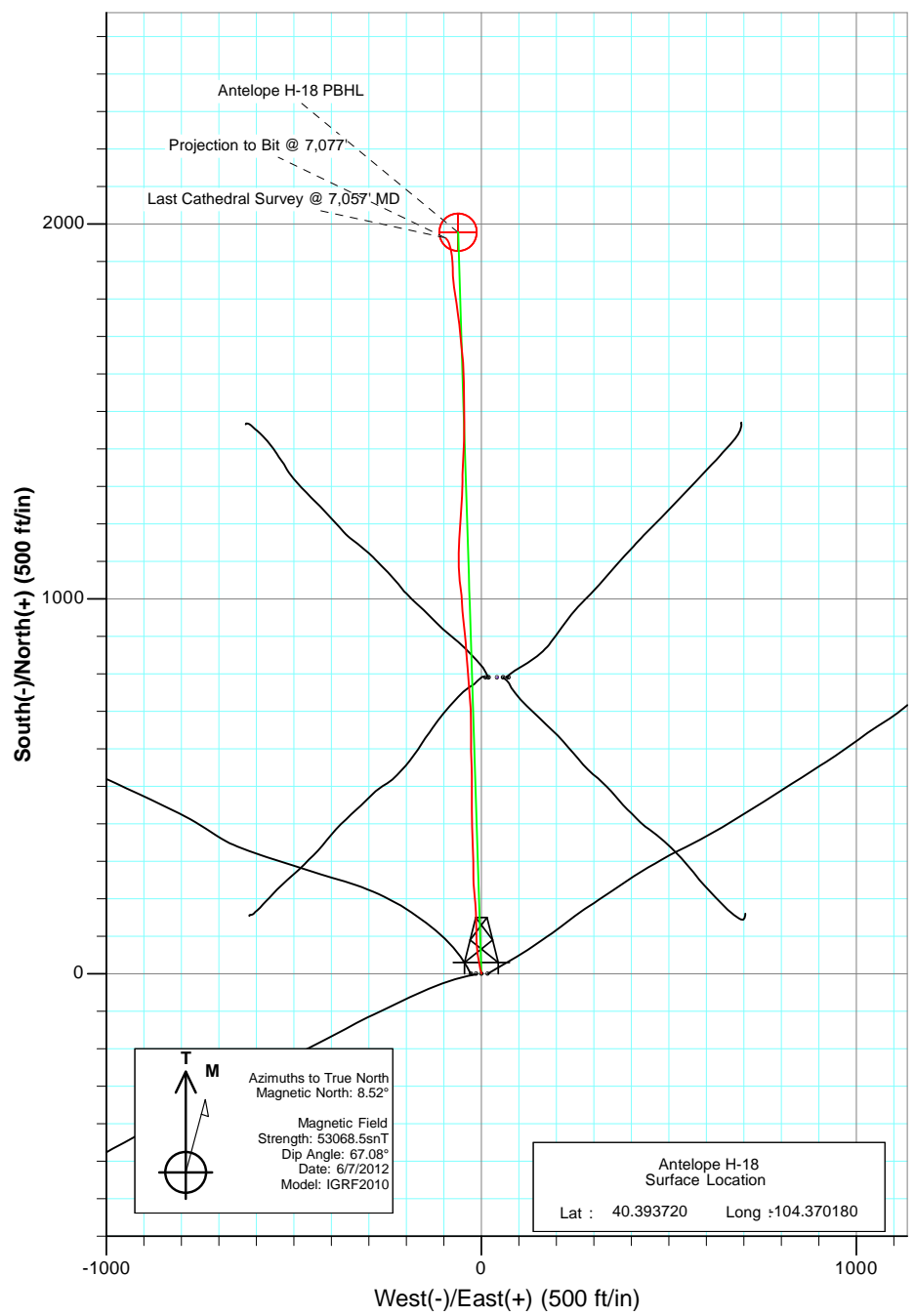
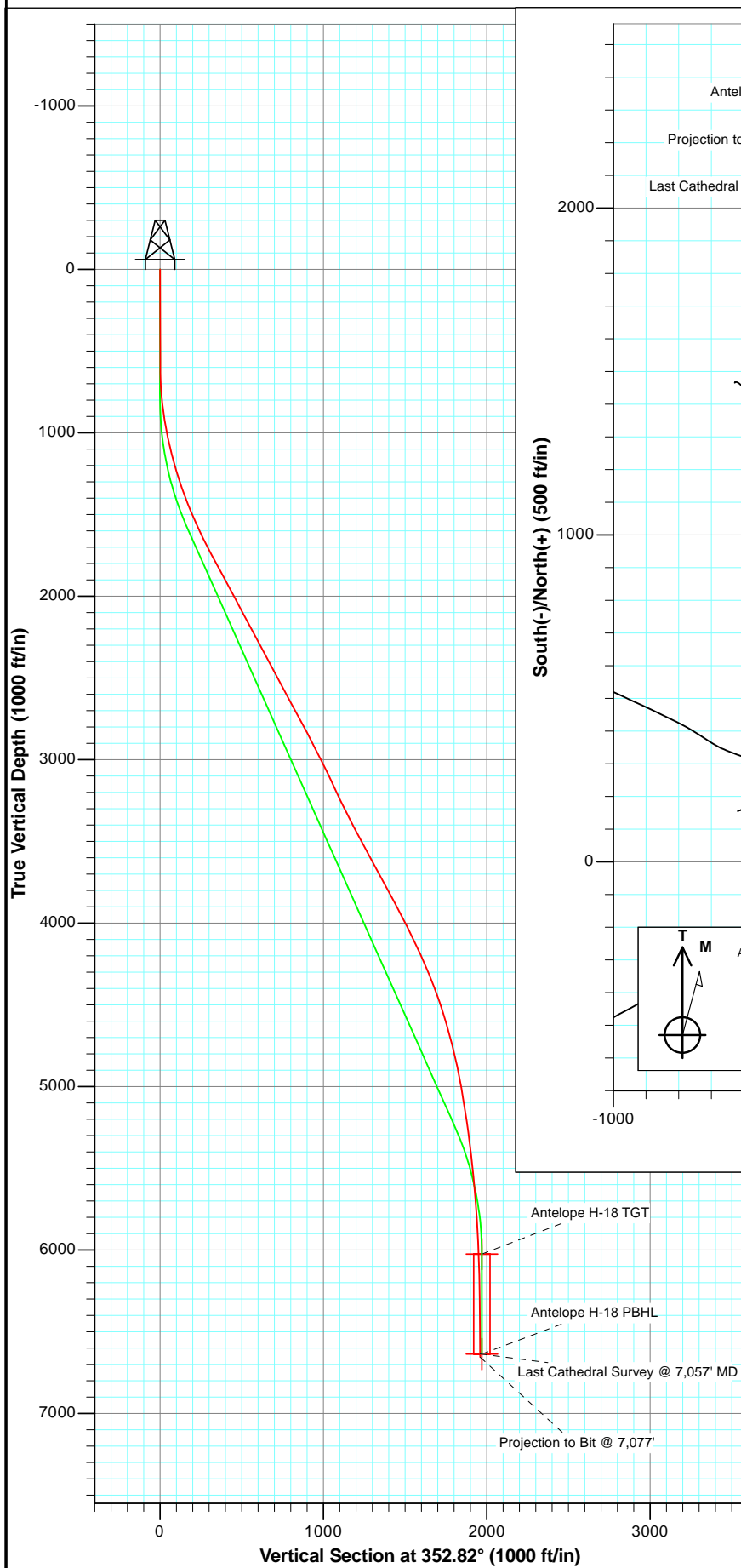




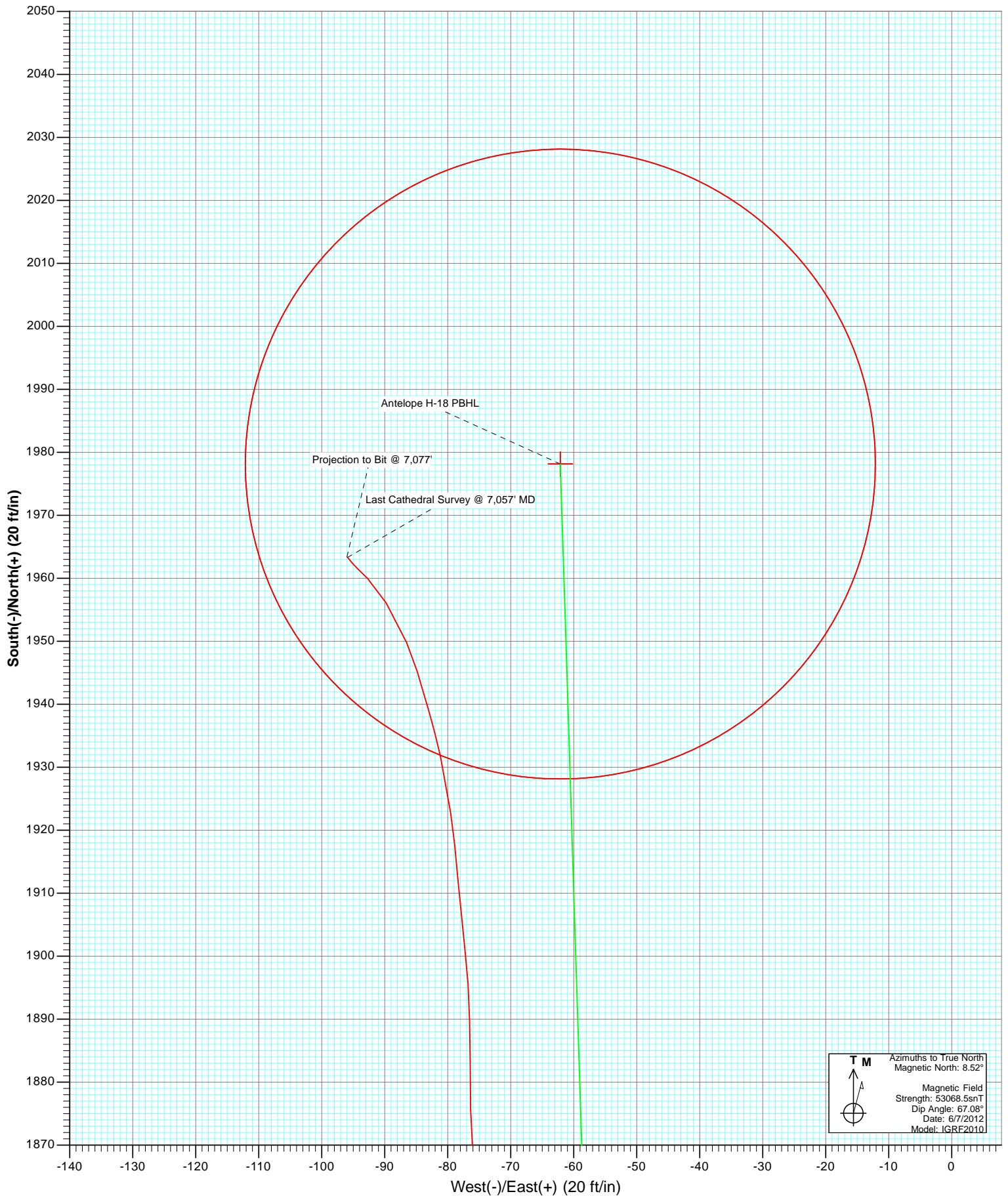
Project: Weld County
Site: Antelope D-18 Pad
Well: Antelope H-18
Wellbore: DD
Plan: FINAL



DD Antelope H-18 125372/172355; SC						
KBE @ 4605.0ft (Original Well Elev) North American Datum 1983 Well Antelope H-18, True North						
Type	Target		Azimuth	Origin Type	N/S	E/W
User	No Target (Freehand)		352.82	Slot	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	
Antelope H-18 TGT	6025.0	1978.1	-62.1	40.399150	-104.370403	
Antelope H-18 PBHL	6637.0	1978.1	-62.1	40.399150	-104.370403	



Project: Weld County
Site: Antelope D-18 Pad
Well: Antelope H-18
Wellbore: DD
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-18
Project:	Weld County	TVD Reference:	KBE @ 4605.0ft (Original Well Elev)
Site:	Antelope D-18 Pad	MD Reference:	KBE @ 4605.0ft (Original Well Elev)
Well:	Antelope H-18	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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 D-18 Pad			
Site Position:		Northing:	1,388,280.15 ft	Latitude:	40.393721
From:	Lat/Long	Easting:	3,314,665.42 ft	Longitude:	-104.370282
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.73 °

Well	Antelope H-18					
Well Position	+N/-S	0.0 ft	Northing:	1,388,280.14 ft	Latitude:	40.393720
	+E/-W	0.0 ft	Easting:	3,314,693.84 ft	Longitude:	-104.370180
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,595.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/7/2012	8.52	67.08	53,068

Design	DD				
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	352.82	

Survey Program	Date	7/24/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
601.0	7,077.0	Survey #1 (DD)	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		
601.0	0.30	19.50	601.0	1.5	0.5	1.4	0.05	0.05		
694.0	2.80	339.00	694.0	3.8	-0.2	3.8	2.77	2.69		
789.0	5.30	346.70	788.7	10.3	-2.0	10.4	2.69	2.63		
884.0	8.10	348.20	883.1	21.1	-4.4	21.5	2.95	2.95		
978.0	10.60	349.90	975.8	36.1	-7.3	36.7	2.68	2.66		
1,072.0	13.20	353.30	1,067.8	55.3	-10.1	56.1	2.86	2.77		
1,167.0	14.90	356.00	1,159.9	78.2	-12.2	79.1	1.92	1.79		
1,261.0	16.90	359.70	1,250.3	103.9	-13.1	104.8	2.38	2.13		
1,354.0	19.50	358.50	1,338.7	133.0	-13.6	133.6	2.82	2.80		
1,447.0	21.70	357.40	1,425.7	165.7	-14.8	166.2	2.40	2.37		
1,542.0	23.40	354.40	1,513.5	202.0	-17.4	202.6	2.16	1.79		
1,637.0	24.90	356.30	1,600.1	240.7	-20.5	241.4	1.78	1.58		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-18
Project:	Weld County	TVD Reference:	KBE @ 4605.0ft (Original Well Elev)
Site:	Antelope D-18 Pad	MD Reference:	KBE @ 4605.0ft (Original Well Elev)
Well:	Antelope H-18	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
1,731.0	27.20	0.30	1,684.6	282.0	-21.7	282.5	3.08	2.45	
1,825.0	29.20	358.70	1,767.4	326.4	-22.1	326.6	2.27	2.13	
1,920.0	27.80	357.30	1,850.9	371.7	-23.7	371.7	1.63	-1.47	
2,013.0	28.90	359.20	1,932.8	415.8	-25.0	415.7	1.53	1.18	
2,105.0	27.90	0.00	2,013.7	459.6	-25.3	459.1	1.16	-1.09	
2,200.0	28.10	0.50	2,097.6	504.2	-25.1	503.4	0.32	0.21	
2,293.0	28.50	357.50	2,179.5	548.2	-25.9	547.2	1.59	0.43	
2,387.0	29.00	359.30	2,261.9	593.4	-27.2	592.2	1.06	0.53	
2,482.0	27.70	0.30	2,345.5	638.5	-27.3	637.0	1.46	-1.37	
2,575.0	28.20	358.90	2,427.6	682.1	-27.6	680.2	0.89	0.54	
2,669.0	28.20	355.70	2,510.5	726.5	-29.7	724.5	1.61	0.00	
2,763.0	28.00	355.40	2,593.4	770.6	-33.2	768.7	0.26	-0.21	
2,856.0	29.00	355.20	2,675.1	814.9	-36.8	813.1	1.08	1.08	
2,949.0	29.00	356.10	2,756.5	859.8	-40.2	858.1	0.47	0.00	
3,043.0	27.20	354.60	2,839.4	903.9	-43.8	902.3	2.06	-1.91	
3,136.0	27.20	353.50	2,922.1	946.2	-48.2	944.8	0.54	0.00	
3,229.0	26.80	357.20	3,005.0	988.3	-51.6	987.0	1.86	-0.43	
3,322.0	26.00	353.20	3,088.3	1,029.5	-55.1	1,028.3	2.10	-0.86	
3,415.0	24.10	354.40	3,172.5	1,068.6	-59.3	1,067.6	2.11	-2.04	
3,510.0	25.80	1.50	3,258.7	1,108.6	-60.7	1,107.5	3.62	1.79	
3,604.0	28.10	3.40	3,342.5	1,151.1	-58.8	1,149.5	2.61	2.45	
3,698.0	28.70	3.40	3,425.1	1,195.8	-56.2	1,193.4	0.64	0.64	
3,792.0	28.60	3.00	3,507.6	1,240.8	-53.7	1,237.7	0.23	-0.11	
3,887.0	28.90	1.60	3,590.9	1,286.4	-51.8	1,282.8	0.78	0.32	
3,981.0	28.30	2.40	3,673.5	1,331.4	-50.3	1,327.2	0.76	-0.64	
4,075.0	28.40	3.20	3,756.2	1,376.0	-48.1	1,371.2	0.42	0.11	
4,169.0	28.60	1.80	3,838.8	1,420.8	-46.1	1,415.4	0.74	0.21	
4,264.0	28.30	0.70	3,922.3	1,466.0	-45.1	1,460.2	0.64	-0.32	
4,358.0	27.80	357.80	4,005.3	1,510.2	-45.7	1,504.1	1.55	-0.53	
4,452.0	25.50	0.00	4,089.3	1,552.4	-46.6	1,546.0	2.66	-2.45	
4,547.0	24.30	359.10	4,175.5	1,592.4	-46.9	1,585.7	1.32	-1.26	
4,641.0	24.30	354.90	4,261.1	1,631.0	-48.9	1,624.3	1.84	0.00	
4,735.0	21.80	354.30	4,347.6	1,667.6	-52.3	1,661.1	2.67	-2.66	
4,830.0	19.90	354.30	4,436.4	1,701.2	-55.7	1,694.9	2.00	-2.00	
4,924.0	18.10	353.30	4,525.3	1,731.7	-59.0	1,725.5	1.95	-1.91	
5,018.0	15.80	352.50	4,615.2	1,758.9	-62.4	1,752.9	2.46	-2.45	
5,112.0	14.60	352.50	4,705.9	1,783.3	-65.6	1,777.5	1.28	-1.28	
5,206.0	13.60	351.50	4,797.1	1,806.0	-68.8	1,800.4	1.09	-1.06	
5,300.0	12.20	349.50	4,888.7	1,826.7	-72.2	1,821.4	1.56	-1.49	
5,395.0	10.20	356.90	4,981.9	1,844.9	-74.5	1,839.8	2.59	-2.11	
5,489.0	9.20	354.70	5,074.5	1,860.7	-75.6	1,855.6	1.13	-1.06	
5,582.0	9.30	359.80	5,166.3	1,875.7	-76.3	1,870.5	0.89	0.11	
5,677.0	7.70	358.70	5,260.3	1,889.7	-76.5	1,884.4	1.69	-1.68	
5,770.0	6.50	353.30	5,352.6	1,901.2	-77.3	1,895.9	1.48	-1.29	
5,864.0	7.00	355.30	5,445.9	1,912.1	-78.4	1,906.9	0.59	0.53	
5,959.0	6.00	351.90	5,540.3	1,922.8	-79.5	1,917.7	1.13	-1.05	
6,053.0	5.20	347.20	5,633.9	1,931.8	-81.2	1,926.8	0.98	-0.85	
6,148.0	4.20	343.60	5,728.5	1,939.4	-83.1	1,934.6	1.10	-1.05	
6,242.0	3.30	343.30	5,822.3	1,945.3	-84.9	1,940.6	0.96	-0.96	
6,336.0	2.60	335.60	5,916.2	1,949.8	-86.5	1,945.3	0.85	-0.74	
6,524.0	1.70	328.20	6,104.1	1,956.1	-89.7	1,951.9	0.50	-0.48	
6,713.0	1.30	316.30	6,293.0	1,960.0	-92.7	1,956.2	0.27	-0.21	
6,807.0	0.90	310.20	6,387.0	1,961.2	-94.0	1,957.6	0.44	-0.43	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-18
Project:	Weld County	TVD Reference:	KBE @ 4605.0ft (Original Well Elev)
Site:	Antelope D-18 Pad	MD Reference:	KBE @ 4605.0ft (Original Well Elev)
Well:	Antelope H-18	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	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
6,902.0	0.70	322.80	6,482.0	1,962.2	-94.9	1,958.7	0.28	-0.21	
7,057.0	0.40	314.60	6,637.0	1,963.3	-95.9	1,959.9	0.20	-0.19	Last Cathedral Survey @ 7,057' MD Projection to Bit @ 7,077'
7,077.0	0.40	314.60	6,657.0	1,963.4	-96.0	1,960.0	0.00	0.00	

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 H-18 PBHL - actual wellpath misses target center by 36.9ft at 7056.9ft MD (6636.9 TVD, 1963.3 N, -95.9 E) - Circle (radius 50.0)	0.00	0.00	6,637.0	1,978.1	-62.1	1,390,257.33	3,314,606.53	40.399150	-104.370403
Antelope H-18 TGT - actual wellpath misses target center by 35.9ft at 6445.2ft MD (6025.4 TVD, 1953.8 N, -88.5 E) - Point	0.00	0.00	6,025.0	1,978.1	-62.1	1,390,257.33	3,314,606.53	40.399150	-104.370403

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
7,057.0	6,637.0	1,963.3	-95.9	Last Cathedral Survey @ 7,057' MD	
7,077.0	6,657.0	1,963.4	-96.0	Projection to Bit @ 7,077'	

Checked By: _____ Approved By: _____ Date: _____