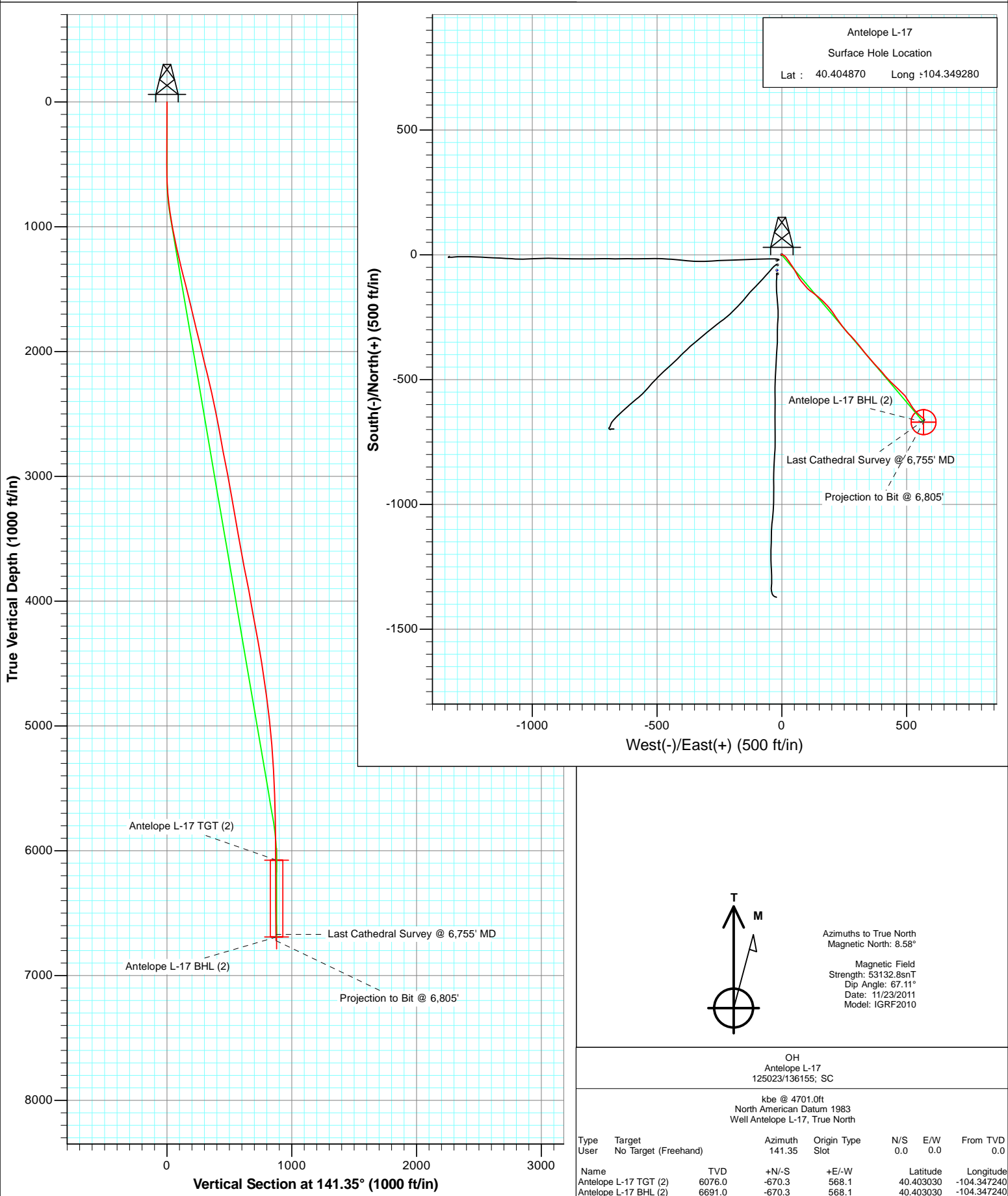


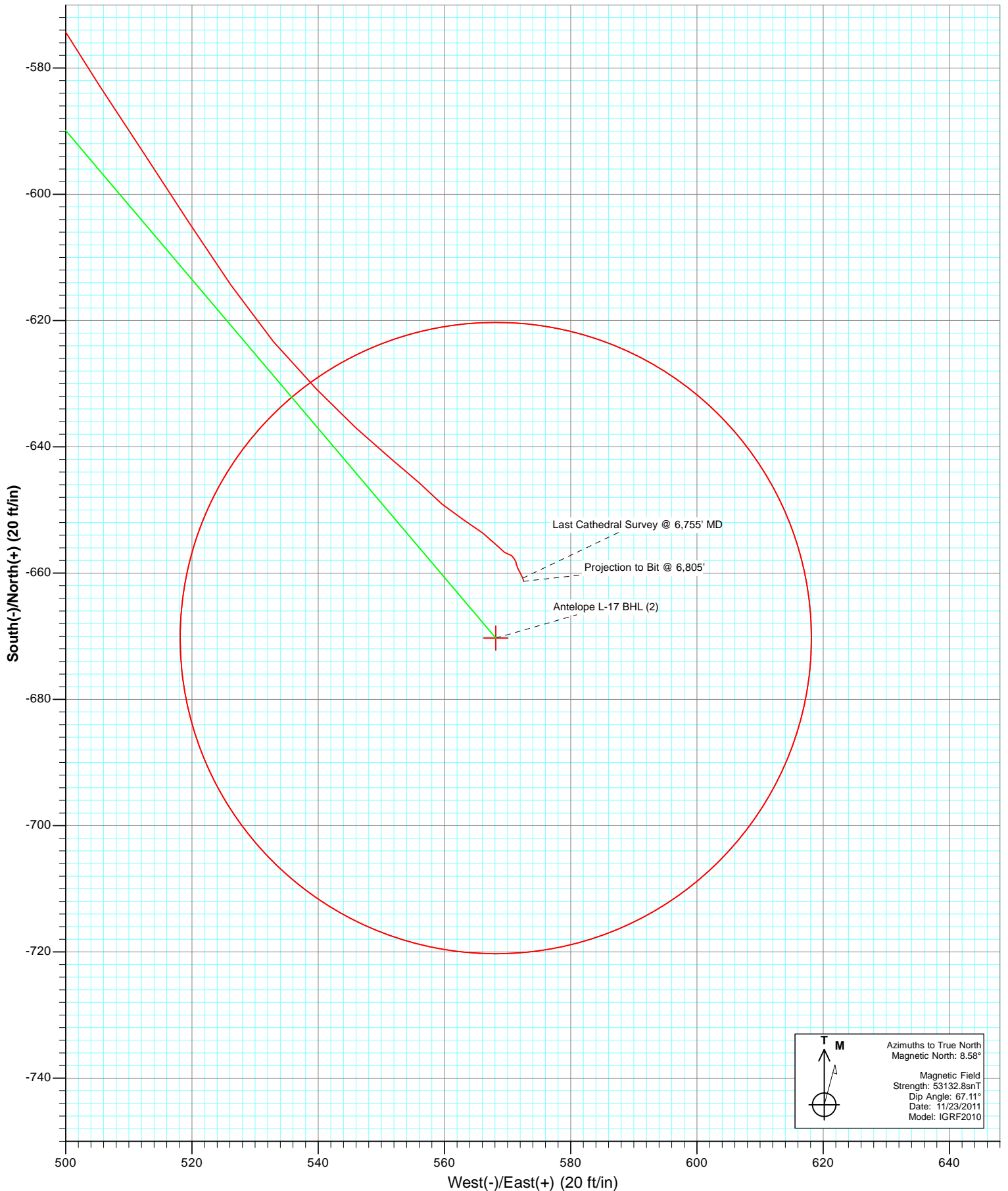


Project: Weld County
Site: Antelope 21-17 Pad
Well: Antelope L-17
Wellbore: OH
Plan: FINAL





Project: Weld County
Site: Antelope 21-17 Pad
Well: Antelope L-17
Wellbore: OH
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope L-17
Project:	Weld County	TVD Reference:	kbe @ 4701.0ft
Site:	Antelope 21-17 Pad	MD Reference:	kbe @ 4701.0ft
Well:	Antelope L-17	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	USA EDM 5000 Multi Users DB

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

Site		Antelope 21-17 Pad			
Site Position:		Northing:	1,392,394.47 ft	Latitude:	40.404810
From:	Lat/Long	Easting:	3,320,442.85 ft	Longitude:	-104.349350
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope L-17					
Well Position	+N/-S	0.0 ft	Northing:	1,392,416.57 ft	Latitude:	40.404870
	+E/-W	0.0 ft	Easting:	3,320,462.06 ft	Longitude:	-104.349280
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,691.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/23/2011	8.58	67.11	53,133

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	141.35	

Survey Program	Date	2/15/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
492.0	6,805.0	Survey #1 (OH)	MWD	Geolink MWD	

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
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
492.0	0.30	327.40	492.0	1.1	-0.7	-1.3	0.06	0.06	
586.0	1.90	87.10	586.0	1.4	0.7	-0.6	2.20	1.70	
680.0	3.40	121.10	679.9	0.0	4.7	2.9	2.25	1.60	
775.0	6.20	125.00	774.5	-4.4	11.3	10.5	2.97	2.95	
869.0	8.10	144.00	867.8	-12.7	19.3	22.0	3.20	2.02	
963.0	9.50	146.20	960.7	-24.5	27.5	36.3	1.53	1.49	
1,057.0	10.90	146.00	1,053.2	-38.3	36.8	52.9	1.49	1.49	
1,151.0	12.30	146.50	1,145.3	-54.0	47.3	71.7	1.49	1.49	
1,245.0	13.70	153.50	1,236.9	-72.3	57.8	92.6	2.24	1.49	
1,344.0	13.50	148.50	1,333.1	-92.7	69.1	115.5	1.20	-0.20	
1,438.0	14.70	139.70	1,424.3	-111.1	82.5	138.3	2.61	1.28	
1,532.0	13.90	138.80	1,515.4	-128.7	97.7	161.5	0.88	-0.85	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope L-17
Project:	Weld County	TVD Reference:	kbe @ 4701.0ft
Site:	Antelope 21-17 Pad	MD Reference:	kbe @ 4701.0ft
Well:	Antelope L-17	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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
1,626.0	14.20	127.70	1,606.6	-144.2	114.3	184.0	2.88	0.32	
1,721.0	13.30	124.80	1,698.9	-157.6	132.5	205.8	1.19	-0.95	
1,815.0	13.90	132.60	1,790.2	-171.4	149.6	227.3	2.05	0.64	
1,909.0	14.40	134.30	1,881.4	-187.2	166.3	250.1	0.69	0.53	
2,003.0	13.70	136.40	1,972.6	-203.5	182.4	272.8	0.92	-0.74	
2,098.0	12.80	143.60	2,065.1	-220.1	196.4	294.5	1.98	-0.95	
2,192.0	14.30	145.80	2,156.4	-238.1	209.1	316.5	1.69	1.60	
2,287.0	13.40	145.50	2,248.7	-256.8	221.9	339.2	0.95	-0.95	
2,382.0	12.60	143.40	2,341.2	-274.2	234.3	360.5	0.98	-0.84	
2,571.0	10.80	142.30	2,526.3	-304.8	257.4	398.8	0.96	-0.95	
2,665.0	10.90	131.50	2,618.6	-317.6	269.5	416.4	2.16	0.11	
2,759.0	10.50	139.20	2,711.0	-330.0	281.7	433.7	1.58	-0.43	
2,854.0	10.00	138.70	2,804.5	-342.8	292.8	450.6	0.53	-0.53	
2,948.0	11.40	140.30	2,896.9	-356.1	304.2	468.0	1.52	1.49	
3,042.0	11.00	140.50	2,989.1	-370.1	315.8	486.3	0.43	-0.43	
3,137.0	10.20	142.80	3,082.4	-383.8	326.6	503.8	0.95	-0.84	
3,231.0	9.80	141.40	3,175.0	-396.7	336.7	520.1	0.50	-0.43	
3,326.0	9.70	139.00	3,268.6	-409.1	347.0	536.2	0.44	-0.11	
3,421.0	10.50	138.30	3,362.2	-421.6	358.0	552.8	0.85	0.84	
3,517.0	10.00	138.70	3,456.6	-434.3	369.3	569.9	0.53	-0.52	
3,609.0	10.00	137.20	3,547.2	-446.2	380.0	585.8	0.28	0.00	
3,704.0	10.00	136.60	3,640.8	-458.3	391.3	602.3	0.11	0.00	
3,798.0	11.30	140.70	3,733.2	-471.3	402.7	619.6	1.60	1.38	
3,893.0	11.10	137.70	3,826.4	-485.3	414.8	638.0	0.65	-0.21	
3,988.0	10.90	137.40	3,919.6	-498.7	427.0	656.1	0.22	-0.21	
4,083.0	10.60	136.60	4,013.0	-511.6	439.1	673.8	0.35	-0.32	
4,178.0	10.00	134.30	4,106.4	-523.7	451.0	690.7	0.77	-0.63	
4,273.0	9.90	130.40	4,200.0	-534.8	463.1	706.9	0.72	-0.11	
4,366.0	10.80	132.60	4,291.5	-545.9	475.6	723.3	1.06	0.97	
4,460.0	10.20	136.50	4,383.9	-557.9	487.8	740.3	0.99	-0.64	
4,554.0	9.20	148.70	4,476.6	-570.3	497.4	756.1	2.43	-1.06	
4,650.0	8.50	146.50	4,571.4	-582.8	505.4	770.8	0.81	-0.73	
4,743.0	7.80	147.00	4,663.5	-593.8	512.6	783.9	0.76	-0.75	
4,837.0	7.60	146.70	4,756.6	-604.4	519.5	796.4	0.22	-0.21	
4,931.0	7.10	145.70	4,849.9	-614.4	526.2	808.4	0.55	-0.53	
5,025.0	6.60	140.30	4,943.2	-623.3	532.9	819.6	0.87	-0.53	
5,120.0	5.80	134.90	5,037.6	-630.9	539.8	829.8	1.04	-0.84	
5,215.0	4.70	133.90	5,132.2	-637.0	546.0	838.5	1.16	-1.16	
5,310.0	4.00	128.40	5,227.0	-641.7	551.4	845.6	0.86	-0.74	
5,405.0	3.40	133.30	5,321.8	-645.7	556.0	851.6	0.71	-0.63	
5,499.0	2.50	132.20	5,415.7	-649.0	559.6	856.4	0.96	-0.96	
5,593.0	2.60	120.60	5,509.6	-651.5	562.9	860.4	0.56	0.11	
5,687.0	2.20	129.50	5,603.5	-653.7	566.1	864.1	0.58	-0.43	
5,782.0	1.80	134.00	5,698.4	-655.9	568.6	867.4	0.45	-0.42	
5,876.0	0.40	91.40	5,792.4	-656.9	570.0	869.1	1.63	-1.49	
5,970.0	0.50	133.20	5,886.4	-657.2	570.6	869.7	0.36	0.11	
6,065.0	0.40	152.90	5,981.4	-657.8	571.1	870.4	0.19	-0.11	
6,158.0	0.20	151.60	6,074.4	-658.2	571.3	870.9	0.22	-0.22	
6,253.0	0.10	223.10	6,169.4	-658.5	571.3	871.1	0.20	-0.11	
6,347.0	0.20	144.90	6,263.4	-658.6	571.4	871.3	0.22	0.11	
6,442.0	0.00	337.20	6,358.4	-658.8	571.5	871.4	0.21	-0.21	
6,535.0	0.40	167.20	6,451.4	-659.1	571.6	871.7	0.43	0.43	
6,630.0	0.50	140.40	6,546.4	-659.7	571.9	872.4	0.24	0.11	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope L-17
Project:	Weld County	TVD Reference:	kbe @ 4701.0ft
Site:	Antelope 21-17 Pad	MD Reference:	kbe @ 4701.0ft
Well:	Antelope L-17	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	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
6,755.0	0.60	164.70	6,671.4	-660.8	572.4	873.6	0.20	0.08	Last Cathedral Survey @ 6,755' MD
6,805.0	0.60	164.70	6,721.4	-661.3	572.5	874.1	0.00	0.00	Projection to Bit @ 6,805'

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-17 BHL (2) - actual wellpath misses target center by 22.2ft at 6755.0ft MD (6671.4 TVD, -660.8 N, 572.4 E) - Circle (radius 50.0)	0.00	0.00	6,691.0	-670.3	568.1	1,391,753.71	3,321,038.85	40.403030	-104.347240
Antelope L-17 TGT (2) - actual wellpath misses target center by 12.4ft at 6159.6ft MD (6076.0 TVD, -658.3 N, 571.3 E) - Point	0.00	0.00	6,076.0	-670.3	568.1	1,391,753.71	3,321,038.85	40.403030	-104.347240

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
6,755.0	6,671.4	-660.8	572.4	Last Cathedral Survey @ 6,755' MD
6,805.0	6,721.4	-661.3	572.5	Projection to Bit @ 6,805'

Checked By: _____ Approved By: _____ Date: _____