

Edge Energy LLC

Project: Weld County, Colorado
Site: Sec34-T1N-R65W Sec03-T1S-R65W
Well: Antico 34-03-05 (H)
Design: rev0
Rig:

Section Details									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	1950.00	5.00	100.00	1949.68	-1.89	10.74	2.00	4.77	Begin 5.00° tangent section
4	5011.97	5.00	100.00	5000.00	-48.23	273.55	0.00	121.52	Begin 6°/100' build/turn
5	5435.15	30.37	104.33	5399.90	-78.41	397.41	6.00	184.56	Begin 30.37° tangent section
6	7071.76	30.37	104.33	6811.87	-283.24	1199.20	0.00	601.75	Begin 10°/100' build/turn
7	7901.50	90.00	180.33	7249.00	-853.31	1444.51	10.00	1217.28	Begin 90.00° lateral section
8	12021.71	90.00	180.33	7249.00	-4973.46	1420.78	0.00	5172.42	PBHL/TD

DESIGN TARGET DETAILS

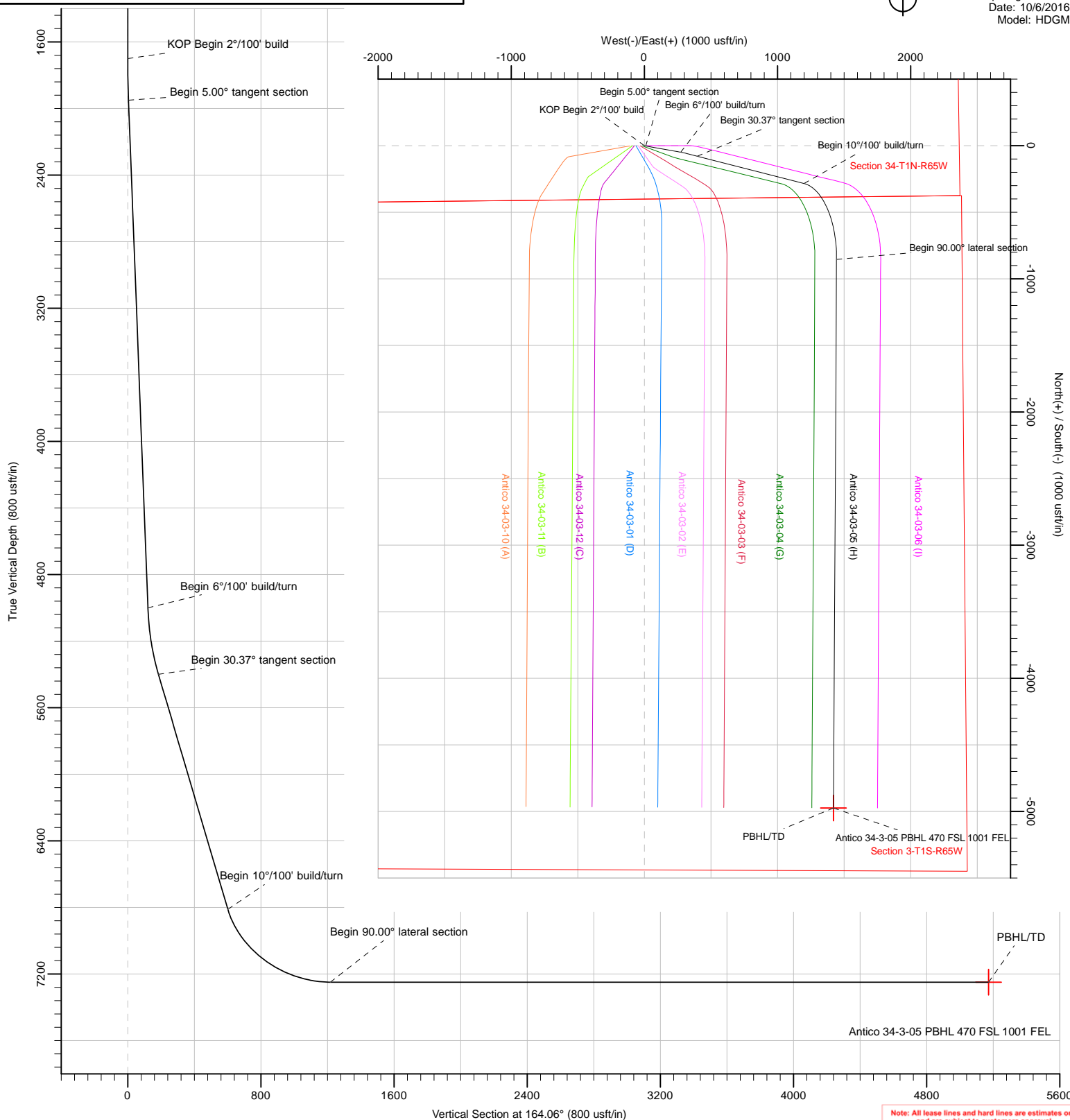
Name	TVD	+N/-S	+E/-W	Northing	Easting
Antico 34-3-05 PBHL 470 FSL 1001 FEL	7249.00	-4973.46	1420.78	239621.70	3239788.41



Azimuths to Grid North
 True North: -0.55°
 Magnetic North: 7.78°

Magnetic Field
 Strength: 52203.6snT
 Dip Angle: 66.47°
 Date: 10/6/2016
 Model: HDGM

Antico 34-03-05 (H)			
Surf Loc: 400 FSL 2366 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W			
North American Datum 1983	Latitude	Colorado Northern Zone	
Northing	Easting	Longitude	
1244595.16	3238367.63	40.00165997	-104.64912000
RKB=5133+16 @ 5149.00usft			
Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Add 7.78°			



Note: All lease lines and hard lines are estimates only and are subject to customers approval.

Planning Report

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-05 (H)
Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec34-T1N-R65W Sec03-T1S-R65W			
Site Position:		Northing:	1,244,594.57 usft	Latitude:	40.00166000
From:	Lat/Long	Easting:	3,238,306.00 usft	Longitude:	-104.64934000
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55 °

Well	Antico 34-03-05 (H), Surf Loc: 400 FSL 2366 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W					
Well Position	+N/-S	0.58 usft	Northing:	1,244,595.15 usft	Latitude:	40.00165997
	+E/-W	61.63 usft	Easting:	3,238,367.63 usft	Longitude:	-104.64912000
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,133.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/6/2016	8.33	66.47	52,204

Design	rev0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	164.06

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,950.00	5.00	100.00	1,949.68	-1.89	10.74	2.00	2.00	0.00	100.00	
5,011.97	5.00	100.00	5,000.00	-48.23	273.55	0.00	0.00	0.00	0.00	
5,435.15	30.37	104.33	5,399.90	-78.41	397.41	6.00	6.00	1.02	5.11	
7,071.76	30.37	104.33	6,811.87	-283.24	1,199.20	0.00	0.00	0.00	0.00	
7,901.50	90.00	180.33	7,249.00	-853.31	1,444.51	10.00	7.19	9.16	77.86	
12,021.71	90.00	180.33	7,249.00	-4,973.46	1,420.78	0.00	0.00	0.00	0.00	Antico 34-3-05 PBHL

Planning Report

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Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 2°/100' build									
1,800.00	2.00	100.00	1,799.98	-0.30	1.72	0.76	2.00	2.00	0.00
1,900.00	4.00	100.00	1,899.84	-1.21	6.87	3.05	2.00	2.00	0.00
1,950.00	5.00	100.00	1,949.68	-1.89	10.74	4.77	2.00	2.00	0.00
Begin 5.00° tangent section									
2,000.00	5.00	100.00	1,999.49	-2.65	15.03	6.68	0.00	0.00	0.00
2,100.00	5.00	100.00	2,099.11	-4.16	23.61	10.49	0.00	0.00	0.00
2,200.00	5.00	100.00	2,198.73	-5.68	32.19	14.30	0.00	0.00	0.00
2,300.00	5.00	100.00	2,298.35	-7.19	40.78	18.11	0.00	0.00	0.00
2,400.00	5.00	100.00	2,397.97	-8.70	49.36	21.93	0.00	0.00	0.00
2,500.00	5.00	100.00	2,497.59	-10.22	57.94	25.74	0.00	0.00	0.00
2,600.00	5.00	100.00	2,597.21	-11.73	66.53	29.55	0.00	0.00	0.00
2,700.00	5.00	100.00	2,696.83	-13.24	75.11	33.37	0.00	0.00	0.00
2,800.00	5.00	100.00	2,796.45	-14.76	83.69	37.18	0.00	0.00	0.00
2,900.00	5.00	100.00	2,896.07	-16.27	92.28	40.99	0.00	0.00	0.00
3,000.00	5.00	100.00	2,995.69	-17.78	100.86	44.80	0.00	0.00	0.00
3,100.00	5.00	100.00	3,095.31	-19.30	109.44	48.62	0.00	0.00	0.00
3,200.00	5.00	100.00	3,194.93	-20.81	118.03	52.43	0.00	0.00	0.00
3,300.00	5.00	100.00	3,294.55	-22.32	126.61	56.24	0.00	0.00	0.00
3,400.00	5.00	100.00	3,394.17	-23.84	135.19	60.06	0.00	0.00	0.00
3,500.00	5.00	100.00	3,493.78	-25.35	143.77	63.87	0.00	0.00	0.00
3,600.00	5.00	100.00	3,593.40	-26.86	152.36	67.68	0.00	0.00	0.00
3,700.00	5.00	100.00	3,693.02	-28.38	160.94	71.49	0.00	0.00	0.00
3,800.00	5.00	100.00	3,792.64	-29.89	169.52	75.31	0.00	0.00	0.00
3,900.00	5.00	100.00	3,892.26	-31.41	178.11	79.12	0.00	0.00	0.00
4,000.00	5.00	100.00	3,991.88	-32.92	186.69	82.93	0.00	0.00	0.00
4,100.00	5.00	100.00	4,091.50	-34.43	195.27	86.75	0.00	0.00	0.00
4,200.00	5.00	100.00	4,191.12	-35.95	203.86	90.56	0.00	0.00	0.00
4,300.00	5.00	100.00	4,290.74	-37.46	212.44	94.37	0.00	0.00	0.00
4,400.00	5.00	100.00	4,390.36	-38.97	221.02	98.18	0.00	0.00	0.00
4,500.00	5.00	100.00	4,489.98	-40.49	229.61	102.00	0.00	0.00	0.00
4,600.00	5.00	100.00	4,589.60	-42.00	238.19	105.81	0.00	0.00	0.00
4,700.00	5.00	100.00	4,689.22	-43.51	246.77	109.62	0.00	0.00	0.00
4,800.00	5.00	100.00	4,788.84	-45.03	255.36	113.44	0.00	0.00	0.00
4,900.00	5.00	100.00	4,888.46	-46.54	263.94	117.25	0.00	0.00	0.00
5,000.00	5.00	100.00	4,988.08	-48.05	272.52	121.06	0.00	0.00	0.00

Planning Report

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Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,011.97	5.00	100.00	5,000.00	-48.23	273.55	121.52	0.00	0.00	0.00
Begin 6°/100' build/turn									
5,100.00	10.27	102.63	5,087.22	-50.62	284.99	126.96	6.00	5.99	2.99
5,200.00	16.27	103.56	5,184.51	-55.86	307.33	138.13	6.00	6.00	0.93
5,300.00	22.27	104.00	5,278.86	-63.74	339.36	154.50	6.00	6.00	0.44
5,400.00	28.27	104.26	5,369.25	-74.16	380.73	175.89	6.00	6.00	0.26
5,435.15	30.37	104.33	5,399.90	-78.41	397.41	184.56	6.00	6.00	0.19
Begin 30.37° tangent section									
5,500.00	30.37	104.33	5,455.85	-86.53	429.18	201.09	0.00	0.00	0.00
5,600.00	30.37	104.33	5,542.12	-99.04	478.17	226.58	0.00	0.00	0.00
5,700.00	30.37	104.33	5,628.40	-111.56	527.16	252.07	0.00	0.00	0.00
5,800.00	30.37	104.33	5,714.67	-124.07	576.15	277.56	0.00	0.00	0.00
5,900.00	30.37	104.33	5,800.94	-136.59	625.14	303.05	0.00	0.00	0.00
6,000.00	30.37	104.33	5,887.22	-149.10	674.13	328.54	0.00	0.00	0.00
6,100.00	30.37	104.33	5,973.49	-161.62	723.12	354.03	0.00	0.00	0.00
6,200.00	30.37	104.33	6,059.77	-174.14	772.12	379.53	0.00	0.00	0.00
6,300.00	30.37	104.33	6,146.04	-186.65	821.11	405.02	0.00	0.00	0.00
6,400.00	30.37	104.33	6,232.32	-199.17	870.10	430.51	0.00	0.00	0.00
6,500.00	30.37	104.33	6,318.59	-211.68	919.09	456.00	0.00	0.00	0.00
6,600.00	30.37	104.33	6,404.86	-224.20	968.08	481.49	0.00	0.00	0.00
6,700.00	30.37	104.33	6,491.14	-236.71	1,017.07	506.98	0.00	0.00	0.00
6,800.00	30.37	104.33	6,577.41	-249.23	1,066.06	532.47	0.00	0.00	0.00
6,900.00	30.37	104.33	6,663.69	-261.74	1,115.06	557.96	0.00	0.00	0.00
7,000.00	30.37	104.33	6,749.96	-274.26	1,164.05	583.45	0.00	0.00	0.00
7,071.76	30.37	104.33	6,811.87	-283.24	1,199.20	601.75	0.00	0.00	0.00
Begin 10°/100' build/turn									
7,100.00	31.08	109.68	6,836.15	-287.46	1,212.99	609.59	10.00	2.50	18.96
7,200.00	35.15	126.47	6,920.07	-313.33	1,260.56	647.54	10.00	4.07	16.79
7,300.00	41.07	139.59	6,998.84	-355.56	1,305.12	700.38	10.00	5.91	13.12
7,400.00	48.14	149.69	7,070.09	-412.86	1,345.31	766.52	10.00	7.07	10.11
7,500.00	55.91	157.69	7,131.64	-483.50	1,379.90	843.94	10.00	7.77	8.00
7,600.00	64.11	164.31	7,181.62	-565.32	1,407.85	930.29	10.00	8.20	6.62
7,700.00	72.58	170.05	7,218.52	-655.85	1,428.31	1,022.96	10.00	8.46	5.74
7,800.00	81.19	175.27	7,241.21	-752.32	1,440.66	1,119.11	10.00	8.61	5.22
7,900.00	89.87	180.26	7,249.00	-851.82	1,444.52	1,215.84	10.00	8.68	4.98
7,901.50	90.00	180.33	7,249.00	-853.31	1,444.51	1,217.28	10.00	8.69	4.94
Begin 90.00° lateral section									
8,000.00	90.00	180.33	7,249.00	-951.82	1,443.95	1,311.83	0.00	0.00	0.00
8,100.00	90.00	180.33	7,249.00	-1,051.81	1,443.37	1,407.83	0.00	0.00	0.00
8,200.00	90.00	180.33	7,249.00	-1,151.81	1,442.79	1,503.82	0.00	0.00	0.00
8,300.00	90.00	180.33	7,249.00	-1,251.81	1,442.22	1,599.81	0.00	0.00	0.00
8,400.00	90.00	180.33	7,249.00	-1,351.81	1,441.64	1,695.81	0.00	0.00	0.00
8,500.00	90.00	180.33	7,249.00	-1,451.81	1,441.07	1,791.80	0.00	0.00	0.00
8,600.00	90.00	180.33	7,249.00	-1,551.81	1,440.49	1,887.79	0.00	0.00	0.00
8,700.00	90.00	180.33	7,249.00	-1,651.80	1,439.91	1,983.79	0.00	0.00	0.00
8,800.00	90.00	180.33	7,249.00	-1,751.80	1,439.34	2,079.78	0.00	0.00	0.00
8,900.00	90.00	180.33	7,249.00	-1,851.80	1,438.76	2,175.78	0.00	0.00	0.00
9,000.00	90.00	180.33	7,249.00	-1,951.80	1,438.19	2,271.77	0.00	0.00	0.00
9,100.00	90.00	180.33	7,249.00	-2,051.80	1,437.61	2,367.76	0.00	0.00	0.00
9,200.00	90.00	180.33	7,249.00	-2,151.80	1,437.03	2,463.76	0.00	0.00	0.00
9,300.00	90.00	180.33	7,249.00	-2,251.79	1,436.46	2,559.75	0.00	0.00	0.00
9,400.00	90.00	180.33	7,249.00	-2,351.79	1,435.88	2,655.74	0.00	0.00	0.00
9,500.00	90.00	180.33	7,249.00	-2,451.79	1,435.31	2,751.74	0.00	0.00	0.00

Planning Report

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Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,600.00	90.00	180.33	7,249.00	-2,551.79	1,434.73	2,847.73	0.00	0.00	0.00	
9,700.00	90.00	180.33	7,249.00	-2,651.79	1,434.15	2,943.72	0.00	0.00	0.00	
9,800.00	90.00	180.33	7,249.00	-2,751.79	1,433.58	3,039.72	0.00	0.00	0.00	
9,900.00	90.00	180.33	7,249.00	-2,851.78	1,433.00	3,135.71	0.00	0.00	0.00	
10,000.00	90.00	180.33	7,249.00	-2,951.78	1,432.43	3,231.71	0.00	0.00	0.00	
10,100.00	90.00	180.33	7,249.00	-3,051.78	1,431.85	3,327.70	0.00	0.00	0.00	
10,200.00	90.00	180.33	7,249.00	-3,151.78	1,431.27	3,423.69	0.00	0.00	0.00	
10,300.00	90.00	180.33	7,249.00	-3,251.78	1,430.70	3,519.69	0.00	0.00	0.00	
10,400.00	90.00	180.33	7,249.00	-3,351.78	1,430.12	3,615.68	0.00	0.00	0.00	
10,500.00	90.00	180.33	7,249.00	-3,451.77	1,429.55	3,711.67	0.00	0.00	0.00	
10,600.00	90.00	180.33	7,249.00	-3,551.77	1,428.97	3,807.67	0.00	0.00	0.00	
10,700.00	90.00	180.33	7,249.00	-3,651.77	1,428.39	3,903.66	0.00	0.00	0.00	
10,800.00	90.00	180.33	7,249.00	-3,751.77	1,427.82	3,999.65	0.00	0.00	0.00	
10,900.00	90.00	180.33	7,249.00	-3,851.77	1,427.24	4,095.65	0.00	0.00	0.00	
11,000.00	90.00	180.33	7,249.00	-3,951.77	1,426.67	4,191.64	0.00	0.00	0.00	
11,100.00	90.00	180.33	7,249.00	-4,051.76	1,426.09	4,287.64	0.00	0.00	0.00	
11,200.00	90.00	180.33	7,249.00	-4,151.76	1,425.51	4,383.63	0.00	0.00	0.00	
11,300.00	90.00	180.33	7,249.00	-4,251.76	1,424.94	4,479.62	0.00	0.00	0.00	
11,400.00	90.00	180.33	7,249.00	-4,351.76	1,424.36	4,575.62	0.00	0.00	0.00	
11,500.00	90.00	180.33	7,249.00	-4,451.76	1,423.79	4,671.61	0.00	0.00	0.00	
11,600.00	90.00	180.33	7,249.00	-4,551.76	1,423.21	4,767.60	0.00	0.00	0.00	
11,700.00	90.00	180.33	7,249.00	-4,651.75	1,422.64	4,863.60	0.00	0.00	0.00	
11,800.00	90.00	180.33	7,249.00	-4,751.75	1,422.06	4,959.59	0.00	0.00	0.00	
11,900.00	90.00	180.33	7,249.00	-4,851.75	1,421.48	5,055.59	0.00	0.00	0.00	
12,000.00	90.00	180.33	7,249.00	-4,951.75	1,420.91	5,151.58	0.00	0.00	0.00	
12,021.71	90.00	180.33	7,249.00	-4,973.46	1,420.78	5,172.42	0.00	0.00	0.00	
PBHL/TD										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Antico 34-3-05 PBHL 47	0.00	0.00	7,249.00	-4,973.46	1,420.78	1,239,621.70	3,239,788.41	39.98796999	-104.64422000
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,700.00	1,700.00	0.00	0.00	KOP Begin 2°/100' build	
1,950.00	1,949.68	-1.89	10.74	Begin 5.00° tangent section	
5,011.97	5,000.00	-48.23	273.55	Begin 6°/100' build/turn	
5,435.15	5,399.90	-78.41	397.41	Begin 30.37° tangent section	
7,071.76	6,811.87	-283.24	1,199.20	Begin 10°/100' build/turn	
7,901.50	7,249.00	-853.31	1,444.51	Begin 90.00° lateral section	
12,021.71	7,249.00	-4,973.46	1,420.78	PBHL/TD	

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-05 (H)
Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Project	Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec34-T1N-R65W Sec03-T1S-R65W			
Site Position:		Northing:	1,244,594.57 usft	Latitude:	40.00166000
From:	Lat/Long	Easting:	3,238,306.00 usft	Longitude:	-104.64934000
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.55 °

Well	Antico 34-03-05 (H), Surf Loc: 400 FSL 2366 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W					
Well Position	+N/-S	0.00 usft	Northing:	1,244,595.15 usft	Latitude:	40.00165997
	+E/-W	0.00 usft	Easting:	3,238,367.63 usft	Longitude:	-104.64912000
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	5,133.00 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/6/2016	8.33	66.47	52,204

Design	rev0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	164.06

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,950.00	5.00	100.00	1,949.68	-1.89	10.74	2.00	2.00	0.00	100.00	
5,011.97	5.00	100.00	5,000.00	-48.23	273.55	0.00	0.00	0.00	0.00	
5,435.15	30.37	104.33	5,399.90	-78.41	397.41	6.00	6.00	1.02	5.11	
7,071.76	30.37	104.33	6,811.87	-283.24	1,199.20	0.00	0.00	0.00	0.00	
7,901.50	90.00	180.33	7,249.00	-853.31	1,444.51	10.00	7.19	9.16	77.86	
12,021.71	90.00	180.33	7,249.00	-4,973.46	1,420.78	0.00	0.00	0.00	0.00	Antico 34-3-05 PBHL

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-05 (H)
Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
100.00	0.00	0.00	100.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
200.00	0.00	0.00	200.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
300.00	0.00	0.00	300.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
400.00	0.00	0.00	400.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
500.00	0.00	0.00	500.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
600.00	0.00	0.00	600.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
700.00	0.00	0.00	700.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
800.00	0.00	0.00	800.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
900.00	0.00	0.00	900.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	1,244,595.15	3,238,367.63	40.00165997	-104.64912000	
KOP Begin 2°/100' build										
1,800.00	2.00	100.00	1,799.98	-0.30	1.72	1,244,594.85	3,238,369.35	40.00165909	-104.64911387	
1,900.00	4.00	100.00	1,899.84	-1.21	6.87	1,244,593.94	3,238,374.50	40.00165646	-104.64909551	
1,950.00	5.00	100.00	1,949.68	-1.89	10.74	1,244,593.26	3,238,378.37	40.00165449	-104.64908174	
Begin 5.00° tangent section										
2,000.00	5.00	100.00	1,999.49	-2.65	15.03	1,244,592.50	3,238,382.66	40.00165230	-104.64906645	
2,100.00	5.00	100.00	2,099.11	-4.16	23.61	1,244,590.99	3,238,391.24	40.00164792	-104.64903586	
2,200.00	5.00	100.00	2,198.73	-5.68	32.19	1,244,589.48	3,238,399.82	40.00164354	-104.64900528	
2,300.00	5.00	100.00	2,298.35	-7.19	40.78	1,244,587.96	3,238,408.41	40.00163916	-104.64897469	
2,400.00	5.00	100.00	2,397.97	-8.70	49.36	1,244,586.45	3,238,416.99	40.00163478	-104.64894411	
2,500.00	5.00	100.00	2,497.59	-10.22	57.94	1,244,584.94	3,238,425.57	40.00163040	-104.64891352	
2,600.00	5.00	100.00	2,597.21	-11.73	66.53	1,244,583.42	3,238,434.16	40.00162602	-104.64888294	
2,700.00	5.00	100.00	2,696.83	-13.24	75.11	1,244,581.91	3,238,442.74	40.00162163	-104.64885235	
2,800.00	5.00	100.00	2,796.45	-14.76	83.69	1,244,580.40	3,238,451.32	40.00161725	-104.64882177	
2,900.00	5.00	100.00	2,896.07	-16.27	92.28	1,244,578.88	3,238,459.91	40.00161287	-104.64879118	
3,000.00	5.00	100.00	2,995.69	-17.78	100.86	1,244,577.37	3,238,468.49	40.00160849	-104.64876060	
3,100.00	5.00	100.00	3,095.31	-19.30	109.44	1,244,575.86	3,238,477.07	40.00160411	-104.64873002	
3,200.00	5.00	100.00	3,194.93	-20.81	118.03	1,244,574.34	3,238,485.66	40.00159973	-104.64869943	
3,300.00	5.00	100.00	3,294.55	-22.32	126.61	1,244,572.83	3,238,494.24	40.00159535	-104.64866885	
3,400.00	5.00	100.00	3,394.17	-23.84	135.19	1,244,571.31	3,238,502.82	40.00159097	-104.64863826	
3,500.00	5.00	100.00	3,493.78	-25.35	143.77	1,244,569.80	3,238,511.40	40.00158659	-104.64860768	
3,600.00	5.00	100.00	3,593.40	-26.86	152.36	1,244,568.29	3,238,519.99	40.00158221	-104.64857709	
3,700.00	5.00	100.00	3,693.02	-28.38	160.94	1,244,566.77	3,238,528.57	40.00157783	-104.64854651	
3,800.00	5.00	100.00	3,792.64	-29.89	169.52	1,244,565.26	3,238,537.15	40.00157345	-104.64851592	
3,900.00	5.00	100.00	3,892.26	-31.41	178.11	1,244,563.75	3,238,545.74	40.00156907	-104.64848534	
4,000.00	5.00	100.00	3,991.88	-32.92	186.69	1,244,562.23	3,238,554.32	40.00156469	-104.64845475	
4,100.00	5.00	100.00	4,091.50	-34.43	195.27	1,244,560.72	3,238,562.90	40.00156030	-104.64842417	
4,200.00	5.00	100.00	4,191.12	-35.95	203.86	1,244,559.21	3,238,571.49	40.00155592	-104.64839358	
4,300.00	5.00	100.00	4,290.74	-37.46	212.44	1,244,557.69	3,238,580.07	40.00155154	-104.64836300	
4,400.00	5.00	100.00	4,390.36	-38.97	221.02	1,244,556.18	3,238,588.65	40.00154716	-104.64833241	
4,500.00	5.00	100.00	4,489.98	-40.49	229.61	1,244,554.67	3,238,597.24	40.00154278	-104.64830183	
4,600.00	5.00	100.00	4,589.60	-42.00	238.19	1,244,553.15	3,238,605.82	40.00153840	-104.64827124	
4,700.00	5.00	100.00	4,689.22	-43.51	246.77	1,244,551.64	3,238,614.40	40.00153402	-104.64824066	
4,800.00	5.00	100.00	4,788.84	-45.03	255.36	1,244,550.13	3,238,622.99	40.00152964	-104.64821007	
4,900.00	5.00	100.00	4,888.46	-46.54	263.94	1,244,548.61	3,238,631.57	40.00152526	-104.64817949	
5,000.00	5.00	100.00	4,988.08	-48.05	272.52	1,244,547.10	3,238,640.15	40.00152088	-104.64814890	

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-05 (H)
Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,011.97	5.00	100.00	5,000.00	-48.23	273.55	1,244,546.92	3,238,641.18	40.00152035	-104.64814524
Begin 6°/100' build/turn									
5,100.00	10.27	102.63	5,087.22	-50.62	284.99	1,244,544.53	3,238,652.62	40.00151351	-104.64810448
5,200.00	16.27	103.56	5,184.51	-55.86	307.33	1,244,539.29	3,238,674.96	40.00149853	-104.64802493
5,300.00	22.27	104.00	5,278.86	-63.74	339.36	1,244,531.42	3,238,706.99	40.00147607	-104.64791088
5,400.00	28.27	104.26	5,369.25	-74.16	380.73	1,244,520.99	3,238,748.36	40.00144635	-104.64776358
5,435.15	30.37	104.33	5,399.90	-78.41	397.41	1,244,516.74	3,238,765.04	40.00143424	-104.64770419
Begin 30.37° tangent section									
5,500.00	30.37	104.33	5,455.85	-86.53	429.18	1,244,508.62	3,238,796.81	40.00141113	-104.64759107
5,600.00	30.37	104.33	5,542.12	-99.04	478.17	1,244,496.11	3,238,845.80	40.00137548	-104.64741663
5,700.00	30.37	104.33	5,628.40	-111.56	527.16	1,244,483.59	3,238,894.79	40.00133983	-104.64724219
5,800.00	30.37	104.33	5,714.67	-124.07	576.15	1,244,471.08	3,238,943.78	40.00130418	-104.64706775
5,900.00	30.37	104.33	5,800.94	-136.59	625.14	1,244,458.56	3,238,992.77	40.00126853	-104.64689331
6,000.00	30.37	104.33	5,887.22	-149.10	674.13	1,244,446.05	3,239,041.76	40.00123288	-104.64671887
6,100.00	30.37	104.33	5,973.49	-161.62	723.12	1,244,433.53	3,239,090.75	40.00119724	-104.64654443
6,200.00	30.37	104.33	6,059.77	-174.14	772.12	1,244,421.02	3,239,139.75	40.00116159	-104.64637000
6,300.00	30.37	104.33	6,146.04	-186.65	821.11	1,244,408.50	3,239,188.74	40.00112594	-104.64619556
6,400.00	30.37	104.33	6,232.32	-199.17	870.10	1,244,395.99	3,239,237.73	40.00109029	-104.64602112
6,500.00	30.37	104.33	6,318.59	-211.68	919.09	1,244,383.47	3,239,286.72	40.00105464	-104.64584668
6,600.00	30.37	104.33	6,404.86	-224.20	968.08	1,244,370.96	3,239,335.71	40.00101899	-104.64567225
6,700.00	30.37	104.33	6,491.14	-236.71	1,017.07	1,244,358.44	3,239,384.70	40.00098333	-104.64549781
6,800.00	30.37	104.33	6,577.41	-249.23	1,066.06	1,244,345.93	3,239,433.69	40.00094768	-104.64532337
6,900.00	30.37	104.33	6,663.69	-261.74	1,115.06	1,244,333.41	3,239,482.69	40.00091203	-104.64514893
7,000.00	30.37	104.33	6,749.96	-274.26	1,164.05	1,244,320.90	3,239,531.68	40.00087638	-104.64497450
7,071.76	30.37	104.33	6,811.87	-283.24	1,199.20	1,244,311.91	3,239,566.83	40.00085080	-104.64484932
Begin 10°/100' build/turn									
7,100.00	31.08	109.68	6,836.15	-287.46	1,212.99	1,244,307.69	3,239,580.62	40.00083884	-104.64480027
7,200.00	35.15	126.47	6,920.07	-313.33	1,260.56	1,244,281.82	3,239,628.19	40.00076656	-104.64463135
7,300.00	41.07	139.59	6,998.84	-355.56	1,305.12	1,244,239.59	3,239,672.75	40.00064946	-104.64447376
7,400.00	48.14	149.69	7,070.09	-412.86	1,345.31	1,244,182.29	3,239,712.93	40.00049110	-104.64433230
7,500.00	55.91	157.69	7,131.64	-483.50	1,379.90	1,244,111.65	3,239,747.53	40.00029628	-104.64421125
7,600.00	64.11	164.31	7,181.62	-565.32	1,407.85	1,244,029.83	3,239,775.48	40.00007093	-104.64411429
7,700.00	72.58	170.05	7,218.52	-655.85	1,428.31	1,243,939.30	3,239,795.94	39.99982189	-104.64404438
7,800.00	81.19	175.27	7,241.21	-752.32	1,440.66	1,243,842.83	3,239,808.29	39.99955673	-104.64400363
7,900.00	89.87	180.26	7,249.00	-851.82	1,444.52	1,243,743.34	3,239,812.15	39.99928351	-104.64399329
7,901.50	90.00	180.33	7,249.00	-853.31	1,444.51	1,243,741.84	3,239,812.14	39.99927940	-104.64399337
Begin 90.00° lateral section									
8,000.00	90.00	180.33	7,249.00	-951.82	1,443.95	1,243,643.34	3,239,811.58	39.99900903	-104.64399879
8,100.00	90.00	180.33	7,249.00	-1,051.81	1,443.37	1,243,543.34	3,239,811.00	39.99873454	-104.64400429
8,200.00	90.00	180.33	7,249.00	-1,151.81	1,442.79	1,243,443.34	3,239,810.42	39.99846006	-104.64400979
8,300.00	90.00	180.33	7,249.00	-1,251.81	1,442.22	1,243,343.34	3,239,809.85	39.99818557	-104.64401529
8,400.00	90.00	180.33	7,249.00	-1,351.81	1,441.64	1,243,243.34	3,239,809.27	39.99791108	-104.64402079
8,500.00	90.00	180.33	7,249.00	-1,451.81	1,441.07	1,243,143.35	3,239,808.70	39.99763660	-104.64402629
8,600.00	90.00	180.33	7,249.00	-1,551.81	1,440.49	1,243,043.35	3,239,808.12	39.99736211	-104.64403179
8,700.00	90.00	180.33	7,249.00	-1,651.80	1,439.91	1,242,943.35	3,239,807.54	39.99708762	-104.64403729
8,800.00	90.00	180.33	7,249.00	-1,751.80	1,439.34	1,242,843.35	3,239,806.97	39.99681314	-104.64404280
8,900.00	90.00	180.33	7,249.00	-1,851.80	1,438.76	1,242,743.35	3,239,806.39	39.99653865	-104.64404830
9,000.00	90.00	180.33	7,249.00	-1,951.80	1,438.19	1,242,643.35	3,239,805.82	39.99626417	-104.64405380
9,100.00	90.00	180.33	7,249.00	-2,051.80	1,437.61	1,242,543.36	3,239,805.24	39.99598968	-104.64405930
9,200.00	90.00	180.33	7,249.00	-2,151.80	1,437.03	1,242,443.36	3,239,804.66	39.99571519	-104.64406480
9,300.00	90.00	180.33	7,249.00	-2,251.79	1,436.46	1,242,343.36	3,239,804.09	39.99544071	-104.64407030
9,400.00	90.00	180.33	7,249.00	-2,351.79	1,435.88	1,242,243.36	3,239,803.51	39.99516622	-104.64407580
9,500.00	90.00	180.33	7,249.00	-2,451.79	1,435.31	1,242,143.36	3,239,802.94	39.99489173	-104.64408130
9,600.00	90.00	180.33	7,249.00	-2,551.79	1,434.73	1,242,043.36	3,239,802.36	39.99461725	-104.64408680

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-05 (H)
Company:	Edge Energy LLC	TVD Reference:	RKB=5133+16 @ 5149.00usft
Project:	Weld County, Colorado	MD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	North Reference:	Grid
Well:	Antico 34-03-05 (H)	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,700.00	90.00	180.33	7,249.00	-2,651.79	1,434.15	1,241,943.37	3,239,801.78	39.99434276	-104.64409230	
9,800.00	90.00	180.33	7,249.00	-2,751.79	1,433.58	1,241,843.37	3,239,801.21	39.99406828	-104.64409780	
9,900.00	90.00	180.33	7,249.00	-2,851.78	1,433.00	1,241,743.37	3,239,800.63	39.99379379	-104.64410330	
10,000.00	90.00	180.33	7,249.00	-2,951.78	1,432.43	1,241,643.37	3,239,800.06	39.99351930	-104.64410880	
10,100.00	90.00	180.33	7,249.00	-3,051.78	1,431.85	1,241,543.37	3,239,799.48	39.99324482	-104.64411430	
10,200.00	90.00	180.33	7,249.00	-3,151.78	1,431.27	1,241,443.37	3,239,798.90	39.99297033	-104.64411980	
10,300.00	90.00	180.33	7,249.00	-3,251.78	1,430.70	1,241,343.38	3,239,798.33	39.99269584	-104.64412530	
10,400.00	90.00	180.33	7,249.00	-3,351.78	1,430.12	1,241,243.38	3,239,797.75	39.99242136	-104.64413080	
10,500.00	90.00	180.33	7,249.00	-3,451.77	1,429.55	1,241,143.38	3,239,797.18	39.99214687	-104.64413630	
10,600.00	90.00	180.33	7,249.00	-3,551.77	1,428.97	1,241,043.38	3,239,796.60	39.99187239	-104.64414180	
10,700.00	90.00	180.33	7,249.00	-3,651.77	1,428.39	1,240,943.38	3,239,796.02	39.99159790	-104.64414730	
10,800.00	90.00	180.33	7,249.00	-3,751.77	1,427.82	1,240,843.38	3,239,795.45	39.99132341	-104.64415280	
10,900.00	90.00	180.33	7,249.00	-3,851.77	1,427.24	1,240,743.39	3,239,794.87	39.99104893	-104.64415830	
11,000.00	90.00	180.33	7,249.00	-3,951.77	1,426.67	1,240,643.39	3,239,794.30	39.99077444	-104.64416380	
11,100.00	90.00	180.33	7,249.00	-4,051.76	1,426.09	1,240,543.39	3,239,793.72	39.99049995	-104.64416930	
11,200.00	90.00	180.33	7,249.00	-4,151.76	1,425.51	1,240,443.39	3,239,793.14	39.99022547	-104.64417480	
11,300.00	90.00	180.33	7,249.00	-4,251.76	1,424.94	1,240,343.39	3,239,792.57	39.98995098	-104.64418030	
11,400.00	90.00	180.33	7,249.00	-4,351.76	1,424.36	1,240,243.39	3,239,791.99	39.98967649	-104.64418580	
11,500.00	90.00	180.33	7,249.00	-4,451.76	1,423.79	1,240,143.40	3,239,791.42	39.98940201	-104.64419130	
11,600.00	90.00	180.33	7,249.00	-4,551.76	1,423.21	1,240,043.40	3,239,790.84	39.98912752	-104.64419680	
11,700.00	90.00	180.33	7,249.00	-4,651.75	1,422.64	1,239,943.40	3,239,790.27	39.98885304	-104.64420230	
11,800.00	90.00	180.33	7,249.00	-4,751.75	1,422.06	1,239,843.40	3,239,789.69	39.98857855	-104.64420780	
11,900.00	90.00	180.33	7,249.00	-4,851.75	1,421.48	1,239,743.40	3,239,789.11	39.98830406	-104.64421330	
12,000.00	90.00	180.33	7,249.00	-4,951.75	1,420.91	1,239,643.40	3,239,788.54	39.98802958	-104.64421880	
12,021.71	90.00	180.33	7,249.00	-4,973.46	1,420.78	1,239,621.70	3,239,788.41	39.98796999	-104.64422000	
PBHL/TD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Antico 34-3-05 PBHL 47	0.00	0.00	7,249.00	-4,973.46	1,420.78	1,239,621.70	3,239,788.41	39.98796999	-104.64422000	
- hit/miss target										
- Shape										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
1,700.00	1,700.00	0.00	0.00	KOP Begin 2°/100' build	
1,950.00	1,949.68	-1.89	10.74	Begin 5.00° tangent section	
5,011.97	5,000.00	-48.23	273.55	Begin 6°/100' build/turn	
5,435.15	5,399.90	-78.41	397.41	Begin 30.37° tangent section	
7,071.76	6,811.87	-283.24	1,199.20	Begin 10°/100' build/turn	
7,901.50	7,249.00	-853.31	1,444.51	Begin 90.00° lateral section	
12,021.71	7,249.00	-4,973.46	1,420.78	PBHL/TD	