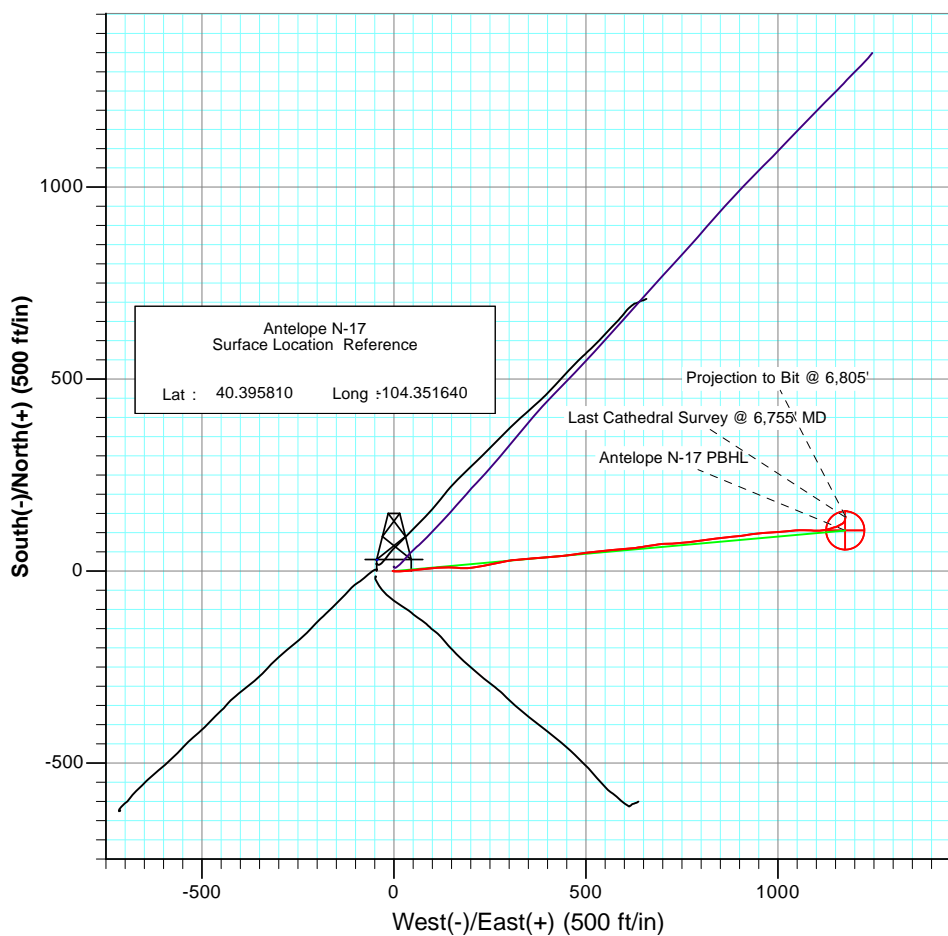
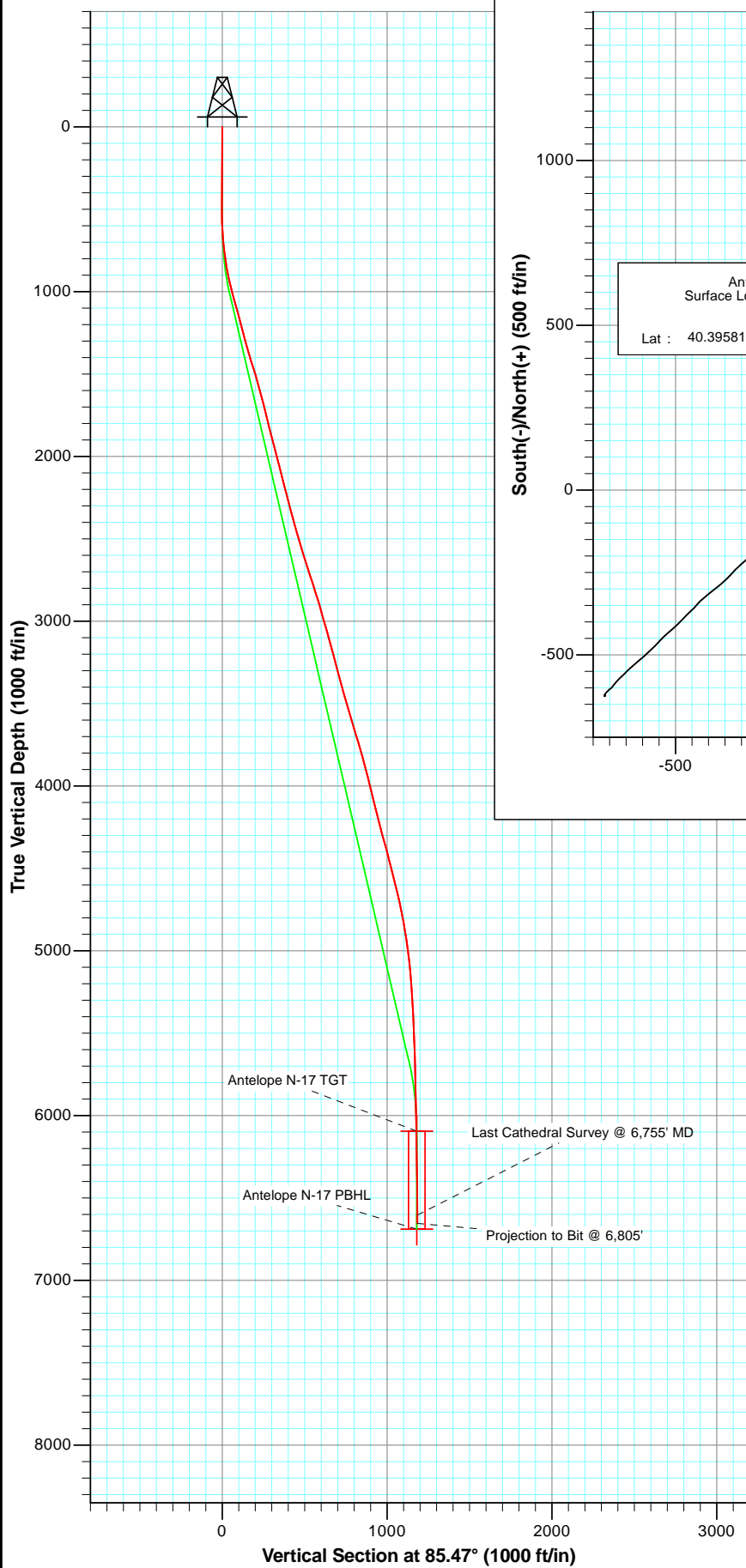




Project: Weld County
 Site: Antelope I-17 Pad
 Well: Antelope N-17
 Wellbore: OH
 Plan: AB FINAL



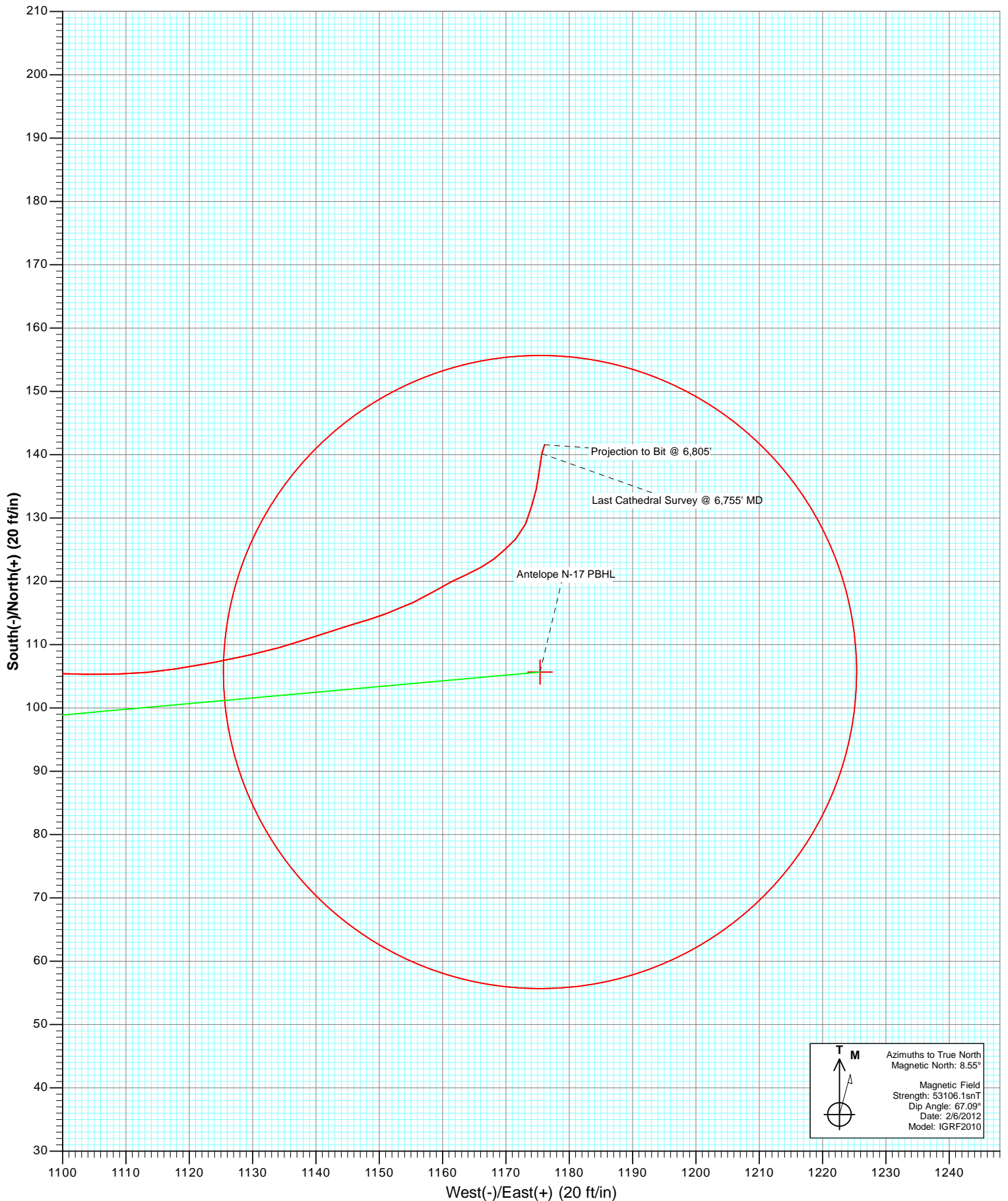
Azimuths to True North
 Magnetic North: 8.55°

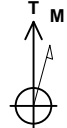
Magnetic Field
 Strength: 53106.1snT
 Dip Angle: 67.09°
 Date: 2/6/2012
 Model: IGRF2010

OH Antelope N-17 125102/141355; SC						
KBE @ 4690.0ft (Original Well Elev) North American Datum 1983 Well Antelope N-17, True North						
Type User	Target No Target (Freehand)	Azimuth 85.47	Origin Type Slot	N/S 0.0	E/W From TVD 0.0	
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
Antelope N-17 TGT		6095.0	105.7	1175.4	40.396100	-104.347420
Antelope N-17 PBHL		6689.0	105.7	1175.4	40.396100	-104.347420



Project: Weld County
Site: Antelope I-17 Pad
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Wellbore: OH
Plan: AB FINAL





Azimuths to True North
Magnetic North: 8.55°

Magnetic Field
Strength: 53106.1snT
Dip Angle: 67.09°
Date: 2/6/2012
Model: IGRF2010

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-17
Project:	Weld County	TVD Reference:	KBE @ 4690.0ft (Original Well Elev)
Site:	Antelope I-17 Pad	MD Reference:	KBE @ 4690.0ft (Original Well Elev)
Well:	Antelope N-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 I-17 Pad			
Site Position:		Northing:	1,389,136.37 ft	Latitude:	40.395890
From:	Lat/Long	Easting:	3,319,802.68 ft	Longitude:	-104.351800
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope N-17					
Well Position	+N/-S	0.0 ft	Northing:	1,389,107.80 ft	Latitude:	40.395810
	+E/-W	0.0 ft	Easting:	3,319,847.62 ft	Longitude:	-104.351640
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,680.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/6/2012	8.55	67.09	53,106

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	85.47	

Survey Program	Date	2/29/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
493.0	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		
493.0	0.70	273.60	493.0	0.2	-3.0	-3.0	0.14	0.14		
588.0	2.90	98.50	588.0	-0.1	-1.2	-1.2	3.79	2.32		
682.0	4.80	96.40	681.7	-0.9	5.1	5.0	2.03	2.02		
777.0	7.10	86.20	776.2	-1.0	14.9	14.7	2.66	2.42		
871.0	10.60	84.80	869.1	0.2	29.3	29.2	3.73	3.72		
966.0	13.60	84.40	962.0	2.1	49.1	49.1	3.16	3.16		
1,060.0	15.70	83.30	1,052.9	4.6	72.7	72.9	2.25	2.23		
1,155.0	15.20	84.70	1,144.5	7.3	97.9	98.2	0.66	-0.53		
1,249.0	14.50	84.90	1,235.3	9.5	121.9	122.3	0.75	-0.74		
1,343.0	15.60	95.80	1,326.1	9.2	146.2	146.5	3.22	1.17		
1,438.0	17.70	91.40	1,417.1	7.6	173.3	173.4	2.58	2.21		
1,532.0	16.70	83.30	1,507.0	8.8	201.0	201.1	2.76	-1.06		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-17
Project:	Weld County	TVD Reference:	KBE @ 4690.0ft (Original Well Elev)
Site:	Antelope I-17 Pad	MD Reference:	KBE @ 4690.0ft (Original Well Elev)
Well:	Antelope N-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	15.20	80.80	1,597.3	12.4	226.6	226.9	1.75	-1.60	
1,721.0	14.50	78.20	1,689.2	16.8	250.6	251.1	1.02	-0.74	
1,814.0	13.40	77.10	1,779.4	21.6	272.5	273.3	1.22	-1.18	
1,908.0	15.70	79.90	1,870.4	26.2	295.6	296.8	2.56	2.45	
2,003.0	14.40	85.20	1,962.1	29.5	320.0	321.4	1.99	-1.37	
2,098.0	13.50	85.50	2,054.3	31.3	342.9	344.3	0.95	-0.95	
2,192.0	15.30	84.80	2,145.4	33.3	366.1	367.6	1.92	1.91	
2,287.0	13.80	86.90	2,237.3	35.1	389.9	391.5	1.67	-1.58	
2,381.0	15.80	83.60	2,328.2	37.1	413.9	415.5	2.31	2.13	
2,476.0	14.90	85.00	2,419.8	39.6	438.9	440.6	1.02	-0.95	
2,570.0	17.20	81.90	2,510.2	42.6	464.7	466.6	2.61	2.45	
2,664.0	15.80	81.90	2,600.3	46.4	491.1	493.2	1.49	-1.49	
2,759.0	18.70	84.00	2,691.0	49.8	519.1	521.4	3.12	3.05	
2,853.0	18.30	84.20	2,780.1	52.9	548.7	551.2	0.43	-0.43	
2,948.0	17.10	85.00	2,870.6	55.6	577.5	580.1	1.29	-1.26	
3,042.0	14.90	86.00	2,961.0	57.6	603.3	606.0	2.36	-2.34	
3,136.0	16.70	82.10	3,051.4	60.3	628.8	631.6	2.22	1.91	
3,231.0	14.50	80.70	3,142.9	64.1	654.0	657.0	2.35	-2.32	
3,325.0	15.30	81.20	3,233.8	67.9	677.9	681.1	0.86	0.85	
3,420.0	15.40	86.60	3,325.4	70.6	702.9	706.2	1.51	0.11	
3,514.0	14.70	89.00	3,416.2	71.6	727.2	730.6	1.00	-0.74	
3,609.0	16.70	82.30	3,507.6	73.6	752.8	756.3	2.84	2.11	
3,703.0	16.80	83.00	3,597.6	77.1	779.7	783.4	0.24	0.11	
3,798.0	16.60	83.30	3,688.6	80.3	806.8	810.6	0.23	-0.21	
3,893.0	16.30	82.60	3,779.7	83.6	833.5	837.5	0.38	-0.32	
3,987.0	15.20	83.00	3,870.2	86.8	858.8	863.0	1.18	-1.17	
4,082.0	14.50	84.10	3,962.0	89.6	883.0	887.3	0.79	-0.74	
4,176.0	13.00	84.00	4,053.3	91.9	905.2	909.7	1.60	-1.60	
4,271.0	13.70	80.70	4,145.8	94.8	927.0	931.6	1.09	0.74	
4,365.0	14.70	82.90	4,236.9	98.1	949.8	954.6	1.21	1.06	
4,460.0	16.10	86.70	4,328.5	100.3	974.9	979.8	1.82	1.47	
4,554.0	13.90	86.90	4,419.3	101.7	999.2	1,004.1	2.34	-2.34	
4,648.0	14.80	83.50	4,510.4	103.7	1,022.4	1,027.4	1.31	0.96	
4,742.0	13.90	86.20	4,601.4	105.8	1,045.6	1,050.7	1.19	-0.96	
4,837.0	12.40	91.20	4,693.9	106.3	1,067.2	1,072.2	1.98	-1.58	
4,931.0	11.20	91.90	4,785.9	105.8	1,086.4	1,091.3	1.29	-1.28	
5,025.0	9.70	91.20	4,878.4	105.3	1,103.4	1,108.3	1.60	-1.60	
5,119.0	7.90	81.20	4,971.3	106.2	1,117.7	1,122.6	2.51	-1.91	
5,215.0	6.40	77.20	5,066.5	108.3	1,129.5	1,134.5	1.65	-1.56	
5,310.0	4.80	70.70	5,161.1	110.8	1,138.4	1,143.6	1.81	-1.68	
5,404.0	4.20	74.30	5,254.8	113.1	1,145.4	1,150.8	0.71	-0.64	
5,499.0	3.10	68.80	5,349.6	114.9	1,151.1	1,156.6	1.21	-1.16	
5,593.0	2.60	65.70	5,443.5	116.7	1,155.5	1,161.1	0.56	-0.53	
5,687.0	2.00	57.80	5,537.4	118.5	1,158.8	1,164.5	0.72	-0.64	
5,782.0	1.70	64.00	5,632.3	120.0	1,161.5	1,167.3	0.38	-0.32	
5,876.0	1.40	66.60	5,726.3	121.1	1,163.8	1,169.7	0.33	-0.32	
5,970.0	1.70	59.80	5,820.3	122.2	1,166.0	1,172.0	0.37	0.32	
6,064.0	1.30	54.00	5,914.2	123.5	1,168.1	1,174.2	0.45	-0.43	
6,158.0	1.50	45.60	6,008.2	125.0	1,169.8	1,176.1	0.30	0.21	
6,253.0	1.40	45.80	6,103.2	126.7	1,171.6	1,177.9	0.11	-0.11	
6,347.0	2.10	25.40	6,197.1	129.1	1,173.1	1,179.6	0.99	0.74	
6,441.0	1.70	9.50	6,291.1	132.0	1,174.1	1,180.8	0.70	-0.43	
6,535.0	1.40	21.60	6,385.1	134.4	1,174.7	1,181.7	0.47	-0.32	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope N-17
Project:	Weld County	TVD Reference:	KBE @ 4690.0ft (Original Well Elev)
Site:	Antelope I-17 Pad	MD Reference:	KBE @ 4690.0ft (Original Well Elev)
Well:	Antelope N-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
6,629.0	1.50	358.90	6,479.0	136.7	1,175.1	1,182.3	0.62	0.11	
6,755.0	1.70	17.50	6,605.0	140.2	1,175.7	1,183.1	0.44	0.16	Last Cathedral Survey @ 6,755' MD
6,805.0	1.70	17.50	6,655.0	141.6	1,176.1	1,183.6	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 N-17 PBHL - survey misses target center by 49.5ft at 6805.0ft MD (6655.0 TVD, 141.6 N, 1176.1 E) - Circle (radius 50.0)	0.00	0.00	6,689.0	105.7	1,175.4	1,389,228.69	3,321,021.54	40.396100	-104.347420
Antelope N-17 TGT - survey misses target center by 21.3ft at 6244.5ft MD (6094.7 TVD, 126.6 N, 1171.4 E) - Point	0.00	0.00	6,095.0	105.7	1,175.4	1,389,228.69	3,321,021.54	40.396100	-104.347420

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,755.0	6,605.0	140.2	1,175.7	Last Cathedral Survey @ 6,755' MD	
6,805.0	6,655.0	141.6	1,176.1	Projection to Bit @ 6,805'	

Checked By: _____ Approved By: _____ Date: _____