







Planning Report

Database:	USA EDM 5000 Multi Users DB	Local Co-ordinate Reference:	Well Antelope 22-20
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Antelope 11-20 Pad	North Reference:	Grid
Well:	Antelope 22-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #3		

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 11-20 Pad			
Site Position:		Northing:	1,387,186.65 ft	Latitude:	40.390560
From:	Lat/Long	Easting:	3,319,195.57 ft	Longitude:	-104.354070
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope 22-20					
Well Position	+N/-S	0.0 ft	Northing:	1,387,204.84 ft	Latitude:	40.390610
	+E/-W	0.0 ft	Easting:	3,319,195.33 ft	Longitude:	-104.354070
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,651.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/26/2011	8.65	67.11	53,178

Design	Plan #3				
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	137.10	

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,195.9	20.88	137.10	1,180.6	-91.9	85.4	3.00	3.00	0.00	137.10	
5,732.5	20.88	137.10	5,419.4	-1,276.1	1,186.0	0.00	0.00	0.00	0.00	
6,428.5	0.00	0.00	6,100.0	-1,368.0	1,271.3	3.00	-3.00	0.00	180.00	Antelope 22-20 TGT (
7,078.5	0.00	0.00	6,750.0	-1,368.0	1,271.3	0.00	0.00	0.00	0.00	Antelope 22-20 PBHL

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Well:	Antelope 22-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #3		

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	KOP @ 500'
600.0	3.00	137.10	600.0	-1.9	1.8	2.6	3.00	3.00	
700.0	6.00	137.10	699.6	-7.7	7.1	10.5	3.00	3.00	
800.0	9.00	137.10	798.8	-17.2	16.0	23.5	3.00	3.00	
900.0	12.00	137.10	897.1	-30.6	28.4	41.7	3.00	3.00	
1,000.0	15.00	137.10	994.3	-47.7	44.3	65.1	3.00	3.00	
1,100.0	18.00	137.10	1,090.2	-68.5	63.6	93.5	3.00	3.00	
1,195.9	20.88	137.10	1,180.6	-91.9	85.4	125.4	3.00	3.00	EOB @ Inc=20.88°
1,200.0	20.88	137.10	1,184.4	-92.9	86.4	126.8	0.00	0.00	
1,300.0	20.88	137.10	1,277.9	-119.0	110.6	162.5	0.00	0.00	
1,400.0	20.88	137.10	1,371.3	-145.1	134.9	198.1	0.00	0.00	
1,500.0	20.88	137.10	1,464.7	-171.2	159.1	233.8	0.00	0.00	
1,600.0	20.88	137.10	1,558.2	-197.3	183.4	269.4	0.00	0.00	
1,700.0	20.88	137.10	1,651.6	-223.4	207.7	305.0	0.00	0.00	
1,800.0	20.88	137.10	1,745.0	-249.5	231.9	340.7	0.00	0.00	
1,900.0	20.88	137.10	1,838.5	-275.6	256.2	376.3	0.00	0.00	
2,000.0	20.88	137.10	1,931.9	-301.8	280.4	411.9	0.00	0.00	
2,100.0	20.88	137.10	2,025.3	-327.9	304.7	447.6	0.00	0.00	
2,200.0	20.88	137.10	2,118.8	-354.0	329.0	483.2	0.00	0.00	
2,300.0	20.88	137.10	2,212.2	-380.1	353.2	518.9	0.00	0.00	
2,400.0	20.88	137.10	2,305.6	-406.2	377.5	554.5	0.00	0.00	
2,500.0	20.88	137.10	2,399.1	-432.3	401.7	590.1	0.00	0.00	
2,600.0	20.88	137.10	2,492.5	-458.4	426.0	625.8	0.00	0.00	
2,700.0	20.88	137.10	2,585.9	-484.5	450.3	661.4	0.00	0.00	
2,800.0	20.88	137.10	2,679.4	-510.6	474.5	697.0	0.00	0.00	
2,900.0	20.88	137.10	2,772.8	-536.7	498.8	732.7	0.00	0.00	
3,000.0	20.88	137.10	2,866.3	-562.8	523.0	768.3	0.00	0.00	
3,100.0	20.88	137.10	2,959.7	-588.9	547.3	804.0	0.00	0.00	
3,200.0	20.88	137.10	3,053.1	-615.0	571.6	839.6	0.00	0.00	
3,300.0	20.88	137.10	3,146.6	-641.1	595.8	875.2	0.00	0.00	
3,400.0	20.88	137.10	3,240.0	-667.2	620.1	910.9	0.00	0.00	
3,500.0	20.88	137.10	3,333.4	-693.3	644.3	946.5	0.00	0.00	
3,600.0	20.88	137.10	3,426.9	-719.4	668.6	982.1	0.00	0.00	
3,624.8	20.88	137.10	3,450.0	-725.9	674.6	991.0	0.00	0.00	Parkman
3,700.0	20.88	137.10	3,520.3	-745.5	692.9	1,017.8	0.00	0.00	
3,800.0	20.88	137.10	3,613.7	-771.6	717.1	1,053.4	0.00	0.00	
3,900.0	20.88	137.10	3,707.2	-797.7	741.4	1,089.1	0.00	0.00	
4,000.0	20.88	137.10	3,800.6	-823.8	765.6	1,124.7	0.00	0.00	
4,100.0	20.88	137.10	3,894.0	-849.9	789.9	1,160.3	0.00	0.00	
4,200.0	20.88	137.10	3,987.5	-876.1	814.2	1,196.0	0.00	0.00	
4,293.7	20.88	137.10	4,075.0	-900.5	836.9	1,229.4	0.00	0.00	Sussex
4,300.0	20.88	137.10	4,080.9	-902.2	838.4	1,231.6	0.00	0.00	
4,400.0	20.88	137.10	4,174.3	-928.3	862.7	1,267.2	0.00	0.00	
4,500.0	20.88	137.10	4,267.8	-954.4	886.9	1,302.9	0.00	0.00	
4,600.0	20.88	137.10	4,361.2	-980.5	911.2	1,338.5	0.00	0.00	
4,700.0	20.88	137.10	4,454.6	-1,006.6	935.5	1,374.2	0.00	0.00	
4,800.0	20.88	137.10	4,548.1	-1,032.7	959.7	1,409.8	0.00	0.00	

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Project:	Weld County	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Antelope 11-20 Pad	North Reference:	Grid
Well:	Antelope 22-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #3		

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	20.88	137.10	4,641.5	-1,058.8	984.0	1,445.4	0.00	0.00	
5,000.0	20.88	137.10	4,734.9	-1,084.9	1,008.2	1,481.1	0.00	0.00	
5,100.0	20.88	137.10	4,828.4	-1,111.0	1,032.5	1,516.7	0.00	0.00	
5,200.0	20.88	137.10	4,921.8	-1,137.1	1,056.8	1,552.3	0.00	0.00	
5,300.0	20.88	137.10	5,015.2	-1,163.2	1,081.0	1,588.0	0.00	0.00	
5,400.0	20.88	137.10	5,108.7	-1,189.3	1,105.3	1,623.6	0.00	0.00	
5,500.0	20.88	137.10	5,202.1	-1,215.4	1,129.6	1,659.2	0.00	0.00	
5,600.0	20.88	137.10	5,295.5	-1,241.5	1,153.8	1,694.9	0.00	0.00	
5,700.0	20.88	137.10	5,389.0	-1,267.6	1,178.1	1,730.5	0.00	0.00	
5,732.5	20.88	137.10	5,419.4	-1,276.1	1,186.0	1,742.1	0.00	0.00	Start Drop -3.00
5,800.0	18.85	137.10	5,482.8	-1,292.9	1,201.6	1,765.0	3.00	-3.00	
5,900.0	15.85	137.10	5,578.3	-1,314.8	1,221.9	1,794.9	3.00	-3.00	
6,000.0	12.85	137.10	5,675.1	-1,332.9	1,238.7	1,819.7	3.00	-3.00	
6,100.0	9.85	137.10	5,773.2	-1,347.3	1,252.1	1,839.3	3.00	-3.00	
6,200.0	6.85	137.10	5,872.1	-1,358.0	1,262.0	1,853.9	3.00	-3.00	
6,300.0	3.85	137.10	5,971.6	-1,364.8	1,268.4	1,863.2	3.00	-3.00	
6,400.0	0.85	137.10	6,071.5	-1,367.8	1,271.2	1,867.3	3.00	-3.00	
6,428.5	0.00	0.00	6,100.0	-1,368.0	1,271.3	1,867.5	3.00	-3.00	EOD @ Inc=0°
6,500.0	0.00	0.00	6,171.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
6,600.0	0.00	0.00	6,271.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
6,653.5	0.00	0.00	6,325.0	-1,368.0	1,271.3	1,867.5	0.00	0.00	Niobrara
6,700.0	0.00	0.00	6,371.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
6,800.0	0.00	0.00	6,471.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
6,900.0	0.00	0.00	6,571.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
7,000.0	0.00	0.00	6,671.5	-1,368.0	1,271.3	1,867.5	0.00	0.00	
7,078.5	0.00	0.00	6,750.0	-1,368.0	1,271.3	1,867.5	0.00	0.00	TD @ 7,078.5' MD

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Antelope 22-20 TGT - hit/miss target - Shape - Point	0.00	0.00	5,830.0	-1,368.0	1,271.3	1,385,836.88	3,320,466.66	40.386810	-104.349570
- plan misses target center by 19.0ft at 6160.3ft MD (5832.8 TVD, -1354.2 N, 1258.5 E)									
Antelope 22-20 TGT (2) - plan hits target center - Point	0.00	0.00	6,100.0	-1,368.0	1,271.3	1,385,836.88	3,320,466.66	40.386810	-104.349570
Antelope 22-20 PBHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,730.0	-1,368.0	1,271.3	1,385,836.88	3,320,466.66	40.386810	-104.349570
Antelope 22-20 PBHL (2) - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,750.0	-1,368.0	1,271.3	1,385,836.88	3,320,466.66	40.386810	-104.349570

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Project:	Weld County	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Antelope 11-20 Pad	North Reference:	Grid
Well:	Antelope 22-20	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #3		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,624.8	3,450.0	Parkman				
4,293.7	4,075.0	Sussex				
6,653.5	6,325.0	Niobrara				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
500.0	500.0	0.0	0.0	KOP @ 500'	
1,195.9	1,180.6	-91.9	85.4	EOB @ Inc=20.88°	
5,732.5	5,419.4	-1,276.1	1,186.0	Start Drop -3.00	
6,428.5	6,100.0	-1,368.0	1,271.3	EOD @ Inc=0°	
7,078.5	6,750.0	-1,368.0	1,271.3	TD @ 7,078.5' MD	

Bonanza Creek Energy Operating Company, LLC

Weld County

Antelope 11-20 Pad

Antelope 22-20

DD

Plan #3

Anticollision Report

03 July, 2011

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope 22-20
Project:	Weld County	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Antelope 11-20 Pad	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Reference	Plan #3		
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	7/3/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	7,078.5	Plan #3 (DD)	MWD	Geolink MWD

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Antelope 11-20 Pad						
Antelope 11-20 (vert) - V - Plan #3	0.0	0.0	18.2			
Antelope 11-20 (vert) - V - Plan #3	727.1	726.6	12.2	12.2	10,000.000	CC, ES
Antelope 12-20 - DD - Plan #3	0.0	0.0	47.4			
Antelope 12-20 - DD - Plan #3	801.1	797.4	40.1	40.1	10,000.000	CC, ES
Antelope 21-20 - DD - Plan #3	0.0	0.0	14.6			
Antelope 21-20 - DD - Plan #3	500.0	500.0	14.6	14.6	10,000.000	CC, ES
Antelope G-20 - DD - Plan #3	0.0	0.0	32.8			
Antelope G-20 - DD - Plan #3	877.7	875.6	22.2	22.2	10,000.000	CC, ES

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Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Offset Design Antelope 11-20 Pad - Antelope 11-20 (vert) - V - Plan #3												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
							+N/-S (ft)	+E/-W (ft)					
0.0	0.0	0.0	0.0	0.0	0.0	179.26	-18.2	0.2	18.2				
100.0	100.0	100.0	100.0	0.2	0.2	179.26	-18.2	0.2	18.2	18.2	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	179.26	-18.2	0.2	18.2	18.2	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	179.26	-18.2	0.2	18.2	18.2	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	179.26	-18.2	0.2	18.2	18.2	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	179.26	-18.2	0.2	18.2	18.2	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	48.36	-18.2	0.2	16.4	16.4	0.00	N/A	
700.0	699.6	699.6	699.6	1.2	1.2	76.11	-18.2	0.2	12.6	12.6	0.00	N/A	
727.1	726.6	726.6	726.6	1.3	1.3	89.95	-18.2	0.2	12.2	12.2	0.00	N/A CC, ES	
800.0	798.8	798.8	798.8	1.5	1.4	128.97	-18.2	0.2	15.8	15.8	0.00	N/A	
900.0	897.1	897.1	897.1	1.8	1.5	156.12	-18.2	0.2	30.8	30.8	0.00	N/A	
1,000.0	994.3	994.3	994.3	2.2	1.7	166.21	-18.2	0.2	53.0	53.0	0.00	N/A	
1,100.0	1,090.2	1,090.2	1,090.2	2.7	1.9	170.87	-18.2	0.2	80.9	80.9	0.00	N/A	
1,200.0	1,184.4	1,184.4	1,184.4	3.3	2.0	173.41	-18.2	0.2	114.0	114.0	0.00	N/A	
1,300.0	1,277.9	1,277.9	1,277.9	3.9	2.2	174.98	-18.2	0.2	149.5	149.5	0.00	N/A	
1,400.0	1,371.3	1,371.3	1,371.3	4.5	2.4	175.95	-18.2	0.2	185.0	185.0	0.00	N/A	
1,500.0	1,464.7	1,464.7	1,464.7	5.2	2.5	176.60	-18.2	0.2	220.6	220.6	0.00	N/A	
1,600.0	1,558.2	1,558.2	1,558.2	5.8	2.7	177.07	-18.2	0.2	256.2	256.2	0.00	N/A	
1,700.0	1,651.6	1,651.6	1,651.6	6.5	2.9	177.43	-18.2	0.2	291.8	291.8	0.00	N/A	
1,800.0	1,745.0	1,745.0	1,745.0	7.1	3.0	177.71	-18.2	0.2	327.4	327.4	0.00	N/A	
1,900.0	1,838.5	1,838.5	1,838.5	7.8	3.2	177.93	-18.2	0.2	363.0	363.0	0.00	N/A	
2,000.0	1,931.9	1,931.9	1,931.9	8.4	3.4	178.12	-18.2	0.2	398.6	398.6	0.00	N/A	
2,100.0	2,025.3	2,025.3	2,025.3	9.1	3.5	178.27	-18.2	0.2	434.3	434.3	0.00	N/A	
2,200.0	2,118.8	2,118.8	2,118.8	9.7	3.7	178.40	-18.2	0.2	469.9	469.9	0.00	N/A	

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope 22-20
Project:	Weld County	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Antelope 11-20 Pad	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Offset Design Antelope 11-20 Pad - Antelope 12-20 - DD - Plan #3												Offset Site Error: 0.0 ft	
Survey Program: 0-MWD												Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Total Uncertainty Axis	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	179.26	-47.4	0.6	47.4				
100.0	100.0	100.0	100.0	0.2	0.2	179.26	-47.4	0.6	47.4	47.4	0.00	N/A	
200.0	200.0	200.0	200.0	0.3	0.3	179.26	-47.4	0.6	47.4	47.4	0.00	N/A	
300.0	300.0	300.0	300.0	0.5	0.5	179.26	-47.4	0.6	47.4	47.4	0.00	N/A	
400.0	400.0	400.0	400.0	0.7	0.7	179.26	-47.4	0.6	47.4	47.4	0.00	N/A	
500.0	500.0	500.0	500.0	0.9	0.9	179.26	-47.4	0.6	47.4	47.4	0.00	N/A	
600.0	600.0	600.0	600.0	1.0	1.0	44.42	-47.4	0.6	45.4	45.4	0.00	N/A	
700.0	699.6	698.2	698.2	1.2	1.2	51.92	-49.0	0.5	41.9	41.9	0.00	N/A	
800.0	798.8	796.4	796.2	1.5	1.4	65.65	-54.1	0.4	40.1	40.1	0.00	N/A	
801.1	799.9	797.4	797.3	1.5	1.4	65.83	-54.1	0.4	40.1	40.1	0.00	N/A CC, ES	
900.0	897.1	894.2	893.7	1.8	1.6	83.75	-62.4	0.1	42.8	42.8	0.00	N/A	
1,000.0	994.3	991.7	990.5	2.2	1.8	100.84	-74.1	-0.4	52.0	52.0	0.00	N/A	
1,100.0	1,090.2	1,088.6	1,086.3	2.7	2.1	113.31	-88.9	-0.9	67.8	67.8	0.00	N/A	
1,200.0	1,184.4	1,184.9	1,180.9	3.3	2.4	121.43	-106.8	-1.6	89.1	89.1	0.00	N/A	
1,300.0	1,277.9	1,281.1	1,274.7	3.9	2.7	126.07	-127.9	-2.4	113.4	113.4	0.00	N/A	
1,400.0	1,371.3	1,377.4	1,367.9	4.5	3.2	127.70	-152.1	-3.3	138.4	138.4	0.00	N/A	
1,500.0	1,464.7	1,474.1	1,460.9	5.2	3.6	128.05	-178.5	-4.2	163.6	163.6	0.00	N/A	
1,600.0	1,558.2	1,570.9	1,554.0	5.8	4.0	128.29	-205.0	-5.2	188.8	188.8	0.00	N/A	
1,700.0	1,651.6	1,667.6	1,647.1	6.5	4.5	128.48	-231.5	-6.2	214.1	214.1	0.00	N/A	
1,800.0	1,745.0	1,764.4	1,740.1	7.1	5.0	128.63	-258.0	-7.2	239.3	239.3	0.00	N/A	
1,900.0	1,838.5	1,861.2	1,833.2	7.8	5.4	128.74	-284.5	-8.2	264.6	264.6	0.00	N/A	
2,000.0	1,931.9	1,957.9	1,926.2	8.4	5.9	128.84	-311.0	-9.2	289.8	289.8	0.00	N/A	
2,100.0	2,025.3	2,054.7	2,019.3	9.1	6.4	128.92	-337.5	-10.1	315.0	315.0	0.00	N/A	
2,200.0	2,118.8	2,151.4	2,112.3	9.7	6.9	128.99	-363.9	-11.1	340.3	340.3	0.00	N/A	
2,300.0	2,212.2	2,248.2	2,205.4	10.4	7.4	129.06	-390.4	-12.1	365.5	365.5	0.00	N/A	
2,400.0	2,305.6	2,345.0	2,298.5	11.1	7.8	129.11	-416.9	-13.1	390.8	390.8	0.00	N/A	
2,500.0	2,399.1	2,441.7	2,391.5	11.7	8.3	129.15	-443.4	-14.1	416.0	416.0	0.00	N/A	
2,600.0	2,492.5	2,538.5	2,484.6	12.4	8.8	129.19	-469.9	-15.0	441.3	441.3	0.00	N/A	
2,700.0	2,585.9	2,635.2	2,577.6	13.0	9.3	129.23	-496.4	-16.0	466.5	466.5	0.00	N/A	
2,800.0	2,679.4	2,732.0	2,670.7	13.7	9.8	129.26	-522.9	-17.0	491.8	491.8	0.00	N/A	

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope 22-20
Project:	Weld County	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Antelope 11-20 Pad	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Offset Design Antelope 11-20 Pad - Antelope 21-20 - DD - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance				Total	Separation	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Uncertainty Axis	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-0.74	14.6	-0.2	14.6					
100.0	100.0	100.0	100.0	0.2	0.2	-0.74	14.6	-0.2	14.6	14.6	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	-0.74	14.6	-0.2	14.6	14.6	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	-0.74	14.6	-0.2	14.6	14.6	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	-0.74	14.6	-0.2	14.6	14.6	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	-0.74	14.6	-0.2	14.6	14.6	0.00	N/A CC, ES		
600.0	600.0	600.0	600.0	1.0	1.0	-143.87	14.6	-0.2	16.6	16.6	0.00	N/A		
700.0	699.6	699.9	699.9	1.2	1.2	-151.11	14.5	1.6	22.8	22.8	0.00	N/A		
800.0	798.8	799.7	799.5	1.5	1.4	-153.29	14.2	6.8	32.8	32.8	0.00	N/A		
900.0	897.1	899.2	898.7	1.8	1.6	-153.11	13.8	15.4	46.3	46.3	0.00	N/A		
1,000.0	994.3	998.4	997.1	2.2	1.8	-152.08	13.2	27.4	63.2	63.2	0.00	N/A		
1,100.0	1,090.2	1,097.0	1,094.5	2.7	2.1	-150.81	12.4	42.8	83.7	83.7	0.00	N/A		
1,200.0	1,184.4	1,195.1	1,190.8	3.3	2.4	-149.53	11.5	61.3	107.6	107.6	0.00	N/A		
1,300.0	1,277.9	1,293.0	1,286.2	3.9	2.8	-148.06	10.4	83.1	132.6	132.6	0.00	N/A		
1,400.0	1,371.3	1,390.6	1,380.7	4.5	3.2	-145.92	9.2	107.9	157.0	157.0	0.00	N/A		
1,500.0	1,464.7	1,487.5	1,474.2	5.2	3.7	-144.14	8.0	133.2	181.3	181.3	0.00	N/A		
1,600.0	1,558.2	1,584.3	1,567.6	5.8	4.1	-142.78	6.7	158.5	205.8	205.8	0.00	N/A		
1,700.0	1,651.6	1,681.2	1,661.1	6.5	4.6	-141.70	5.5	183.8	230.3	230.3	0.00	N/A		
1,800.0	1,745.0	1,778.1	1,754.6	7.1	5.0	-140.84	4.2	209.1	254.9	254.9	0.00	N/A		
1,900.0	1,838.5	1,874.9	1,848.1	7.8	5.5	-140.12	2.9	234.4	279.6	279.6	0.00	N/A		
2,000.0	1,931.9	1,971.8	1,941.6	8.4	6.0	-139.52	1.7	259.7	304.3	304.3	0.00	N/A		
2,100.0	2,025.3	2,068.6	2,035.1	9.1	6.4	-139.02	0.4	285.0	329.0	329.0	0.00	N/A		
2,200.0	2,118.8	2,165.5	2,128.6	9.7	6.9	-138.58	-0.8	310.3	353.8	353.8	0.00	N/A		
2,300.0	2,212.2	2,262.3	2,222.0	10.4	7.4	-138.20	-2.1	335.6	378.5	378.5	0.00	N/A		
2,400.0	2,305.6	2,359.2	2,315.5	11.1	7.9	-137.87	-3.3	360.9	403.3	403.3	0.00	N/A		
2,500.0	2,399.1	2,456.1	2,409.0	11.7	8.3	-137.57	-4.6	386.2	428.1	428.1	0.00	N/A		
2,600.0	2,492.5	2,552.9	2,502.5	12.4	8.8	-137.31	-5.8	411.5	452.9	452.9	0.00	N/A		
2,700.0	2,585.9	2,649.8	2,596.0	13.0	9.3	-137.07	-7.1	436.9	477.7	477.7	0.00	N/A		

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope 22-20
Project:	Weld County	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Antelope 11-20 Pad	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Offset Design Antelope 11-20 Pad - Antelope G-20 - DD - Plan #3													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Total Uncertainty Axis	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.0	0.0	0.0	0.0	0.0	0.0	179.26	-32.8	0.4	32.8					
100.0	100.0	100.0	100.0	0.2	0.2	179.26	-32.8	0.4	32.8	32.8	0.00	N/A		
200.0	200.0	200.0	200.0	0.3	0.3	179.26	-32.8	0.4	32.8	32.8	0.00	N/A		
300.0	300.0	300.0	300.0	0.5	0.5	179.26	-32.8	0.4	32.8	32.8	0.00	N/A		
400.0	400.0	400.0	400.0	0.7	0.7	179.26	-32.8	0.4	32.8	32.8	0.00	N/A		
500.0	500.0	500.0	500.0	0.9	0.9	179.26	-32.8	0.4	32.8	32.8	0.00	N/A		
600.0	600.0	600.0	600.0	1.0	1.0	45.46	-32.8	0.4	30.9	30.9	0.00	N/A		
700.0	699.6	699.1	699.1	1.2	1.2	54.83	-34.1	1.6	27.0	27.0	0.00	N/A		
800.0	798.8	798.4	798.2	1.5	1.4	70.93	-37.9	5.0	23.4	23.4	0.00	N/A		
877.7	875.2	875.6	875.2	1.7	1.5	89.15	-42.6	9.3	22.2	22.2	0.00	N/A CC, ES		
900.0	897.1	897.8	897.3	1.8	1.6	95.04	-44.3	10.8	22.3	22.3	0.00	N/A		
1,000.0	994.3	997.4	996.1	2.2	1.8	120.61	-53.2	18.8	26.1	26.1	0.00	N/A		
1,100.0	1,090.2	1,097.2	1,094.7	2.7	2.1	139.18	-64.8	29.2	34.9	34.9	0.00	N/A		
1,200.0	1,184.4	1,196.2	1,192.1	3.3	2.4	151.11	-78.1	41.2	48.1	48.1	0.00	N/A		
1,300.0	1,277.9	1,294.6	1,288.8	3.9	2.7	158.61	-91.4	53.2	64.7	64.7	0.00	N/A		
1,400.0	1,371.3	1,392.9	1,385.5	4.5	3.0	163.03	-104.7	65.2	81.8	81.8	0.00	N/A		
1,500.0	1,464.7	1,491.3	1,482.2	5.2	3.4	165.91	-118.0	77.1	99.3	99.3	0.00	N/A		
1,600.0	1,558.2	1,589.6	1,578.9	5.8	3.7	167.92	-131.3	89.1	117.0	117.0	0.00	N/A		
1,700.0	1,651.6	1,688.0	1,675.7	6.5	4.0	169.41	-144.6	101.1	134.7	134.7	0.00	N/A		
1,800.0	1,745.0	1,786.4	1,772.4	7.1	4.4	170.55	-157.9	113.1	152.5	152.5	0.00	N/A		
1,900.0	1,838.5	1,884.7	1,869.1	7.8	4.7	171.45	-171.2	125.1	170.4	170.4	0.00	N/A		
2,000.0	1,931.9	1,983.1	1,965.8	8.4	5.1	172.18	-184.5	137.0	188.3	188.3	0.00	N/A		
2,100.0	2,025.3	2,081.4	2,062.5	9.1	5.4	172.78	-197.8	149.0	206.2	206.2	0.00	N/A		
2,200.0	2,118.8	2,179.8	2,159.2	9.7	5.8	173.29	-211.1	161.0	224.2	224.2	0.00	N/A		
2,300.0	2,212.2	2,278.1	2,256.0	10.4	6.1	173.72	-224.4	173.0	242.1	242.1	0.00	N/A		
2,400.0	2,305.6	2,376.5	2,352.7	11.1	6.5	174.09	-237.7	185.0	260.1	260.1	0.00	N/A		
2,500.0	2,399.1	2,474.9	2,449.4	11.7	6.8	174.42	-251.0	196.9	278.1	278.1	0.00	N/A		
2,600.0	2,492.5	2,573.2	2,546.1	12.4	7.2	174.70	-264.3	208.9	296.1	296.1	0.00	N/A		
2,700.0	2,585.9	2,671.6	2,642.8	13.0	7.5	174.95	-277.6	220.9	314.1	314.1	0.00	N/A		
2,800.0	2,679.4	2,769.9	2,739.5	13.7	7.9	175.18	-290.9	232.9	332.1	332.1	0.00	N/A		
2,900.0	2,772.8	2,868.3	2,836.2	14.4	8.3	175.38	-304.2	244.9	350.1	350.1	0.00	N/A		
3,000.0	2,866.3	2,966.7	2,933.0	15.0	8.6	175.56	-317.5	256.8	368.1	368.1	0.00	N/A		
3,100.0	2,959.7	3,065.0	3,029.7	15.7	9.0	175.72	-330.8	268.8	386.1	386.1	0.00	N/A		
3,200.0	3,053.1	3,163.4	3,126.4	16.3	9.3	175.88	-344.1	280.8	404.1	404.1	0.00	N/A		
3,300.0	3,146.6	3,261.7	3,223.1	17.0	9.7	176.01	-357.4	292.8	422.1	422.1	0.00	N/A		
3,400.0	3,240.0	3,360.1	3,319.8	17.7	10.0	176.14	-370.8	304.8	440.1	440.1	0.00	N/A		
3,500.0	3,333.4	3,458.5	3,416.5	18.3	10.4	176.25	-384.1	316.7	458.1	458.1	0.00	N/A		
3,600.0	3,426.9	3,556.8	3,513.3	19.0	10.7	176.36	-397.4	328.7	476.1	476.1	0.00	N/A		
3,700.0	3,520.3	3,655.2	3,610.0	19.6	11.1	176.46	-410.7	340.7	494.2	494.2	0.00	N/A		

Anticollision Report

Company:	Bonanza Creek Energy Operating Company, LLC	Local Co-ordinate Reference:	Well Antelope 22-20
Project:	Weld County	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Reference Site:	Antelope 11-20 Pad	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	Grid
Reference Well:	Antelope 22-20	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 #3	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4661.0ft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °

Coordinates are relative to: Antelope 22-20
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.74°

