1	540.9	1.50	-1.50	0.00
3,000.0	3.72	94.00	2,926.7	-218.5	502.9	548.3	1.50	-1.50	0.00
3,085.4	2.44	94.00	3,012.0	-218.8	507.4	552.6	1.50	-1.50	0.00
Lynch 34-6-18 #1 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									
Lynch 34-6-18 #1 OH	0.00	0.00	2,511.0	-215.0	453.0	1,198,172.29	2,403,477.39	37° 11' 34.638 N	107° 32' 52.776 W
- plan hits target center									
- Point									
Lynch 34-6-18 DW	0.00	360.00	2,511.0	1,101.5	484.4	1,199,488.84	2,403,508.81	37° 11' 47.658 N	107° 32' 52.745 W
- plan misses target center by 1316.8ft at 2564.7ft MD (2494.9 TVD, -214.8 N, 450.1 E)									
- Polygon									
Point 1			2,511.0	0.0	0.0	1,199,488.84	2,403,508.81		
Point 2			2,511.0	-49.8	1,863.4	1,199,439.04	2,405,372.22		
Point 3			2,511.0	-176.6	3,827.2	1,199,312.24	2,407,336.03		
Point 4			2,511.0	-1,486.9	3,792.5	1,198,001.93	2,407,301.33		
Point 5			2,511.0	-1,328.6	-41.7	1,198,160.23	2,403,467.11		
Lynch 34-6-18 #1 BHL	0.00	360.00	3,012.0	-218.8	507.4	1,198,168.49	2,403,531.79	37° 11' 34.612 N	107° 32' 52.103 W
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,564.3	1,536.0	Animas		0.00		
1,958.2	1,911.0	KS		0.00		
2,220.7	2,161.0	Farmington SS		0.00		
2,504.7	2,436.0	Lower KS		0.00		
2,768.2	2,696.0	Elsa Coal 1		0.00		
2,781.3	2,709.0	Elsa Coal 2		0.00		
2,820.5	2,748.0	Elsa Coal 3		0.00		
2,834.6	2,762.0	Elsa Coal 4		0.00		
2,884.9	2,812.0	PC		0.00		