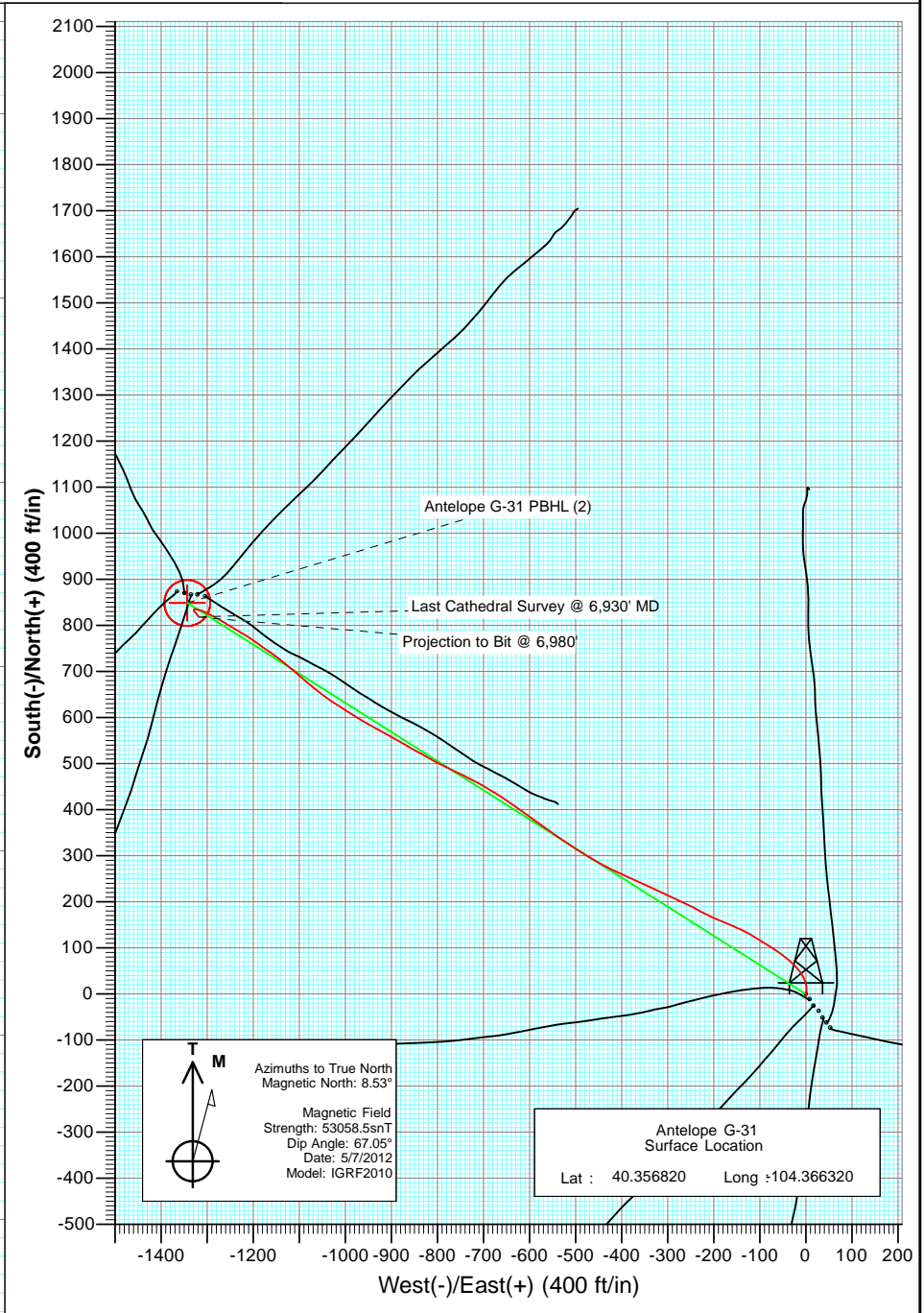
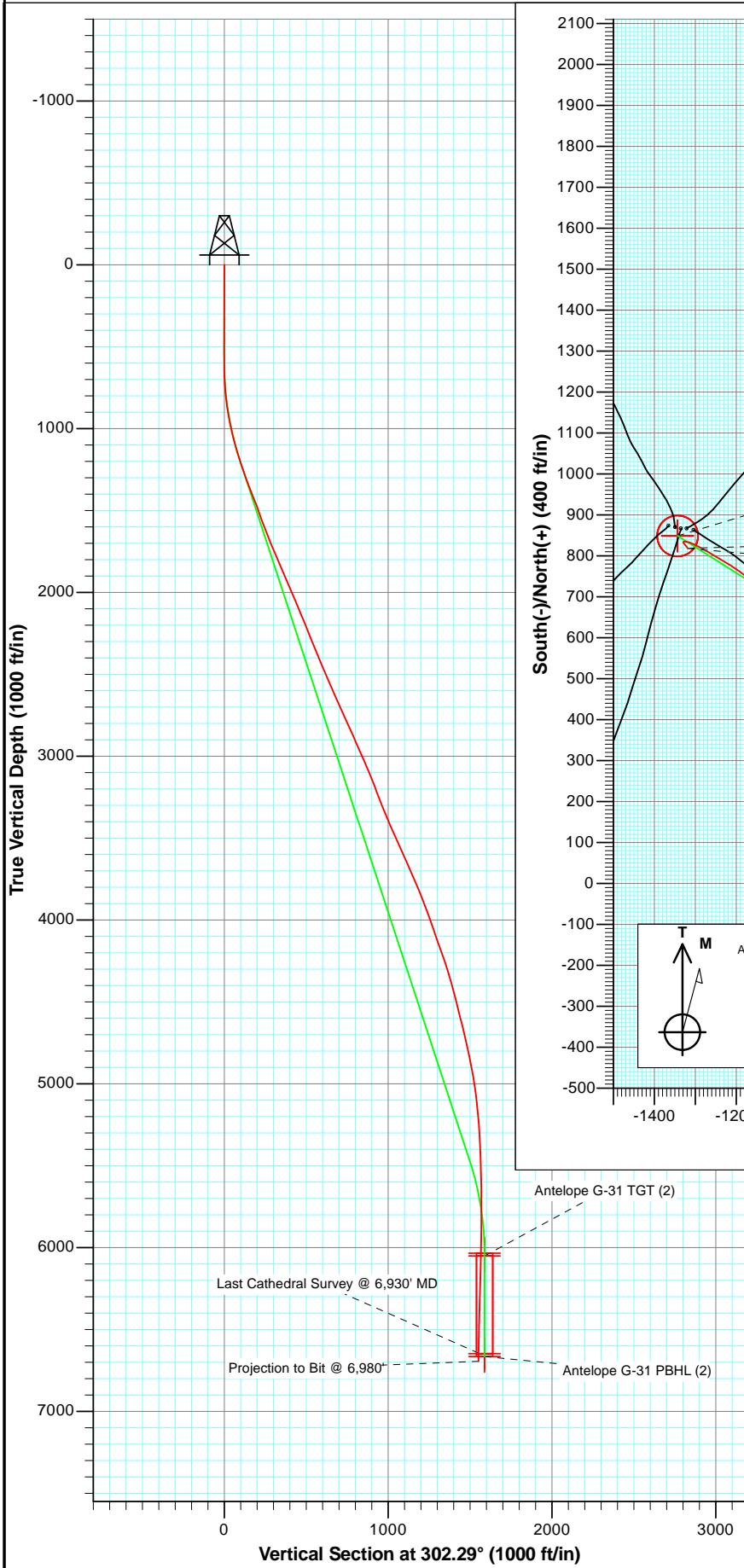




Project: Weld County
 Site: Antelope M-31 Pad
 Well: Antelope G-31
 Wellbore: OH
 Plan: AB FINAL



Azimuths to True North
 Magnetic North: 8.53°
 Magnetic Field
 Strength: 53058.5snT
 Dip Angle: 67.05°
 Date: 5/7/2012
 Model: IGRF2010

Antelope G-31
 Surface Location
 Lat : 40.356820 Long :104.366320

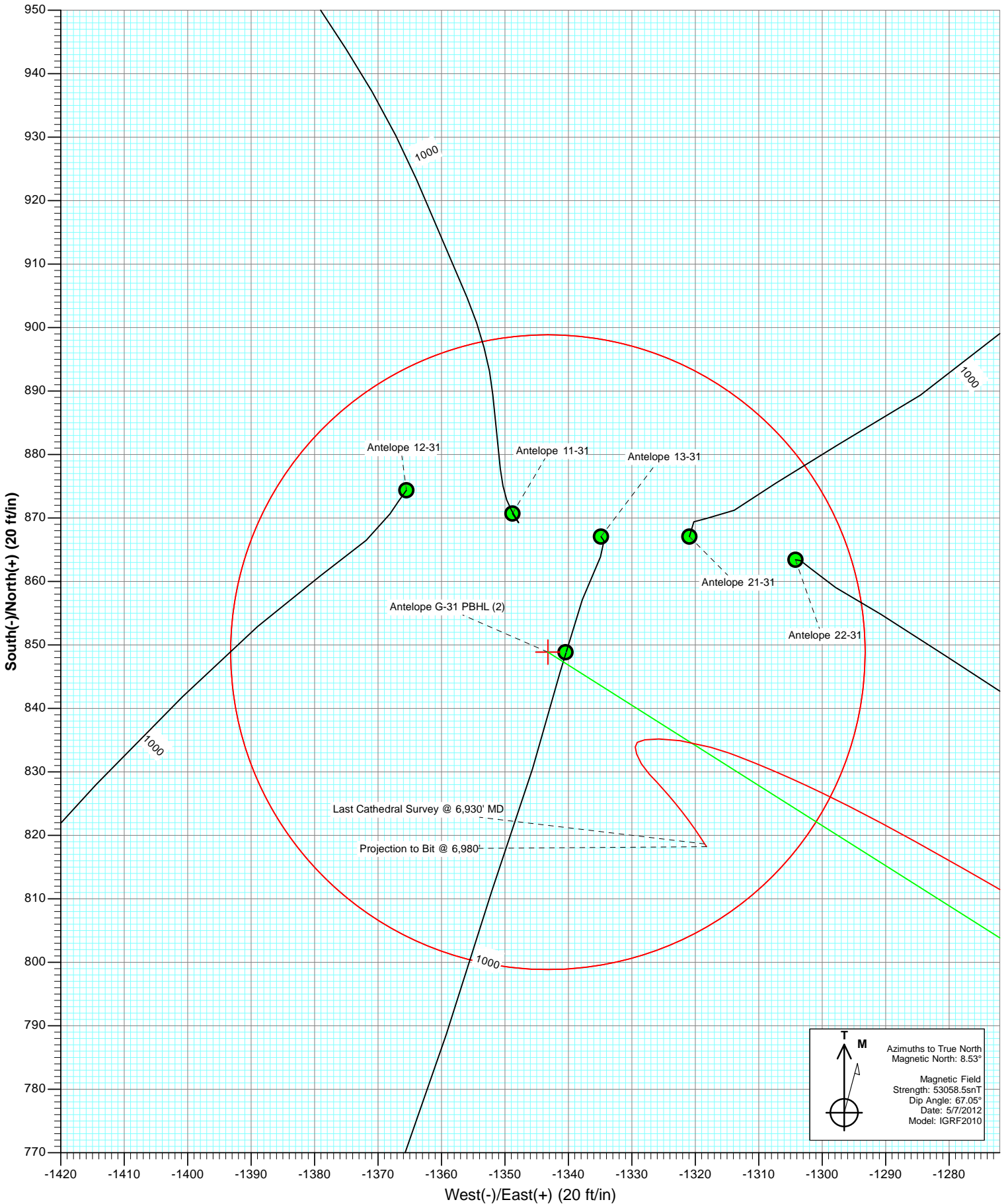
OH
 Antelope G-31
 125319/158455; SC

kbe @ 4616.0ft (MC #12)
 North American Datum 1983
 Well Antelope G-31, True North

Type	Target	Antelope G-31 PBHL (2)	Azimuth	Origin Type	N/S	E/W	From TVD
Target	Target		302.29	Slot	0.0	0.0	0.0
Name	TVD	+N/-S	+E/-W	Latitude	Longitude		
Antelope G-31 TGT (2)	6051.0	848.9	-1343.2	40.359150	-104.371140		
Antelope G-31 PBHL (2)	6665.0	848.9	-1343.2	40.359150	-104.371140		



Project: Weld County
Site: Antelope M-31 Pad
Well: Antelope G-31
Wellbore: OH
Plan: AB FINAL



Cathedral Energy Services

Survey Report

Company: Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference: Well Antelope G-31
Project: Weld County	TVD Reference: kbe @ 4616.0ft (MC #12)
Site: Antelope M-31 Pad	MD Reference: kbe @ 4616.0ft (MC #12)
Well: Antelope G-31	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 M-31 Pad				
Site Position:	Northing: 1,374,816.39 ft	Latitude: 40.356720		
From: Lat/Long	Easting: 3,315,969.08 ft	Longitude: -104.366220		
Position Uncertainty: 0.0 ft	Slot Radius: 13.200 in	Grid Convergence: 0.73 °		

Well Antelope G-31				
Well Position	+N/-S 0.0 ft	Northing: 1,374,852.44 ft	Latitude: 40.356820	
	+E/-W 0.0 ft	Easting: 3,315,940.75 ft	Longitude: -104.366320	
Position Uncertainty	0.0 ft	Wellhead Elevation: ft	Ground Level: 4,590.0 ft	

Wellbore OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/7/2012	8.52	67.05	53,058

Design OH				
Audit Notes:				
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0		
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	302.29

Survey Program		Date 5/15/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
526.0	6,980.0	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	0.40	166.90	526.0	-1.8	0.4	-1.3	0.08	0.08	
619.0	2.10	359.70	619.0	-0.4	0.5	-0.6	2.68	1.83	
713.0	6.10	5.40	712.7	6.3	0.9	2.6	4.27	4.26	
808.0	9.30	353.90	806.9	19.0	0.6	9.6	3.72	3.37	
901.0	10.50	333.60	898.5	34.0	-4.0	21.5	3.94	1.29	
996.0	13.10	321.00	991.5	50.2	-14.6	39.1	3.84	2.74	
1,090.0	15.60	314.70	1,082.6	67.3	-30.3	61.6	3.13	2.66	
1,184.0	17.50	306.70	1,172.7	84.7	-50.6	88.0	3.15	2.02	
1,279.0	18.80	301.40	1,263.0	101.2	-75.1	117.6	2.21	1.37	
1,374.0	21.40	303.20	1,352.2	118.6	-102.7	150.2	2.81	2.74	
1,470.0	22.30	296.00	1,441.3	136.2	-133.7	185.8	2.94	0.94	
1,564.0	19.10	292.40	1,529.2	149.9	-164.0	218.7	3.66	-3.40	

Cathedral Energy Services

Survey Report

Company: Bonanza Creek Energy Operating Company, LLC
Project: Weld County
Site: Antelope M-31 Pad
Well: Antelope G-31
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Antelope G-31
TVD Reference: kbe @ 4616.0ft (MC #12)
MD Reference: kbe @ 4616.0ft (MC #12)
North Reference: True
Survey Calculation Method: Minimum Curvature
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
1,659.0	20.90	293.00	1,618.5	162.5	-194.0	250.7	1.91	1.89	
1,753.0	22.50	298.50	1,705.8	177.6	-225.2	285.2	2.75	1.70	
1,848.0	23.30	296.00	1,793.3	194.5	-258.1	322.1	1.33	0.84	
1,942.0	23.80	294.60	1,879.5	210.5	-292.0	359.3	0.80	0.53	
2,037.0	23.50	295.10	1,966.5	226.6	-326.6	397.1	0.38	-0.32	
2,132.0	23.00	293.60	2,053.8	242.0	-360.8	434.3	0.82	-0.53	
2,225.0	23.30	295.90	2,139.3	257.3	-394.0	470.5	1.02	0.32	
2,319.0	21.40	295.00	2,226.3	272.7	-426.2	506.0	2.05	-2.02	
2,414.0	22.00	300.20	2,314.5	289.0	-457.3	541.0	2.12	0.63	
2,509.0	22.80	303.30	2,402.4	308.0	-488.1	577.2	1.50	0.84	
2,603.0	23.90	303.90	2,488.7	328.7	-519.1	614.4	1.20	1.17	
2,697.0	22.90	303.40	2,574.9	349.3	-550.2	651.7	1.08	-1.06	
2,791.0	23.60	306.60	2,661.3	370.6	-580.6	688.8	1.54	0.74	
2,885.0	24.70	306.20	2,747.1	393.5	-611.5	727.1	1.18	1.17	
2,980.0	24.60	304.40	2,833.4	416.3	-643.9	766.7	0.80	-0.11	
3,075.0	23.50	301.60	2,920.2	437.4	-676.3	805.4	1.67	-1.16	
3,169.0	24.20	299.00	3,006.1	456.6	-709.1	843.4	1.34	0.74	
3,265.0	22.20	295.50	3,094.4	474.0	-742.7	881.0	2.53	-2.08	
3,359.0	21.90	296.10	3,181.5	489.3	-774.5	916.1	0.40	-0.32	
3,454.0	21.30	297.90	3,269.8	505.2	-805.6	950.9	0.94	-0.63	
3,548.0	21.80	299.00	3,357.3	521.6	-836.0	985.4	0.68	0.53	
3,642.0	23.80	300.20	3,443.9	539.6	-867.6	1,021.7	2.18	2.13	
3,736.0	24.20	299.20	3,529.8	558.6	-900.9	1,059.9	0.61	0.43	
3,831.0	24.50	298.40	3,616.3	577.4	-935.2	1,099.0	0.47	0.32	
3,925.0	24.00	301.60	3,702.1	596.7	-968.6	1,137.6	1.50	-0.53	
4,018.0	23.00	302.30	3,787.3	616.4	-1,000.1	1,174.7	1.12	-1.08	
4,113.0	20.90	303.80	3,875.4	635.7	-1,029.8	1,210.2	2.29	-2.21	
4,207.0	20.70	308.60	3,963.3	655.4	-1,056.8	1,243.5	1.83	-0.21	
4,302.0	18.60	309.30	4,052.8	675.5	-1,081.6	1,275.2	2.22	-2.21	
4,396.0	20.00	310.50	4,141.5	695.4	-1,105.4	1,306.0	1.55	1.49	
4,490.0	19.20	311.00	4,230.1	716.0	-1,129.3	1,337.2	0.87	-0.85	
4,584.0	17.20	305.00	4,319.4	734.1	-1,152.4	1,366.3	2.91	-2.13	
4,678.0	14.90	304.70	4,409.7	749.0	-1,173.7	1,392.3	2.45	-2.45	
4,774.0	13.90	306.90	4,502.7	762.9	-1,193.1	1,416.1	1.19	-1.04	
4,869.0	14.50	301.40	4,594.8	775.9	-1,212.4	1,439.4	1.55	0.63	
4,964.0	13.40	301.00	4,687.0	787.8	-1,231.9	1,462.3	1.16	-1.16	
5,059.0	12.80	300.50	4,779.5	798.8	-1,250.4	1,483.8	0.64	-0.63	
5,152.0	11.50	300.40	4,870.4	808.7	-1,267.3	1,503.4	1.40	-1.40	
5,246.0	9.40	299.20	4,962.8	817.2	-1,282.1	1,520.4	2.25	-2.23	
5,340.0	7.40	297.40	5,055.8	823.8	-1,294.2	1,534.1	2.15	-2.13	
5,435.0	5.70	294.00	5,150.2	828.5	-1,303.9	1,544.9	1.83	-1.79	
5,529.0	4.40	292.30	5,243.8	831.8	-1,311.5	1,553.0	1.39	-1.38	
5,624.0	3.40	285.20	5,338.6	833.9	-1,317.6	1,559.3	1.17	-1.05	
5,719.0	2.50	278.20	5,433.5	834.9	-1,322.4	1,563.9	1.02	-0.95	
5,814.0	1.60	268.50	5,528.4	835.2	-1,325.8	1,566.9	1.01	-0.95	
5,908.0	1.10	263.20	5,622.4	835.0	-1,328.0	1,568.7	0.55	-0.53	
6,002.0	0.50	223.80	5,716.4	834.6	-1,329.1	1,569.5	0.83	-0.64	
6,097.0	0.50	184.50	5,811.4	833.9	-1,329.5	1,569.4	0.35	0.00	
6,191.0	0.90	160.30	5,905.4	832.8	-1,329.3	1,568.6	0.52	0.43	
6,286.0	1.20	148.60	6,000.4	831.3	-1,328.5	1,567.1	0.39	0.32	
6,381.0	1.30	137.00	6,095.4	829.6	-1,327.2	1,565.2	0.29	0.11	
6,475.0	1.40	137.00	6,189.3	828.0	-1,325.7	1,563.0	0.11	0.11	
6,569.0	1.60	140.30	6,283.3	826.2	-1,324.1	1,560.7	0.23	0.21	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope G-31
Project:	Weld County	TVD Reference:	kbe @ 4616.0ft (MC #12)
Site:	Antelope M-31 Pad	MD Reference:	kbe @ 4616.0ft (MC #12)
Well:	Antelope G-31	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
6,664.0	1.80	140.40	6,378.3	824.0	-1,322.3	1,558.0	0.21	0.21	
6,757.0	1.80	146.40	6,471.2	821.7	-1,320.6	1,555.3	0.20	0.00	
6,930.0	0.60	144.20	6,644.2	818.7	-1,318.5	1,552.0	0.69	-0.69	Last Cathedral Survey @ 6,930' MD Projection to Bit @ 6,980'
6,980.0	0.60	144.20	6,694.2	818.2	-1,318.2	1,551.5	0.00	0.00	

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Antelope G-31 TGT - hit/miss target - Shape	0.00	0.00	6,034.0	848.9	-1,343.2	1,375,684.06	3,314,586.78	40.359150	-104.371140
- actual wellpath misses target center by 23.7ft at 6319.1ft MD (6033.5 TVD, 830.7 N, -1328.1 E)									
- Point									
Antelope G-31 TGT (2) - hit/miss target - Shape	0.00	0.00	6,051.0	848.9	-1,343.2	1,375,684.06	3,314,586.78	40.359150	-104.371140
- actual wellpath misses target center by 24.0ft at 6336.1ft MD (6050.5 TVD, 830.4 N, -1327.9 E)									
- Point									
Antelope G-31 PBHL (2) - hit/miss target - Shape	0.00	0.00	6,665.0	848.9	-1,343.2	1,375,684.06	3,314,586.78	40.359150	-104.371140
- actual wellpath misses target center by 44.2ft at 6930.0ft MD (6644.2 TVD, 818.7 N, -1318.5 E)									
- Circle (radius 50.0)									
Antelope G-31 PBHL - hit/miss target - Shape	0.00	0.00	6,648.0	848.9	-1,343.2	1,375,684.06	3,314,586.78	40.359150	-104.371140
- actual wellpath misses target center by 39.2ft at 6930.0ft MD (6644.2 TVD, 818.7 N, -1318.5 E)									
- Circle (radius 50.0)									

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
6,930.0	6,644.2	818.7	-1,318.5	Last Cathedral Survey @ 6,930' MD	
6,980.0	6,694.2	818.2	-1,318.2	Projection to Bit @ 6,980'	

Checked By: _____ Approved By: _____ Date: _____