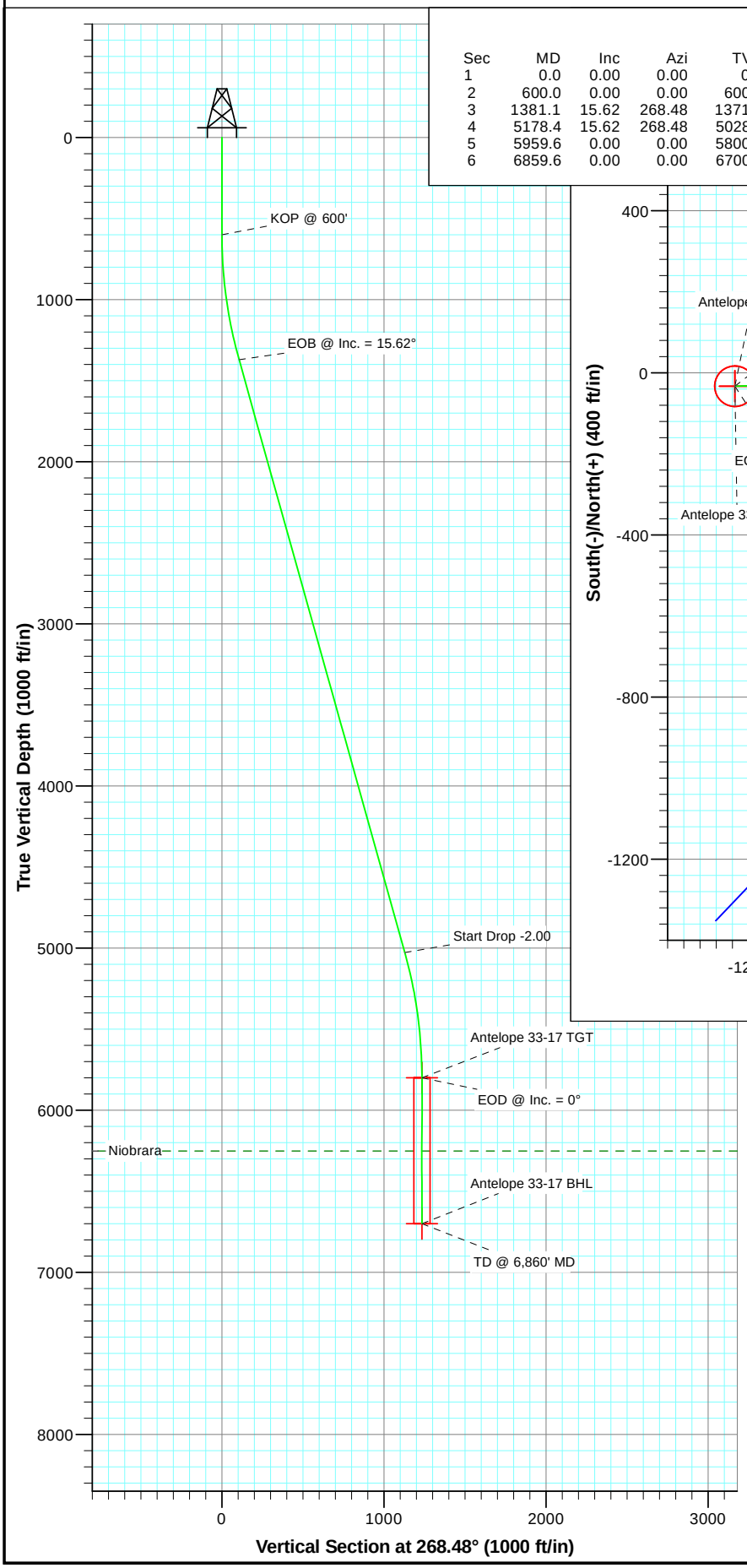
BONANZA CREEK ENERGY COMPANY

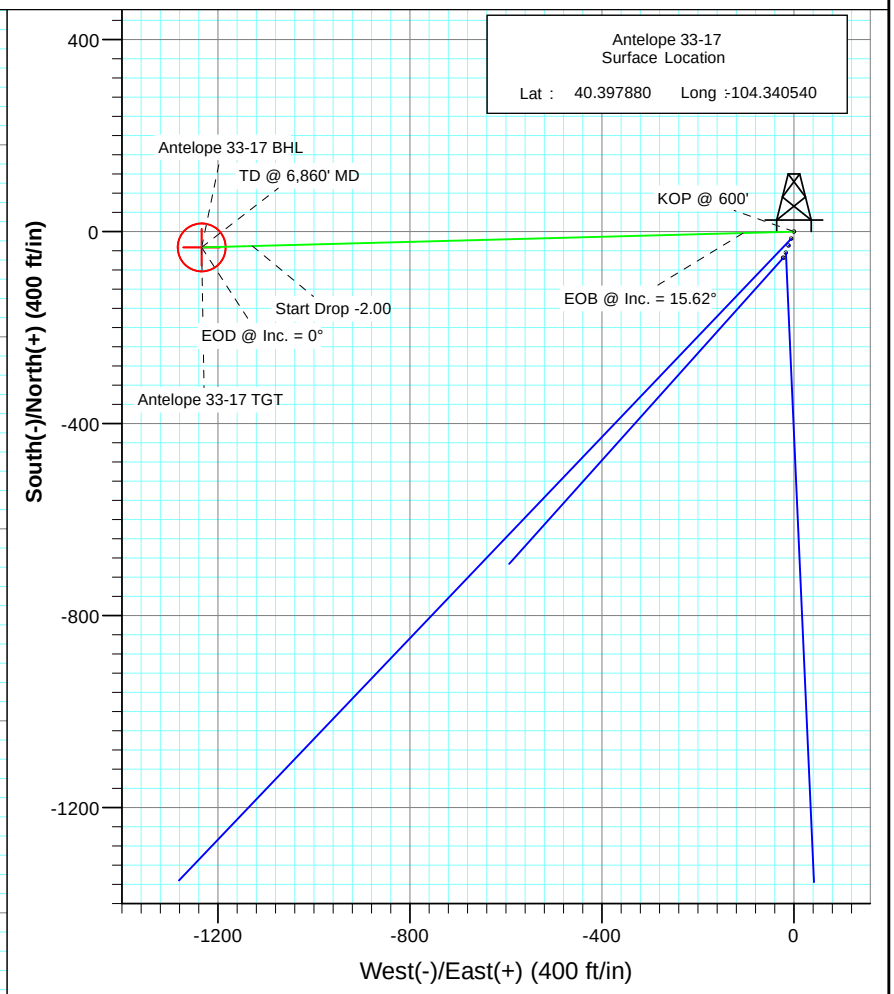
Project: Weld County
Site: Antelope 43-17 Pad
Well: Antelope 33-17
Wellbore: DD
Plan: Plan #2

CATHEDRAL

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	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	1381.1	15.62	268.48	1371.5	-2.8	-105.8	2.00	268.48	105.8	
4	5178.4	15.62	268.48	5028.5	-29.9	-1128.0	0.00	0.00	1128.4	
5	5959.6	0.00	0.00	5800.0	-32.7	-1233.8	2.00	180.00	1234.3	Antelope 33-17 TGT
6	6859.6	0.00	0.00	6700.0	-32.7	-1233.8	0.00	0.00	1234.3	Antelope 33-17 BHL





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6252.0	6411.6	Niobrara

Azimuths to True North
Magnetic North: 8.63°

Magnetic Field
Strength: 53171.6snT
Dip Angle: 67.12°
Date: 7/3/2011
Model: IGRF2010

Plan #2
Antelope 33-17
115XXX; SC

KBE @ 4701.0ft (Original Well Elev)
North American Datum 1983
Well Antelope 33-17, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	268.48	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Antelope 33-17 TGT	5800.0	-32.7	-1233.8	40.397790	-104.344970
Antelope 33-17 BHL	6700.0	-32.7	-1233.8	40.397790	-104.344970

BONANZA CREEK ENERGY COMPANY

Project: Weld County
Site: Antelope 43-17 Pad
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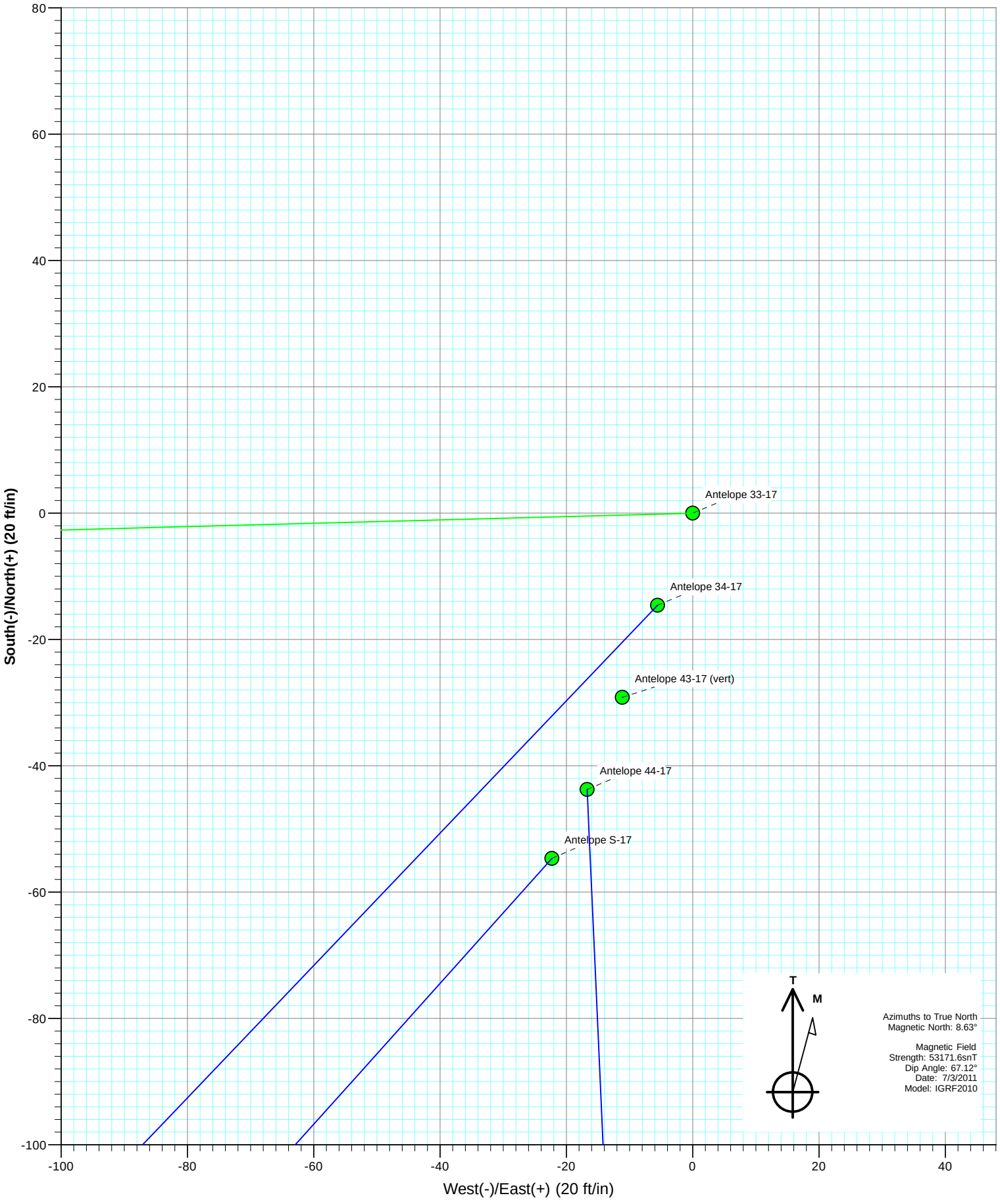
CATHEDRAL



BONANZA CREEK ENERGY COMPANY

Project: Weld County
Site: Antelope 43-17 Pad
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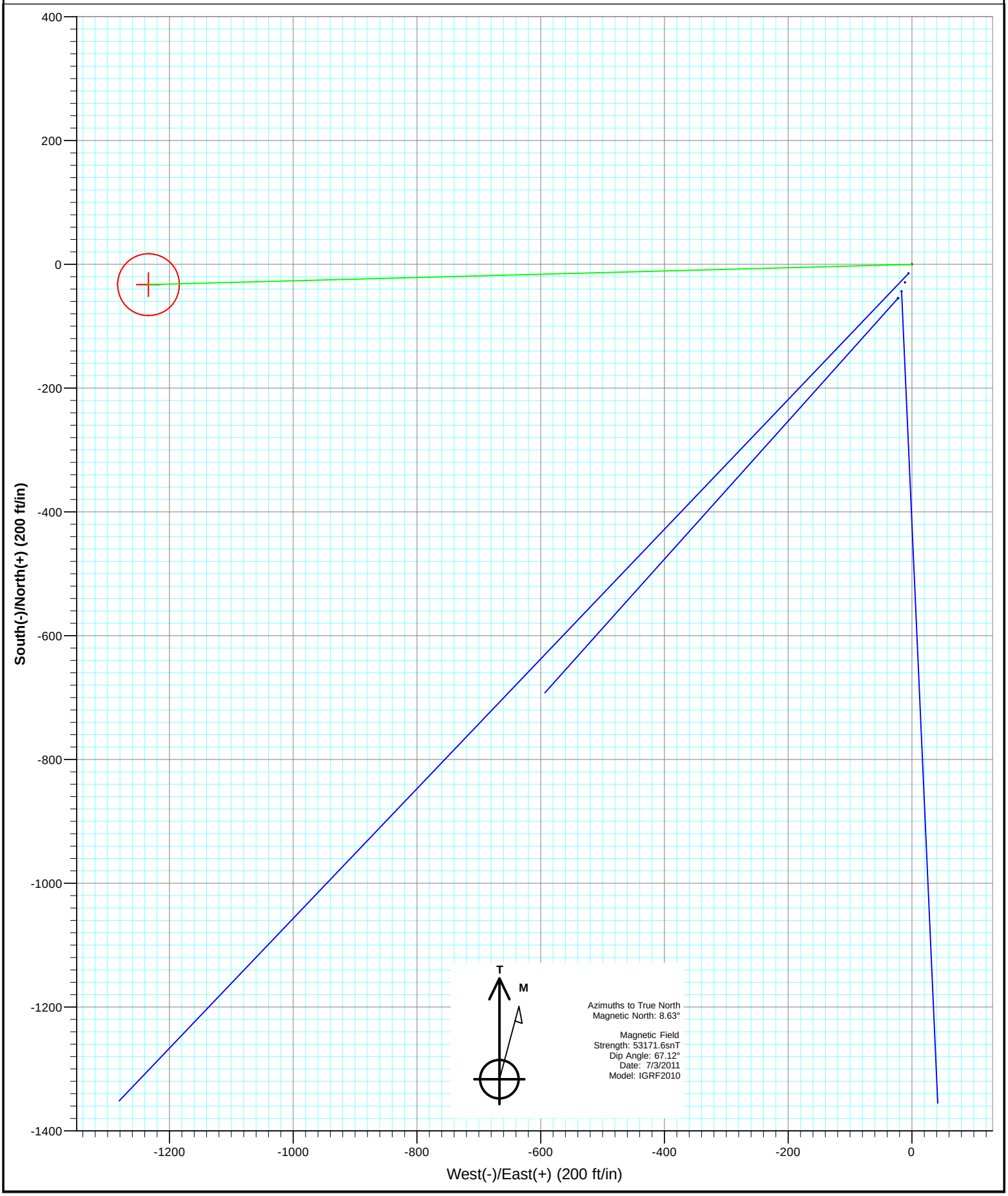
CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 33-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site:	Antelope 43-17 Pad	**North Reference:**	True
Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
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 43-17 Pad

Site Position:		**Northing:**	1,389,872.78 ft	**Latitude:**	40.397800
From:	Lat/Long	**Easting:**	3,322,918.40 ft	**Longitude:**	-104.340580
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.75 °

Well Antelope 33-17

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,389,902.05 ft	**Latitude:**	40.397880
	+E/-W	0.0 ft	**Easting:**	3,322,929.16 ft	**Longitude:**	-104.340540
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,691.0 ft

Wellbore DD

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/3/2011	8.63	67.12	53,172

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	268.48

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	
1,381.1	15.62	268.48	1,371.5	-2.8	-105.8	2.00	2.00	0.00	268.48	
5,178.4	15.62	268.48	5,028.5	-29.9	-1,128.0	0.00	0.00	0.00	0.00	
5,959.6	0.00	0.00	5,800.0	-32.7	-1,233.8	2.00	-2.00	0.00	180.00	Antelope 33-17 TGT
6,859.6	0.00	0.00	6,700.0	-32.7	-1,233.8	0.00	0.00	0.00	0.00	Antelope 33-17 BHL

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 33-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site:	Antelope 43-17 Pad	**North Reference:**	True
Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
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	2.00	268.48	700.0	0.0	-1.7	1.7	2.00	2.00	
800.0	4.00	268.48	799.8	-0.2	-7.0	7.0	2.00	2.00	
900.0	6.00	268.48	899.5	-0.4	-15.7	15.7	2.00	2.00	
1,000.0	8.00	268.48	998.7	-0.7	-27.9	27.9	2.00	2.00	
1,100.0	10.00	268.48	1,097.5	-1.2	-43.5	43.5	2.00	2.00	
1,200.0	12.00	268.48	1,195.6	-1.7	-62.6	62.6	2.00	2.00	
1,300.0	14.00	268.48	1,293.1	-2.3	-85.1	85.1	2.00	2.00	
1,381.1	15.62	268.48	1,371.5	-2.8	-105.8	105.8	2.00	2.00	EOB @ Inc. = 15.62°
1,400.0	15.62	268.48	1,389.7	-2.9	-110.9	110.9	0.00	0.00	
1,500.0	15.62	268.48	1,486.0	-3.7	-137.8	137.8	0.00	0.00	
1,600.0	15.62	268.48	1,582.3	-4.4	-164.7	164.8	0.00	0.00	
1,700.0	15.62	268.48	1,678.6	-5.1	-191.6	191.7	0.00	0.00	
1,800.0	15.62	268.48	1,774.9	-5.8	-218.6	218.6	0.00	0.00	
1,900.0	15.62	268.48	1,871.2	-6.5	-245.5	245.6	0.00	0.00	
2,000.0	15.62	268.48	1,967.5	-7.2	-272.4	272.5	0.00	0.00	
2,100.0	15.62	268.48	2,063.8	-7.9	-299.3	299.4	0.00	0.00	
2,200.0	15.62	268.48	2,160.1	-8.7	-326.2	326.4	0.00	0.00	
2,300.0	15.62	268.48	2,256.4	-9.4	-353.2	353.3	0.00	0.00	
2,400.0	15.62	268.48	2,352.7	-10.1	-380.1	380.2	0.00	0.00	
2,500.0	15.62	268.48	2,449.0	-10.8	-407.0	407.1	0.00	0.00	
2,600.0	15.62	268.48	2,545.3	-11.5	-433.9	434.1	0.00	0.00	
2,700.0	15.62	268.48	2,641.6	-12.2	-460.8	461.0	0.00	0.00	
2,800.0	15.62	268.48	2,737.9	-12.9	-487.8	487.9	0.00	0.00	
2,900.0	15.62	268.48	2,834.2	-13.7	-514.7	514.9	0.00	0.00	
3,000.0	15.62	268.48	2,930.6	-14.4	-541.6	541.8	0.00	0.00	
3,100.0	15.62	268.48	3,026.9	-15.1	-568.5	568.7	0.00	0.00	
3,200.0	15.62	268.48	3,123.2	-15.8	-595.4	595.7	0.00	0.00	
3,300.0	15.62	268.48	3,219.5	-16.5	-622.4	622.6	0.00	0.00	
3,400.0	15.62	268.48	3,315.8	-17.2	-649.3	649.5	0.00	0.00	
3,500.0	15.62	268.48	3,412.1	-17.9	-676.2	676.4	0.00	0.00	
3,600.0	15.62	268.48	3,508.4	-18.7	-703.1	703.4	0.00	0.00	
3,700.0	15.62	268.48	3,604.7	-19.4	-730.0	730.3	0.00	0.00	
3,800.0	15.62	268.48	3,701.0	-20.1	-757.0	757.2	0.00	0.00	
3,900.0	15.62	268.48	3,797.3	-20.8	-783.9	784.2	0.00	0.00	
4,000.0	15.62	268.48	3,893.6	-21.5	-810.8	811.1	0.00	0.00	
4,100.0	15.62	268.48	3,989.9	-22.2	-837.7	838.0	0.00	0.00	
4,200.0	15.62	268.48	4,086.2	-22.9	-864.6	865.0	0.00	0.00	
4,300.0	15.62	268.48	4,182.5	-23.7	-891.6	891.9	0.00	0.00	
4,400.0	15.62	268.48	4,278.8	-24.4	-918.5	918.8	0.00	0.00	
4,500.0	15.62	268.48	4,375.1	-25.1	-945.4	945.7	0.00	0.00	
4,600.0	15.62	268.48	4,471.4	-25.8	-972.3	972.7	0.00	0.00	
4,700.0	15.62	268.48	4,567.7	-26.5	-999.2	999.6	0.00	0.00	
4,800.0	15.62	268.48	4,664.1	-27.2	-1,026.2	1,026.5	0.00	0.00	
4,900.0	15.62	268.48	4,760.4	-27.9	-1,053.1	1,053.5	0.00	0.00	
5,000.0	15.62	268.48	4,856.7	-28.7	-1,080.0	1,080.4	0.00	0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 33-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site:	Antelope 43-17 Pad	**North Reference:**	True
Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
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
5,100.0	15.62	268.48	4,953.0	-29.4	-1,106.9	1,107.3	0.00	0.00	
5,178.4	15.62	268.48	5,028.5	-29.9	-1,128.0	1,128.4	0.00	0.00	Start Drop -2.00
5,200.0	15.19	268.48	5,049.3	-30.1	-1,133.8	1,134.2	2.00	-2.00	
5,300.0	13.19	268.48	5,146.2	-30.7	-1,158.3	1,158.7	2.00	-2.00	
5,400.0	11.19	268.48	5,244.0	-31.3	-1,179.4	1,179.8	2.00	-2.00	
5,500.0	9.19	268.48	5,342.4	-31.8	-1,197.1	1,197.5	2.00	-2.00	
5,600.0	7.19	268.48	5,441.4	-32.1	-1,211.3	1,211.7	2.00	-2.00	
5,700.0	5.19	268.48	5,540.8	-32.4	-1,222.1	1,222.5	2.00	-2.00	
5,800.0	3.19	268.48	5,640.5	-32.6	-1,229.4	1,229.8	2.00	-2.00	
5,900.0	1.19	268.48	5,740.4	-32.7	-1,233.2	1,233.7	2.00	-2.00	
5,959.6	0.00	0.00	5,800.0	-32.7	-1,233.8	1,234.3	2.00	-2.00	EOD @ Inc. = 0° - Antelope 33-17 TGT
6,000.0	0.00	0.00	5,840.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,100.0	0.00	0.00	5,940.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,200.0	0.00	0.00	6,040.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,300.0	0.00	0.00	6,140.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,400.0	0.00	0.00	6,240.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,411.6	0.00	0.00	6,252.0	-32.7	-1,233.8	1,234.3	0.00	0.00	Niobrara
6,500.0	0.00	0.00	6,340.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,600.0	0.00	0.00	6,440.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,700.0	0.00	0.00	6,540.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,800.0	0.00	0.00	6,640.4	-32.7	-1,233.8	1,234.3	0.00	0.00	
6,859.6	0.00	0.00	6,700.0	-32.7	-1,233.8	1,234.3	0.00	0.00	TD @ 6,860' MD - Antelope 33-17 BHL

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 33-17 TGT - plan hits target center - Point	0.00	0.00	5,800.0	-32.7	-1,233.8	1,389,853.18	3,321,695.85	40.397790	-104.344970
Antelope 33-17 BHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,700.0	-32.7	-1,233.8	1,389,853.18	3,321,695.85	40.397790	-104.344970

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,411.6	6,252.0	Niobrara		0.00	

Database:	USA EDM 5000 Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 33-17
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site:	Antelope 43-17 Pad	**North Reference:**	True
Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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'
1,381.1	1,371.5	-2.8	-105.8	EOB @ Inc. = 15.62°
5,178.4	5,028.5	-29.9	-1,128.0	Start Drop -2.00
5,959.6	5,800.0	-32.7	-1,233.8	EOD @ Inc. = 0°
6,859.6	6,700.0	-32.7	-1,233.8	TD @ 6,860' MD

Bonanza Creek Energy Operating Company, LLC

Weld County
Antelope 43-17 Pad
Antelope 33-17
DD
Plan #2

Anticollision Report

11 July, 2011

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Plan #2

Filter type:	GLOBAL FILTER APPLIED: All wellpaths within 200'+ 100/1000 of reference		
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** 7/11/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	6,859.6	Plan #2 (DD)	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 43-17 Pad						
Antelope 34-17 - DD - Plan #2	0.0	0.0	15.6			
Antelope 34-17 - DD - Plan #2	600.0	600.0	15.6	15.6	10,000.000	CC, ES
Antelope 43-17 (vert) - DD - Plan #2	0.0	0.0	31.2			
Antelope 43-17 (vert) - DD - Plan #2	861.3	861.0	28.8	28.8	10,000.000	CC, ES
Antelope 44-17 - DD - Plan #2	0.0	0.0	46.8			
Antelope 44-17 - DD - Plan #2	600.0	600.0	46.8	46.8	10,000.000	CC, ES
Antelope S-17 - DD - Plan #2	0.0	0.0	59.0			
Antelope S-17 - DD - Plan #2	600.0	600.0	59.0	59.0	10,000.000	CC, ES

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope 43-17 Pad - Antelope 34-17 - DD - Plan #2

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	-159.08	-14.6	-5.6	15.6				
100.0	100.0	100.0	100.0	0.2	0.2	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	-159.08	-14.6	-5.6	15.6	15.6	0.00	N/A	CC, ES
700.0	700.0	699.5	699.5	1.2	1.2	-70.79	-15.8	-6.8	16.6	16.6	0.00	N/A	
800.0	799.8	798.9	798.7	1.4	1.4	-78.45	-19.6	-10.3	19.7	19.7	0.00	N/A	
900.0	899.5	898.0	897.5	1.6	1.6	-86.74	-25.8	-16.3	25.4	25.4	0.00	N/A	
1,000.0	998.7	996.9	995.6	1.8	1.8	-93.40	-34.4	-24.5	34.0	34.0	0.00	N/A	
1,100.0	1,097.5	1,095.3	1,092.9	2.1	2.1	-98.13	-45.5	-35.1	45.4	45.4	0.00	N/A	
1,200.0	1,195.6	1,193.3	1,189.1	2.4	2.4	-101.37	-58.9	-47.8	59.4	59.4	0.00	N/A	
1,300.0	1,293.1	1,290.7	1,284.0	2.8	2.8	-103.57	-74.5	-62.8	76.2	76.2	0.00	N/A	
1,400.0	1,389.7	1,387.3	1,377.5	3.3	3.2	-105.11	-92.4	-79.8	95.4	95.4	0.00	N/A	
1,500.0	1,486.0	1,483.4	1,469.5	3.7	3.7	-105.43	-112.3	-98.9	116.6	116.6	0.00	N/A	
1,600.0	1,582.3	1,578.8	1,559.8	4.2	4.2	-104.46	-134.4	-119.9	139.3	139.3	0.00	N/A	
1,700.0	1,678.6	1,673.2	1,648.3	4.7	4.8	-102.77	-158.3	-142.7	163.7	163.7	0.00	N/A	
1,800.0	1,774.9	1,766.5	1,734.5	5.2	5.5	-100.71	-184.0	-167.3	189.8	189.8	0.00	N/A	
1,900.0	1,871.2	1,858.5	1,818.4	5.7	6.1	-98.48	-211.4	-193.4	217.9	217.9	0.00	N/A	
2,000.0	1,967.5	1,953.6	1,904.4	6.2	6.9	-96.36	-240.7	-221.4	247.2	247.2	0.00	N/A	
2,100.0	2,063.8	2,048.8	1,990.5	6.7	7.6	-94.69	-270.1	-249.4	276.8	276.8	0.00	N/A	
2,200.0	2,160.1	2,144.1	2,076.7	7.2	8.3	-93.34	-299.5	-277.5	306.5	306.5	0.00	N/A	
2,300.0	2,256.4	2,239.3	2,162.8	7.7	9.0	-92.23	-328.9	-305.5	336.4	336.4	0.00	N/A	
2,400.0	2,352.7	2,334.6	2,249.0	8.2	9.8	-91.30	-358.4	-333.6	366.4	366.4	0.00	N/A	
2,500.0	2,449.0	2,429.8	2,335.1	8.7	10.5	-90.51	-387.8	-361.7	396.4	396.4	0.00	N/A	
2,600.0	2,545.3	2,525.1	2,421.2	9.2	11.3	-89.83	-417.2	-389.7	426.5	426.5	0.00	N/A	
2,700.0	2,641.6	2,620.3	2,507.4	9.7	12.0	-89.24	-446.6	-417.8	456.7	456.7	0.00	N/A	
2,800.0	2,737.9	2,715.6	2,593.5	10.2	12.8	-88.72	-476.0	-445.8	486.8	486.8	0.00	N/A	

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope 43-17 Pad - Antelope 43-17 (vert) - DD - Plan #2

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	-159.09	-29.2	-11.1	31.2				
100.0	100.0	100.0	100.0	0.2	0.2	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	-159.09	-29.2	-11.1	31.2	31.2	0.00	N/A	
700.0	700.0	700.0	700.0	1.2	1.2	-70.60	-29.2	-11.1	30.6	30.6	0.00	N/A	
800.0	799.8	799.8	799.8	1.4	1.4	-80.32	-29.2	-11.1	29.3	29.3	0.00	N/A	
861.3	861.0	861.0	861.0	1.5	1.5	-90.00	-29.2	-11.1	28.8	28.8	0.00	N/A	CC, ES
900.0	899.5	899.5	899.5	1.6	1.6	-97.43	-29.2	-11.1	29.1	29.1	0.00	N/A	
1,000.0	998.7	998.7	998.7	1.8	1.7	-118.73	-29.2	-11.1	33.0	33.0	0.00	N/A	
1,100.0	1,097.5	1,097.5	1,097.5	2.1	1.9	-137.18	-29.2	-11.1	42.8	42.8	0.00	N/A	
1,200.0	1,195.6	1,195.6	1,195.6	2.4	2.1	-149.81	-29.2	-11.1	58.3	58.3	0.00	N/A	
1,300.0	1,293.1	1,293.1	1,293.1	2.8	2.2	-157.89	-29.1	-11.1	78.7	78.7	0.00	N/A	
1,400.0	1,389.7	1,389.7	1,389.7	3.3	2.4	-163.17	-29.1	-11.1	103.1	103.1	0.00	N/A	
1,500.0	1,486.0	1,486.0	1,486.0	3.7	2.6	-166.62	-29.1	-11.1	129.2	129.2	0.00	N/A	
1,600.0	1,582.3	1,582.3	1,582.3	4.2	2.7	-168.92	-29.1	-11.1	155.6	155.6	0.00	N/A	
1,700.0	1,678.6	1,678.6	1,678.6	4.7	2.9	-170.54	-29.1	-11.1	182.1	182.1	0.00	N/A	
1,800.0	1,774.9	1,774.9	1,774.9	5.2	3.1	-171.76	-29.1	-11.1	208.7	208.7	0.00	N/A	
1,900.0	1,871.2	1,871.2	1,871.2	5.7	3.2	-172.70	-29.1	-11.1	235.4	235.4	0.00	N/A	
2,000.0	1,967.5	1,967.5	1,967.5	6.2	3.4	-173.44	-29.1	-11.1	262.2	262.2	0.00	N/A	
2,100.0	2,063.8	2,063.8	2,063.8	6.7	3.6	-174.05	-29.1	-11.1	289.0	289.0	0.00	N/A	
2,200.0	2,160.1	2,160.1	2,160.1	7.2	3.8	-174.56	-29.1	-11.1	315.8	315.8	0.00	N/A	
2,300.0	2,256.4	2,256.4	2,256.4	7.7	3.9	-174.99	-29.1	-11.1	342.6	342.6	0.00	N/A	
2,400.0	2,352.7	2,352.7	2,352.7	8.2	4.1	-175.35	-29.1	-11.1	369.4	369.4	0.00	N/A	
2,500.0	2,449.0	2,449.0	2,449.0	8.7	4.3	-175.67	-29.1	-11.1	396.3	396.3	0.00	N/A	
2,600.0	2,545.3	2,545.3	2,545.3	9.2	4.4	-175.94	-29.1	-11.1	423.1	423.1	0.00	N/A	
2,700.0	2,641.6	2,641.6	2,641.6	9.7	4.6	-176.19	-29.1	-11.1	450.0	450.0	0.00	N/A	
2,800.0	2,737.9	2,737.9	2,737.9	10.2	4.8	-176.40	-29.1	-11.1	476.9	476.9	0.00	N/A	

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope 43-17 Pad - Antelope 44-17 - DD - Plan #2

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	-159.08	-43.7	-16.7	46.8				
100.0	100.0	100.0	100.0	0.2	0.2	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	-159.08	-43.7	-16.7	46.8	46.8	0.00	N/A	CC, ES
700.0	700.0	698.5	698.4	1.2	1.2	-70.26	-45.4	-16.6	47.8	47.8	0.00	N/A	
800.0	799.8	796.6	796.4	1.4	1.4	-77.62	-50.5	-16.4	51.3	51.3	0.00	N/A	
900.0	899.5	894.0	893.4	1.6	1.6	-87.53	-58.8	-16.0	58.7	58.7	0.00	N/A	
1,000.0	998.7	990.3	989.1	1.8	1.8	-97.39	-70.2	-15.5	71.2	71.2	0.00	N/A	
1,100.0	1,097.5	1,085.3	1,083.0	2.1	2.1	-105.57	-84.7	-14.9	89.5	89.5	0.00	N/A	
1,200.0	1,195.6	1,178.6	1,174.7	2.4	2.4	-111.72	-101.9	-14.1	113.3	113.3	0.00	N/A	
1,300.0	1,293.1	1,270.0	1,263.9	2.8	2.7	-116.16	-121.6	-13.2	142.3	142.3	0.00	N/A	
1,400.0	1,389.7	1,359.2	1,350.3	3.3	3.1	-119.41	-143.6	-12.3	176.3	176.3	0.00	N/A	
1,500.0	1,486.0	1,447.1	1,434.8	3.7	3.5	-121.81	-167.9	-11.2	213.6	213.6	0.00	N/A	
1,600.0	1,582.3	1,539.2	1,523.0	4.2	3.9	-123.43	-194.5	-10.0	252.2	252.2	0.00	N/A	
1,700.0	1,678.6	1,631.2	1,611.1	4.7	4.4	-124.62	-221.0	-8.8	290.9	290.9	0.00	N/A	
1,800.0	1,774.9	1,723.3	1,699.3	5.2	4.8	-125.53	-247.5	-7.6	329.6	329.6	0.00	N/A	
1,900.0	1,871.2	1,815.4	1,787.4	5.7	5.3	-126.24	-274.1	-6.4	368.5	368.5	0.00	N/A	
2,000.0	1,967.5	1,907.4	1,875.6	6.2	5.8	-126.83	-300.6	-5.3	407.3	407.3	0.00	N/A	
2,100.0	2,063.8	1,999.5	1,963.7	6.7	6.3	-127.31	-327.2	-4.1	446.2	446.2	0.00	N/A	
2,200.0	2,160.1	2,091.6	2,051.9	7.2	6.7	-127.71	-353.7	-2.9	485.1	485.1	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 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Offset Design Antelope 43-17 Pad - Antelope S-17 - DD - Plan #2

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	-157.82	-54.7	-22.3	59.0				
100.0	100.0	100.0	100.0	0.2	0.2	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	-157.82	-54.7	-22.3	59.0	59.0	0.00	N/A	CC, ES
700.0	700.0	698.1	698.1	1.2	1.2	-67.24	-55.9	-23.4	59.9	59.9	0.00	N/A	
800.0	799.8	796.1	795.9	1.4	1.4	-69.89	-59.6	-26.8	62.8	62.8	0.00	N/A	
900.0	899.5	893.8	893.3	1.6	1.6	-73.78	-65.9	-32.3	67.8	67.8	0.00	N/A	
1,000.0	998.7	991.2	990.0	1.8	1.8	-78.28	-74.5	-40.1	75.3	75.3	0.00	N/A	
1,100.0	1,097.5	1,088.3	1,085.9	2.1	2.1	-82.84	-85.6	-50.0	85.5	85.5	0.00	N/A	
1,200.0	1,195.6	1,186.5	1,182.5	2.4	2.4	-87.44	-98.6	-61.7	97.8	97.8	0.00	N/A	
1,300.0	1,293.1	1,285.1	1,279.5	2.8	2.7	-92.68	-111.8	-73.5	111.0	111.0	0.00	N/A	
1,400.0	1,389.7	1,383.3	1,376.2	3.3	3.0	-98.30	-125.0	-85.3	125.4	125.4	0.00	N/A	
1,500.0	1,486.0	1,481.4	1,472.6	3.7	3.3	-103.37	-138.1	-97.0	141.1	141.1	0.00	N/A	
1,600.0	1,582.3	1,579.4	1,569.1	4.2	3.7	-107.41	-151.3	-108.8	157.7	157.7	0.00	N/A	
1,700.0	1,678.6	1,677.5	1,665.5	4.7	4.0	-110.68	-164.4	-120.6	174.9	174.9	0.00	N/A	
1,800.0	1,774.9	1,775.5	1,762.0	5.2	4.3	-113.36	-177.5	-132.3	192.6	192.6	0.00	N/A	
1,900.0	1,871.2	1,873.6	1,858.5	5.7	4.7	-115.59	-190.7	-144.1	210.6	210.6	0.00	N/A	
2,000.0	1,967.5	1,971.7	1,954.9	6.2	5.0	-117.47	-203.8	-155.9	228.9	228.9	0.00	N/A	
2,100.0	2,063.8	2,069.7	2,051.4	6.7	5.4	-119.07	-217.0	-167.7	247.3	247.3	0.00	N/A	
2,200.0	2,160.1	2,167.8	2,147.9	7.2	5.7	-120.44	-230.1	-179.4	266.0	266.0	0.00	N/A	
2,300.0	2,256.4	2,265.9	2,244.3	7.7	6.1	-121.64	-243.2	-191.2	284.7	284.7	0.00	N/A	
2,400.0	2,352.7	2,363.9	2,340.8	8.2	6.4	-122.69	-256.4	-203.0	303.6	303.6	0.00	N/A	
2,500.0	2,449.0	2,462.0	2,437.2	8.7	6.8	-123.62	-269.5	-214.7	322.6	322.6	0.00	N/A	
2,600.0	2,545.3	2,560.0	2,533.7	9.2	7.1	-124.44	-282.6	-226.5	341.6	341.6	0.00	N/A	
2,700.0	2,641.6	2,658.1	2,630.2	9.7	7.4	-125.18	-295.8	-238.3	360.7	360.7	0.00	N/A	
2,800.0	2,737.9	2,756.2	2,726.6	10.2	7.8	-125.84	-308.9	-250.0	379.8	379.8	0.00	N/A	
2,900.0	2,834.2	2,854.2	2,823.1	10.8	8.1	-126.44	-322.1	-261.8	399.0	399.0	0.00	N/A	
3,000.0	2,930.6	2,952.3	2,919.6	11.3	8.5	-126.98	-335.2	-273.6	418.2	418.2	0.00	N/A	
3,100.0	3,026.9	3,050.3	3,016.0	11.8	8.8	-127.48	-348.3	-285.3	437.5	437.5	0.00	N/A	
3,200.0	3,123.2	3,148.4	3,112.5	12.3	9.2	-127.93	-361.5	-297.1	456.7	456.7	0.00	N/A	
3,300.0	3,219.5	3,246.5	3,208.9	12.8	9.6	-128.35	-374.6	-308.9	476.1	476.1	0.00	N/A	
3,400.0	3,315.8	3,344.5	3,305.4	13.3	9.9	-128.74	-387.8	-320.6	495.4	495.4	0.00	N/A	

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 33-17
Project:	Weld County	**TVD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Reference Site:	Antelope 43-17 Pad	**MD Reference:**	KBE @ 4701.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 33-17	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	USA EDM 5000 Multi Users DB
Reference Design:	Plan #2	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KBE @ 4701.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °

Coordinates are relative to: Antelope 33-17
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.75°