



Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Antelope 44-31
Company:	Bonanza Creek Energy Operating Company, LLC	TVD Reference:	WELL @ 4562.0ft (Original Well Elev)
Project:	Weld County	MD Reference:	WELL @ 4562.0ft (Original Well Elev)
Site:	Antelope S-31 Pad (was 31 I)	North Reference:	True
Well:	Antelope 44-31	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 S-31 Pad (was 31 I)				
Site Position:		Northing:	1,373,356.87 ft	Latitude:	40.352670
From:	Lat/Long	Easting:	3,317,216.94 ft	Longitude:	-104.361810
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	0.74 °

Well	Antelope 44-31					
Well Position	+N/-S	0.0 ft	Northing:	1,373,313.15 ft	Latitude:	40.352550
	+E/-W	0.0 ft	Easting:	3,317,217.50 ft	Longitude:	-104.361810
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,552.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/8/2010	8.71	67.10	53,207

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	134.22	

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	
1,126.4	10.53	134.22	1,123.4	-33.6	34.6	2.00	2.00	0.00	134.22	
5,515.4	10.53	134.22	5,438.6	-592.9	609.3	0.00	0.00	0.00	0.00	
6,041.8	0.00	0.00	5,962.0	-626.6	643.8	2.00	-2.00	0.00	180.00	Antelope 44-31 TGT
6,741.8	0.00	0.00	6,662.0	-626.6	643.8	0.00	0.00	0.00	0.00	Antelope 44-31 PBHL

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MD Reference: WELL @ 4562.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

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	134.22	700.0	-1.2	1.3	1.7	2.00	2.00	
800.0	4.00	134.22	799.8	-4.9	5.0	7.0	2.00	2.00	
900.0	6.00	134.22	899.5	-10.9	11.2	15.7	2.00	2.00	
1,000.0	8.00	134.22	998.7	-19.4	20.0	27.9	2.00	2.00	
1,100.0	10.00	134.22	1,097.5	-30.4	31.2	43.5	2.00	2.00	
1,126.4	10.53	134.22	1,123.4	-33.6	34.6	48.2	2.00	2.00	EOB @ Inc. = 10.53°
1,200.0	10.53	134.22	1,195.8	-43.0	44.2	61.7	0.00	0.00	
1,300.0	10.53	134.22	1,294.1	-55.8	57.3	79.9	0.00	0.00	
1,400.0	10.53	134.22	1,392.4	-68.5	70.4	98.2	0.00	0.00	
1,500.0	10.53	134.22	1,490.8	-81.2	83.5	116.5	0.00	0.00	
1,600.0	10.53	134.22	1,589.1	-94.0	96.6	134.8	0.00	0.00	
1,700.0	10.53	134.22	1,687.4	-106.7	109.7	153.0	0.00	0.00	
1,800.0	10.53	134.22	1,785.7	-119.5	122.8	171.3	0.00	0.00	
1,900.0	10.53	134.22	1,884.0	-132.2	135.9	189.6	0.00	0.00	
2,000.0	10.53	134.22	1,982.3	-145.0	149.0	207.8	0.00	0.00	
2,100.0	10.53	134.22	2,080.7	-157.7	162.0	226.1	0.00	0.00	
2,200.0	10.53	134.22	2,179.0	-170.4	175.1	244.4	0.00	0.00	
2,300.0	10.53	134.22	2,277.3	-183.2	188.2	262.7	0.00	0.00	
2,400.0	10.53	134.22	2,375.6	-195.9	201.3	280.9	0.00	0.00	
2,500.0	10.53	134.22	2,473.9	-208.7	214.4	299.2	0.00	0.00	
2,600.0	10.53	134.22	2,572.2	-221.4	227.5	317.5	0.00	0.00	
2,700.0	10.53	134.22	2,670.6	-234.2	240.6	335.7	0.00	0.00	
2,800.0	10.53	134.22	2,768.9	-246.9	253.7	354.0	0.00	0.00	
2,900.0	10.53	134.22	2,867.2	-259.7	266.8	372.3	0.00	0.00	
3,000.0	10.53	134.22	2,965.5	-272.4	279.9	390.6	0.00	0.00	
3,100.0	10.53	134.22	3,063.8	-285.1	293.0	408.8	0.00	0.00	
3,200.0	10.53	134.22	3,162.1	-297.9	306.1	427.1	0.00	0.00	
3,300.0	10.53	134.22	3,260.5	-310.6	319.2	445.4	0.00	0.00	
3,400.0	10.53	134.22	3,358.8	-323.4	332.3	463.6	0.00	0.00	
3,500.0	10.53	134.22	3,457.1	-336.1	345.4	481.9	0.00	0.00	
3,600.0	10.53	134.22	3,555.4	-348.9	358.5	500.2	0.00	0.00	
3,700.0	10.53	134.22	3,653.7	-361.6	371.6	518.5	0.00	0.00	
3,800.0	10.53	134.22	3,752.0	-374.3	384.6	536.7	0.00	0.00	
3,900.0	10.53	134.22	3,850.4	-387.1	397.7	555.0	0.00	0.00	
4,000.0	10.53	134.22	3,948.7	-399.8	410.8	573.3	0.00	0.00	
4,100.0	10.53	134.22	4,047.0	-412.6	423.9	591.5	0.00	0.00	
4,200.0	10.53	134.22	4,145.3	-425.3	437.0	609.8	0.00	0.00	
4,300.0	10.53	134.22	4,243.6	-438.1	450.1	628.1	0.00	0.00	
4,400.0	10.53	134.22	4,341.9	-450.8	463.2	646.4	0.00	0.00	
4,500.0	10.53	134.22	4,440.3	-463.5	476.3	664.6	0.00	0.00	
4,600.0	10.53	134.22	4,538.6	-476.3	489.4	682.9	0.00	0.00	
4,700.0	10.53	134.22	4,636.9	-489.0	502.5	701.2	0.00	0.00	
4,800.0	10.53	134.22	4,735.2	-501.8	515.6	719.5	0.00	0.00	
4,900.0	10.53	134.22	4,833.5	-514.5	528.7	737.7	0.00	0.00	
5,000.0	10.53	134.22	4,931.8	-527.3	541.8	756.0	0.00	0.00	

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Design: Plan #1

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North Reference: True
Survey Calculation Method: Minimum Curvature

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	10.53	134.22	5,030.2	-540.0	554.9	774.3	0.00	0.00	
5,200.0	10.53	134.22	5,128.5	-552.7	568.0	792.5	0.00	0.00	
5,300.0	10.53	134.22	5,226.8	-565.5	581.1	810.8	0.00	0.00	
5,400.0	10.53	134.22	5,325.1	-578.2	594.2	829.1	0.00	0.00	
5,500.0	10.53	134.22	5,423.4	-591.0	607.2	847.4	0.00	0.00	
5,515.4	10.53	134.22	5,438.6	-592.9	609.3	850.2	0.00	0.00	Start Drop -2.00
5,600.0	8.84	134.22	5,521.9	-602.9	619.5	864.4	2.00	-2.00	
5,700.0	6.84	134.22	5,621.0	-612.4	629.2	878.0	2.00	-2.00	
5,800.0	4.84	134.22	5,720.5	-619.5	636.5	888.2	2.00	-2.00	
5,900.0	2.84	134.22	5,820.3	-624.1	641.3	894.9	2.00	-2.00	
6,000.0	0.84	134.22	5,920.2	-626.4	643.6	898.1	2.00	-2.00	
6,041.8	0.00	0.00	5,962.0	-626.6	643.8	898.4	2.00	-2.00	EOD; Target #1 - Antelope 44-31 TGT
6,100.0	0.00	0.00	6,020.2	-626.6	643.8	898.4	0.00	0.00	
6,200.0	0.00	0.00	6,120.2	-626.6	643.8	898.4	0.00	0.00	
6,241.8	0.00	0.00	6,162.0	-626.6	643.8	898.4	0.00	0.00	Niobrara
6,300.0	0.00	0.00	6,220.2	-626.6	643.8	898.4	0.00	0.00	
6,400.0	0.00	0.00	6,320.2	-626.6	643.8	898.4	0.00	0.00	
6,500.0	0.00	0.00	6,420.2	-626.6	643.8	898.4	0.00	0.00	
6,600.0	0.00	0.00	6,520.2	-626.6	643.8	898.4	0.00	0.00	
6,700.0	0.00	0.00	6,620.2	-626.6	643.8	898.4	0.00	0.00	
6,741.8	0.00	0.00	6,662.0	-626.6	643.8	898.4	0.00	0.00	TD at 6741.8 - Antelope 44-31 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 44-31 PBHL - plan hits target center - Circle (radius 50.0)	0.00	0.00	6,662.0	-626.6	643.8	1,372,694.89	3,317,869.32	40.350830	-104.359500
Antelope 44-31 TGT - plan hits target center - Point	0.00	0.00	5,962.0	-626.6	643.8	1,372,694.89	3,317,869.32	40.350830	-104.359500

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,241.8	6,162.0	Niobrara		0.00	

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Project:	Weld County	MD Reference:	WELL @ 4562.0ft (Original Well Elev)
Site:	Antelope S-31 Pad (was 31 I)	North Reference:	True
Well:	Antelope 44-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
600.0	600.0	0.0	0.0	KOP = 600'
1,126.4	1,123.4	-33.6	34.6	EOB @ Inc. = 10.53°
5,515.4	5,438.6	-592.9	609.3	Start Drop -2.00
6,041.8	5,962.0	-626.6	643.8	EOD; Target #1
6,741.8	6,662.0	-626.6	643.8	TD at 6741.8