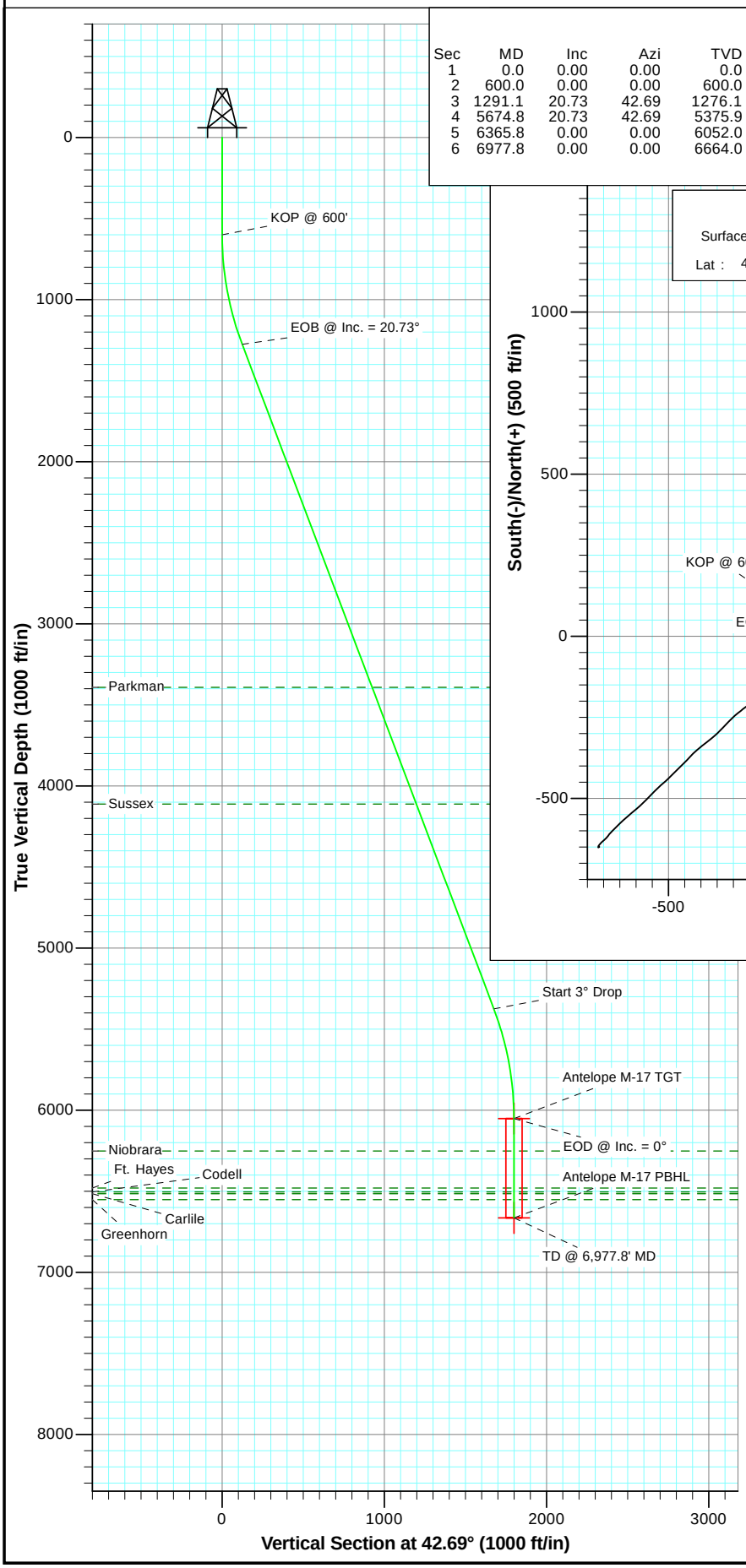
BONANZA CREEK ENERGY COMPANY

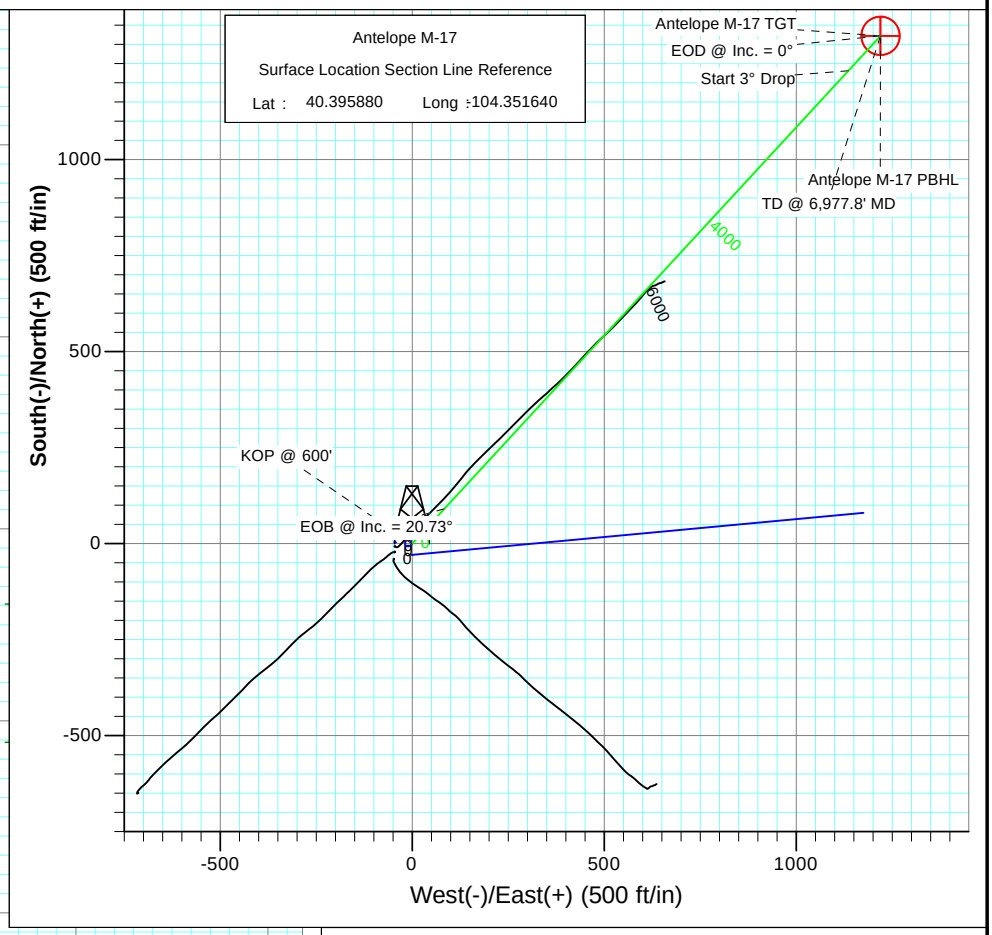
Project: Weld County
Site: Antelope I-17 Pad
Well: Antelope M-17
Wellbore: OH
Plan: Plan #2

CATHEDRAL

SECTION DETAILS

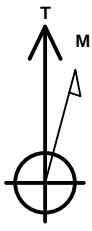
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.0	
3	1291.1	20.73	42.69	1276.1	90.9	83.9	3.00	42.69	123.7	
4	5674.8	20.73	42.69	5375.9	1231.5	1136.0	0.00	0.00	1675.5	
5	6365.8	0.00	0.00	6052.0	1322.4	1219.9	3.00	180.00	1799.2	Antelope M-17 TGT
6	6977.8	0.00	0.00	6664.0	1322.4	1219.9	0.00	0.00	1799.2	Antelope M-17 PBHL





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3392.0	3553.5	Parkman
4112.0	4323.3	Sussex
6252.0	6565.8	Niobrara
6480.0	6793.8	Ft. Hayes
6504.0	6817.8	Codell
6515.0	6828.8	Carlile
6552.0	6865.8	Greenhorn



Azimuths to True North
Magnetic North: 8.58°

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

Plan #2
Antelope M-17
125XXX; SC

Kbe @ 4652.0ft
North American Datum 1983
Well Antelope M-17, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	42.69	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Antelope M-17 TGT	6052.0	1322.4	1219.9	40.399510	-104.347260
Antelope M-17 PBHL	6664.0	1322.4	1219.9	40.399510	-104.347260

BONANZA CREEK ENERGY COMPANY

Project: Weld County
Site: Antelope I-17 Pad
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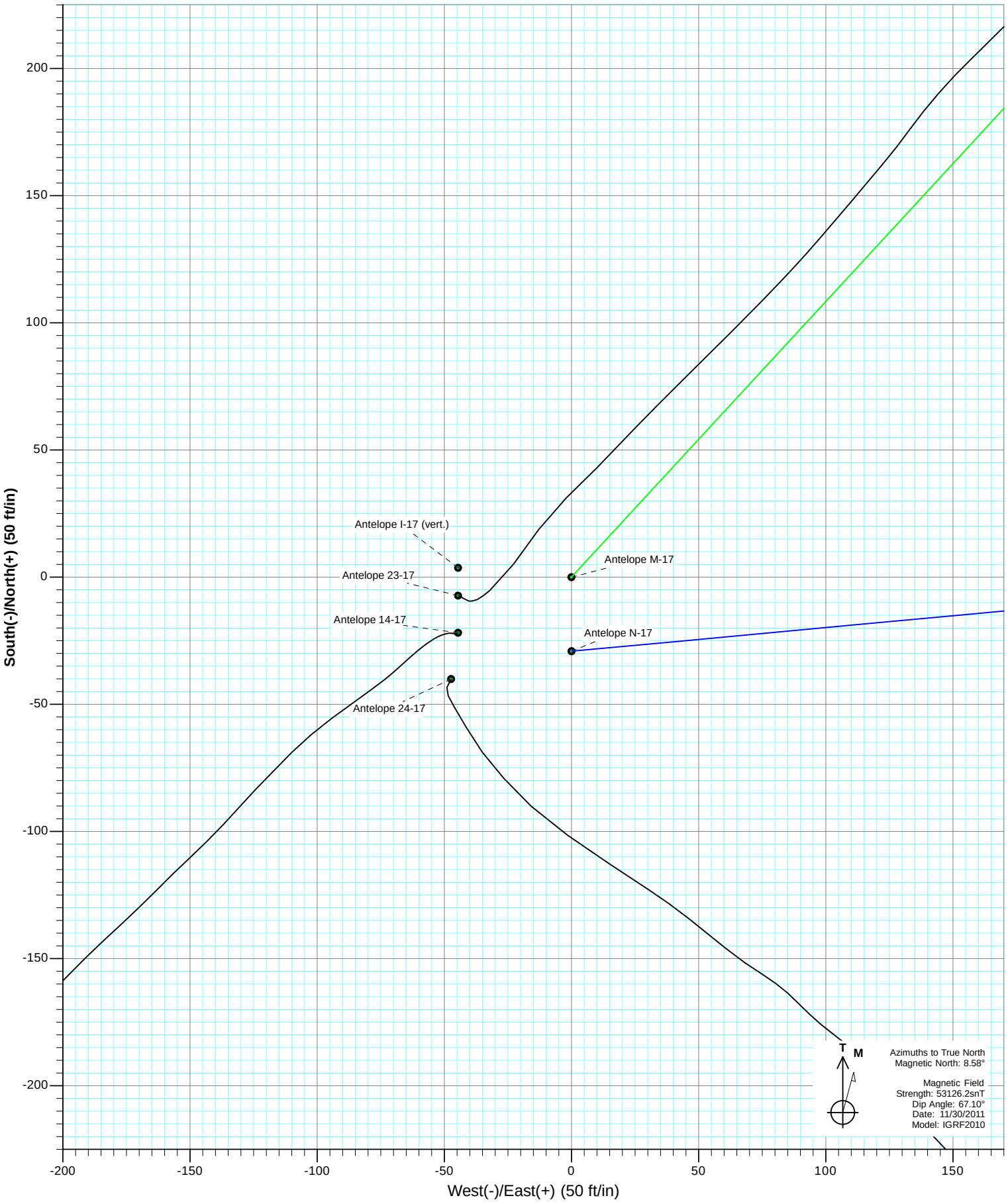
CATHEDRAL



BONANZA CREEK ENERGY COMPANY

Project: Weld County
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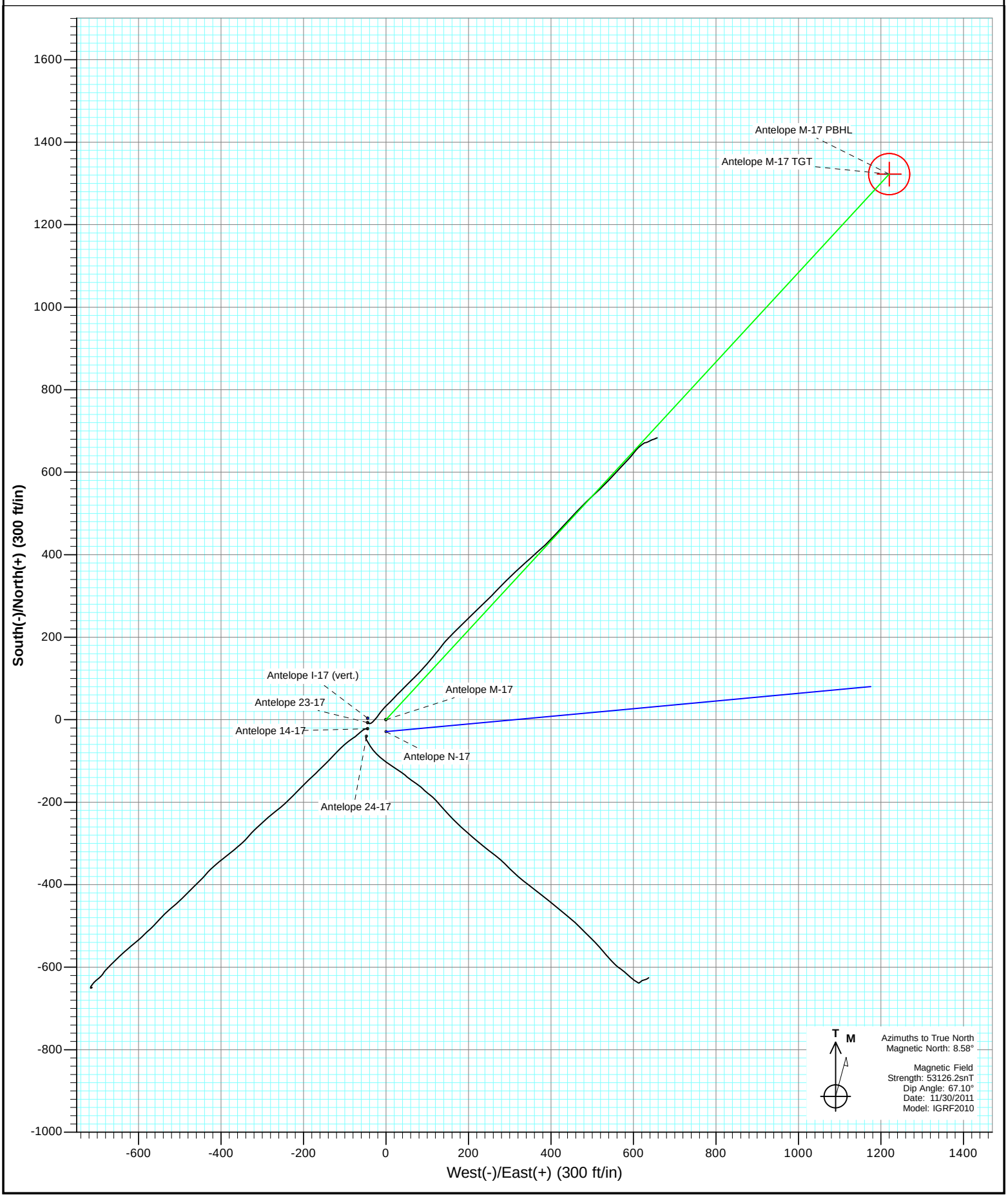
CATHEDRAL



BONANZA CREEK ENERGY COMPANY

Project: Weld County
Site: Antelope I-17 Pad
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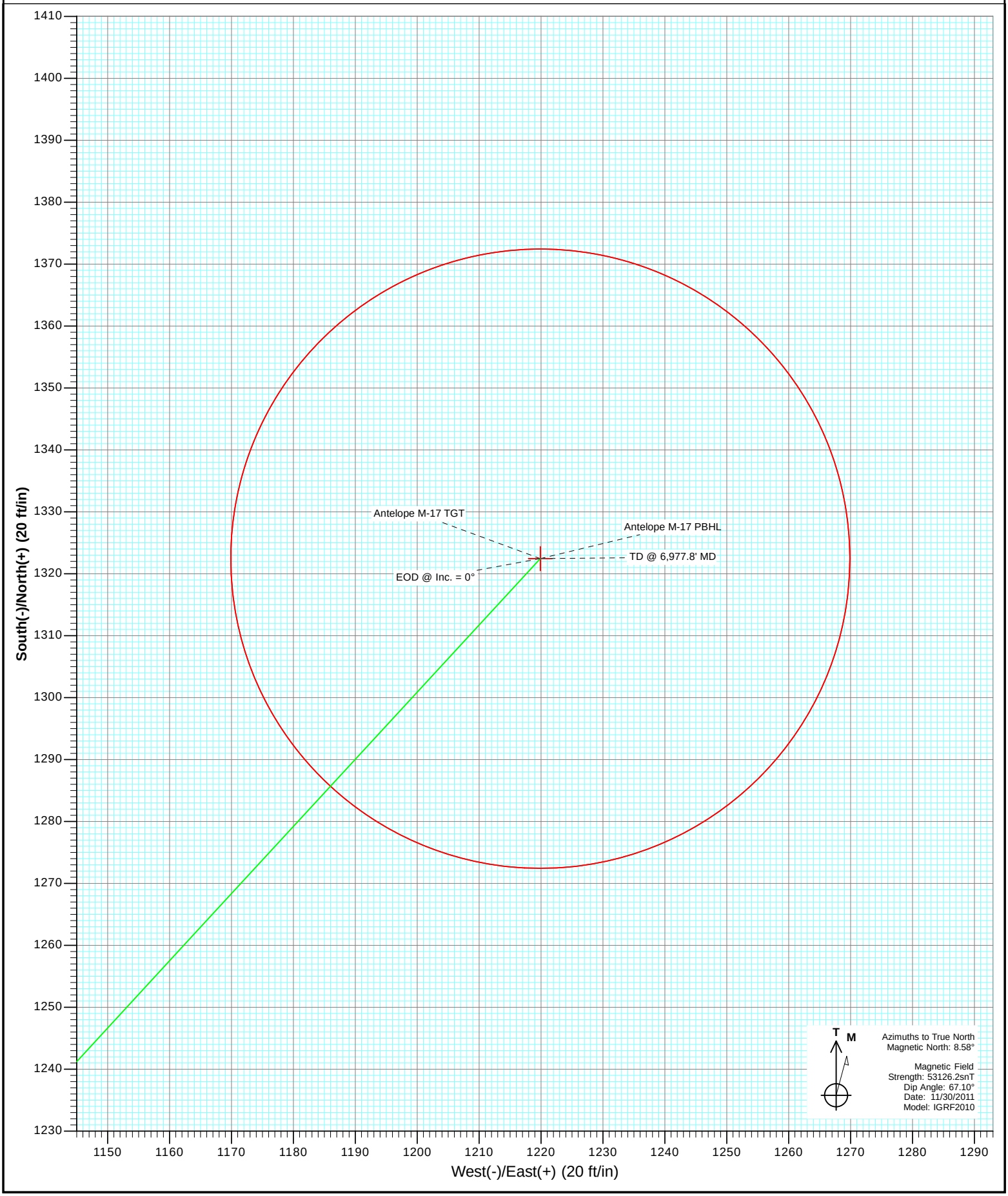
CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope M-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	Kbe @ 4652.0ft
Project:	Weld County	**MD Reference:**	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	**North Reference:**	True
Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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:**	1,389,133.29 ft	**Latitude:**	40.395880
	+E/-W	0.0 ft	**Easting:**	3,319,847.29 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	Plan #2				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.0	0.0	0.0	42.69	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,291.1	20.73	42.69	1,276.1	90.9	83.9	3.00	3.00	0.00	42.69	
5,674.8	20.73	42.69	5,375.9	1,231.5	1,136.0	0.00	0.00	0.00	0.00	
6,365.8	0.00	0.00	6,052.0	1,322.4	1,219.9	3.00	-3.00	0.00	180.00	Antelope M-17 TGT
6,977.8	0.00	0.00	6,664.0	1,322.4	1,219.9	0.00	0.00	0.00	0.00	Antelope M-17 PBHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope M-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	Kbe @ 4652.0ft
Project:	Weld County	**MD Reference:**	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	**North Reference:**	True
Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	KOP @ 600'
700.0	3.00	42.69	700.0	1.9	1.8	2.6	3.00	3.00	
800.0	6.00	42.69	799.6	7.7	7.1	10.5	3.00	3.00	
900.0	9.00	42.69	898.8	17.3	15.9	23.5	3.00	3.00	
1,000.0	12.00	42.69	997.1	30.7	28.3	41.7	3.00	3.00	
1,100.0	15.00	42.69	1,094.3	47.8	44.1	65.1	3.00	3.00	
1,200.0	18.00	42.69	1,190.2	68.7	63.4	93.5	3.00	3.00	
1,291.1	20.73	42.69	1,276.1	90.9	83.9	123.7	3.00	3.00	EOB @ Inc. = 20.73°
1,300.0	20.73	42.69	1,284.4	93.2	86.0	126.8	0.00	0.00	
1,400.0	20.73	42.69	1,378.0	119.2	110.0	162.2	0.00	0.00	
1,500.0	20.73	42.69	1,471.5	145.3	134.0	197.6	0.00	0.00	
1,600.0	20.73	42.69	1,565.0	171.3	158.0	233.0	0.00	0.00	
1,700.0	20.73	42.69	1,658.5	197.3	182.0	268.4	0.00	0.00	
1,800.0	20.73	42.69	1,752.1	223.3	206.0	303.8	0.00	0.00	
1,900.0	20.73	42.69	1,845.6	249.3	230.0	339.2	0.00	0.00	
2,000.0	20.73	42.69	1,939.1	275.4	254.0	374.6	0.00	0.00	
2,100.0	20.73	42.69	2,032.6	301.4	278.0	410.0	0.00	0.00	
2,200.0	20.73	42.69	2,126.2	327.4	302.0	445.4	0.00	0.00	
2,300.0	20.73	42.69	2,219.7	353.4	326.0	480.8	0.00	0.00	
2,400.0	20.73	42.69	2,313.2	379.4	350.0	516.2	0.00	0.00	
2,500.0	20.73	42.69	2,406.7	405.5	374.0	551.6	0.00	0.00	
2,600.0	20.73	42.69	2,500.3	431.5	398.0	587.0	0.00	0.00	
2,700.0	20.73	42.69	2,593.8	457.5	422.0	622.4	0.00	0.00	
2,800.0	20.73	42.69	2,687.3	483.5	446.0	657.8	0.00	0.00	
2,900.0	20.73	42.69	2,780.8	509.5	470.0	693.2	0.00	0.00	
3,000.0	20.73	42.69	2,874.4	535.6	494.0	728.6	0.00	0.00	
3,100.0	20.73	42.69	2,967.9	561.6	518.0	764.0	0.00	0.00	
3,200.0	20.73	42.69	3,061.4	587.6	542.0	799.4	0.00	0.00	
3,300.0	20.73	42.69	3,154.9	613.6	566.0	834.8	0.00	0.00	
3,400.0	20.73	42.69	3,248.5	639.6	590.0	870.2	0.00	0.00	
3,500.0	20.73	42.69	3,342.0	665.7	614.0	905.6	0.00	0.00	
3,553.5	20.73	42.69	3,392.0	679.6	626.9	924.6	0.00	0.00	Parkman
3,600.0	20.73	42.69	3,435.5	691.7	638.0	941.0	0.00	0.00	
3,700.0	20.73	42.69	3,529.0	717.7	662.0	976.4	0.00	0.00	
3,800.0	20.73	42.69	3,622.6	743.7	686.1	1,011.8	0.00	0.00	
3,900.0	20.73	42.69	3,716.1	769.7	710.1	1,047.2	0.00	0.00	
4,000.0	20.73	42.69	3,809.6	795.8	734.1	1,082.6	0.00	0.00	
4,100.0	20.73	42.69	3,903.1	821.8	758.1	1,118.0	0.00	0.00	
4,200.0	20.73	42.69	3,996.7	847.8	782.1	1,153.4	0.00	0.00	
4,300.0	20.73	42.69	4,090.2	873.8	806.1	1,188.8	0.00	0.00	
4,323.3	20.73	42.69	4,112.0	879.9	811.7	1,197.1	0.00	0.00	Sussex
4,400.0	20.73	42.69	4,183.7	899.8	830.1	1,224.2	0.00	0.00	
4,500.0	20.73	42.69	4,277.2	925.9	854.1	1,259.6	0.00	0.00	
4,600.0	20.73	42.69	4,370.8	951.9	878.1	1,295.0	0.00	0.00	
4,700.0	20.73	42.69	4,464.3	977.9	902.1	1,330.4	0.00	0.00	
4,800.0	20.73	42.69	4,557.8	1,003.9	926.1	1,365.8	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope M-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	Kbe @ 4652.0ft
Project:	Weld County	**MD Reference:**	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	**North Reference:**	True
Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Comments / Formations
4,900.0	20.73	42.69	4,651.3	1,029.9	950.1	1,401.2	0.00	0.00	
5,000.0	20.73	42.69	4,744.8	1,056.0	974.1	1,436.6	0.00	0.00	
5,100.0	20.73	42.69	4,838.4	1,082.0	998.1	1,472.0	0.00	0.00	
5,200.0	20.73	42.69	4,931.9	1,108.0	1,022.1	1,507.4	0.00	0.00	
5,300.0	20.73	42.69	5,025.4	1,134.0	1,046.1	1,542.8	0.00	0.00	
5,400.0	20.73	42.69	5,118.9	1,160.0	1,070.1	1,578.2	0.00	0.00	
5,500.0	20.73	42.69	5,212.5	1,186.1	1,094.1	1,613.6	0.00	0.00	
5,600.0	20.73	42.69	5,306.0	1,212.1	1,118.1	1,649.0	0.00	0.00	
5,674.8	20.73	42.69	5,375.9	1,231.5	1,136.0	1,675.5	0.00	0.00	Start 3° Drop
5,700.0	19.97	42.69	5,399.6	1,238.0	1,142.0	1,684.3	3.00	-3.00	
5,800.0	16.97	42.69	5,494.4	1,261.3	1,163.5	1,716.0	3.00	-3.00	
5,900.0	13.97	42.69	5,590.8	1,280.9	1,181.6	1,742.6	3.00	-3.00	
6,000.0	10.97	42.69	5,688.4	1,296.8	1,196.2	1,764.2	3.00	-3.00	
6,100.0	7.97	42.69	5,787.0	1,308.9	1,207.4	1,780.7	3.00	-3.00	
6,200.0	4.97	42.69	5,886.4	1,317.2	1,215.0	1,792.0	3.00	-3.00	
6,300.0	1.97	42.69	5,986.2	1,321.6	1,219.1	1,798.0	3.00	-3.00	
6,365.8	0.00	0.00	6,052.0	1,322.4	1,219.9	1,799.2	3.00	-3.00	EOD @ Inc. = 0°
6,400.0	0.00	0.00	6,086.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,500.0	0.00	0.00	6,186.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,565.8	0.00	0.00	6,252.0	1,322.4	1,219.9	1,799.2	0.00	0.00	Niobrara
6,600.0	0.00	0.00	6,286.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,700.0	0.00	0.00	6,386.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,793.8	0.00	0.00	6,480.0	1,322.4	1,219.9	1,799.2	0.00	0.00	Ft. Hayes
6,800.0	0.00	0.00	6,486.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,817.8	0.00	0.00	6,504.0	1,322.4	1,219.9	1,799.2	0.00	0.00	Codell
6,828.8	0.00	0.00	6,515.0	1,322.4	1,219.9	1,799.2	0.00	0.00	Carlile
6,865.8	0.00	0.00	6,552.0	1,322.4	1,219.9	1,799.2	0.00	0.00	Greenhorn
6,900.0	0.00	0.00	6,586.2	1,322.4	1,219.9	1,799.2	0.00	0.00	
6,977.8	0.00	0.00	6,664.0	1,322.4	1,219.9	1,799.2	0.00	0.00	TD @ 6,977.8' 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 - plan hits target center - Point	0.00	0.00	6,052.0	1,322.4	1,219.9	1,390,471.42	3,321,049.95	40.399510	-104.347260
Antelope M-17 PBHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,664.0	1,322.4	1,219.9	1,390,471.42	3,321,049.95	40.399510	-104.347260

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope M-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	Kbe @ 4652.0ft
Project:	Weld County	**MD Reference:**	Kbe @ 4652.0ft
Site:	Antelope I-17 Pad	**North Reference:**	True
Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,553.5	3,392.0	Parkman			
4,323.3	4,112.0	Sussex			
6,565.8	6,252.0	Niobrara			
6,793.8	6,480.0	Ft. Hayes			
6,817.8	6,504.0	Codell			
6,828.8	6,515.0	Carlile			
6,865.8	6,552.0	Greenhorn			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
600.0	600.0	0.0	0.0	KOP @ 600'
1,291.1	1,276.1	90.9	83.9	EOB @ Inc. = 20.73°
5,674.8	5,375.9	1,231.5	1,136.0	Start 3° Drop
6,365.8	6,052.0	1,322.4	1,219.9	EOD @ Inc. = 0°
6,977.8	6,664.0	1,322.4	1,219.9	TD @ 6,977.8' MD

Bonanza Creek Energy Operating Company, LLC

Weld County
Antelope I-17 Pad
Antelope M-17
OH
Plan #2

Anticollision Report

01 December, 2011

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Plan #2

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	**Error Model:**	Systematic Ellipse
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 12/1/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	6,977.8	Plan #2 (OH)	MWD	Geolink MWD

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Antelope 21-17 Pad						
Antelope 22-17 - DD - DD						Out of range
Antelope 22-17 - DD - Plan #2						Out of range
Antelope 41-17 Pad						
Antelope 32-17 - DD - DD						Out of range
Antelope 43-17 Pad						
Antelope 33-17 - DD - DD						Out of range
Antelope 33-17 - DD - Plan #3						Out of range
Antelope I-17 Pad						
Antelope 14-17 - DD - DD	0.0	0.0	49.6			
Antelope 23-17 - DD - DD	0.0	0.0	45.2			
Antelope 23-17 - DD - DD	988.6	992.9	23.4	23.4	10,000.000	CC, ES
Antelope 24-17 - DD - DD	0.0	0.0	62.0			
Antelope I-17 (vert.) - DD - Plan #1	0.0	0.0	44.7			
Antelope I-17 (vert.) - DD - Plan #1	600.0	600.0	44.7	44.7	10,000.000	CC, ES
Antelope N-17 - OH - Plan #1	0.0	38.0	29.1			
Antelope N-17 - OH - Plan #1	604.5	642.6	29.1	29.1	10,000.000	CC, ES

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope I-17 Pad - Antelope 14-17 - DD - DD

Offset Site Error: 0.0 ft

Survey Program: 530-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-116.12	-21.9	-44.6	49.6				
100.0	100.0	100.0	100.0	0.2	0.2	-116.12	-21.9	-44.6	49.7	49.7	0.00	N/A	
200.0	200.0	199.9	199.9	0.3	0.3	-116.10	-21.9	-44.7	49.8	49.8	0.00	N/A	
300.0	300.0	299.9	299.9	0.5	0.5	-116.08	-22.0	-45.0	50.1	50.1	0.00	N/A	
400.0	400.0	399.8	399.8	0.7	0.7	-116.05	-22.1	-45.3	50.4	50.4	0.00	N/A	
500.0	500.0	499.8	499.7	0.9	0.9	-116.01	-22.3	-45.7	50.9	50.9	0.00	N/A	
600.0	600.0	598.7	598.7	1.0	1.0	-115.16	-22.1	-47.0	52.0	52.0	0.00	N/A	
700.0	700.0	695.1	694.9	1.2	1.2	-157.59	-23.3	-52.3	59.9	59.9	0.00	N/A	
800.0	799.6	790.2	789.4	1.4	1.4	-160.85	-29.3	-60.9	78.1	78.1	0.00	N/A	
900.0	898.8	882.8	880.9	1.6	1.7	-164.71	-38.7	-71.6	105.4	105.4	0.00	N/A	
1,000.0	997.1	972.3	968.8	2.0	2.0	-166.89	-48.6	-84.9	141.0	141.0	0.00	N/A	
1,100.0	1,094.3	1,059.3	1,053.8	2.3	2.3	-168.42	-59.8	-99.8	184.2	184.2	0.00	N/A	
1,200.0	1,190.2	1,147.4	1,139.7	2.8	2.6	-170.12	-72.9	-114.1	232.5	232.5	0.00	N/A	
1,300.0	1,284.4	1,235.9	1,226.3	3.4	2.9	-171.71	-86.5	-127.0	284.7	284.7	0.00	N/A	
1,400.0	1,378.0	1,323.8	1,312.4	4.0	3.2	-173.05	-99.3	-138.8	337.6	337.6	0.00	N/A	
1,500.0	1,471.5	1,403.3	1,390.3	4.6	3.5	-173.81	-110.5	-150.3	390.9	390.9	0.00	N/A	
1,600.0	1,565.0	1,494.4	1,479.6	5.3	3.9	-174.46	-123.3	-163.3	444.2	444.2	0.00	N/A	
1,700.0	1,658.5	1,570.3	1,553.9	5.9	4.2	-174.89	-133.9	-174.3	497.6	497.6	0.00	N/A	

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope I-17 Pad - Antelope 23-17 - DD - DD

Offset Site Error: 0.0 ft

Survey Program: 500-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-99.27	-7.3	-44.6	45.2				
100.0	100.0	100.1	100.1	0.2	0.2	-99.40	-7.4	-44.4	45.0	45.0	0.00	N/A	
200.0	200.0	200.3	200.2	0.3	0.3	-99.80	-7.6	-43.9	44.6	44.6	0.00	N/A	
300.0	300.0	300.4	300.4	0.5	0.5	-100.49	-8.0	-43.2	43.9	43.9	0.00	N/A	
400.0	400.0	400.5	400.5	0.7	0.7	-101.49	-8.6	-42.1	42.9	42.9	0.00	N/A	
500.0	500.0	500.6	500.6	0.9	0.9	-102.84	-9.3	-40.7	41.7	41.7	0.00	N/A	
600.0	600.0	603.1	602.9	1.0	1.1	-103.07	-8.4	-36.4	37.5	37.5	0.00	N/A	
700.0	700.0	704.1	703.2	1.2	1.3	-137.48	-0.4	-27.2	29.3	29.3	0.00	N/A	
800.0	799.6	803.8	801.4	1.4	1.6	-120.06	13.2	-16.9	24.7	24.7	0.00	N/A	
900.0	898.8	904.1	900.1	1.6	1.9	-108.31	27.3	-5.9	24.1	24.1	0.00	N/A	
988.6	985.9	992.9	987.5	1.9	2.1	-109.51	38.3	5.3	23.4	23.4	0.00	N/A	CC, ES
1,000.0	997.1	1,004.3	998.7	2.0	2.2	-110.25	39.7	6.8	23.4	23.4	0.00	N/A	
1,100.0	1,094.3	1,103.9	1,096.7	2.3	2.5	-122.36	52.5	19.2	25.5	25.5	0.00	N/A	
1,200.0	1,190.2	1,204.0	1,195.1	2.8	2.9	-138.62	65.7	31.9	32.0	32.0	0.00	N/A	
1,300.0	1,284.4	1,303.1	1,292.1	3.4	3.2	-151.57	79.7	46.1	42.9	42.9	0.00	N/A	
1,400.0	1,378.0	1,401.3	1,388.5	4.0	3.6	-160.04	93.3	59.6	57.6	57.6	0.00	N/A	
1,500.0	1,471.5	1,501.3	1,486.5	4.6	4.0	-164.91	107.7	73.9	72.5	72.5	0.00	N/A	
1,600.0	1,565.0	1,598.5	1,581.6	5.3	4.4	-167.77	121.9	87.6	87.6	87.6	0.00	N/A	
1,700.0	1,658.5	1,695.1	1,676.6	5.9	4.7	-169.59	135.1	99.2	105.2	105.2	0.00	N/A	
1,800.0	1,752.1	1,796.8	1,776.4	6.5	5.1	-170.73	149.8	111.8	121.9	121.9	0.00	N/A	
1,900.0	1,845.6	1,895.6	1,873.1	7.2	5.5	-171.33	165.6	125.0	137.0	137.0	0.00	N/A	
2,000.0	1,939.1	1,991.9	1,967.6	7.8	5.8	-171.60	180.4	136.2	153.9	153.9	0.00	N/A	
2,100.0	2,032.6	2,093.5	2,067.1	8.5	6.2	-172.14	195.8	149.4	169.9	169.9	0.00	N/A	
2,200.0	2,126.2	2,193.5	2,164.9	9.1	6.6	-173.06	210.3	163.9	185.1	185.1	0.00	N/A	
2,300.0	2,219.7	2,292.9	2,262.0	9.8	7.0	-173.79	225.4	178.9	199.5	199.5	0.00	N/A	
2,400.0	2,313.2	2,391.8	2,358.7	10.4	7.4	-174.41	240.3	193.6	214.3	214.3	0.00	N/A	
2,500.0	2,406.7	2,491.0	2,455.6	11.1	7.8	-175.16	254.8	209.1	228.7	228.7	0.00	N/A	
2,600.0	2,500.3	2,587.5	2,549.9	11.7	8.2	-175.73	268.9	223.7	243.5	243.5	0.00	N/A	
2,700.0	2,593.8	2,687.7	2,648.0	12.4	8.6	-176.23	283.1	238.3	259.1	259.1	0.00	N/A	
2,800.0	2,687.3	2,786.8	2,744.9	13.0	9.0	-176.66	297.8	253.2	273.8	273.8	0.00	N/A	
2,900.0	2,780.8	2,883.7	2,839.7	13.7	9.4	-176.97	312.1	267.3	289.0	289.0	0.00	N/A	
3,000.0	2,874.4	2,981.2	2,935.2	14.3	9.8	-177.15	326.5	280.8	304.8	304.8	0.00	N/A	
3,100.0	2,967.9	3,081.9	3,033.8	15.0	10.2	-177.47	340.7	295.3	320.5	320.5	0.00	N/A	
3,200.0	3,061.4	3,176.9	3,126.9	15.6	10.6	-177.80	353.9	309.1	336.4	336.4	0.00	N/A	
3,300.0	3,154.9	3,273.0	3,221.2	16.3	10.9	-178.08	366.6	322.3	353.3	353.3	0.00	N/A	
3,400.0	3,248.5	3,374.9	3,321.2	17.0	11.3	-178.49	379.5	337.0	370.1	370.1	0.00	N/A	
3,500.0	3,342.0	3,479.7	3,423.8	17.6	11.8	-178.87	393.9	353.1	385.5	385.5	0.00	N/A	
3,600.0	3,435.5	3,577.5	3,519.4	18.3	12.2	-179.17	407.9	368.5	400.3	400.3	0.00	N/A	
3,700.0	3,529.0	3,679.8	3,619.4	18.9	12.6	-179.47	422.2	384.3	415.4	415.4	0.00	N/A	
3,800.0	3,622.6	3,787.7	3,724.3	19.6	13.1	-179.62	440.1	402.2	427.9	427.9	0.00	N/A	
3,900.0	3,716.1	3,883.1	3,817.0	20.2	13.5	-179.67	456.3	417.5	440.5	440.5	0.00	N/A	
4,000.0	3,809.6	3,978.6	3,910.1	20.9	13.9	-179.69	472.0	432.1	453.9	453.9	0.00	N/A	
4,100.0	3,903.1	4,072.2	4,001.5	21.6	14.3	-179.70	486.9	445.9	468.2	468.2	0.00	N/A	
4,200.0	3,996.7	4,166.6	4,093.9	22.2	14.6	-179.71	501.1	458.9	483.8	483.8	0.00	N/A	
4,300.0	4,090.2	4,263.9	4,189.3	22.9	15.0	-179.80	514.9	472.6	499.8	499.8	0.00	N/A	

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope I-17 Pad - Antelope 24-17 - DD - DD

Offset Site Error: 0.0 ft

Survey Program: 531-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-130.23	-40.1	-47.3	62.0				
100.0	100.0	99.9	99.9	0.2	0.2	-130.28	-40.2	-47.4	62.1	62.1	0.00	N/A	
200.0	200.0	199.7	199.7	0.3	0.3	-130.43	-40.5	-47.6	62.5	62.5	0.00	N/A	
300.0	300.0	299.5	299.5	0.5	0.5	-130.66	-41.1	-47.9	63.1	63.1	0.00	N/A	
400.0	400.0	399.4	399.4	0.7	0.7	-130.99	-41.9	-48.3	64.0	64.0	0.00	N/A	
500.0	500.0	499.2	499.2	0.9	0.9	-131.40	-43.0	-48.8	65.0	65.0	0.00	N/A	
600.0	600.0	599.1	599.0	1.0	1.0	-132.40	-44.8	-49.0	66.4	66.4	0.00	N/A	
700.0	700.0	698.9	698.8	1.2	1.2	-178.33	-48.6	-47.6	70.6	70.6	0.00	N/A	
800.0	799.6	797.3	796.9	1.4	1.4	176.47	-54.7	-43.8	80.6	80.6	0.00	N/A	
900.0	898.8	894.9	893.8	1.6	1.7	170.59	-64.5	-38.1	98.2	98.2	0.00	N/A	
1,000.0	997.1	992.7	990.7	2.0	1.9	165.78	-75.1	-30.1	121.0	121.0	0.00	N/A	
1,100.0	1,094.3	1,089.1	1,086.0	2.3	2.2	162.06	-86.1	-20.0	148.7	148.7	0.00	N/A	
1,200.0	1,190.2	1,185.8	1,181.0	2.8	2.5	158.82	-97.8	-6.6	180.8	180.8	0.00	N/A	
1,300.0	1,284.4	1,280.5	1,273.6	3.4	2.8	156.21	-109.1	9.6	216.6	216.6	0.00	N/A	
1,400.0	1,378.0	1,374.3	1,365.4	4.0	3.2	154.91	-119.8	25.5	253.9	253.9	0.00	N/A	
1,500.0	1,471.5	1,463.5	1,452.7	4.6	3.5	153.99	-130.1	40.6	291.3	291.3	0.00	N/A	
1,600.0	1,565.0	1,553.8	1,541.1	5.3	3.8	153.34	-141.5	55.1	330.2	330.2	0.00	N/A	
1,700.0	1,658.5	1,653.0	1,638.4	5.9	4.2	152.87	-153.4	70.8	368.5	368.5	0.00	N/A	
1,800.0	1,752.1	1,737.7	1,721.6	6.5	4.5	152.64	-162.5	83.8	405.9	405.9	0.00	N/A	
1,900.0	1,845.6	1,830.0	1,812.1	7.2	4.8	152.50	-174.7	96.8	445.8	445.8	0.00	N/A	
2,000.0	1,939.1	1,923.6	1,904.2	7.8	5.2	152.43	-185.3	110.1	483.9	483.9	0.00	N/A	

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope I-17 Pad - Antelope I-17 (vert.) - DD - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-85.31	3.7	-44.6	44.7				
100.0	100.0	100.0	100.0	0.2	0.2	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	-85.31	3.7	-44.6	44.7	44.7	0.00	N/A	CC, ES
700.0	700.0	700.0	700.0	1.2	1.2	-130.51	3.7	-44.6	46.4	46.4	0.00	N/A	
800.0	799.6	799.6	799.6	1.4	1.4	-137.00	3.7	-44.6	51.8	51.8	0.00	N/A	
900.0	898.8	898.8	898.8	1.6	1.6	-145.05	3.7	-44.6	62.0	62.0	0.00	N/A	
1,000.0	997.1	997.1	997.1	2.0	1.7	-152.52	3.7	-44.6	77.7	77.7	0.00	N/A	
1,100.0	1,094.3	1,094.3	1,094.3	2.3	1.9	-158.50	3.7	-44.6	99.1	99.1	0.00	N/A	
1,200.0	1,190.2	1,190.2	1,190.2	2.8	2.1	-162.98	3.7	-44.6	126.0	126.0	0.00	N/A	
1,300.0	1,284.4	1,284.4	1,284.4	3.4	2.2	-166.28	3.7	-44.6	158.3	158.3	0.00	N/A	
1,400.0	1,378.0	1,378.0	1,378.0	4.0	2.4	-168.77	3.7	-44.6	193.0	193.0	0.00	N/A	
1,500.0	1,471.5	1,471.5	1,471.5	4.6	2.6	-170.50	3.7	-44.6	227.9	227.9	0.00	N/A	
1,600.0	1,565.0	1,565.0	1,565.0	5.3	2.7	-171.77	3.7	-44.6	262.9	262.9	0.00	N/A	
1,700.0	1,658.5	1,658.5	1,658.5	5.9	2.9	-172.75	3.7	-44.6	298.1	298.1	0.00	N/A	
1,800.0	1,752.1	1,752.1	1,752.1	6.5	3.0	-173.51	3.7	-44.6	333.2	333.2	0.00	N/A	
1,900.0	1,845.6	1,845.6	1,845.6	7.2	3.2	-174.14	3.7	-44.6	368.4	368.4	0.00	N/A	
2,000.0	1,939.1	1,939.1	1,939.1	7.8	3.4	-174.65	3.7	-44.6	403.7	403.7	0.00	N/A	
2,100.0	2,032.6	2,032.6	2,032.6	8.5	3.5	-175.08	3.7	-44.6	439.0	439.0	0.00	N/A	
2,200.0	2,126.2	2,126.2	2,126.2	9.1	3.7	-175.45	3.7	-44.6	474.3	474.3	0.00	N/A	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope M-17
Project:	Weld County	**TVD Reference:**	Kbe @ 4652.0ft
Reference Site:	Antelope I-17 Pad	**MD Reference:**	Kbe @ 4652.0ft
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope M-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope I-17 Pad - Antelope N-17 - OH - Plan #1

Offset Site Error: 0.0 ft

Survey Program: 0-MWD

Offset Well Error: 0.0 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	Warning
0.0	0.0	38.0	38.0	0.0	0.1	180.00	-29.1	0.0	29.1				
100.0	100.0	138.0	138.0	0.2	0.2	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
200.0	200.0	238.0	238.0	0.3	0.4	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
300.0	300.0	338.0	338.0	0.5	0.6	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
400.0	400.0	438.0	438.0	0.7	0.7	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
500.0	500.0	538.0	538.0	0.9	0.9	180.00	-29.1	0.0	29.1	29.1	0.00	N/A	
600.0	600.0	638.0	638.0	1.0	1.1	179.26	-29.1	0.4	29.1	29.1	0.00	N/A	
604.5	604.5	642.6	642.6	1.0	1.1	136.39	-29.1	0.5	29.1	29.1	0.00	N/A	CC, ES
700.0	700.0	738.0	737.9	1.2	1.3	131.31	-28.7	5.0	30.8	30.8	0.00	N/A	
800.0	799.6	837.7	837.1	1.4	1.5	124.96	-27.8	14.7	36.3	36.3	0.00	N/A	
900.0	898.8	936.8	935.1	1.6	1.8	119.47	-26.4	29.5	45.8	45.8	0.00	N/A	
1,000.0	997.1	1,035.2	1,031.5	2.0	2.1	115.45	-24.6	49.2	59.2	59.2	0.00	N/A	
1,100.0	1,094.3	1,133.8	1,127.5	2.3	2.4	114.40	-22.5	71.5	75.6	75.6	0.00	N/A	
1,200.0	1,190.2	1,232.0	1,223.1	2.8	2.8	116.45	-20.4	93.7	94.3	94.3	0.00	N/A	
1,300.0	1,284.4	1,329.4	1,317.9	3.4	3.2	119.96	-18.4	115.8	115.6	115.6	0.00	N/A	
1,400.0	1,378.0	1,426.5	1,412.4	4.0	3.6	123.50	-16.3	137.7	138.4	138.4	0.00	N/A	
1,500.0	1,471.5	1,523.5	1,507.0	4.6	4.0	126.04	-14.3	159.7	161.6	161.6	0.00	N/A	
1,600.0	1,565.0	1,620.6	1,601.5	5.3	4.4	127.94	-12.2	181.7	185.0	185.0	0.00	N/A	
1,700.0	1,658.5	1,717.6	1,696.0	5.9	4.9	129.41	-10.2	203.7	208.6	208.6	0.00	N/A	
1,800.0	1,752.1	1,814.7	1,790.5	6.5	5.3	130.59	-8.1	225.7	232.3	232.3	0.00	N/A	
1,900.0	1,845.6	1,911.7	1,885.0	7.2	5.7	131.54	-6.1	247.6	256.1	256.1	0.00	N/A	
2,000.0	1,939.1	2,008.8	1,979.5	7.8	6.1	132.34	-4.1	269.6	279.9	279.9	0.00	N/A	
2,100.0	2,032.6	2,105.9	2,074.0	8.5	6.5	133.01	-2.0	291.6	303.7	303.7	0.00	N/A	
2,200.0	2,126.2	2,202.9	2,168.6	9.1	7.0	133.58	0.0	313.6	327.6	327.6	0.00	N/A	
2,300.0	2,219.7	2,300.0	2,263.1	9.8	7.4	134.07	2.1	335.5	351.5	351.5	0.00	N/A	
2,400.0	2,313.2	2,397.0	2,357.6	10.4	7.8	134.50	4.1	357.5	375.5	375.5	0.00	N/A	
2,500.0	2,406.7	2,494.1	2,452.1	11.1	8.2	134.88	6.2	379.5	399.4	399.4	0.00	N/A	
2,600.0	2,500.3	2,591.1	2,546.6	11.7	8.7	135.22	8.2	401.5	423.4	423.4	0.00	N/A	
2,700.0	2,593.8	2,688.2	2,641.1	12.4	9.1	135.52	10.2	423.4	447.4	447.4	0.00	N/A	
2,800.0	2,687.3	2,785.2	2,735.6	13.0	9.5	135.79	12.3	445.4	471.3	471.3	0.00	N/A	
2,900.0	2,780.8	2,882.3	2,830.2	13.7	9.9	136.03	14.3	467.4	495.3	495.3	0.00	N/A	

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Reference Depths are relative to Kbe @ 4652.0ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Antelope M-17
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.74°