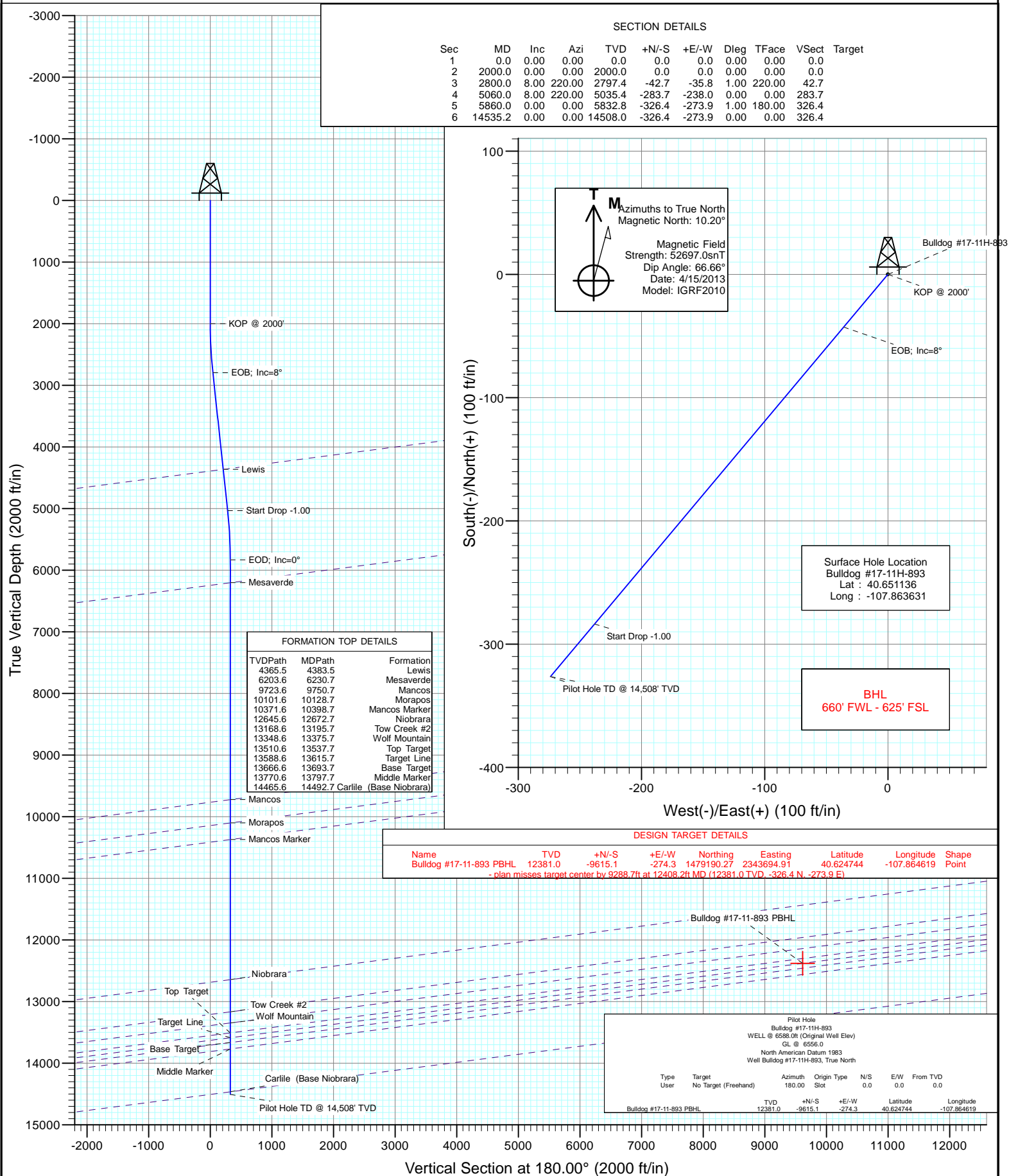




Project: Moffat County, CO  
Site: SEC 17-T8N-R93W  
Well: Bulldog #17-11H-893  
Wellbore: Pilot Hole  
Design: Pilot Hole



# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bulldog #17-11H-893
<b>Company:</b>	Axia Energy	<b>TVD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Project:</b>	Moffat County, CO	<b>MD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Site:</b>	SEC 17-T8N-R93W	<b>North Reference:</b>	True
<b>Well:</b>	Bulldog #17-11H-893	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot Hole		
<b>Design:</b>	Pilot Hole		

Project	Moffat County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		SEC 17-T8N-R93W			
Site Position:		Northing:	1,488,794.67 ft	Latitude:	40.651136
From:	Lat/Long	Easting:	2,344,225.33 ft	Longitude:	-107.863631
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.53 °

Well	Bulldog #17-11H-893					
Well Position	+N/-S	0.0 ft	Northing:	1,488,794.66 ft	Latitude:	40.651136
	+E/-W	0.0 ft	Easting:	2,344,225.33 ft	Longitude:	-107.863631
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,556.0 ft

Wellbore	Pilot Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/15/2013	10.20	66.66	52,697

Design		Pilot Hole		
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	180.00

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,800.0	8.00	220.00	2,797.4	-42.7	-35.8	1.00	1.00	0.00	220.00	
5,060.0	8.00	220.00	5,035.4	-283.7	-238.0	0.00	0.00	0.00	0.00	
5,860.0	0.00	0.00	5,832.8	-326.4	-273.9	1.00	-1.00	0.00	180.00	
14,535.2	0.00	0.00	14,508.0	-326.4	-273.9	0.00	0.00	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bulldog #17-11H-893
<b>Company:</b>	Axia Energy	<b>TVD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Project:</b>	Moffat County, CO	<b>MD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Site:</b>	SEC 17-T8N-R93W	<b>North Reference:</b>	True
<b>Well:</b>	Bulldog #17-11H-893	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot Hole		
<b>Design:</b>	Pilot Hole		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	KOP @ 2000'
2,100.0	1.00	220.00	2,100.0	-0.7	-0.6	0.7	1.00	1.00	
2,200.0	2.00	220.00	2,200.0	-2.7	-2.2	2.7	1.00	1.00	
2,300.0	3.00	220.00	2,299.9	-6.0	-5.0	6.0	1.00	1.00	
2,400.0	4.00	220.00	2,399.7	-10.7	-9.0	10.7	1.00	1.00	
2,500.0	5.00	220.00	2,499.4	-16.7	-14.0	16.7	1.00	1.00	
2,600.0	6.00	220.00	2,598.9	-24.0	-20.2	24.0	1.00	1.00	
2,700.0	7.00	220.00	2,698.3	-32.7	-27.5	32.7	1.00	1.00	
2,800.0	8.00	220.00	2,797.4	-42.7	-35.8	42.7	1.00	1.00	EOB; Inc=8°
2,900.0	8.00	220.00	2,896.4	-53.4	-44.8	53.4	0.00	0.00	
3,000.0	8.00	220.00	2,995.5	-64.0	-53.7	64.0	0.00	0.00	
3,100.0	8.00	220.00	3,094.5	-74.7	-62.7	74.7	0.00	0.00	
3,200.0	8.00	220.00	3,193.5	-85.4	-71.6	85.4	0.00	0.00	
3,300.0	8.00	220.00	3,292.5	-96.0	-80.6	96.0	0.00	0.00	
3,400.0	8.00	220.00	3,391.6	-106.7	-89.5	106.7	0.00	0.00	
3,500.0	8.00	220.00	3,490.6	-117.3	-98.5	117.3	0.00	0.00	
3,600.0	8.00	220.00	3,589.6	-128.0	-107.4	128.0	0.00	0.00	
3,700.0	8.00	220.00	3,688.6	-138.7	-116.4	138.7	0.00	0.00	
3,800.0	8.00	220.00	3,787.7	-149.3	-125.3	149.3	0.00	0.00	
3,900.0	8.00	220.00	3,886.7	-160.0	-134.2	160.0	0.00	0.00	
4,000.0	8.00	220.00	3,985.7	-170.6	-143.2	170.6	0.00	0.00	
4,100.0	8.00	220.00	4,084.8	-181.3	-152.1	181.3	0.00	0.00	
4,200.0	8.00	220.00	4,183.8	-192.0	-161.1	192.0	0.00	0.00	
4,300.0	8.00	220.00	4,282.8	-202.6	-170.0	202.6	0.00	0.00	
4,383.5	8.00	220.00	4,365.5	-211.5	-177.5	211.5	0.00	0.00	Lewis
4,400.0	8.00	220.00	4,381.8	-213.3	-179.0	213.3	0.00	0.00	
4,500.0	8.00	220.00	4,480.9	-224.0	-187.9	224.0	0.00	0.00	
4,600.0	8.00	220.00	4,579.9	-234.6	-196.9	234.6	0.00	0.00	
4,700.0	8.00	220.00	4,678.9	-245.3	-205.8	245.3	0.00	0.00	
4,800.0	8.00	220.00	4,777.9	-255.9	-214.8	255.9	0.00	0.00	
4,900.0	8.00	220.00	4,877.0	-266.6	-223.7	266.6	0.00	0.00	
5,000.0	8.00	220.00	4,976.0	-277.3	-232.7	277.3	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bulldog #17-11H-893
<b>Company:</b>	Axia Energy	<b>TVD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Project:</b>	Moffat County, CO	<b>MD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Site:</b>	SEC 17-T8N-R93W	<b>North Reference:</b>	True
<b>Well:</b>	Bulldog #17-11H-893	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot Hole		
<b>Design:</b>	Pilot Hole		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
5,060.0	8.00	220.00	5,035.4	-283.7	-238.0	283.7	0.00	0.00	Start Drop -1.00
5,100.0	7.60	220.00	5,075.0	-287.8	-241.5	287.8	1.00	-1.00	
5,200.0	6.60	220.00	5,174.3	-297.3	-249.5	297.3	1.00	-1.00	
5,300.0	5.60	220.00	5,273.7	-305.4	-256.3	305.4	1.00	-1.00	
5,400.0	4.60	220.00	5,373.3	-312.2	-262.0	312.2	1.00	-1.00	
5,500.0	3.60	220.00	5,473.0	-317.7	-266.6	317.7	1.00	-1.00	
5,600.0	2.60	220.00	5,572.9	-321.9	-270.1	321.9	1.00	-1.00	
5,700.0	1.60	220.00	5,672.8	-324.7	-272.4	324.7	1.00	-1.00	
5,800.0	0.60	220.00	5,772.8	-326.1	-273.7	326.1	1.00	-1.00	
5,860.0	0.00	0.00	5,832.8	-326.4	-273.9	326.4	1.00	-1.00	EOD; Inc=0°
5,900.0	0.00	0.00	5,872.8	-326.4	-273.9	326.4	0.00	0.00	
6,000.0	0.00	0.00	5,972.8	-326.4	-273.9	326.4	0.00	0.00	
6,100.0	0.00	0.00	6,072.8	-326.4	-273.9	326.4	0.00	0.00	
6,200.0	0.00	0.00	6,172.8	-326.4	-273.9	326.4	0.00	0.00	
6,230.7	0.00	0.00	6,203.6	-326.4	-273.9	326.4	0.00	0.00	Mesaverde
6,300.0	0.00	0.00	6,272.8	-326.4	-273.9	326.4	0.00	0.00	
6,400.0	0.00	0.00	6,372.8	-326.4	-273.9	326.4	0.00	0.00	
6,500.0	0.00	0.00	6,472.8	-326.4	-273.9	326.4	0.00	0.00	
6,600.0	0.00	0.00	6,572.8	-326.4	-273.9	326.4	0.00	0.00	
6,700.0	0.00	0.00	6,672.8	-326.4	-273.9	326.4	0.00	0.00	
6,800.0	0.00	0.00	6,772.8	-326.4	-273.9	326.4	0.00	0.00	
6,900.0	0.00	0.00	6,872.8	-326.4	-273.9	326.4	0.00	0.00	
7,000.0	0.00	0.00	6,972.8	-326.4	-273.9	326.4	0.00	0.00	
7,100.0	0.00	0.00	7,072.8	-326.4	-273.9	326.4	0.00	0.00	
7,200.0	0.00	0.00	7,172.8	-326.4	-273.9	326.4	0.00	0.00	
7,300.0	0.00	0.00	7,272.8	-326.4	-273.9	326.4	0.00	0.00	
7,400.0	0.00	0.00	7,372.8	-326.4	-273.9	326.4	0.00	0.00	
7,500.0	0.00	0.00	7,472.8	-326.4	-273.9	326.4	0.00	0.00	
7,600.0	0.00	0.00	7,572.8	-326.4	-273.9	326.4	0.00	0.00	
7,700.0	0.00	0.00	7,672.8	-326.4	-273.9	326.4	0.00	0.00	
7,800.0	0.00	0.00	7,772.8	-326.4	-273.9	326.4	0.00	0.00	
7,900.0	0.00	0.00	7,872.8	-326.4	-273.9	326.4	0.00	0.00	
8,000.0	0.00	0.00	7,972.8	-326.4	-273.9	326.4	0.00	0.00	
8,100.0	0.00	0.00	8,072.8	-326.4	-273.9	326.4	0.00	0.00	
8,200.0	0.00	0.00	8,172.8	-326.4	-273.9	326.4	0.00	0.00	
8,300.0	0.00	0.00	8,272.8	-326.4	-273.9	326.4	0.00	0.00	
8,400.0	0.00	0.00	8,372.8	-326.4	-273.9	326.4	0.00	0.00	
8,500.0	0.00	0.00	8,472.8	-326.4	-273.9	326.4	0.00	0.00	
8,600.0	0.00	0.00	8,572.8	-326.4	-273.9	326.4	0.00	0.00	
8,700.0	0.00	0.00	8,672.8	-326.4	-273.9	326.4	0.00	0.00	
8,800.0	0.00	0.00	8,772.8	-326.4	-273.9	326.4	0.00	0.00	
8,900.0	0.00	0.00	8,872.8	-326.4	-273.9	326.4	0.00	0.00	
9,000.0	0.00	0.00	8,972.8	-326.4	-273.9	326.4	0.00	0.00	
9,100.0	0.00	0.00	9,072.8	-326.4	-273.9	326.4	0.00	0.00	
9,200.0	0.00	0.00	9,172.8	-326.4	-273.9	326.4	0.00	0.00	
9,300.0	0.00	0.00	9,272.8	-326.4	-273.9	326.4	0.00	0.00	
9,400.0	0.00	0.00	9,372.8	-326.4	-273.9	326.4	0.00	0.00	
9,500.0	0.00	0.00	9,472.8	-326.4	-273.9	326.4	0.00	0.00	
9,600.0	0.00	0.00	9,572.8	-326.4	-273.9	326.4	0.00	0.00	
9,700.0	0.00	0.00	9,672.8	-326.4	-273.9	326.4	0.00	0.00	
9,750.7	0.00	0.00	9,723.6	-326.4	-273.9	326.4	0.00	0.00	Mancos
9,800.0	0.00	0.00	9,772.8	-326.4	-273.9	326.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bulldog #17-11H-893
<b>Company:</b>	Axia Energy	<b>TVD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Project:</b>	Moffat County, CO	<b>MD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Site:</b>	SEC 17-T8N-R93W	<b>North Reference:</b>	True
<b>Well:</b>	Bulldog #17-11H-893	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot Hole		
<b>Design:</b>	Pilot Hole		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
9,900.0	0.00	0.00	9,872.8	-326.4	-273.9	326.4	0.00	0.00	
10,000.0	0.00	0.00	9,972.8	-326.4	-273.9	326.4	0.00	0.00	
10,100.0	0.00	0.00	10,072.8	-326.4	-273.9	326.4	0.00	0.00	
10,128.7	0.00	0.00	10,101.6	-326.4	-273.9	326.4	0.00	0.00	Morapos
10,200.0	0.00	0.00	10,172.8	-326.4	-273.9	326.4	0.00	0.00	
10,300.0	0.00	0.00	10,272.8	-326.4	-273.9	326.4	0.00	0.00	
10,398.7	0.00	0.00	10,371.6	-326.4	-273.9	326.4	0.00	0.00	Mancos Marker
10,400.0	0.00	0.00	10,372.8	-326.4	-273.9	326.4	0.00	0.00	
10,500.0	0.00	0.00	10,472.8	-326.4	-273.9	326.4	0.00	0.00	
10,600.0	0.00	0.00	10,572.8	-326.4	-273.9	326.4	0.00	0.00	
10,700.0	0.00	0.00	10,672.8	-326.4	-273.9	326.4	0.00	0.00	
10,800.0	0.00	0.00	10,772.8	-326.4	-273.9	326.4	0.00	0.00	
10,900.0	0.00	0.00	10,872.8	-326.4	-273.9	326.4	0.00	0.00	
11,000.0	0.00	0.00	10,972.8	-326.4	-273.9	326.4	0.00	0.00	
11,100.0	0.00	0.00	11,072.8	-326.4	-273.9	326.4	0.00	0.00	
11,200.0	0.00	0.00	11,172.8	-326.4	-273.9	326.4	0.00	0.00	
11,300.0	0.00	0.00	11,272.8	-326.4	-273.9	326.4	0.00	0.00	
11,400.0	0.00	0.00	11,372.8	-326.4	-273.9	326.4	0.00	0.00	
11,500.0	0.00	0.00	11,472.8	-326.4	-273.9	326.4	0.00	0.00	
11,600.0	0.00	0.00	11,572.8	-326.4	-273.9	326.4	0.00	0.00	
11,700.0	0.00	0.00	11,672.8	-326.4	-273.9	326.4	0.00	0.00	
11,800.0	0.00	0.00	11,772.8	-326.4	-273.9	326.4	0.00	0.00	
11,900.0	0.00	0.00	11,872.8	-326.4	-273.9	326.4	0.00	0.00	
12,000.0	0.00	0.00	11,972.8	-326.4	-273.9	326.4	0.00	0.00	
12,100.0	0.00	0.00	12,072.8	-326.4	-273.9	326.4	0.00	0.00	
12,200.0	0.00	0.00	12,172.8	-326.4	-273.9	326.4	0.00	0.00	
12,300.0	0.00	0.00	12,272.8	-326.4	-273.9	326.4	0.00	0.00	
12,400.0	0.00	0.00	12,372.8	-326.4	-273.9	326.4	0.00	0.00	
12,408.2	0.00	0.00	12,381.0	-326.4	-273.9	326.4	0.00	0.00	Bulldog #17-11-893 PBHL
12,500.0	0.00	0.00	12,472.8	-326.4	-273.9	326.4	0.00	0.00	
12,600.0	0.00	0.00	12,572.8	-326.4	-273.9	326.4	0.00	0.00	
12,672.7	0.00	0.00	12,645.6	-326.4	-273.9	326.4	0.00	0.00	Niobrara
12,700.0	0.00	0.00	12,672.8	-326.4	-273.9	326.4	0.00	0.00	
12,800.0	0.00	0.00	12,772.8	-326.4	-273.9	326.4	0.00	0.00	
12,900.0	0.00	0.00	12,872.8	-326.4	-273.9	326.4	0.00	0.00	
13,000.0	0.00	0.00	12,972.8	-326.4	-273.9	326.4	0.00	0.00	
13,100.0	0.00	0.00	13,072.8	-326.4	-273.9	326.4	0.00	0.00	
13,195.7	0.00	0.00	13,168.6	-326.4	-273.9	326.4	0.00	0.00	Tow Creek #2
13,200.0	0.00	0.00	13,172.8	-326.4	-273.9	326.4	0.00	0.00	
13,300.0	0.00	0.00	13,272.8	-326.4	-273.9	326.4	0.00	0.00	
13,375.7	0.00	0.00	13,348.6	-326.4	-273.9	326.4	0.00	0.00	Wolf Mountain
13,400.0	0.00	0.00	13,372.8	-326.4	-273.9	326.4	0.00	0.00	
13,500.0	0.00	0.00	13,472.8	-326.4	-273.9	326.4	0.00	0.00	
13,537.7	0.00	0.00	13,510.6	-326.4	-273.9	326.4	0.00	0.00	Top Target
13,600.0	0.00	0.00	13,572.8	-326.4	-273.9	326.4	0.00	0.00	
13,615.7	0.00	0.00	13,588.6	-326.4	-273.9	326.4	0.00	0.00	Target Line
13,693.7	0.00	0.00	13,666.6	-326.4	-273.9	326.4	0.00	0.00	Base Target
13,700.0	0.00	0.00	13,672.8	-326.4	-273.9	326.4	0.00	0.00	
13,797.7	0.00	0.00	13,770.6	-326.4	-273.9	326.4	0.00	0.00	Middle Marker
13,800.0	0.00	0.00	13,772.8	-326.4	-273.9	326.4	0.00	0.00	
13,900.0	0.00	0.00	13,872.8	-326.4	-273.9	326.4	0.00	0.00	
14,000.0	0.00	0.00	13,972.8	-326.4	-273.9	326.4	0.00	0.00	

# Cathedral Energy Services

## Planning Report

<b>Database:</b>	USA EDM 5000 Multi Users DB	<b>Local Co-ordinate Reference:</b>	Well Bulldog #17-11H-893
<b>Company:</b>	Axia Energy	<b>TVD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Project:</b>	Moffat County, CO	<b>MD Reference:</b>	WELL @ 6588.0ft (Original Well Elev)
<b>Site:</b>	SEC 17-T8N-R93W	<b>North Reference:</b>	True
<b>Well:</b>	Bulldog #17-11H-893	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Pilot Hole		
<b>Design:</b>	Pilot Hole		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
14,100.0	0.00	0.00	14,072.8	-326.4	-273.9	326.4	0.00	0.00	
14,200.0	0.00	0.00	14,172.8	-326.4	-273.9	326.4	0.00	0.00	
14,300.0	0.00	0.00	14,272.8	-326.4	-273.9	326.4	0.00	0.00	
14,400.0	0.00	0.00	14,372.8	-326.4	-273.9	326.4	0.00	0.00	
14,492.7	0.00	0.00	14,465.6	-326.4	-273.9	326.4	0.00	0.00	Carlile (Base Niobrara)
14,500.0	0.00	0.00	14,472.8	-326.4	-273.9	326.4	0.00	0.00	
14,535.2	0.00	0.00	14,508.0	-326.4	-273.9	326.4	0.00	0.00	Pilot Hole TD @ 14,508' TVD

Targets									
Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	
- Shape									Latitude Longitude
Bulldog #17-11-893 PBH		0.00	0.00	12,381.0	-9,615.1	-274.3	1,479,190.27	2,343,694.91	40.624744 -107.864619
- plan misses target center by 9288.7ft at 12408.2ft MD (12381.0 TVD, -326.4 N, -273.9 E)									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,383.5	4,393.0	Lewis		-7.41	180.00	
6,230.7	6,246.0	Mesaverde		-7.41	180.00	
9,750.7	9,766.0	Mancos		-7.41	180.00	
10,128.7	10,144.0	Morapos		-7.41	180.00	
10,398.7	10,414.0	Mancos Marker		-7.41	180.00	
12,672.7	12,688.0	Niobrara		-7.41	180.00	
13,195.7	13,211.0	Tow Creek #2		-7.41	180.00	
13,375.7	13,391.0	Wolf Mountain		-7.41	180.00	
13,537.7	13,553.0	Top Target		-7.41	180.00	
13,615.7	13,631.0	Target Line		-7.41	180.00	
13,693.7	13,709.0	Base Target		-7.41	180.00	
13,797.7	13,813.0	Middle Marker		-7.41	180.00	
14,492.7	14,508.0	Carlile (Base Niobrara)		-7.41	180.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.0	2,000.0	0.0	0.0	KOP @ 2000'	
2,800.0	2,797.4	-42.7	-35.8	EOB; Inc=8°	
5,060.0	5,035.4	-283.7	-238.0	Start Drop -1.00	
5,860.0	5,832.8	-326.4	-273.9	EOD; Inc=0°	
14,535.2	14,508.0	-326.4	-273.9	Pilot Hole TD @ 14,508' TVD	