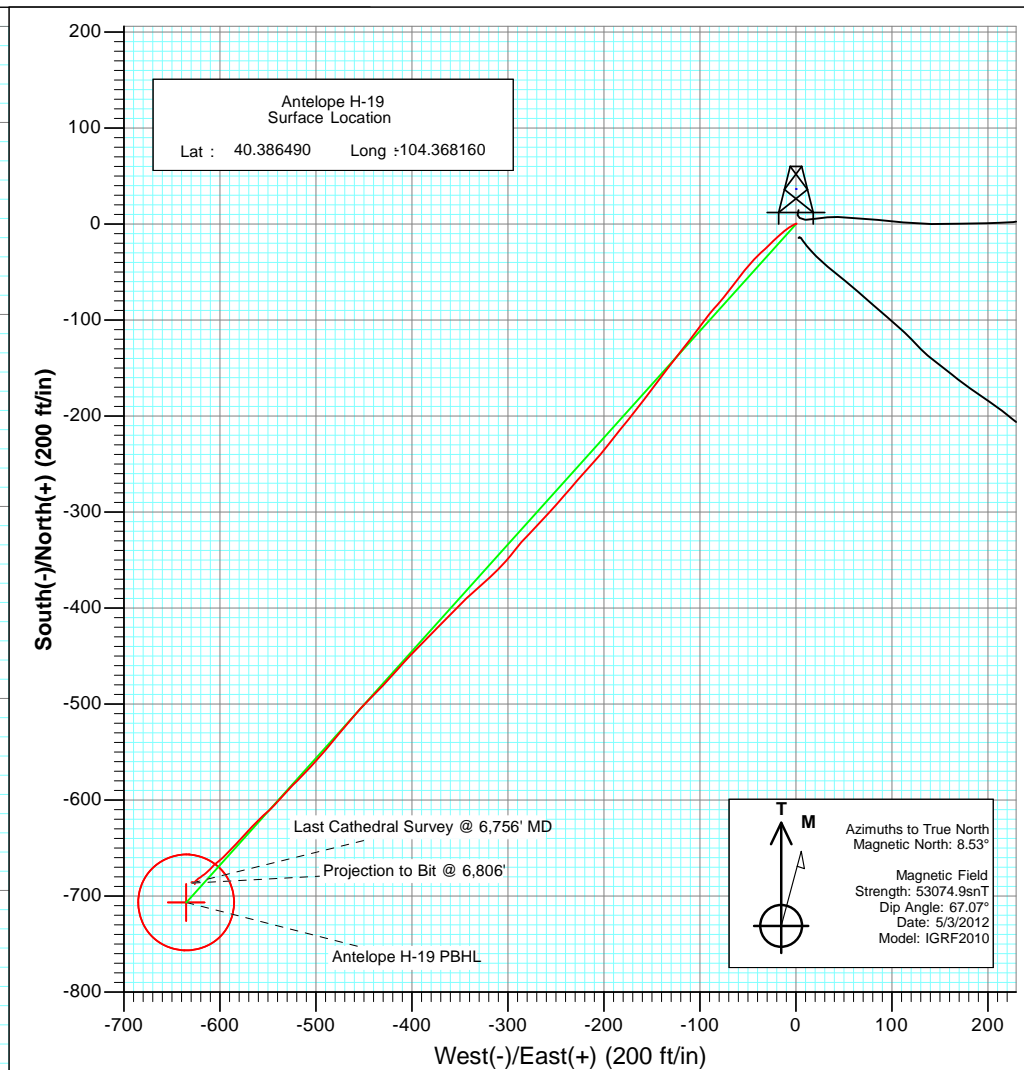
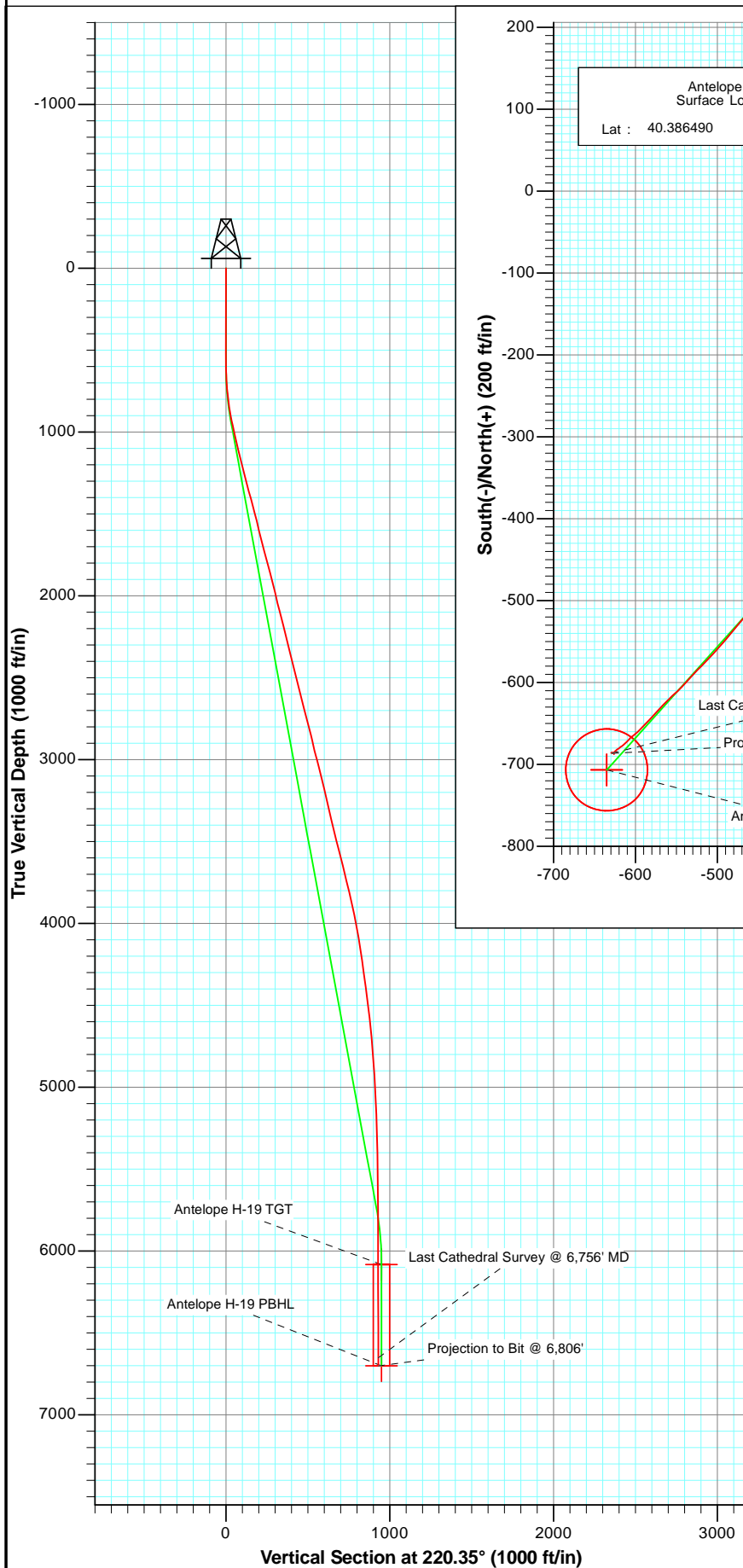




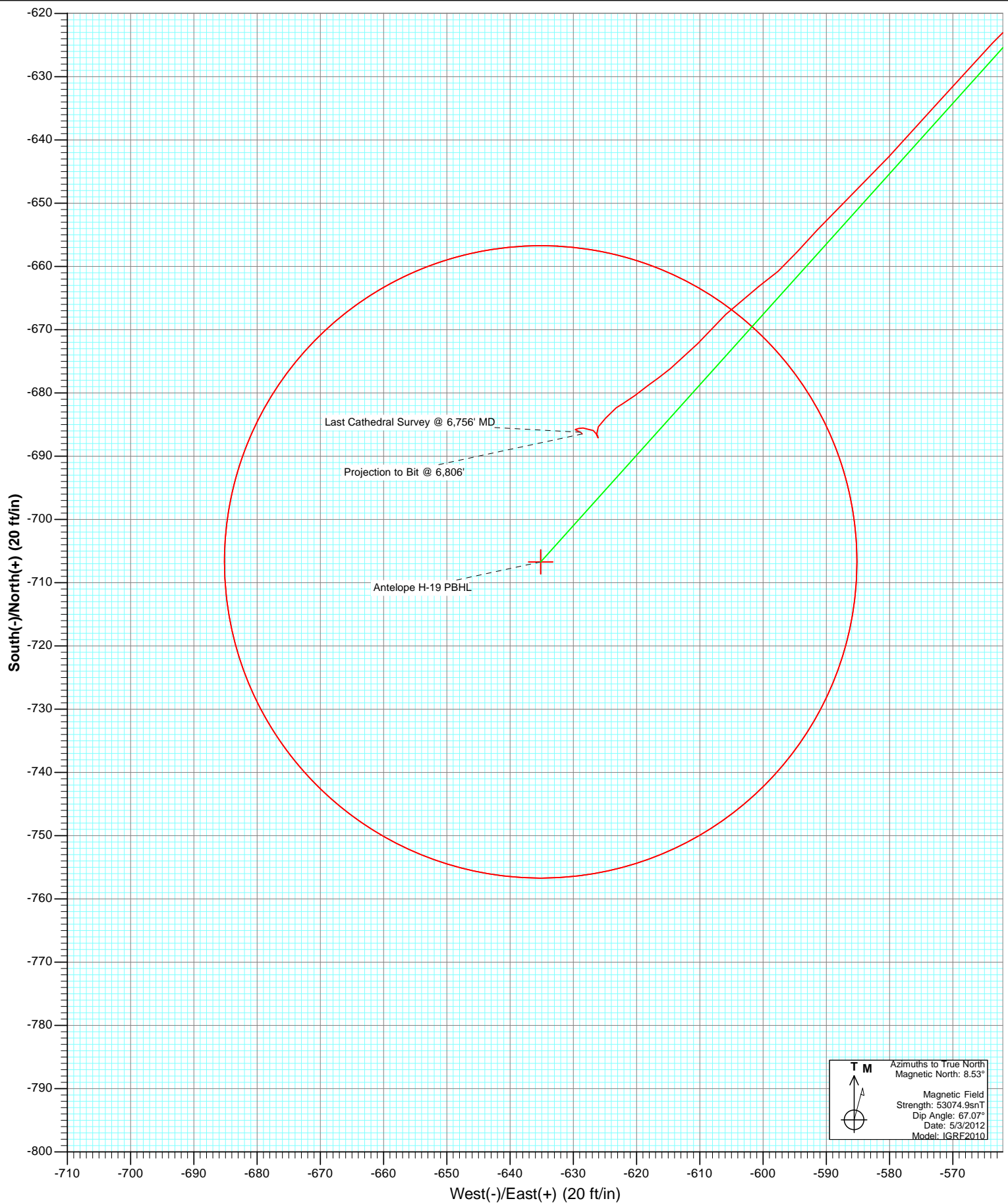
Project: Weld County
 Site: Antelope 22-19 Pad
 Well: Antelope H-19
 Wellbore: OH
 Plan: FINAL



OH Antelope H-19 125244/154255; SC						
KBE @ 4628.0ft (Mid Continent #1) North American Datum 1983 Well Antelope H-19, True North						
Type User	Target No Target (Freehand)	Azimuth 220.35	Origin Type Slot	N/S 0.0	E/W 0.0	From TVD 0.0
Name	Antelope H-19 TGT	TVD 6083.0	+N/-S -706.7	+E/-W -635.1	Latitude 40.384550	Longitude -104.370440
	Antelope H-19 PBHL	6701.0	-706.7	-635.1	40.384550	-104.370440



Project: Weld County
Site: Antelope 22-19 Pad
Well: Antelope H-19
Wellbore: OH
Plan: FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-19
Project:	Weld County	TVD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Site:	Antelope 22-19 Pad	MD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Well:	Antelope H-19	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 22-19 Pad			
Site Position:		Northing:	1,385,671.89 ft	Latitude:	40.386540
From:	Lat/Long	Easting:	3,315,289.82 ft	Longitude:	-104.368160
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.73 °

Well	Antelope H-19					
Well Position	+N/-S	0.0 ft	Northing:	1,385,653.65 ft	Latitude:	40.386490
	+E/-W	0.0 ft	Easting:	3,315,290.05 ft	Longitude:	-104.368160
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,618.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/3/2012	8.53	67.07	53,075

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	220.35	

Survey Program	Date	5/10/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
526.0	6,806.0	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		
526.0	0.20	57.90	526.0	0.5	0.8	-0.9	0.04	0.04		
620.0	1.70	249.80	620.0	0.1	-0.4	0.2	2.02	1.60		
714.0	4.30	240.50	713.9	-2.1	-4.8	4.7	2.80	2.77		
809.0	7.60	231.20	808.3	-7.8	-12.8	14.2	3.61	3.47		
903.0	10.50	225.40	901.2	-17.7	-23.7	28.9	3.23	3.09		
998.0	12.50	227.30	994.2	-30.8	-37.4	47.7	2.14	2.11		
1,092.0	14.20	218.40	1,085.7	-46.7	-52.1	69.3	2.83	1.81		
1,187.0	14.10	217.10	1,177.8	-65.1	-66.3	92.5	0.35	-0.11		
1,281.0	13.30	221.80	1,269.2	-82.3	-80.4	114.8	1.46	-0.85		
1,376.0	16.00	217.30	1,361.1	-100.8	-95.6	138.8	3.08	2.84		
1,469.0	14.90	216.80	1,450.7	-120.6	-110.6	163.5	1.19	-1.18		
1,564.0	13.80	219.60	1,542.7	-139.1	-125.1	187.0	1.37	-1.16		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-19
Project:	Weld County	TVD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Site:	Antelope 22-19 Pad	MD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Well:	Antelope H-19	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	13.50	214.60	1,634.1	-156.8	-138.5	209.1	1.29	-0.32	
1,752.0	15.60	218.90	1,725.1	-175.7	-152.6	232.7	2.51	2.23	
1,846.0	14.90	218.00	1,815.8	-195.0	-168.0	257.4	0.79	-0.74	
1,941.0	14.40	218.60	1,907.7	-213.9	-182.9	281.4	0.55	-0.53	
2,035.0	13.00	218.30	1,999.0	-231.3	-196.8	303.7	1.49	-1.49	
2,130.0	14.70	221.40	2,091.2	-248.7	-211.3	326.4	1.95	1.79	
2,224.0	14.40	222.10	2,182.2	-266.4	-227.1	350.0	0.37	-0.32	
2,319.0	13.30	219.80	2,274.4	-283.5	-242.0	372.7	1.29	-1.16	
2,414.0	14.50	222.80	2,366.7	-300.6	-257.1	395.6	1.47	1.26	
2,539.0	14.00	223.90	2,487.8	-323.0	-278.2	426.3	0.45	-0.40	
2,634.0	13.30	217.80	2,580.1	-339.9	-292.8	448.7	1.68	-0.74	
2,696.0	14.30	221.70	2,640.3	-351.3	-302.3	463.4	2.20	1.61	
2,791.0	15.00	227.60	2,732.3	-368.3	-319.2	487.4	1.73	0.74	
2,885.0	14.70	228.60	2,823.1	-384.4	-337.1	511.2	0.42	-0.32	
2,980.0	12.70	224.30	2,915.4	-399.9	-353.5	533.6	2.36	-2.11	
3,074.0	15.50	223.30	3,006.6	-416.4	-369.3	556.4	2.99	2.98	
3,169.0	14.20	226.10	3,098.4	-433.7	-386.4	580.7	1.56	-1.37	
3,263.0	12.00	223.20	3,190.0	-448.8	-401.4	602.0	2.44	-2.34	
3,357.0	13.30	220.70	3,281.7	-464.2	-415.1	622.5	1.50	1.38	
3,452.0	13.90	223.90	3,374.0	-480.7	-430.2	644.8	1.01	0.63	
3,546.0	14.20	224.80	3,465.2	-497.0	-446.1	667.6	0.39	0.32	
3,641.0	13.80	220.90	3,557.4	-513.8	-461.8	690.6	1.08	-0.42	
3,735.0	14.10	218.90	3,648.6	-531.2	-476.3	713.2	0.60	0.32	
3,830.0	13.40	220.10	3,740.9	-548.6	-490.6	735.8	0.80	-0.74	
3,925.0	13.20	223.30	3,833.3	-565.0	-505.2	757.6	0.80	-0.21	
4,019.0	12.30	224.80	3,925.0	-579.9	-519.6	778.3	1.02	-0.96	
4,114.0	10.30	221.70	4,018.2	-593.4	-532.4	796.9	2.20	-2.11	
4,208.0	9.50	224.10	4,110.8	-605.2	-543.4	813.1	0.96	-0.85	
4,303.0	8.50	228.60	4,204.6	-615.5	-554.1	827.8	1.29	-1.05	
4,397.0	7.70	224.10	4,297.7	-624.6	-563.7	841.0	1.09	-0.85	
4,492.0	7.50	220.70	4,391.8	-633.9	-572.2	853.5	0.52	-0.21	
4,586.0	7.00	223.90	4,485.1	-642.7	-580.1	865.4	0.68	-0.53	
4,680.0	6.50	224.90	4,578.4	-650.6	-587.9	876.4	0.55	-0.53	
4,774.0	5.50	221.70	4,671.9	-657.7	-594.6	886.2	1.12	-1.06	
4,869.0	4.40	235.80	4,766.6	-663.1	-600.6	894.3	1.72	-1.16	
4,962.0	4.10	223.40	4,859.3	-667.6	-605.9	901.0	1.04	-0.32	
5,056.0	3.70	224.10	4,953.1	-672.2	-610.3	907.4	0.43	-0.43	
5,152.0	3.30	231.50	5,048.9	-676.1	-614.6	913.2	0.63	-0.42	
5,247.0	2.00	235.40	5,143.8	-678.8	-618.1	917.5	1.38	-1.37	
5,342.0	1.30	228.10	5,238.8	-680.4	-620.3	920.2	0.77	-0.74	
5,436.0	1.60	242.60	5,332.7	-681.8	-622.2	922.4	0.50	0.32	
5,530.0	0.70	210.80	5,426.7	-682.9	-623.7	924.2	1.14	-0.96	
5,625.0	1.30	234.80	5,521.7	-684.0	-624.9	925.8	0.76	0.63	
5,719.0	1.00	200.10	5,615.7	-685.4	-626.0	927.6	0.79	-0.32	
5,814.0	0.40	173.90	5,710.7	-686.5	-626.3	928.7	0.70	-0.63	
5,908.0	0.40	144.70	5,804.7	-687.1	-626.1	929.0	0.21	0.00	
6,002.0	0.40	316.90	5,898.7	-687.1	-626.1	929.0	0.85	0.00	
6,096.0	0.50	351.40	5,992.7	-686.4	-626.4	928.7	0.30	0.11	
6,190.0	0.50	284.90	6,086.7	-685.9	-626.8	928.6	0.58	0.00	
6,285.0	0.50	279.60	6,181.7	-685.8	-627.7	929.0	0.05	0.00	
6,379.0	0.50	290.60	6,275.7	-685.5	-628.4	929.3	0.10	0.00	
6,473.0	0.40	236.30	6,369.7	-685.6	-629.1	929.8	0.45	-0.11	
6,567.0	0.40	270.20	6,463.7	-685.8	-629.7	930.3	0.25	0.00	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope H-19
Project:	Weld County	TVD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Site:	Antelope 22-19 Pad	MD Reference:	KBE @ 4628.0ft (Mid Continent #1)
Well:	Antelope H-19	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	0.60	102.70	6,557.7	-685.9	-629.5	930.3	1.06	0.21	
6,756.0	0.40	136.70	6,652.6	-686.2	-628.8	930.1	0.37	-0.21	Last Cathedral Survey @ 6,756' MD Projection to Bit @ 6,806'
6,806.0	0.40	136.70	6,702.6	-686.5	-628.6	930.2	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-19 TGT - actual wellpath misses target center by 22.4ft at 6186.3ft MD (6082.9 TVD, -685.9 N, -626.8 E) - Point	0.00	0.00	6,083.0	-706.7	-635.1	1,384,938.90	3,314,663.97	40.384550	-104.370440
Antelope H-19 PBHL - actual wellpath misses target center by 21.3ft at 6804.4ft MD (6701.1 TVD, -686.5 N, -628.6 E) - Circle (radius 50.0)	0.00	0.00	6,701.0	-706.7	-635.1	1,384,938.90	3,314,663.97	40.384550	-104.370440

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,756.0	6,652.6	-686.2	-628.8	Last Cathedral Survey @ 6,756' MD	
6,806.0	6,702.6	-686.5	-628.6	Projection to Bit @ 6,806'	

Checked By: _____ Approved By: _____ Date: _____