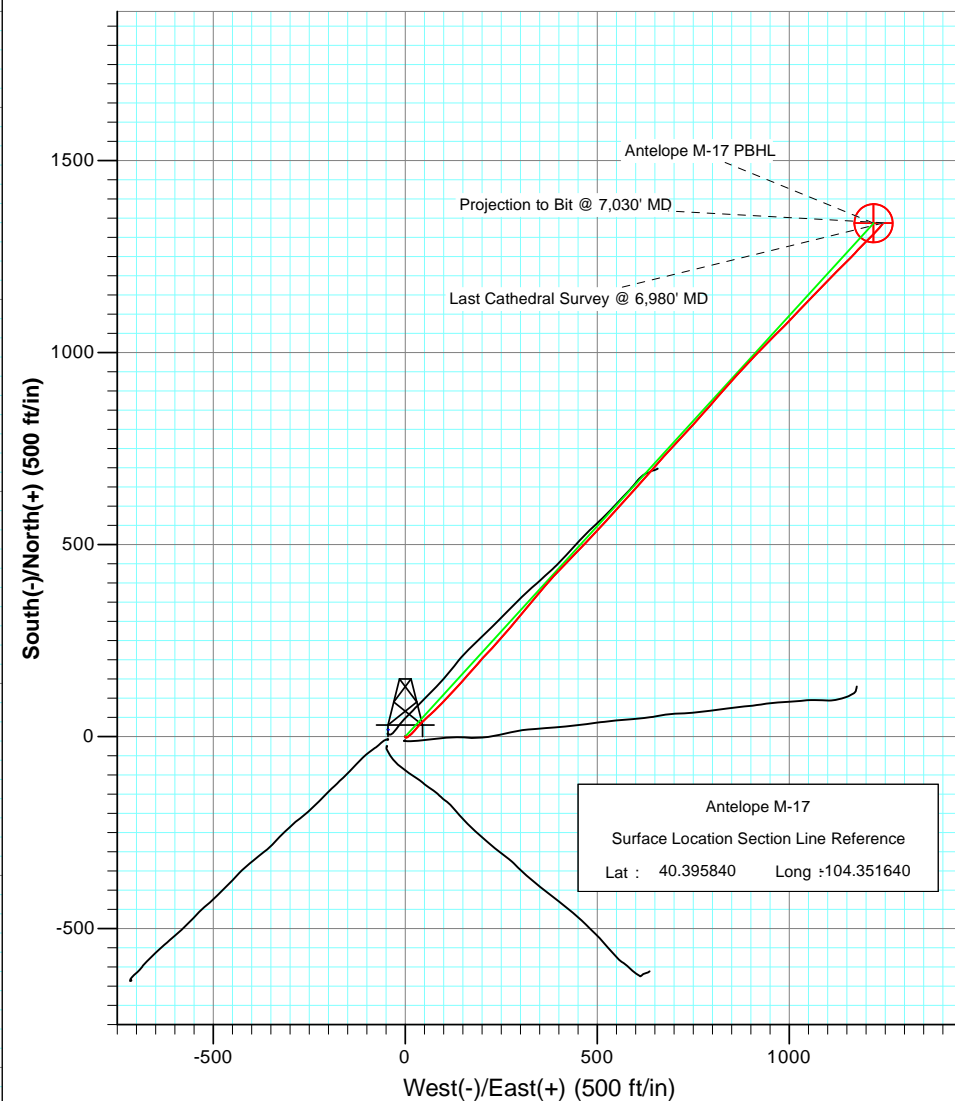
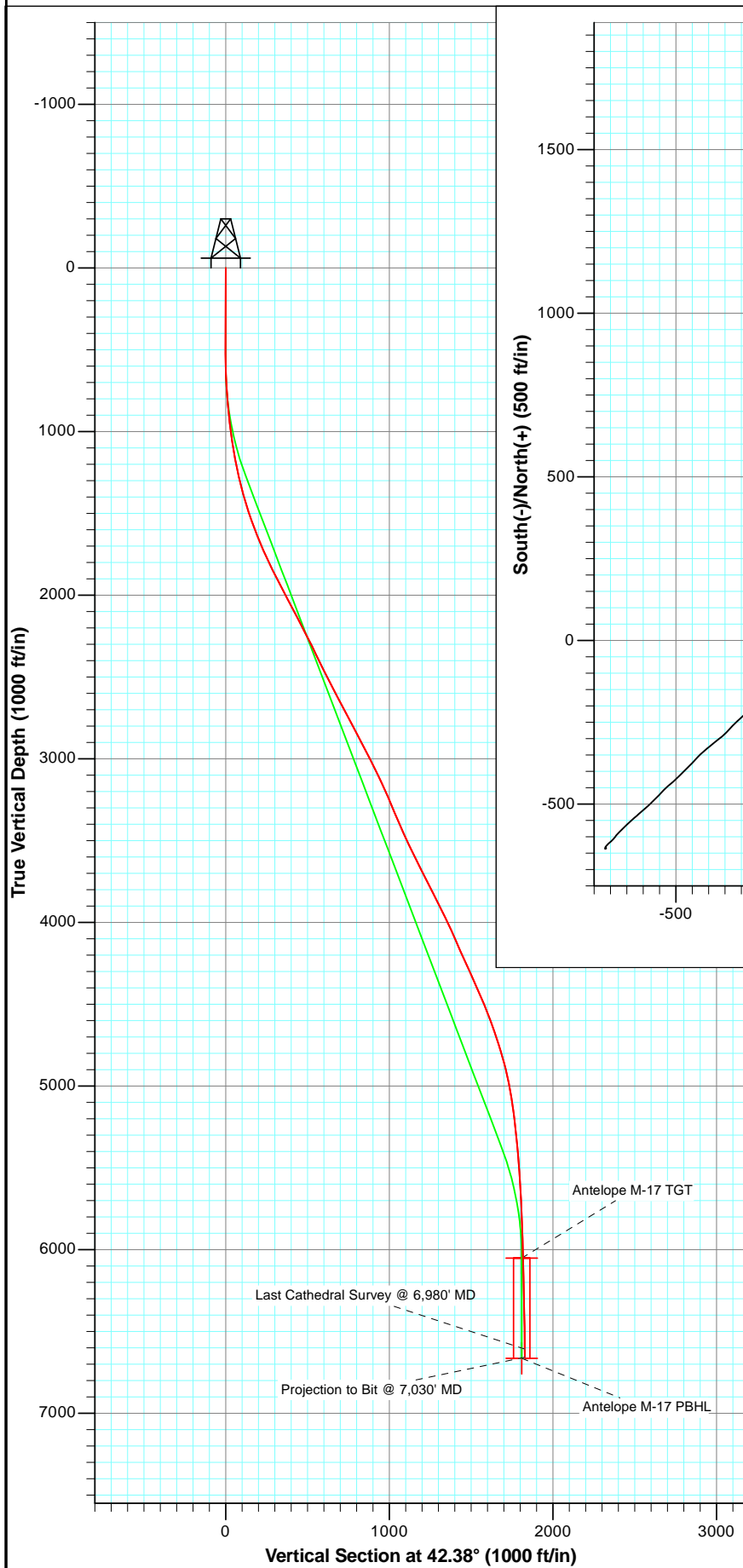




Project: Weld County
Site: Antelope I-17 Pad
Well: Antelope M-17
Wellbore: OH
Plan: AB FINAL



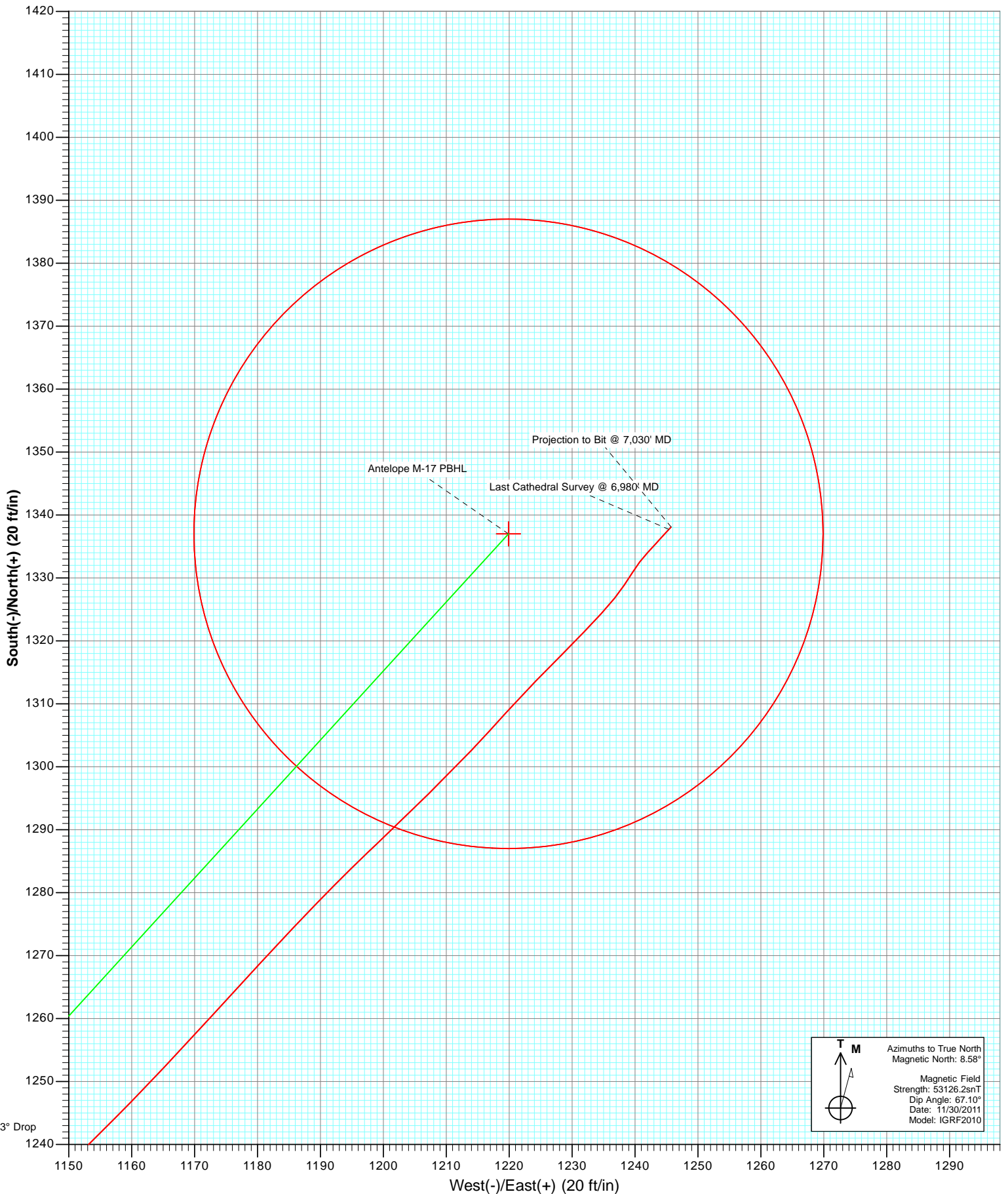
Azimuths to True North
Magnetic North: 8.58°

Magnetic Field
Strength: 53126.2snT
Dip Angle: 67.10°
Date: 11/30/2011
Model: IGRF2010

OH Antelope M-17 125101/125101; SC						
Kbe @ 4652.0ft North American Datum 1983 Well Antelope M-17, True North						
Type	Target	Antelope M-17 PBHL	Azimuth	Origin	N/S	E/W From TVD
Target	Target	Antelope M-17 TGT	42.38	Slot	0.0	0.0
Name	TVD	Antelope M-17 TGT	6052.0	+N/-S	Latitude	Longitude
Antelope M-17 TGT	6052.0	Antelope M-17 PBHL	6664.0	+E/-W	40.399510	-104.347260
Antelope M-17 PBHL	6664.0				40.399510	-104.347260



Project: Weld County
Site: Antelope I-17 Pad
Well: Antelope M-17
Wellbore: OH
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Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope M-17
Project:	Weld County	TVD Reference:	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	MD Reference:	Kbe @ 4652.0ft
Well:	Antelope M-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 M-17					
Well Position	+N/-S	0.0 ft	Northing:	1,389,118.72 ft	Latitude:	40.395840
	+E/-W	0.0 ft	Easting:	3,319,847.48 ft	Longitude:	-104.351640
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,642.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/30/2011	8.58	67.10	53,126

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	42.38	

Survey Program	Date	2/29/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
525.0	7,030.0	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		
525.0	0.70	151.20	525.0	-2.8	1.5	-1.0	0.13	0.13		
619.0	1.80	73.80	619.0	-2.9	3.2	0.0	1.90	1.17		
714.0	3.30	50.60	713.9	-0.7	6.8	4.0	1.89	1.58		
808.0	4.70	49.10	807.6	3.5	11.8	10.5	1.49	1.49		
903.0	6.10	48.20	902.2	9.4	18.5	19.4	1.48	1.47		
997.0	7.50	39.80	995.6	17.4	26.1	30.5	1.82	1.49		
1,092.0	9.00	39.60	1,089.6	27.9	34.8	44.1	1.58	1.58		
1,186.0	10.60	47.70	1,182.2	39.4	45.9	60.1	2.24	1.70		
1,280.0	12.70	47.70	1,274.3	52.2	60.0	79.0	2.23	2.23		
1,375.0	15.40	45.70	1,366.4	68.0	76.7	102.0	2.89	2.84		
1,469.0	17.50	43.70	1,456.6	87.0	95.4	128.6	2.31	2.23		
1,564.0	19.70	43.40	1,546.6	108.9	116.3	158.9	2.32	2.32		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope M-17
Project:	Weld County	TVD Reference:	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	MD Reference:	Kbe @ 4652.0ft
Well:	Antelope M-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
1,658.0	21.50	42.50	1,634.6	133.1	138.8	191.9	1.94	1.91	
1,752.0	23.60	41.10	1,721.4	160.0	162.8	228.0	2.31	2.23	
1,846.0	25.60	41.70	1,806.8	189.4	188.7	267.1	2.14	2.13	
1,940.0	27.00	42.90	1,891.1	220.2	216.7	308.7	1.59	1.49	
2,035.0	27.40	41.60	1,975.6	252.3	245.9	352.2	0.75	0.42	
2,129.0	27.90	41.10	2,058.9	285.1	274.8	395.8	0.59	0.53	
2,224.0	27.70	39.20	2,142.9	318.9	303.3	440.0	0.96	-0.21	
2,319.0	27.20	38.80	2,227.2	353.0	330.9	483.8	0.56	-0.53	
2,413.0	26.90	40.50	2,310.9	385.9	358.2	526.5	0.88	-0.32	
2,507.0	26.40	43.10	2,395.0	417.3	386.2	568.6	1.35	-0.53	
2,602.0	26.50	44.10	2,480.0	447.9	415.4	610.9	0.48	0.11	
2,696.0	26.70	43.50	2,564.1	478.3	444.6	653.0	0.36	0.21	
2,790.0	27.20	44.10	2,647.9	509.1	474.0	695.6	0.61	0.53	
2,885.0	28.50	42.70	2,731.8	541.3	504.5	739.9	1.53	1.37	
2,979.0	28.40	42.50	2,814.5	574.3	534.8	784.7	0.15	-0.11	
3,073.0	27.60	41.90	2,897.5	607.0	564.5	828.9	0.90	-0.85	
3,168.0	26.70	41.60	2,982.0	639.3	593.4	872.2	0.96	-0.95	
3,263.0	26.40	41.90	3,067.0	671.0	621.6	914.7	0.35	-0.32	
3,356.0	24.50	41.60	3,151.0	700.8	648.2	954.6	2.05	-2.04	
3,451.0	23.40	41.90	3,237.8	729.6	673.9	993.2	1.16	-1.16	
3,546.0	22.90	42.60	3,325.1	757.2	699.0	1,030.5	0.60	-0.53	
3,640.0	23.20	42.70	3,411.6	784.3	724.0	1,067.3	0.32	0.32	
3,735.0	25.00	42.00	3,498.4	813.0	750.1	1,106.1	1.92	1.89	
3,829.0	26.10	42.20	3,583.2	843.0	777.3	1,146.7	1.17	1.17	
3,924.0	27.20	40.60	3,668.1	875.0	805.4	1,189.3	1.38	1.16	
4,019.0	27.00	41.60	3,752.6	907.6	833.9	1,232.5	0.52	-0.21	
4,113.0	26.70	41.90	3,836.5	939.3	862.2	1,275.0	0.35	-0.32	
4,208.0	26.20	43.00	3,921.6	970.5	890.7	1,317.3	0.74	-0.53	
4,302.0	25.40	44.20	4,006.2	1,000.1	918.9	1,358.2	1.02	-0.85	
4,396.0	24.00	44.50	4,091.6	1,028.2	946.4	1,397.4	1.50	-1.49	
4,491.0	23.60	45.50	4,178.5	1,055.3	973.5	1,435.7	0.60	-0.42	
4,585.0	24.70	43.20	4,264.3	1,082.9	1,000.3	1,474.2	1.54	1.17	
4,679.0	24.60	43.90	4,349.7	1,111.3	1,027.4	1,513.4	0.33	-0.11	
4,774.0	23.50	44.20	4,436.5	1,139.1	1,054.3	1,552.1	1.17	-1.16	
4,869.0	21.90	43.30	4,524.1	1,165.6	1,079.6	1,588.7	1.72	-1.68	
4,962.0	20.00	44.20	4,611.0	1,189.6	1,102.6	1,622.0	2.07	-2.04	
5,056.0	18.20	44.80	4,699.8	1,211.5	1,124.2	1,652.7	1.93	-1.91	
5,151.0	17.10	46.20	4,790.3	1,231.7	1,144.7	1,681.4	1.24	-1.16	
5,246.0	14.40	43.60	4,881.7	1,250.0	1,162.9	1,707.2	2.94	-2.84	
5,341.0	11.30	42.10	4,974.3	1,265.4	1,177.3	1,728.3	3.28	-3.26	
5,436.0	9.40	44.30	5,067.8	1,277.9	1,189.0	1,745.4	2.04	-2.00	
5,530.0	7.70	46.40	5,160.7	1,287.7	1,198.9	1,759.3	1.84	-1.81	
5,624.0	6.30	45.60	5,254.0	1,295.7	1,207.1	1,770.8	1.49	-1.49	
5,719.0	5.50	43.40	5,348.5	1,302.6	1,214.0	1,780.5	0.87	-0.84	
5,813.0	4.50	41.70	5,442.2	1,308.7	1,219.6	1,788.7	1.08	-1.06	
5,907.0	3.90	44.90	5,535.9	1,313.7	1,224.3	1,795.6	0.69	-0.64	
6,002.0	3.30	44.20	5,630.7	1,317.9	1,228.4	1,801.6	0.63	-0.63	
6,095.0	2.70	44.90	5,723.6	1,321.4	1,231.9	1,806.4	0.65	-0.65	
6,189.0	2.20	41.40	5,817.5	1,324.3	1,234.6	1,810.4	0.55	-0.53	
6,285.0	1.70	40.20	5,913.5	1,326.8	1,236.8	1,813.7	0.52	-0.52	
6,378.0	1.50	32.50	6,006.4	1,328.9	1,238.3	1,816.3	0.32	-0.22	
6,473.0	1.30	33.00	6,101.4	1,330.8	1,239.6	1,818.6	0.21	-0.21	
6,566.0	1.30	36.80	6,194.4	1,332.5	1,240.8	1,820.7	0.09	0.00	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope M-17
Project:	Weld County	TVD Reference:	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	MD Reference:	Kbe @ 4652.0ft
Well:	Antelope M-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
6,661.0	1.10	43.60	6,289.4	1,334.1	1,242.0	1,822.6	0.26	-0.21	
6,755.0	1.10	41.50	6,383.3	1,335.4	1,243.3	1,824.5	0.04	0.00	
6,849.0	0.80	43.90	6,477.3	1,336.5	1,244.3	1,826.0	0.32	-0.32	
6,980.0	0.60	40.70	6,608.3	1,337.7	1,245.4	1,827.6	0.16	-0.15	Last Cathedral Survey @ 6,980' MD
7,030.0	0.60	40.70	6,658.3	1,338.1	1,245.7	1,828.1	0.00	0.00	Projection to Bit @ 7,030' MD

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 M-17 TGT - survey misses target center by 20.3ft at 6423.5ft MD (6051.9 TVD, 1329.8 N, 1238.9 E) - Point	0.00	0.00	6,052.0	1,337.0	1,219.9	1,390,471.42	3,321,049.95	40.399510	-104.347260
Antelope M-17 PBHL - survey misses target center by 26.5ft at 7030.0ft MD (6658.3 TVD, 1338.1 N, 1245.7 E) - Circle (radius 50.0)	0.00	0.00	6,664.0	1,337.0	1,219.9	1,390,471.42	3,321,049.95	40.399510	-104.347260

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
6,980.0	6,608.3	1,337.7	1,245.4	Last Cathedral Survey @ 6,980' MD
7,030.0	6,658.3	1,338.1	1,245.7	Projection to Bit @ 7,030' MD

Checked By: _____ Approved By: _____ Date: _____