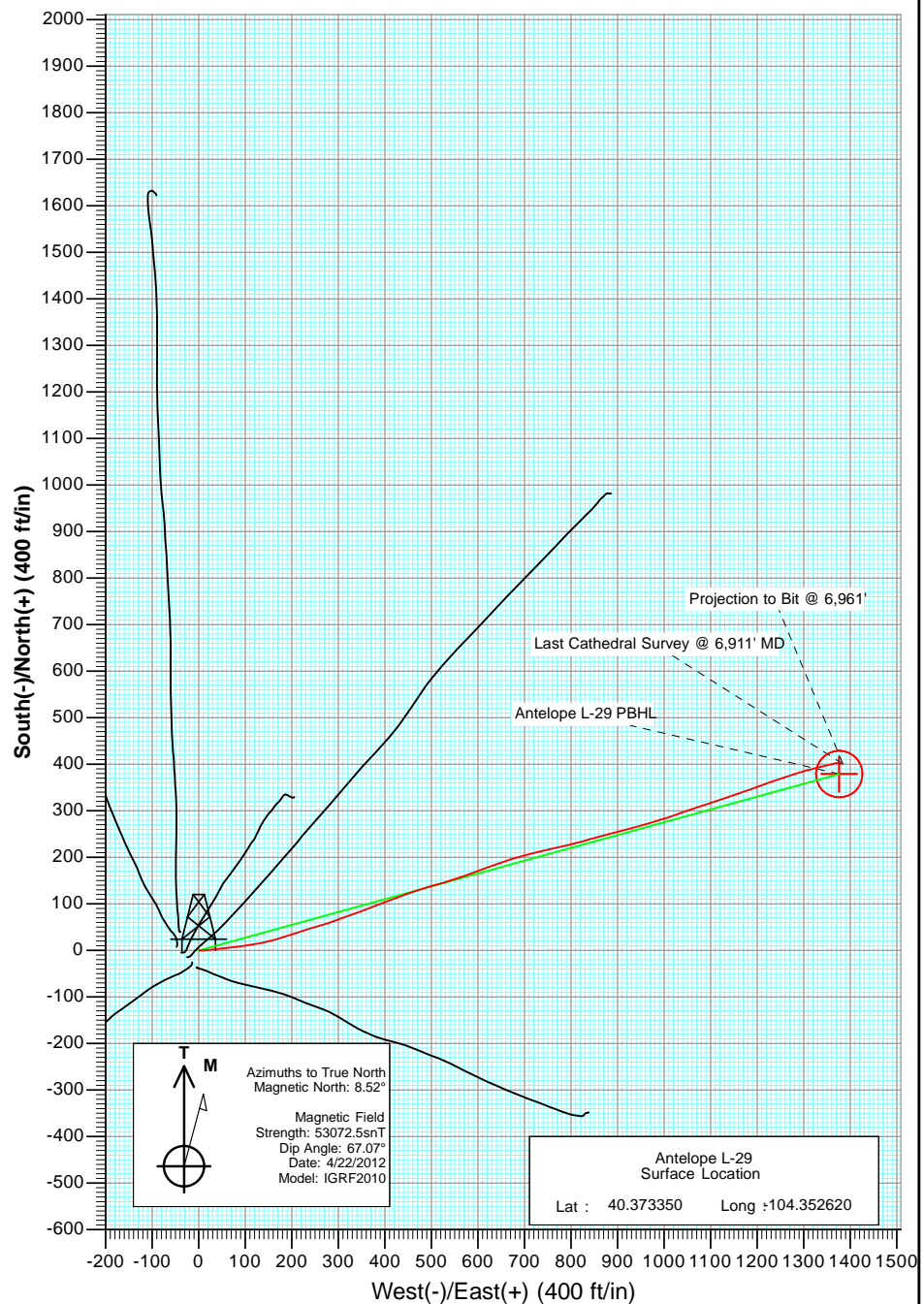
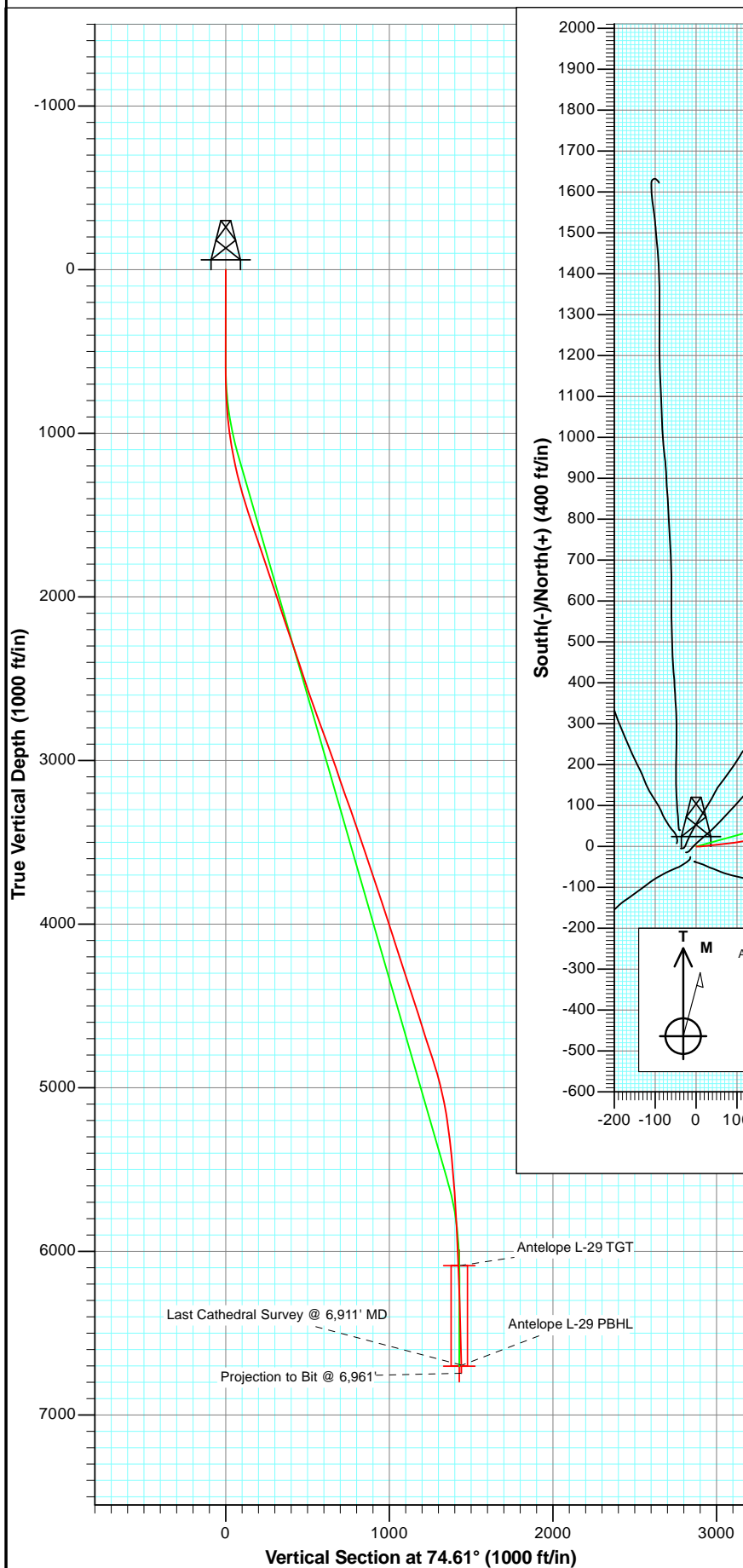




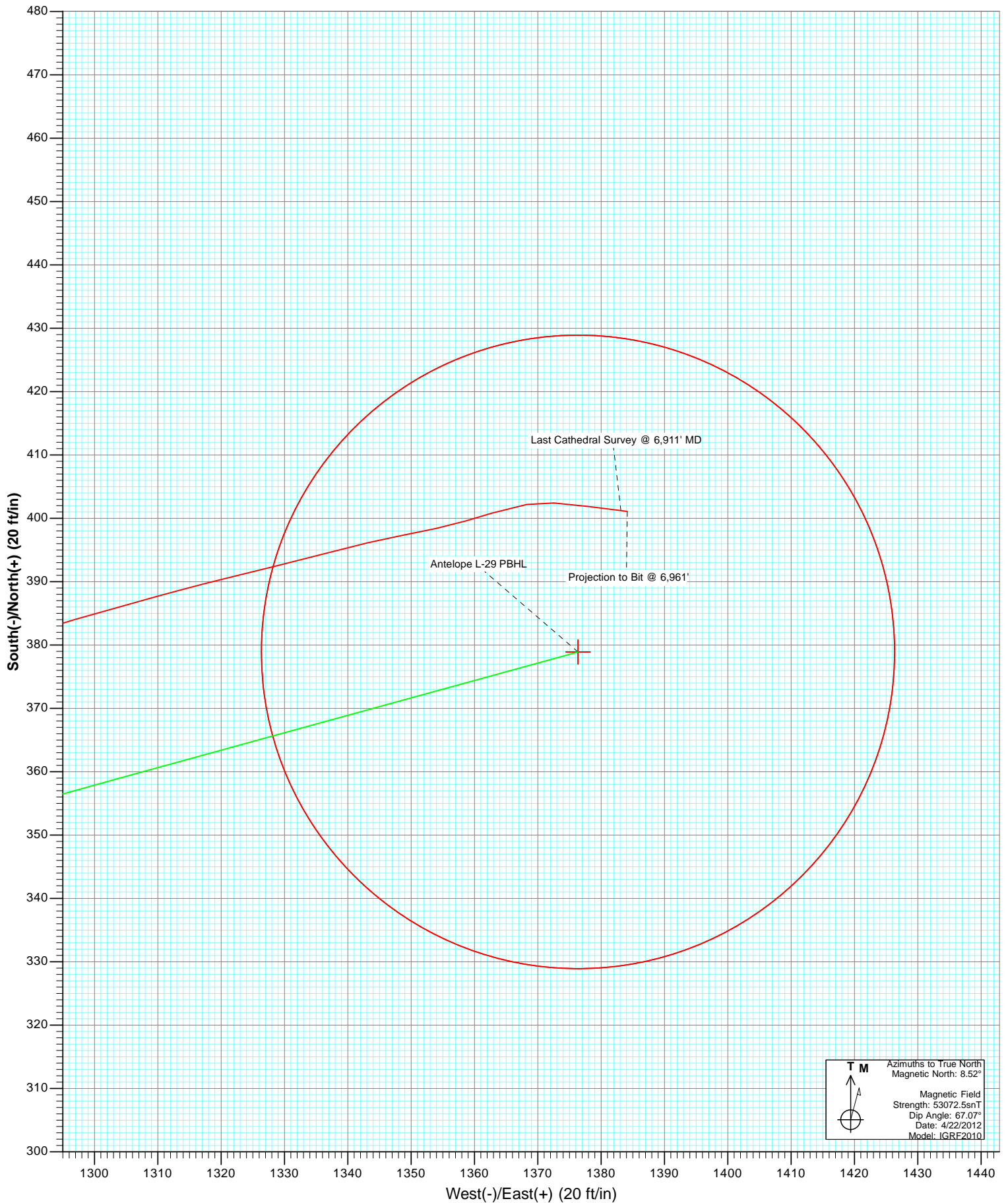
Project: Weld County  
 Site: Antelope G 29 Pad  
 Well: Antelope L-29  
 Wellbore: OH  
 Plan: AB FINAL



OH Antelope L-29 125239/153755; SC								
KBE @ 4668.0ft (Mid Continent #1) North American Datum 1983 Well Antelope L-29, True North								
Type	Target	Antelope L-29 PBHL	Azimuth	74.61	Origin Type	N/S	E/W	From TVD
					Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude			
Antelope L-29 TGT	6088.0	378.9	1376.4	40.374390	-104.347680			
Antelope L-29 PBHL	6702.0	378.9	1376.4	40.374390	-104.347680			



Project: Weld County  
Site: Antelope G 29 Pad  
Well: Antelope L-29  
Wellbore: OH  
Plan: AB FINAL



# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Antelope L-29
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Site:</b>	Antelope G 29 Pad	<b>MD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Well:</b>	Antelope L-29	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB

<b>Project</b>	Weld County		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

Site		Antelope G 29 Pad			
Site Position:		Northing:	1,380,957.95 ft	Latitude:	40.373450
From:	Lat/Long	Easting:	3,319,577.00 ft	Longitude:	-104.352990
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope L-29					
Well Position	+N/-S	0.0 ft	Northing:	1,380,922.85 ft	Latitude:	40.373350
	+E/-W	0.0 ft	Easting:	3,319,680.55 ft	Longitude:	-104.352620
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,658.0 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/22/2012	8.52	67.07	53,072

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	74.61	

<b>Survey Program</b>	<b>Date</b>	4/28/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
589.0	6,961.0	Survey #1 (OH)	MWD	Geolink MWD	

<b>Survey</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>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Formations / Comments</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00		
589.0	0.20	268.90	589.0	0.0	-1.0	-1.0	0.03	0.03		
683.0	1.50	88.70	683.0	0.0	0.0	0.0	1.81	1.38		
777.0	3.10	96.10	776.9	-0.2	3.8	3.6	1.73	1.70		
872.0	4.50	84.30	871.7	-0.1	10.1	9.7	1.68	1.47		
966.0	7.30	85.20	965.2	0.7	19.7	19.2	2.98	2.98		
1,061.0	9.00	82.30	1,059.2	2.2	33.1	32.5	1.84	1.79		
1,156.0	11.60	82.70	1,152.7	4.4	49.9	49.3	2.74	2.74		
1,250.0	13.20	85.40	1,244.5	6.5	70.0	69.2	1.81	1.70		
1,344.0	15.60	82.10	1,335.5	9.1	93.2	92.3	2.70	2.55		
1,439.0	17.20	80.00	1,426.7	13.3	119.7	118.9	1.80	1.68		
1,533.0	18.60	77.70	1,516.1	18.9	148.0	147.7	1.67	1.49		
1,627.0	19.50	72.20	1,605.0	26.9	177.6	178.4	2.14	0.96		

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Antelope L-29
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Site:</b>	Antelope G 29 Pad	<b>MD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Well:</b>	Antelope L-29	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,721.0	18.30	71.00	1,693.9	36.5	206.5	208.8	1.34	-1.28	
1,815.0	19.00	73.50	1,783.0	45.6	235.1	238.8	1.13	0.74	
1,909.0	18.20	73.40	1,872.1	54.2	263.9	268.8	0.85	-0.85	
2,004.0	19.00	69.90	1,962.1	63.7	292.6	299.0	1.45	0.84	
2,099.0	17.70	71.20	2,052.3	73.7	320.8	328.9	1.43	-1.37	
2,193.0	19.80	68.40	2,141.3	84.2	349.1	359.0	2.43	2.23	
2,288.0	17.90	69.40	2,231.2	95.2	377.8	389.5	2.03	-2.00	
2,382.0	19.40	70.00	2,320.2	105.7	406.0	419.4	1.61	1.60	
2,477.0	18.50	69.10	2,410.1	116.4	434.9	450.2	1.00	-0.95	
2,571.0	18.30	71.10	2,499.3	126.5	462.8	479.7	0.70	-0.21	
2,665.0	18.20	73.10	2,588.6	135.6	490.8	509.1	0.67	-0.11	
2,759.0	19.80	74.80	2,677.4	144.0	520.2	539.7	1.80	1.70	
2,854.0	20.90	71.50	2,766.5	153.6	551.8	572.8	1.67	1.16	
2,948.0	20.30	70.60	2,854.5	164.4	583.1	605.8	0.72	-0.64	
3,043.0	18.90	69.60	2,944.0	175.2	613.0	637.5	1.52	-1.47	
3,137.0	19.60	69.50	3,032.7	186.0	642.1	668.4	0.75	0.74	
3,232.0	18.90	73.30	3,122.4	196.0	671.7	699.7	1.51	-0.74	
3,326.0	19.50	74.10	3,211.2	204.7	701.4	730.6	0.70	0.64	
3,420.0	19.60	77.60	3,299.8	212.4	731.9	762.0	1.25	0.11	
3,515.0	19.10	76.60	3,389.4	219.4	762.6	793.4	0.63	-0.53	
3,610.0	18.70	77.40	3,479.3	226.3	792.5	824.2	0.50	-0.42	
3,704.0	18.50	75.20	3,568.4	233.4	821.7	854.2	0.78	-0.21	
3,799.0	18.90	74.40	3,658.4	241.4	851.1	884.6	0.50	0.42	
3,893.0	18.10	74.20	3,747.5	249.5	879.8	914.4	0.85	-0.85	
3,988.0	18.90	75.20	3,837.6	257.4	908.9	944.6	0.91	0.84	
4,083.0	17.20	76.50	3,927.9	264.6	937.4	974.0	1.84	-1.79	
4,177.0	18.80	72.50	4,017.3	272.4	965.4	1,003.0	2.15	1.70	
4,271.0	16.80	73.40	4,106.8	280.9	992.8	1,031.8	2.15	-2.13	
4,366.0	18.90	71.50	4,197.2	289.7	1,020.6	1,060.9	2.29	2.21	
4,460.0	18.60	70.60	4,286.3	299.5	1,049.1	1,091.0	0.44	-0.32	
4,555.0	17.40	69.90	4,376.6	309.4	1,076.8	1,120.3	1.28	-1.26	
4,649.0	17.80	73.40	4,466.2	318.3	1,103.7	1,148.7	1.20	0.43	
4,743.0	18.50	70.90	4,555.5	327.3	1,131.6	1,177.9	1.11	0.74	
4,835.0	17.20	71.30	4,643.1	336.5	1,158.3	1,206.0	1.42	-1.41	
4,932.0	18.40	70.00	4,735.5	346.3	1,186.3	1,235.6	1.30	1.24	
5,025.0	17.80	70.00	4,823.9	356.2	1,213.4	1,264.4	0.65	-0.65	
5,120.0	16.30	71.20	4,914.7	365.4	1,239.7	1,292.2	1.62	-1.58	
5,215.0	13.00	72.50	5,006.6	373.0	1,262.5	1,316.2	3.49	-3.47	
5,311.0	11.30	71.30	5,100.4	379.2	1,281.7	1,336.4	1.79	-1.77	
5,405.0	8.50	74.00	5,193.0	384.1	1,297.1	1,352.5	3.02	-2.98	
5,499.0	7.70	74.60	5,286.1	387.7	1,309.9	1,365.8	0.86	-0.85	
5,593.0	5.70	76.20	5,379.4	390.5	1,320.5	1,376.7	2.14	-2.13	
5,688.0	4.90	76.30	5,474.0	392.5	1,329.0	1,385.5	0.84	-0.84	
5,783.0	4.50	75.10	5,568.7	394.5	1,336.5	1,393.3	0.43	-0.42	
5,877.0	3.90	76.60	5,662.4	396.2	1,343.2	1,400.2	0.65	-0.64	
5,971.0	3.10	79.60	5,756.3	397.4	1,348.8	1,405.9	0.87	-0.85	
6,065.0	3.30	77.30	5,850.1	398.4	1,354.0	1,411.1	0.25	0.21	
6,159.0	2.60	73.70	5,944.0	399.6	1,358.6	1,416.0	0.77	-0.74	
6,254.0	2.60	72.80	6,038.9	400.8	1,362.8	1,420.3	0.04	0.00	
6,336.0	1.50	94.70	6,320.7	402.4	1,372.6	1,430.1	0.47	-0.39	
6,725.0	1.90	96.90	6,509.6	401.8	1,378.1	1,435.4	0.21	0.21	
6,911.0	1.20	97.50	6,695.6	401.2	1,383.1	1,440.0	0.38	-0.38	Last Cathedral Survey @ 6,911' MD
6,961.0	1.20	97.50	6,745.6	401.1	1,384.2	1,441.0	0.00	0.00	Projection to Bit @ 6,961'

# Cathedral Energy Services

## Survey Report

<b>Company:</b>	Bonanza Creek Energy Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well Antelope L-29
<b>Project:</b>	Weld County	<b>TVD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Site:</b>	Antelope G 29 Pad	<b>MD Reference:</b>	KBE @ 4668.0ft (Mid Continent #1)
<b>Well:</b>	Antelope L-29	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	USA EDM 5000 Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments

Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Antelope L-29 TGT - actual wellpath misses target center by 25.3ft at 6303.4ft MD (6088.3 TVD, 401.4 N, 1364.8 E) - Point	0.00	0.00	6,088.0	378.9	1,376.4	1,381,319.54	3,321,051.90	40.374390	-104.347680
Antelope L-29 PBHL - actual wellpath misses target center by 24.2ft at 6911.0ft MD (6695.6 TVD, 401.2 N, 1383.1 E) - Circle (radius 50.0)	0.00	0.00	6,702.0	378.9	1,376.4	1,381,319.54	3,321,051.90	40.374390	-104.347680

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,911.0	6,695.6	401.2	1,383.1	Last Cathedral Survey @ 6,911' MD	
6,961.0	6,745.6	401.1	1,384.2	Projection to Bit @ 6,961'	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_