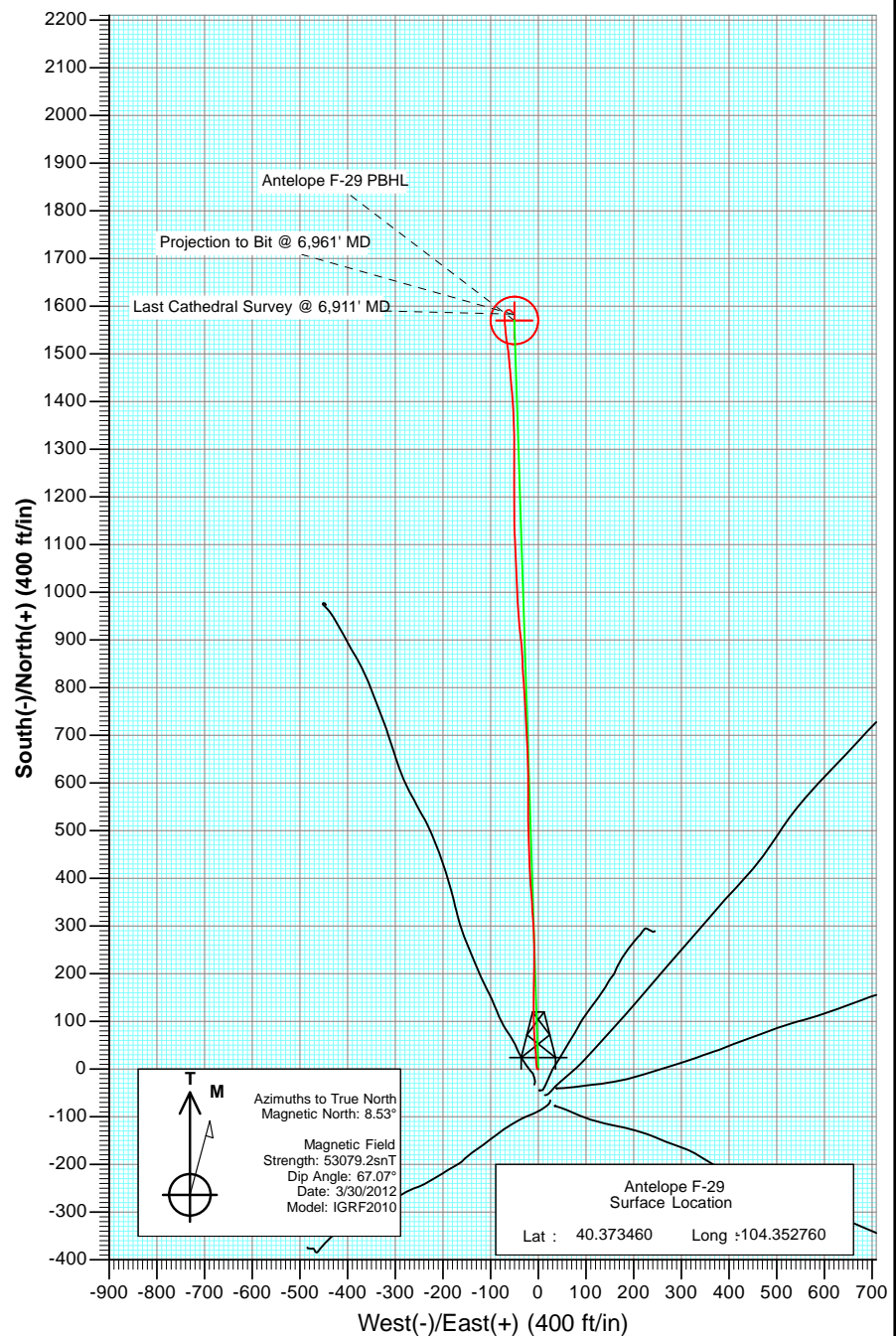
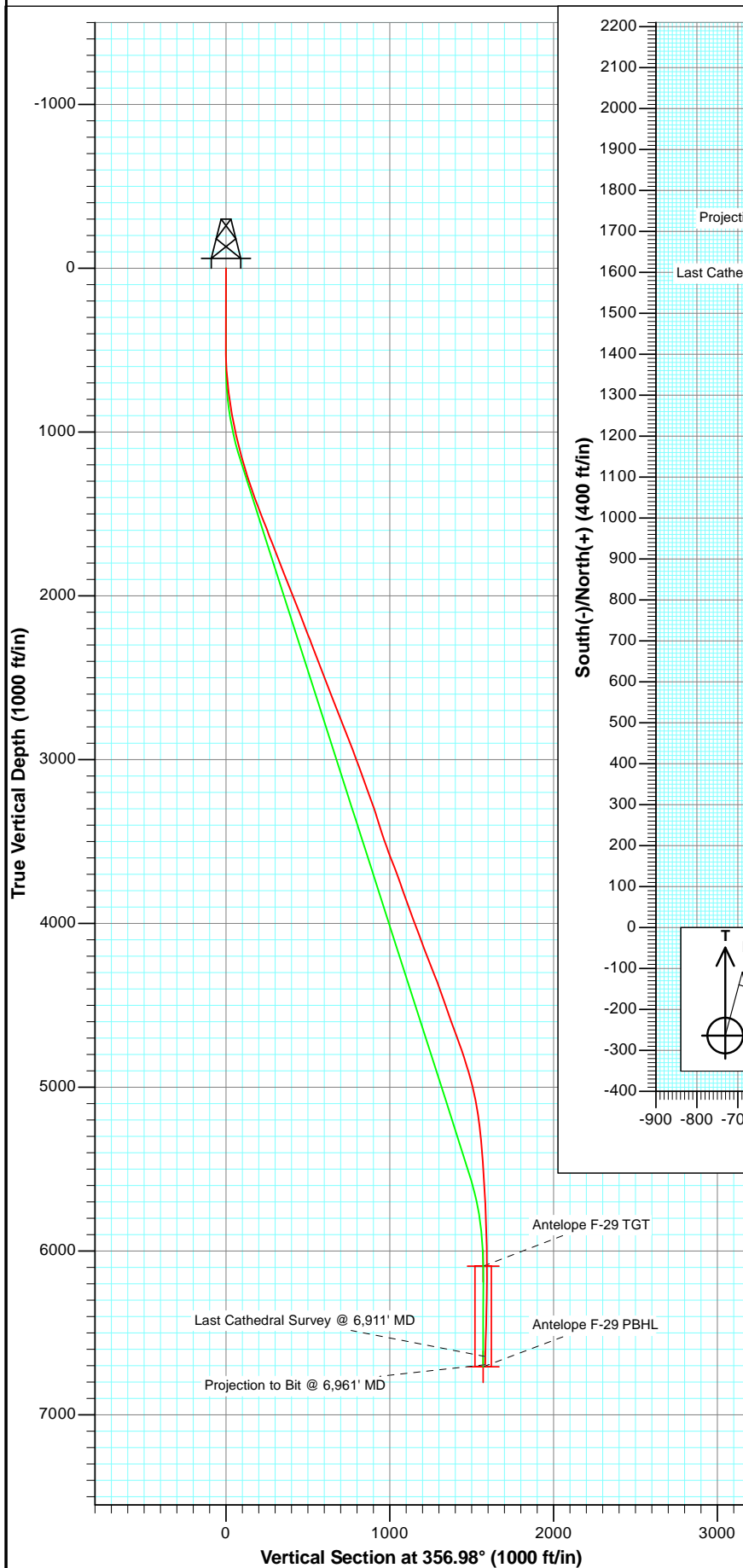




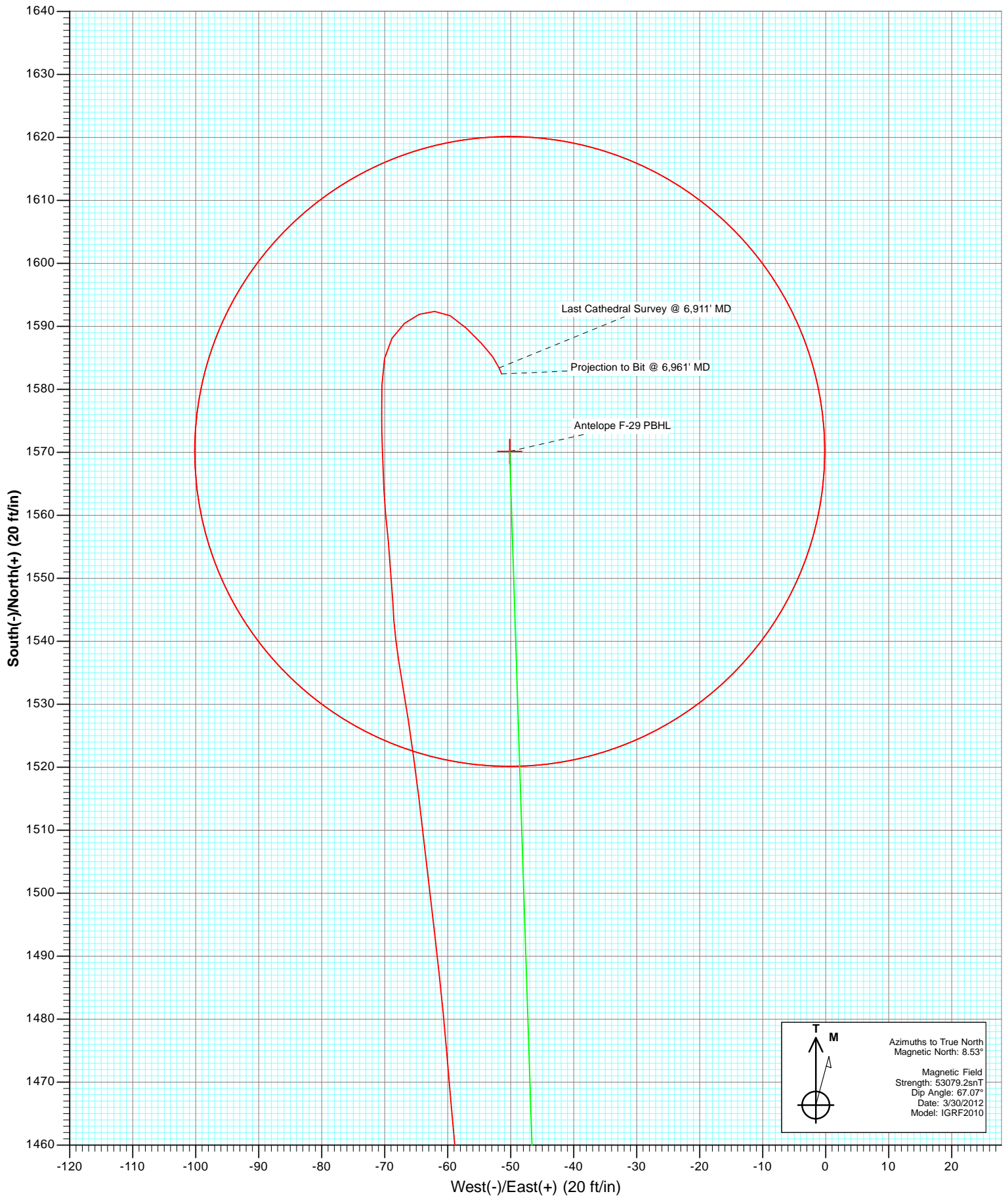
Project: Weld County
 Site: Antelope G 29 Pad
 Well: Antelope F-29
 Wellbore: OH
 Plan: AB FINAL



OH Antelope F-29 125238/153655; SC						
KBE @ 4668.0ft (Mid Continent #1) North American Datum 1983 Well Antelope F-29, True North						
Type	Target		Azimuth	Origin Type	N/S	E/W
User	No Target (Freehand)		356.98	Slot	0.0	0.0
Name		TVD	+N/-S	+E/-W	Latitude	Longitude
Antelope F-29 TGT		6093.0	1570.1	-50.1	40.377770	-104.352940
Antelope F-29 PBHL		6707.0	1570.1	-50.1	40.377770	-104.352940



Project: Weld County
Site: Antelope G 29 Pad
Well: Antelope F-29
Wellbore: OH
Plan: AB FINAL



Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope F-29
Project:	Weld County	TVD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Site:	Antelope G 29 Pad	MD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Well:	Antelope F-29	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 G 29 Pad			
Site Position:		Northing:	1,380,957.95 ft	Latitude:	40.373450
From:	Lat/Long	Easting:	3,319,577.00 ft	Longitude:	-104.352990
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope F-29					
Well Position	+N/-S	0.0 ft	Northing:	1,380,962.39 ft	Latitude:	40.373460
	+E/-W	0.0 ft	Easting:	3,319,641.03 ft	Longitude:	-104.352760
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,658.0 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/30/2012	8.53	67.07	53,079

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	356.98	

Survey Program	Date	6/25/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
494.0	6,961.0	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		
494.0	0.40	252.40	494.0	-0.5	-1.6	-0.4	0.08	0.08		
588.0	2.80	340.50	588.0	1.5	-2.7	1.7	2.99	2.55		
682.0	5.30	353.90	681.7	8.0	-4.0	8.2	2.83	2.66		
777.0	7.40	359.70	776.1	18.5	-4.4	18.7	2.31	2.21		
871.0	9.30	353.70	869.1	32.1	-5.3	32.3	2.22	2.02		
966.0	11.80	356.10	962.5	49.4	-6.8	49.7	2.67	2.63		
1,060.0	13.30	356.80	1,054.3	69.8	-8.1	70.2	1.60	1.60		
1,155.0	15.20	358.30	1,146.3	93.2	-9.1	93.5	2.04	2.00		
1,249.0	17.30	357.90	1,236.6	119.5	-9.9	119.8	2.24	2.23		
1,344.0	18.60	1.80	1,327.0	148.7	-10.0	149.1	1.86	1.37		
1,438.0	20.20	0.00	1,415.6	179.9	-9.5	180.2	1.82	1.70		
1,533.0	22.10	2.00	1,504.2	214.2	-8.9	214.4	2.14	2.00		

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope F-29
Project:	Weld County	TVD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Site:	Antelope G 29 Pad	MD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Well:	Antelope F-29	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	20.40	359.40	1,590.9	247.9	-8.4	248.0	2.09	-1.83	
1,721.0	22.10	357.40	1,679.4	282.3	-9.4	282.4	1.95	1.79	
1,815.0	20.50	355.80	1,767.0	316.4	-11.4	316.6	1.81	-1.70	
1,909.0	22.10	357.20	1,854.6	350.5	-13.5	350.7	1.79	1.70	
2,003.0	20.60	354.50	1,942.1	384.6	-15.9	384.9	1.91	-1.60	
2,098.0	21.80	357.90	2,030.7	418.9	-18.2	419.2	1.81	1.26	
2,193.0	22.30	358.90	2,118.8	454.5	-19.2	454.9	0.66	0.53	
2,287.0	20.00	356.80	2,206.4	488.4	-20.4	488.8	2.58	-2.45	
2,382.0	21.70	0.20	2,295.2	522.2	-21.3	522.6	2.20	1.79	
2,476.0	20.50	359.80	2,382.9	556.0	-21.3	556.4	1.29	-1.28	
2,571.0	21.80	0.40	2,471.5	590.3	-21.2	590.6	1.39	1.37	
2,665.0	20.60	359.20	2,559.1	624.3	-21.3	624.6	1.36	-1.28	
2,759.0	21.60	357.70	2,646.8	658.1	-22.2	658.4	1.21	1.06	
2,854.0	20.70	356.40	2,735.4	692.4	-24.0	692.7	1.07	-0.95	
2,948.0	22.60	357.50	2,822.8	727.0	-25.8	727.3	2.07	2.02	
3,042.0	21.40	356.80	2,910.0	762.1	-27.6	762.5	1.31	-1.28	
3,137.0	19.30	356.60	2,999.0	795.1	-29.5	795.6	2.21	-2.21	
3,231.0	20.50	355.40	3,087.4	827.0	-31.7	827.6	1.35	1.28	
3,325.0	19.40	358.10	3,175.8	859.1	-33.6	859.6	1.53	-1.17	
3,420.0	19.90	354.70	3,265.2	890.9	-35.6	891.6	1.31	0.53	
3,514.0	17.60	353.50	3,354.2	921.0	-38.7	921.7	2.48	-2.45	
3,609.0	18.00	356.30	3,444.7	949.9	-41.2	950.7	0.99	0.42	
3,704.0	19.40	355.70	3,534.7	980.3	-43.4	981.2	1.49	1.47	
3,798.0	21.60	358.20	3,622.7	1,013.1	-45.1	1,014.1	2.52	2.34	
3,893.0	20.40	358.10	3,711.4	1,047.2	-46.2	1,048.1	1.26	-1.26	
3,987.0	19.00	357.80	3,799.9	1,078.8	-47.3	1,079.8	1.49	-1.49	
4,082.0	19.80	356.20	3,889.5	1,110.3	-49.0	1,111.4	1.01	0.84	
4,176.0	20.80	359.50	3,977.7	1,142.9	-50.2	1,144.0	1.62	1.06	
4,271.0	20.30	358.10	4,066.6	1,176.3	-50.9	1,177.3	0.74	-0.53	
4,366.0	21.10	1.40	4,155.5	1,209.8	-51.0	1,210.8	1.49	0.84	
4,460.0	21.20	1.10	4,243.2	1,243.7	-50.2	1,244.7	0.16	0.11	
4,554.0	21.60	359.80	4,330.7	1,278.0	-50.0	1,278.9	0.66	0.43	
4,648.0	18.60	359.40	4,418.9	1,310.3	-50.2	1,311.2	3.19	-3.19	
4,743.0	19.50	357.50	4,508.7	1,341.3	-51.0	1,342.1	1.15	0.95	
4,838.0	20.00	357.50	4,598.2	1,373.4	-52.4	1,374.2	0.53	0.53	
4,931.0	20.50	356.00	4,685.4	1,405.5	-54.3	1,406.4	0.78	0.54	
5,025.0	18.90	354.50	4,773.9	1,437.1	-56.9	1,438.1	1.78	-1.70	
5,120.0	17.80	355.50	4,864.1	1,466.9	-59.5	1,468.0	1.20	-1.16	
5,215.0	14.70	353.40	4,955.3	1,493.4	-62.0	1,494.5	3.32	-3.26	
5,310.0	12.20	353.20	5,047.7	1,515.3	-64.6	1,516.6	2.63	-2.63	
5,405.0	9.60	350.10	5,140.9	1,533.1	-67.1	1,534.5	2.80	-2.74	
5,499.0	6.40	357.80	5,234.0	1,546.0	-68.7	1,547.5	3.58	-3.40	
5,593.0	5.70	353.60	5,327.5	1,555.9	-69.4	1,557.4	0.88	-0.74	
5,687.0	4.30	357.20	5,421.1	1,564.1	-70.1	1,565.6	1.53	-1.49	
5,782.0	3.70	358.30	5,515.9	1,570.7	-70.4	1,572.2	0.64	-0.63	
5,876.0	2.70	359.70	5,609.7	1,575.9	-70.5	1,577.5	1.07	-1.06	
5,971.0	2.90	1.60	5,704.6	1,580.6	-70.4	1,582.1	0.23	0.21	
6,065.0	2.40	10.40	5,798.5	1,584.9	-70.0	1,586.4	0.68	-0.53	
6,158.0	1.90	32.00	5,891.5	1,588.1	-68.8	1,589.5	1.01	-0.54	
6,253.0	1.90	48.30	5,986.4	1,590.5	-66.8	1,591.8	0.57	0.00	
6,347.0	1.50	71.20	6,080.4	1,591.9	-64.5	1,593.1	0.83	-0.43	
6,442.0	1.50	87.50	6,175.3	1,592.4	-62.1	1,593.4	0.45	0.00	
6,535.0	1.80	120.30	6,268.3	1,591.7	-59.6	1,592.6	1.05	0.32	

Cathedral Energy Services

Survey Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope F-29
Project:	Weld County	TVD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Site:	Antelope G 29 Pad	MD Reference:	KBE @ 4668.0ft (Mid Continent #1)
Well:	Antelope F-29	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
6,630.0	2.10	134.00	6,363.3	1,589.7	-57.1	1,590.5	0.58	0.32	
6,724.0	2.00	136.70	6,457.2	1,587.3	-54.7	1,588.0	0.15	-0.11	
6,818.0	1.40	143.20	6,551.2	1,585.2	-52.9	1,585.8	0.67	-0.64	
6,911.0	1.20	157.50	6,644.1	1,583.4	-51.8	1,583.9	0.41	-0.22	Last Cathedral Survey @ 6,911' MD
6,961.0	1.20	157.50	6,694.1	1,582.5	-51.4	1,583.0	0.00	0.00	Projection to Bit @ 6,961' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
Antelope F-29 TGT	0.00	0.00	6,093.0	1,570.1	-50.1	1,382,531.76	3,319,570.57	40.377770	-104.352940
- survey misses target center by 26.0ft at 6359.9ft MD (6093.3 TVD, 1592.0 N, -64.2 E)									
- Point									
Antelope F-29 PBHL	0.00	0.00	6,707.0	1,570.1	-50.1	1,382,531.76	3,319,570.57	40.377770	-104.352940
- survey misses target center by 17.9ft at 6961.0ft MD (6694.1 TVD, 1582.5 N, -51.4 E)									
- Circle (radius 50.0)									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
6,911.0	6,644.1	1,583.4	-51.8	Last Cathedral Survey @ 6,911' MD	
6,961.0	6,694.1	1,582.5	-51.4	Projection to Bit @ 6,961' MD	

Checked By: _____	Approved By: _____	Date: _____
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