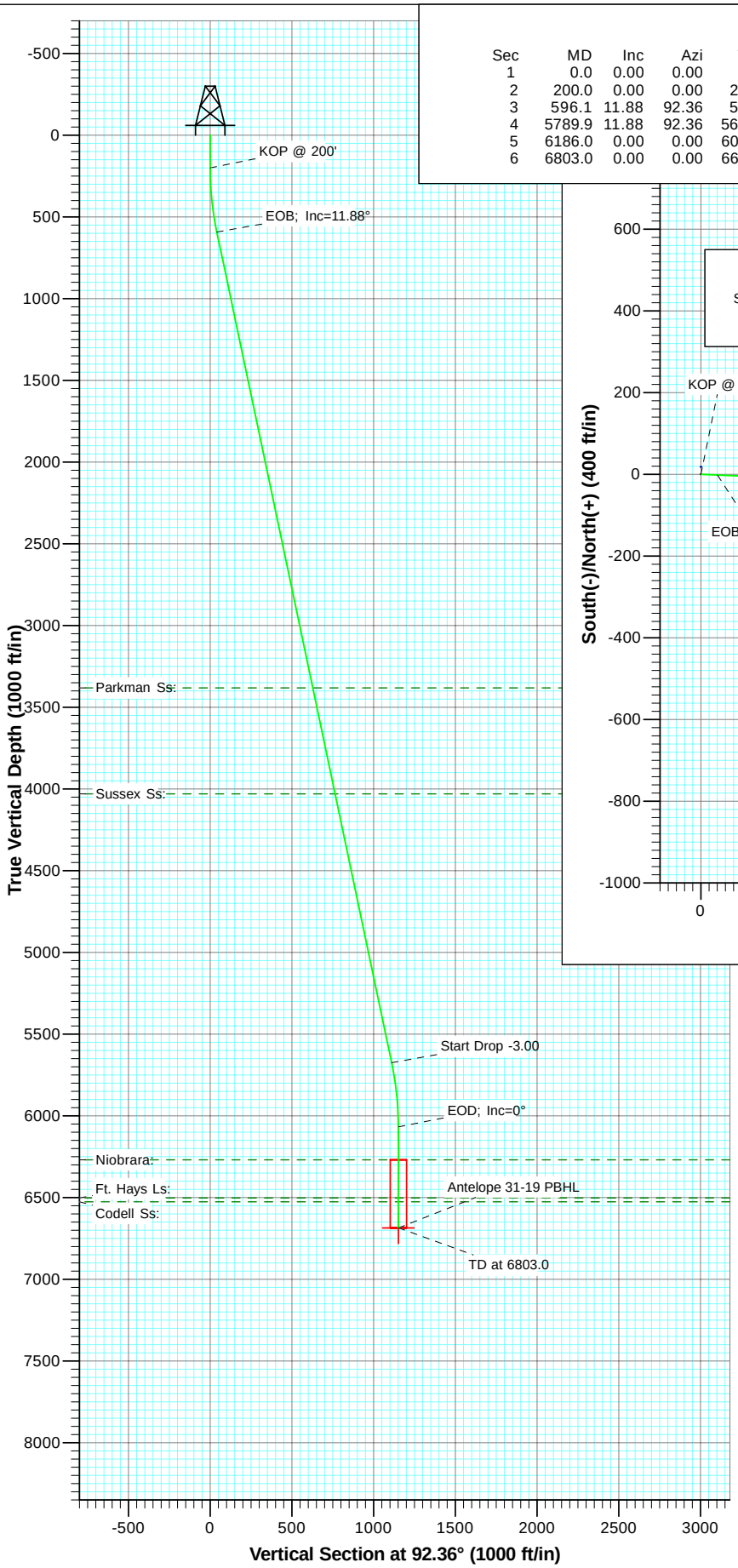
BONANZA CREEK ENERGY COMPANY

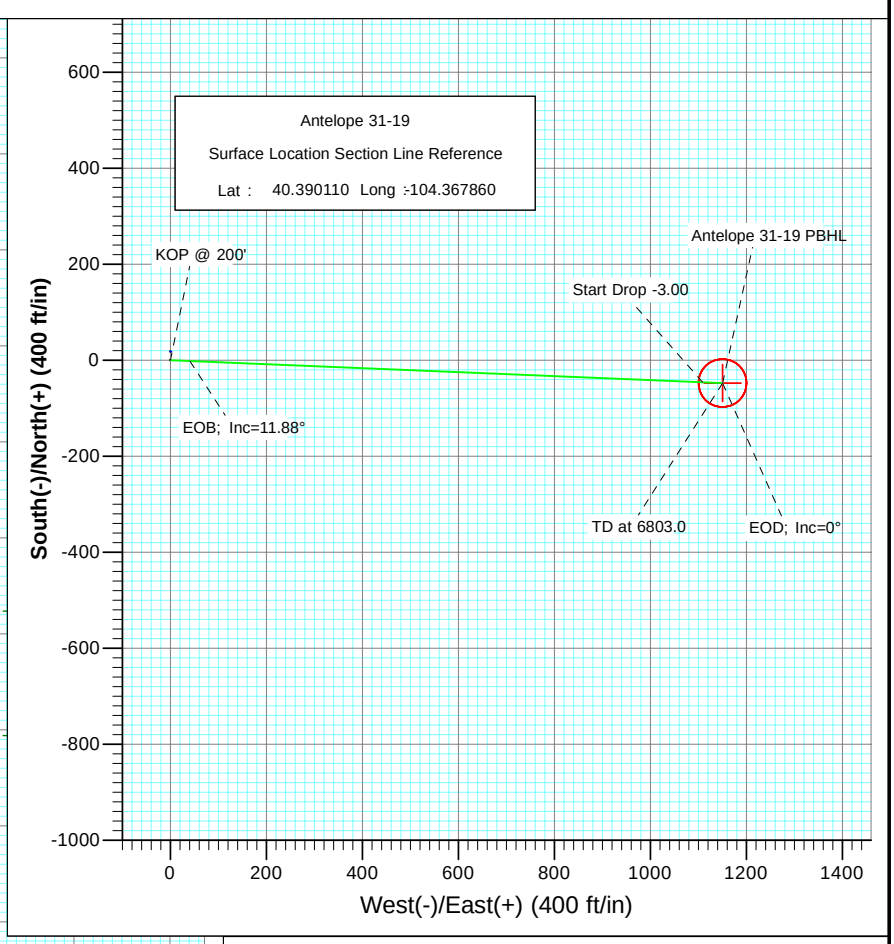
Project: Weld County
Site: Antelope 21-19 Pad
Well: Antelope 31-19
Wellbore: DD
Plan: Plan #1

CATHEDRAL

SECTION DETAILS

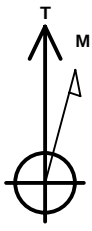
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	596.1	11.88	92.36	593.3	-1.7	40.9	3.00	92.36	40.9	
4	5789.9	11.88	92.36	5675.7	-45.6	1109.5	0.00	0.00	1110.5	
5	6186.0	0.00	0.00	6069.0	-47.3	1150.4	3.00	180.00	1151.4	
6	6803.0	0.00	0.00	6686.0	-47.3	1150.4	0.00	0.00	1151.4	Antelope 31-19 PBHL





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3382.0	3445.9	Parkman Ss:
4030.0	4108.1	Sussex Ss:
6269.0	6386.0	Niobrara:
6503.0	6620.0	Ft. Hays Ls:
6526.0	6643.0	Codell Ss:



Azimuths to True North
Magnetic North: 8.77°

Magnetic Field
Strength: 53263.8snT
Dip Angle: 67.14°
Date: 7/29/2010
Model: IGRF2010

Plan #1
Antelope 31-19

WELL @ 4614.0ft (Original Well Elev)
North American Datum 1983
Well Antelope 31-19, True North

Type	Target	Azimuth	Origin Type	N/S	E/W	From TVD
TD	No Target (Freehand)	92.36	Slot	0.0	0.0	0.0

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Antelope 31-19 PBHL	6686.0	-47.3	1150.4	40.389980	-104.363730

BONANZA CREEK ENERGY COMPANY

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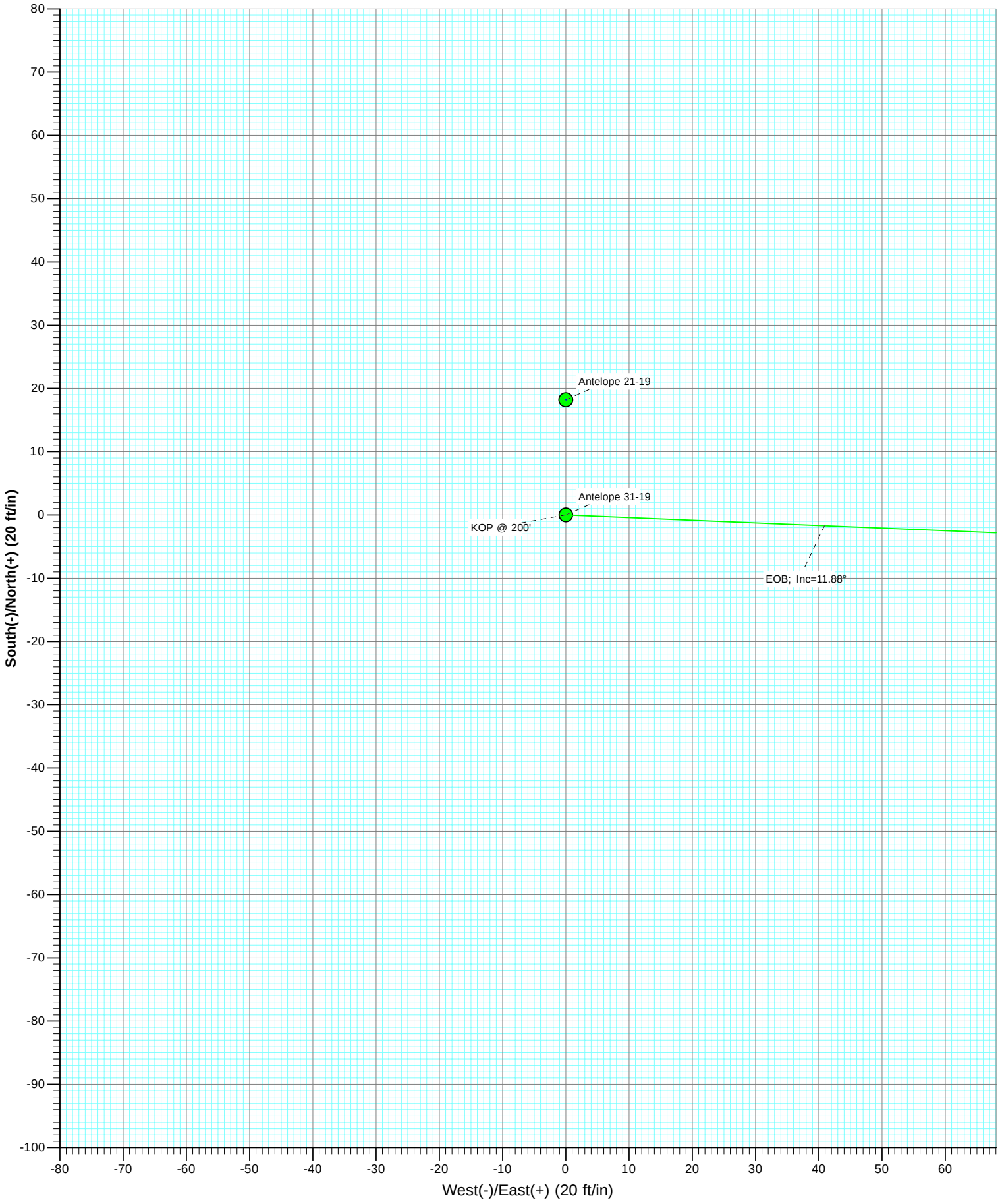
CATHEDRAL



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 31-19
Company:	Bonanza Creek Energy Operating Company, LLC	**TVD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Project:	Weld County	**MD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Site:	Antelope 21-19 Pad	**North Reference:**	True
Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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 21-19 Pad

Site Position:		**Northing:**	1,386,991.60 ft	**Latitude:**	40.390160
From:	Lat/Long	**Easting:**	3,315,356.54 ft	**Longitude:**	-104.367860
Position Uncertainty:	0.0 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.73 °

Well Antelope 31-19

Well Position	**+N/-S**	0.0 ft	**Northing:**	1,386,973.38 ft	**Latitude:**	40.390110
	+E/-W	0.0 ft	**Easting:**	3,315,356.78 ft	**Longitude:**	-104.367860
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	ft	**Ground Level:**	4,604.0 ft

Wellbore DD

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/29/2010	8.77	67.14	53,264

Design Plan #1

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	92.36

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
596.1	11.88	92.36	593.3	-1.7	40.9	3.00	3.00	0.00	92.36	
5,789.9	11.88	92.36	5,675.7	-45.6	1,109.5	0.00	0.00	0.00	0.00	
6,186.0	0.00	0.00	6,069.0	-47.3	1,150.4	3.00	-3.00	0.00	180.00	
6,803.0	0.00	0.00	6,686.0	-47.3	1,150.4	0.00	0.00	0.00	0.00	Antelope 31-19 PBHL

Database:	EDM 5000.1 US Multi Users DB	**Local Co-ordinate Reference:**	Well Antelope 31-19
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Project:	Weld County	**MD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Site:	Antelope 21-19 Pad	**North Reference:**	True
Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	KOP @ 200'
300.0	3.00	92.36	300.0	-0.1	2.6	2.6	3.00	3.00	
400.0	6.00	92.36	399.6	-0.4	10.5	10.5	3.00	3.00	
500.0	9.00	92.36	498.8	-1.0	23.5	23.5	3.00	3.00	
596.1	11.88	92.36	593.3	-1.7	40.9	40.9	3.00	3.00	EOB; Inc=11.88°
600.0	11.88	92.36	597.1	-1.7	41.7	41.7	0.02	0.02	
700.0	11.88	92.36	694.9	-2.6	62.3	62.3	0.00	0.00	
800.0	11.88	92.36	792.8	-3.4	82.8	82.9	0.00	0.00	
900.0	11.88	92.36	890.7	-4.3	103.4	103.5	0.00	0.00	
1,000.0	11.88	92.36	988.5	-5.1	124.0	124.1	0.00	0.00	
1,100.0	11.88	92.36	1,086.4	-5.9	144.6	144.7	0.00	0.00	
1,200.0	11.88	92.36	1,184.2	-6.8	165.1	165.3	0.00	0.00	
1,300.0	11.88	92.36	1,282.1	-7.6	185.7	185.9	0.00	0.00	
1,400.0	11.88	92.36	1,379.9	-8.5	206.3	206.5	0.00	0.00	
1,500.0	11.88	92.36	1,477.8	-9.3	226.9	227.1	0.00	0.00	
1,600.0	11.88	92.36	1,575.7	-10.2	247.4	247.7	0.00	0.00	
1,700.0	11.88	92.36	1,673.5	-11.0	268.0	268.3	0.00	0.00	
1,800.0	11.88	92.36	1,771.4	-11.9	288.6	288.8	0.00	0.00	
1,900.0	11.88	92.36	1,869.2	-12.7	309.2	309.4	0.00	0.00	
2,000.0	11.88	92.36	1,967.1	-13.6	329.7	330.0	0.00	0.00	
2,100.0	11.88	92.36	2,064.9	-14.4	350.3	350.6	0.00	0.00	
2,200.0	11.88	92.36	2,162.8	-15.3	370.9	371.2	0.00	0.00	
2,300.0	11.88	92.36	2,260.6	-16.1	391.5	391.8	0.00	0.00	
2,400.0	11.88	92.36	2,358.5	-17.0	412.1	412.4	0.00	0.00	
2,500.0	11.88	92.36	2,456.4	-17.8	432.6	433.0	0.00	0.00	
2,600.0	11.88	92.36	2,554.2	-18.6	453.2	453.6	0.00	0.00	
2,700.0	11.88	92.36	2,652.1	-19.5	473.8	474.2	0.00	0.00	
2,800.0	11.88	92.36	2,749.9	-20.3	494.4	494.8	0.00	0.00	
2,900.0	11.88	92.36	2,847.8	-21.2	514.9	515.4	0.00	0.00	
3,000.0	11.88	92.36	2,945.6	-22.0	535.5	536.0	0.00	0.00	
3,100.0	11.88	92.36	3,043.5	-22.9	556.1	556.5	0.00	0.00	
3,200.0	11.88	92.36	3,141.4	-23.7	576.7	577.1	0.00	0.00	
3,300.0	11.88	92.36	3,239.2	-24.6	597.2	597.7	0.00	0.00	
3,400.0	11.88	92.36	3,337.1	-25.4	617.8	618.3	0.00	0.00	
3,445.9	11.88	92.36	3,382.0	-25.8	627.2	627.8	0.00	0.00	Parkman Ss:
3,500.0	11.88	92.36	3,434.9	-26.3	638.4	638.9	0.00	0.00	
3,600.0	11.88	92.36	3,532.8	-27.1	659.0	659.5	0.00	0.00	
3,700.0	11.88	92.36	3,630.6	-28.0	679.5	680.1	0.00	0.00	
3,800.0	11.88	92.36	3,728.5	-28.8	700.1	700.7	0.00	0.00	
3,900.0	11.88	92.36	3,826.4	-29.6	720.7	721.3	0.00	0.00	
4,000.0	11.88	92.36	3,924.2	-30.5	741.3	741.9	0.00	0.00	
4,100.0	11.88	92.36	4,022.1	-31.3	761.8	762.5	0.00	0.00	
4,108.1	11.88	92.36	4,030.0	-31.4	763.5	764.1	0.00	0.00	Sussex Ss:
4,200.0	11.88	92.36	4,119.9	-32.2	782.4	783.1	0.00	0.00	
4,300.0	11.88	92.36	4,217.8	-33.0	803.0	803.7	0.00	0.00	
4,400.0	11.88	92.36	4,315.6	-33.9	823.6	824.3	0.00	0.00	
4,500.0	11.88	92.36	4,413.5	-34.7	844.1	844.8	0.00	0.00	
4,600.0	11.88	92.36	4,511.4	-35.6	864.7	865.4	0.00	0.00	
4,700.0	11.88	92.36	4,609.2	-36.4	885.3	886.0	0.00	0.00	
4,800.0	11.88	92.36	4,707.1	-37.3	905.9	906.6	0.00	0.00	

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Site:	Antelope 21-19 Pad	**North Reference:**	True
Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

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	11.88	92.36	4,804.9	-38.1	926.4	927.2	0.00	0.00	
5,000.0	11.88	92.36	4,902.8	-39.0	947.0	947.8	0.00	0.00	
5,100.0	11.88	92.36	5,000.6	-39.8	967.6	968.4	0.00	0.00	
5,200.0	11.88	92.36	5,098.5	-40.6	988.2	989.0	0.00	0.00	
5,300.0	11.88	92.36	5,196.4	-41.5	1,008.7	1,009.6	0.00	0.00	
5,400.0	11.88	92.36	5,294.2	-42.3	1,029.3	1,030.2	0.00	0.00	
5,500.0	11.88	92.36	5,392.1	-43.2	1,049.9	1,050.8	0.00	0.00	
5,600.0	11.88	92.36	5,489.9	-44.0	1,070.5	1,071.4	0.00	0.00	
5,700.0	11.88	92.36	5,587.8	-44.9	1,091.0	1,092.0	0.00	0.00	
5,789.9	11.88	92.36	5,675.7	-45.6	1,109.5	1,110.5	0.00	0.00	Start Drop -3.00
5,800.0	11.58	92.36	5,685.6	-45.7	1,111.6	1,112.5	3.00	-3.00	
5,900.0	8.58	92.36	5,784.1	-46.4	1,129.1	1,130.0	3.00	-3.00	
6,000.0	5.58	92.36	5,883.3	-47.0	1,141.4	1,142.3	3.00	-3.00	
6,100.0	2.58	92.36	5,983.0	-47.2	1,148.5	1,149.5	3.00	-3.00	
6,186.0	0.00	92.36	6,069.0	-47.3	1,150.4	1,151.4	3.00	-3.00	EOD; Inc=0°
6,200.0	0.00	0.00	6,083.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,300.0	0.00	0.00	6,183.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,386.0	0.00	0.00	6,269.0	-47.3	1,150.4	1,151.4	0.00	0.00	Niobrara:
6,400.0	0.00	0.00	6,283.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,500.0	0.00	0.00	6,383.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,600.0	0.00	0.00	6,483.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,620.0	0.00	0.00	6,503.0	-47.3	1,150.4	1,151.4	0.00	0.00	Ft. Hays Ls:
6,643.0	0.00	0.00	6,526.0	-47.3	1,150.4	1,151.4	0.00	0.00	Codell Ss:
6,700.0	0.00	0.00	6,583.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,800.0	0.00	0.00	6,683.0	-47.3	1,150.4	1,151.4	0.00	0.00	
6,803.0	0.00	0.00	6,686.0	-47.3	1,150.4	1,151.4	0.00	0.00	TD at 6803.0 - Antelope 31-19 PBHL

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 31-19 PBHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,686.0	-47.3	1,150.4	1,386,940.75	3,316,507.71	40.389980	-104.363730

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,445.9	3,382.0	Parkman Ss:			
4,108.1	4,030.0	Sussex Ss:			
6,386.0	6,269.0	Niobrara:			
6,620.0	6,503.0	Ft. Hays Ls:			
6,643.0	6,526.0	Codell Ss:			

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Site:	Antelope 21-19 Pad	**North Reference:**	True
Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
200.0	200.0	0.0	0.0	KOP @ 200'
596.1	593.3	-1.7	40.9	EOB; Inc=11.88°
5,789.9	5,675.7	-45.6	1,109.5	Start Drop -3.00
6,186.0	6,069.0	-47.3	1,150.4	EOD; Inc=0°
6,803.0	6,686.0	-47.3	1,150.4	TD at 6803.0

Bonanza Creek Energy Operating Company, LLC

Weld County
Antelope 21-19 Pad
Antelope 31-19
DD
Plan #1

Anticollision Report

16 August, 2010

Cathedral Energy Services

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 31-19
Project:	Weld County	**TVD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Reference Site:	Antelope 21-19 Pad	**MD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

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

Survey Tool Program **Date** 8/16/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	6,803.0	Plan #1 (DD)	MWD	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 21-19 Pad						
Antelope 21-19 - DD - Plan #1	0.0	0.0	18.2			
Antelope 21-19 - DD - Plan #1	200.0	200.0	18.2	18.2	10,000.000	CC, ES

Offset Design Antelope 21-19 Pad - Antelope 21-19 - DD - Plan #1

Survey Program: 0-MWD

Offset Site Error: 0.0 ft

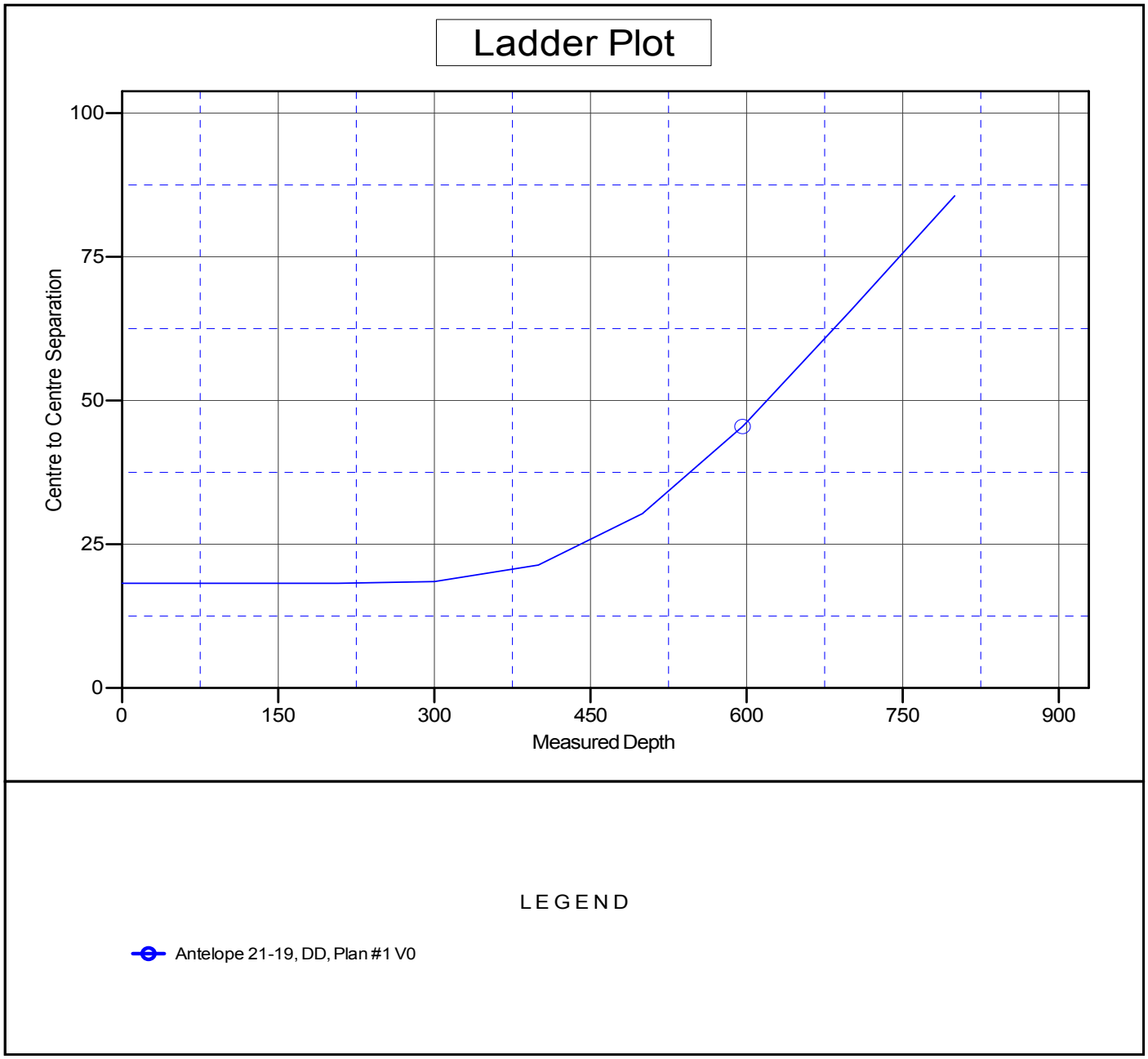
Offset Well Error: 0.0 ft

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	0.00	18.2	0.0	18.2				
100.0	100.0	100.0	100.0	0.0	0.0	0.00	18.2	0.0	18.2	18.2	0.00	N/A	
200.0	200.0	200.0	200.0	0.0	0.0	0.00	18.2	0.0	18.2	18.2	0.00	N/A	CC, ES
207.6	207.6	207.6	207.6	0.0	0.0	-92.40	18.2	0.0	18.2	18.2	0.00	N/A	
300.0	300.0	300.0	300.0	0.0	0.0	-100.46	18.2	0.0	18.5	18.5	0.00	N/A	
400.0	399.6	399.6	399.6	0.0	0.0	-121.49	18.2	0.0	21.4	21.4	0.00	N/A	
500.0	498.8	498.8	498.8	0.0	0.0	-142.78	18.2	0.0	30.3	30.3	0.00	N/A	
596.1	593.3	593.3	593.3	0.0	0.0	-155.95	18.2	0.0	45.5	45.5	0.00	N/A	
600.0	597.1	597.1	597.1	0.0	0.0	-156.36	18.2	0.0	46.2	46.2	0.00	N/A	
700.0	694.9	694.9	694.9	0.0	0.0	-163.57	18.2	0.0	65.6	65.6	0.00	N/A	
800.0	792.8	792.8	792.8	0.0	0.0	-167.47	18.2	0.0	85.6	85.6	0.00	N/A	

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

Company:	Bonanza Creek Energy Operating Company, LLC	**Local Co-ordinate Reference:**	Well Antelope 31-19
Project:	Weld County	**TVD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Reference Site:	Antelope 21-19 Pad	**MD Reference:**	WELL @ 4614.0ft (Original Well Elev)
Site Error:	0.0ft	**North Reference:**	True
Reference Well:	Antelope 31-19	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0ft	**Output errors are at**	2.00 sigma
Reference Wellbore	DD	**Database:**	EDM 5000.1 US Multi Users DB
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 4614.0ft (Original Well Elev)
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinates are relative to: Antelope 31-19
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.73°



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