

Edge Energy LLC

Project: Weld County, Colorado
Site: Sec34-T1N-R65W Sec03-T1S-R65W
Well: Antico 34-03-11 (B)
Design: rev0
Rig:

Section Details									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	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	235.00	1949.68	-6.25	-8.93	2.00	7.06	Begin 5.00° tangent section
4	6417.32	5.00	235.00	6400.00	-229.58	-327.87	0.00	259.32	Begin 6°/100' build/turn
5	6621.82	16.46	206.89	6600.70	-260.64	-348.35	6.00	292.18	Begin 16.46° tangent section
6	6866.14	16.46	206.89	6835.00	-322.38	-379.66	0.00	356.58	Begin 10°/100' build/turn
7	7619.24	90.00	180.40	7259.00	-876.21	-439.41	10.00	913.57	Begin 90.00° lateral section
8	11709.24	90.00	180.40	7259.00	-4966.11	-467.96	0.00	4988.11	PBHL/TD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Antico 34-3-11 PBHL 470 FSL 2310 FWL	7259.00	-4966.11	-467.96	239628.18	3237810.02



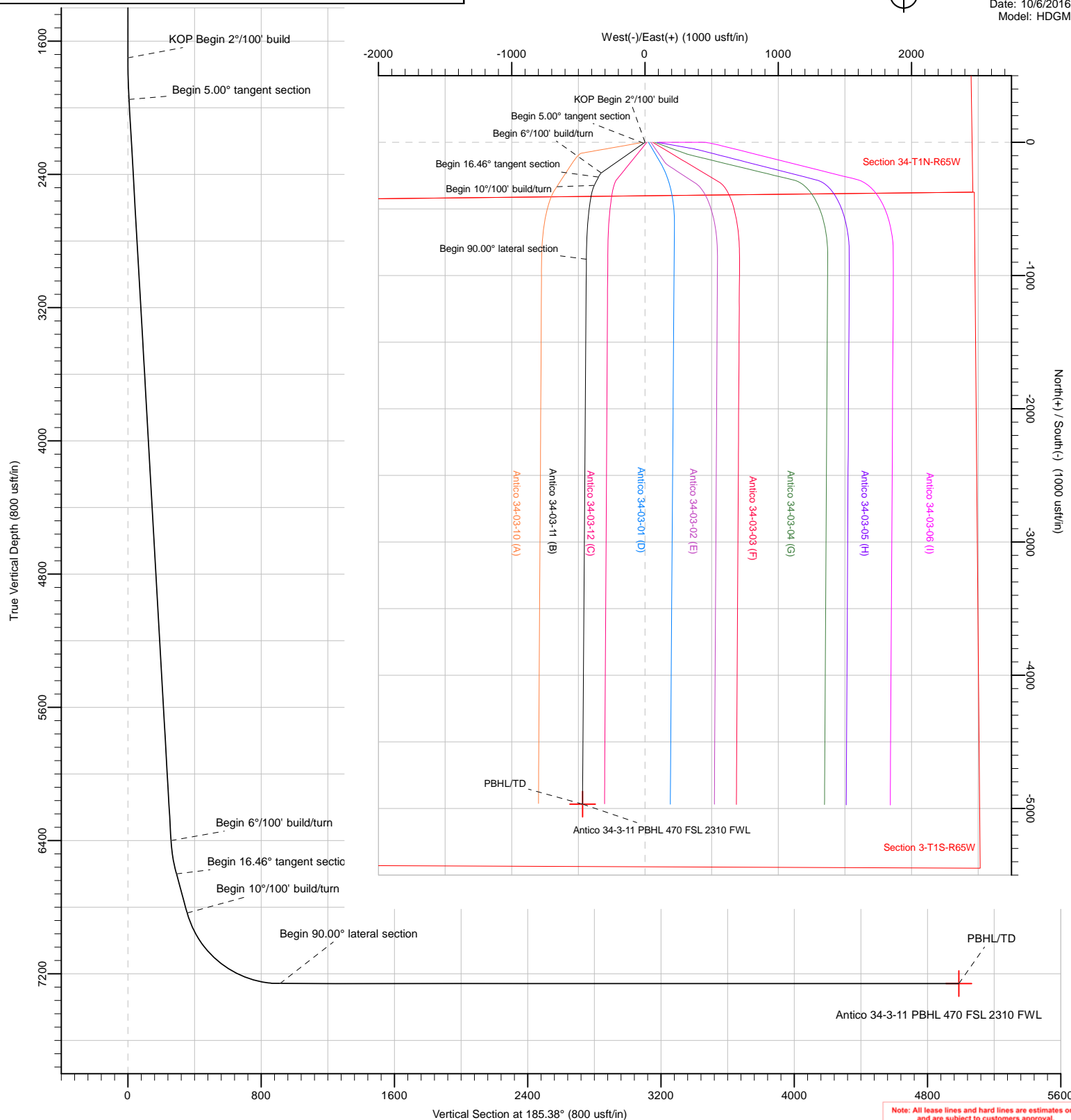
PRODIRECTIONAL



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 34-03-11 (B)			
Surf Loc: 400 FSL 2456 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W			
North American Datum 1983	Colorado Northern Zone		
Northing	Easting	Latitude	Longitude
1244594.29	3238277.98	40.00165995	-104.64944000
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.

Survey Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
Project:	Weld County, Colorado	TVD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	MD Reference:	RKB=5133+16 @ 5149.00usft
Well:	Antico 34-03-11 (B)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	DB Jul2216dt

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 34-03-11 (B), Surf Loc: 400 FSL 2456 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W					
Well Position	+N/-S	0.00 usft	Northing:	1,244,594.29 usft	Latitude:	40.00165996
	+E/-W	0.00 usft	Easting:	3,238,277.99 usft	Longitude:	-104.64944000
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	185.38	

Survey Tool Program	Date	10/7/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,709.24	rev0 (Original Hole)	MWD	OWSG MWD - Standard	

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	

Survey Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
Project:	Weld County, Colorado	TVD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	MD Reference:	RKB=5133+16 @ 5149.00usft
Well:	Antico 34-03-11 (B)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	DB Jul2216dt

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)
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	235.00	1,799.98	-1.00	-1.43	1.13	2.00	2.00	0.00
1,900.00	4.00	235.00	1,899.84	-4.00	-5.72	4.52	2.00	2.00	0.00
1,950.00	5.00	235.00	1,949.68	-6.25	-8.93	7.06	2.00	2.00	0.00
Begin 5.00° tangent section									
2,000.00	5.00	235.00	1,999.49	-8.75	-12.50	9.89	0.00	0.00	0.00
2,100.00	5.00	235.00	2,099.11	-13.75	-19.64	15.53	0.00	0.00	0.00
2,200.00	5.00	235.00	2,198.73	-18.75	-26.78	21.18	0.00	0.00	0.00
2,300.00	5.00	235.00	2,298.35	-23.75	-33.92	26.83	0.00	0.00	0.00
2,400.00	5.00	235.00	2,397.97	-28.75	-41.06	32.47	0.00	0.00	0.00
2,500.00	5.00	235.00	2,497.59	-33.75	-48.20	38.12	0.00	0.00	0.00
2,600.00	5.00	235.00	2,597.21	-38.75	-55.34	43.77	0.00	0.00	0.00
2,700.00	5.00	235.00	2,696.83	-43.75	-62.48	49.41	0.00	0.00	0.00
2,800.00	5.00	235.00	2,796.45	-48.74	-69.61	55.06	0.00	0.00	0.00
2,900.00	5.00	235.00	2,896.07	-53.74	-76.75	60.71	0.00	0.00	0.00
3,000.00	5.00	235.00	2,995.69	-58.74	-83.89	66.35	0.00	0.00	0.00
3,100.00	5.00	235.00	3,095.31	-63.74	-91.03	72.00	0.00	0.00	0.00
3,200.00	5.00	235.00	3,194.93	-68.74	-98.17	77.65	0.00	0.00	0.00
3,300.00	5.00	235.00	3,294.55	-73.74	-105.31	83.29	0.00	0.00	0.00
3,400.00	5.00	235.00	3,394.17	-78.74	-112.45	88.94	0.00	0.00	0.00
3,500.00	5.00	235.00	3,493.78	-83.74	-119.59	94.59	0.00	0.00	0.00
3,600.00	5.00	235.00	3,593.40	-88.74	-126.73	100.23	0.00	0.00	0.00
3,700.00	5.00	235.00	3,693.02	-93.74	-133.87	105.88	0.00	0.00	0.00
3,800.00	5.00	235.00	3,792.64	-98.74	-141.01	111.53	0.00	0.00	0.00
3,900.00	5.00	235.00	3,892.26	-103.73	-148.15	117.18	0.00	0.00	0.00
4,000.00	5.00	235.00	3,991.88	-108.73	-155.29	122.82	0.00	0.00	0.00
4,100.00	5.00	235.00	4,091.50	-113.73	-162.43	128.47	0.00	0.00	0.00
4,200.00	5.00	235.00	4,191.12	-118.73	-169.57	134.12	0.00	0.00	0.00
4,300.00	5.00	235.00	4,290.74	-123.73	-176.71	139.76	0.00	0.00	0.00
4,400.00	5.00	235.00	4,390.36	-128.73	-183.84	145.41	0.00	0.00	0.00
4,500.00	5.00	235.00	4,489.98	-133.73	-190.98	151.06	0.00	0.00	0.00
4,600.00	5.00	235.00	4,589.60	-138.73	-198.12	156.70	0.00	0.00	0.00
4,700.00	5.00	235.00	4,689.22	-143.73	-205.26	162.35	0.00	0.00	0.00
4,800.00	5.00	235.00	4,788.84	-148.73	-212.40	168.00	0.00	0.00	0.00
4,900.00	5.00	235.00	4,888.46	-153.72	-219.54	173.64	0.00	0.00	0.00
5,000.00	5.00	235.00	4,988.08	-158.72	-226.68	179.29	0.00	0.00	0.00

Survey Report

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Site:	Sec34-T1N-R65W Sec03-T1S-R65W	MD Reference:	RKB=5133+16 @ 5149.00usft
Well:	Antico 34-03-11 (B)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	DB Jul2216dt

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)
5,100.00	5.00	235.00	5,087.70	-163.72	-233.82	184.94	0.00	0.00	0.00
5,200.00	5.00	235.00	5,187.32	-168.72	-240.96	190.58	0.00	0.00	0.00
5,300.00	5.00	235.00	5,286.94	-173.72	-248.10	196.23	0.00	0.00	0.00
5,400.00	5.00	235.00	5,386.55	-178.72	-255.24	201.88	0.00	0.00	0.00
5,500.00	5.00	235.00	5,486.17	-183.72	-262.38	207.52	0.00	0.00	0.00
5,600.00	5.00	235.00	5,585.79	-188.72	-269.52	213.17	0.00	0.00	0.00
5,700.00	5.00	235.00	5,685.41	-193.72	-276.66	218.82	0.00	0.00	0.00
5,800.00	5.00	235.00	5,785.03	-198.72	-283.80	224.46	0.00	0.00	0.00
5,900.00	5.00	235.00	5,884.65	-203.72	-290.94	230.11	0.00	0.00	0.00
6,000.00	5.00	235.00	5,984.27	-208.71	-298.07	235.76	0.00	0.00	0.00
6,100.00	5.00	235.00	6,083.89	-213.71	-305.21	241.40	0.00	0.00	0.00
6,200.00	5.00	235.00	6,183.51	-218.71	-312.35	247.05	0.00	0.00	0.00
6,300.00	5.00	235.00	6,283.13	-223.71	-319.49	252.70	0.00	0.00	0.00
6,400.00	5.00	235.00	6,382.75	-228.71	-326.63	258.34	0.00	0.00	0.00
6,417.32	5.00	235.00	6,400.00	-229.58	-327.87	259.32	0.00	0.00	0.00
Begin 6°/100' build/turn									
6,500.00	9.39	215.56	6,482.02	-237.14	-334.75	267.49	6.00	5.31	-23.51
6,600.00	15.18	207.86	6,579.70	-255.36	-345.62	286.66	6.00	5.79	-7.70
6,621.82	16.46	206.89	6,600.70	-260.64	-348.35	292.18	6.00	5.88	-4.43
Begin 16.46° tangent section									
6,700.00	16.46	206.89	6,675.67	-280.40	-358.37	312.78	0.00	0.00	0.00
6,800.00	16.46	206.89	6,771.57	-305.67	-371.19	339.14	0.00	0.00	0.00
6,866.14	16.46	206.89	6,835.00	-322.38	-379.66	356.58	0.00	0.00	0.00
Begin 10°/100' build/turn									
6,900.00	19.52	202.22	6,867.20	-331.90	-383.97	366.46	10.00	9.05	-13.81
7,000.00	28.98	194.16	6,958.30	-370.96	-396.25	406.50	10.00	9.46	-8.05
7,100.00	38.70	189.87	7,041.27	-425.39	-407.57	461.75	10.00	9.72	-4.30
7,200.00	48.52	187.09	7,113.60	-493.53	-417.57	530.53	10.00	9.82	-2.78
7,300.00	58.38	185.05	7,173.08	-573.31	-425.97	610.75	10.00	9.87	-2.04
7,400.00	68.27	183.41	7,217.92	-662.32	-432.50	699.97	10.00	9.89	-1.64
7,500.00	78.18	181.98	7,246.74	-757.84	-436.97	795.49	10.00	9.91	-1.43
7,600.00	88.09	180.65	7,258.68	-856.97	-439.23	894.39	10.00	9.91	-1.33
7,619.24	90.00	180.40	7,259.00	-876.21	-439.41	913.57	10.00	9.91	-1.31
Begin 90.00° lateral section									
7,700.00	90.00	180.40	7,259.00	-956.96	-439.97	994.02	0.00	0.00	0.00
7,800.00	90.00	180.40	7,259.00	-1,056.96	-440.67	1,093.64	0.00	0.00	0.00
7,900.00	90.00	180.40	7,259.00	-1,156.96	-441.37	1,193.26	0.00	0.00	0.00
8,000.00	90.00	180.40	7,259.00	-1,256.95	-442.07	1,292.88	0.00	0.00	0.00
8,100.00	90.00	180.40	7,259.00	-1,356.95	-442.76	1,392.50	0.00	0.00	0.00
8,200.00	90.00	180.40	7,259.00	-1,456.95	-443.46	1,492.13	0.00	0.00	0.00
8,300.00	90.00	180.40	7,259.00	-1,556.95	-444.16	1,591.75	0.00	0.00	0.00
8,400.00	90.00	180.40	7,259.00	-1,656.94	-444.86	1,691.37	0.00	0.00	0.00
8,500.00	90.00	180.40	7,259.00	-1,756.94	-445.56	1,790.99	0.00	0.00	0.00
8,600.00	90.00	180.40	7,259.00	-1,856.94	-446.25	1,890.61	0.00	0.00	0.00

Survey Report

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Site:	Sec34-T1N-R65W Sec03-T1S-R65W	MD Reference:	RKB=5133+16 @ 5149.00usft
Well:	Antico 34-03-11 (B)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	DB Jul2216dt

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)
8,700.00	90.00	180.40	7,259.00	-1,956.94	-446.95	1,990.24	0.00	0.00	0.00
8,800.00	90.00	180.40	7,259.00	-2,056.93	-447.65	2,089.86	0.00	0.00	0.00
8,900.00	90.00	180.40	7,259.00	-2,156.93	-448.35	2,189.48	0.00	0.00	0.00
9,000.00	90.00	180.40	7,259.00	-2,256.93	-449.05	2,289.10	0.00	0.00	0.00
9,100.00	90.00	180.40	7,259.00	-2,356.93	-449.75	2,388.72	0.00	0.00	0.00
9,200.00	90.00	180.40	7,259.00	-2,456.92	-450.44	2,488.35	0.00	0.00	0.00
9,300.00	90.00	180.40	7,259.00	-2,556.92	-451.14	2,587.97	0.00	0.00	0.00
9,400.00	90.00	180.40	7,259.00	-2,656.92	-451.84	2,687.59	0.00	0.00	0.00
9,500.00	90.00	180.40	7,259.00	-2,756.92	-452.54	2,787.21	0.00	0.00	0.00
9,600.00	90.00	180.40	7,259.00	-2,856.91	-453.24	2,886.83	0.00	0.00	0.00
9,700.00	90.00	180.40	7,259.00	-2,956.91	-453.93	2,986.46	0.00	0.00	0.00
9,800.00	90.00	180.40	7,259.00	-3,056.91	-454.63	3,086.08	0.00	0.00	0.00
9,900.00	90.00	180.40	7,259.00	-3,156.91	-455.33	3,185.70	0.00	0.00	0.00
10,000.00	90.00	180.40	7,259.00	-3,256.90	-456.03	3,285.32	0.00	0.00	0.00
10,100.00	90.00	180.40	7,259.00	-3,356.90	-456.73	3,384.95	0.00	0.00	0.00
10,200.00	90.00	180.40	7,259.00	-3,456.90	-457.42	3,484.57	0.00	0.00	0.00
10,300.00	90.00	180.40	7,259.00	-3,556.90	-458.12	3,584.19	0.00	0.00	0.00
10,400.00	90.00	180.40	7,259.00	-3,656.90	-458.82	3,683.81	0.00	0.00	0.00
10,500.00	90.00	180.40	7,259.00	-3,756.89	-459.52	3,783.43	0.00	0.00	0.00
10,600.00	90.00	180.40	7,259.00	-3,856.89	-460.22	3,883.06	0.00	0.00	0.00
10,700.00	90.00	180.40	7,259.00	-3,956.89	-460.92	3,982.68	0.00	0.00	0.00
10,800.00	90.00	180.40	7,259.00	-4,056.89	-461.61	4,082.30	0.00	0.00	0.00
10,900.00	90.00	180.40	7,259.00	-4,156.88	-462.31	4,181.92	0.00	0.00	0.00
11,000.00	90.00	180.40	7,259.00	-4,256.88	-463.01	4,281.54	0.00	0.00	0.00
11,100.00	90.00	180.40	7,259.00	-4,356.88	-463.71	4,381.17	0.00	0.00	0.00
11,200.00	90.00	180.40	7,259.00	-4,456.88	-464.41	4,480.79	0.00	0.00	0.00
11,300.00	90.00	180.40	7,259.00	-4,556.87	-465.10	4,580.41	0.00	0.00	0.00
11,400.00	90.00	180.40	7,259.00	-4,656.87	-465.80	4,680.03	0.00	0.00	0.00
11,500.00	90.00	180.40	7,259.00	-4,756.87	-466.50	4,779.65	0.00	0.00	0.00
11,600.00	90.00	180.40	7,259.00	-4,856.87	-467.20	4,879.28	0.00	0.00	0.00
11,700.00	90.00	180.40	7,259.00	-4,956.86	-467.90	4,978.90	0.00	0.00	0.00
11,709.24	90.00	180.40	7,259.00	-4,966.11	-467.96	4,988.11	0.00	0.00	0.00
PBHL/TD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Antico 34-3-11 PBHL 47' - plan hits target center - Point	0.00	0.00	7,259.00	-4,966.11	-467.96	1,239,628.18	3,237,810.03	39.98803999	-104.65128000

Survey Report

Company:	Edge Energy LLC	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
Project:	Weld County, Colorado	TVD Reference:	RKB=5133+16 @ 5149.00usft
Site:	Sec34-T1N-R65W Sec03-T1S-R65W	MD Reference:	RKB=5133+16 @ 5149.00usft
Well:	Antico 34-03-11 (B)	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	DB Jul2216dt

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1700	1700	0	0	KOP Begin 2°/100' build
1950	1950	-6	-9	Begin 5.00° tangent section
6417	6400	-230	-328	Begin 6°/100' build/turn
6622	6601	-261	-348	Begin 16.46° tangent section
6866	6835	-322	-380	Begin 10°/100' build/turn
7619	7259	-876	-439	Begin 90.00° lateral section
11,709	7259	-4966	-468	PBHL/TD

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
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 34-03-11 (B)	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 34-03-11 (B), Surf Loc: 400 FSL 2456 FEL SW 1/4 SE 1/4 Sec34-T1N-R65W					
Well Position	+N/-S	0.00 usft	Northing:	1,244,594.29 usft	Latitude:	40.00165996
	+E/-W	0.00 usft	Easting:	3,238,277.99 usft	Longitude:	-104.64944000
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	185.38

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	235.00	1,949.68	-6.25	-8.93	2.00	2.00	0.00	235.00	
6,417.32	5.00	235.00	6,400.00	-229.58	-327.87	0.00	0.00	0.00	0.00	
6,621.82	16.46	206.89	6,600.70	-260.64	-348.35	6.00	5.60	-13.74	-38.91	
6,866.14	16.46	206.89	6,835.00	-322.38	-379.66	0.00	0.00	0.00	0.00	
7,619.24	90.00	180.40	7,259.00	-876.21	-439.41	10.00	9.77	-3.52	-27.46	
11,709.24	90.00	180.40	7,259.00	-4,966.11	-467.96	0.00	0.00	0.00	0.00	Antico 34-3-11 PBHL

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
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 34-03-11 (B)	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	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
100.00	0.00	0.00	100.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
200.00	0.00	0.00	200.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
300.00	0.00	0.00	300.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
400.00	0.00	0.00	400.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
500.00	0.00	0.00	500.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
600.00	0.00	0.00	600.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
700.00	0.00	0.00	700.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
800.00	0.00	0.00	800.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
900.00	0.00	0.00	900.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,300.00	0.00	0.00	1,300.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,400.00	0.00	0.00	1,400.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,500.00	0.00	0.00	1,500.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,600.00	0.00	0.00	1,600.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
1,700.00	0.00	0.00	1,700.00	0.00	0.00	1,244,594.29	3,238,277.99	40.00165996	-104.64944000
KOP Begin 2°/100' build									
1,800.00	2.00	235.00	1,799.98	-1.00	-1.43	1,244,593.29	3,238,276.56	40.00165725	-104.64944513
1,900.00	4.00	235.00	1,899.84	-4.00	-5.72	1,244,590.29	3,238,272.27	40.00164912	-104.64946054
1,950.00	5.00	235.00	1,949.68	-6.25	-8.93	1,244,588.04	3,238,269.06	40.00164303	-104.64947208
Begin 5.00° tangent section									
2,000.00	5.00	235.00	1,999.49	-8.75	-12.50	1,244,585.54	3,238,265.49	40.00163626	-104.64948491
2,100.00	5.00	235.00	2,099.11	-13.75	-19.64	1,244,580.54	3,238,258.35	40.00162273	-104.64951057
2,200.00	5.00	235.00	2,198.73	-18.75	-26.78	1,244,575.54	3,238,251.21	40.00160919	-104.64953622
2,300.00	5.00	235.00	2,298.35	-23.75	-33.92	1,244,570.54	3,238,244.07	40.00159566	-104.64956187
2,400.00	5.00	235.00	2,397.97	-28.75	-41.06	1,244,565.54	3,238,236.93	40.00158212	-104.64958753
2,500.00	5.00	235.00	2,497.59	-33.75	-48.20	1,244,560.54	3,238,229.79	40.00156859	-104.64961318
2,600.00	5.00	235.00	2,597.21	-38.75	-55.34	1,244,555.54	3,238,222.65	40.00155505	-104.64963884
2,700.00	5.00	235.00	2,696.83	-43.75	-62.48	1,244,550.54	3,238,215.51	40.00154152	-104.64966449
2,800.00	5.00	235.00	2,796.45	-48.74	-69.61	1,244,545.54	3,238,208.37	40.00152798	-104.64969015
2,900.00	5.00	235.00	2,896.07	-53.74	-76.75	1,244,540.54	3,238,201.23	40.00151445	-104.64971580
3,000.00	5.00	235.00	2,995.69	-58.74	-83.89	1,244,535.55	3,238,194.09	40.00150091	-104.64974146
3,100.00	5.00	235.00	3,095.31	-63.74	-91.03	1,244,530.55	3,238,186.95	40.00148738	-104.64976711
3,200.00	5.00	235.00	3,194.93	-68.74	-98.17	1,244,525.55	3,238,179.81	40.00147384	-104.64979276
3,300.00	5.00	235.00	3,294.55	-73.74	-105.31	1,244,520.55	3,238,172.68	40.00146031	-104.64981842
3,400.00	5.00	235.00	3,394.17	-78.74	-112.45	1,244,515.55	3,238,165.54	40.00144677	-104.64984407
3,500.00	5.00	235.00	3,493.78	-83.74	-119.59	1,244,510.55	3,238,158.40	40.00143324	-104.64986973
3,600.00	5.00	235.00	3,593.40	-88.74	-126.73	1,244,505.55	3,238,151.26	40.00141970	-104.64989538
3,700.00	5.00	235.00	3,693.02	-93.74	-133.87	1,244,500.55	3,238,144.12	40.00140617	-104.64992103
3,800.00	5.00	235.00	3,792.64	-98.74	-141.01	1,244,495.55	3,238,136.98	40.00139263	-104.64994669
3,900.00	5.00	235.00	3,892.26	-103.73	-148.15	1,244,490.55	3,238,129.84	40.00137910	-104.64997234
4,000.00	5.00	235.00	3,991.88	-108.73	-155.29	1,244,485.56	3,238,122.70	40.00136556	-104.64999800
4,100.00	5.00	235.00	4,091.50	-113.73	-162.43	1,244,480.56	3,238,115.56	40.00135203	-104.65002365
4,200.00	5.00	235.00	4,191.12	-118.73	-169.57	1,244,475.56	3,238,108.42	40.00133850	-104.65004931
4,300.00	5.00	235.00	4,290.74	-123.73	-176.71	1,244,470.56	3,238,101.28	40.00132496	-104.65007496
4,400.00	5.00	235.00	4,390.36	-128.73	-183.84	1,244,465.56	3,238,094.14	40.00131143	-104.65010061
4,500.00	5.00	235.00	4,489.98	-133.73	-190.98	1,244,460.56	3,238,087.00	40.00129789	-104.65012627
4,600.00	5.00	235.00	4,589.60	-138.73	-198.12	1,244,455.56	3,238,079.86	40.00128436	-104.65015192
4,700.00	5.00	235.00	4,689.22	-143.73	-205.26	1,244,450.56	3,238,072.72	40.00127082	-104.65017758
4,800.00	5.00	235.00	4,788.84	-148.73	-212.40	1,244,445.56	3,238,065.58	40.00125729	-104.65020323
4,900.00	5.00	235.00	4,888.46	-153.72	-219.54	1,244,440.56	3,238,058.45	40.00124375	-104.65022888
5,000.00	5.00	235.00	4,988.08	-158.72	-226.68	1,244,435.56	3,238,051.31	40.00123022	-104.65025454

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
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 34-03-11 (B)	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
5,100.00	5.00	235.00	5,087.70	-163.72	-233.82	1,244,430.57	3,238,044.17	40.00121668	-104.65028019
5,200.00	5.00	235.00	5,187.32	-168.72	-240.96	1,244,425.57	3,238,037.03	40.00120315	-104.65030585
5,300.00	5.00	235.00	5,286.94	-173.72	-248.10	1,244,420.57	3,238,029.89	40.00118961	-104.65033150
5,400.00	5.00	235.00	5,386.55	-178.72	-255.24	1,244,415.57	3,238,022.75	40.00117608	-104.65035716
5,500.00	5.00	235.00	5,486.17	-183.72	-262.38	1,244,410.57	3,238,015.61	40.00116254	-104.65038281
5,600.00	5.00	235.00	5,585.79	-188.72	-269.52	1,244,405.57	3,238,008.47	40.00114901	-104.65040846
5,700.00	5.00	235.00	5,685.41	-193.72	-276.66	1,244,400.57	3,238,001.33	40.00113547	-104.65043412
5,800.00	5.00	235.00	5,785.03	-198.72	-283.80	1,244,395.57	3,237,994.19	40.00112194	-104.65045977
5,900.00	5.00	235.00	5,884.65	-203.72	-290.94	1,244,390.57	3,237,987.05	40.00110840	-104.65048543
6,000.00	5.00	235.00	5,984.27	-208.71	-298.07	1,244,385.57	3,237,979.91	40.00109487	-104.65051108
6,100.00	5.00	235.00	6,083.89	-213.71	-305.21	1,244,380.58	3,237,972.77	40.00108133	-104.65053673
6,200.00	5.00	235.00	6,183.51	-218.71	-312.35	1,244,375.58	3,237,965.63	40.00106780	-104.65056239
6,300.00	5.00	235.00	6,283.13	-223.71	-319.49	1,244,370.58	3,237,958.49	40.00105426	-104.65058804
6,400.00	5.00	235.00	6,382.75	-228.71	-326.63	1,244,365.58	3,237,951.35	40.00104073	-104.65061370
6,417.32	5.00	235.00	6,400.00	-229.58	-327.87	1,244,364.71	3,237,950.12	40.00103838	-104.65061814
Begin 6°/100' build/turn									
6,500.00	9.39	215.56	6,482.02	-237.14	-334.75	1,244,357.15	3,237,943.24	40.00101781	-104.65064295
6,600.00	15.18	207.86	6,579.70	-255.36	-345.62	1,244,338.93	3,237,932.37	40.00096807	-104.65068237
6,621.82	16.46	206.89	6,600.70	-260.64	-348.35	1,244,333.64	3,237,929.64	40.00095364	-104.65069231
Begin 16.46° tangent section									
6,700.00	16.46	206.89	6,675.67	-280.40	-358.37	1,244,313.89	3,237,919.62	40.00089967	-104.65072875
6,800.00	16.46	206.89	6,771.57	-305.67	-371.19	1,244,288.62	3,237,906.80	40.00083065	-104.65077535
6,866.14	16.46	206.89	6,835.00	-322.38	-379.66	1,244,271.91	3,237,898.33	40.00078500	-104.65080618
Begin 10°/100' build/turn									
6,900.00	19.52	202.22	6,867.20	-331.90	-383.97	1,244,262.39	3,237,894.01	40.00075898	-104.65082189
7,000.00	28.98	194.16	6,958.30	-370.96	-396.25	1,244,223.33	3,237,881.74	40.00065208	-104.65086705
7,100.00	38.70	189.87	7,041.27	-425.39	-407.57	1,244,168.90	3,237,870.42	40.00050297	-104.65090930
7,200.00	48.52	187.09	7,113.60	-493.53	-417.57	1,244,100.76	3,237,860.41	40.00031618	-104.65094735
7,300.00	58.38	185.05	7,173.08	-573.31	-425.97	1,244,020.98	3,237,852.02	40.00009738	-104.65098004
7,400.00	68.27	183.41	7,217.92	-662.32	-432.50	1,243,931.97	3,237,845.49	39.99985323	-104.65100639
7,500.00	78.18	181.98	7,246.74	-757.84	-436.97	1,243,836.45	3,237,841.02	39.99959115	-104.65102560
7,600.00	88.09	180.65	7,258.68	-856.97	-439.23	1,243,737.32	3,237,838.76	39.99931908	-104.65103707
7,619.24	90.00	180.40	7,259.00	-876.21	-439.41	1,243,718.08	3,237,838.58	39.99926628	-104.65103836
Begin 90.00° lateral section									
7,700.00	90.00	180.40	7,259.00	-956.96	-439.97	1,243,637.33	3,237,838.02	39.99904461	-104.65104313
7,800.00	90.00	180.40	7,259.00	-1,056.96	-440.67	1,243,537.33	3,237,837.32	39.99877013	-104.65104904
7,900.00	90.00	180.40	7,259.00	-1,156.96	-441.37	1,243,437.33	3,237,836.62	39.99849565	-104.65105495
8,000.00	90.00	180.40	7,259.00	-1,256.95	-442.07	1,243,337.34	3,237,835.92	39.99822117	-104.65106086
8,100.00	90.00	180.40	7,259.00	-1,356.95	-442.76	1,243,237.34	3,237,835.22	39.99794669	-104.65106677
8,200.00	90.00	180.40	7,259.00	-1,456.95	-443.46	1,243,137.34	3,237,834.53	39.99767221	-104.65107267
8,300.00	90.00	180.40	7,259.00	-1,556.95	-444.16	1,243,037.34	3,237,833.83	39.99739773	-104.65107858
8,400.00	90.00	180.40	7,259.00	-1,656.94	-444.86	1,242,937.34	3,237,833.13	39.99712325	-104.65108449
8,500.00	90.00	180.40	7,259.00	-1,756.94	-445.56	1,242,837.35	3,237,832.43	39.99684877	-104.65109040
8,600.00	90.00	180.40	7,259.00	-1,856.94	-446.25	1,242,737.35	3,237,831.73	39.99657428	-104.65109631
8,700.00	90.00	180.40	7,259.00	-1,956.94	-446.95	1,242,637.35	3,237,831.03	39.99629980	-104.65110222
8,800.00	90.00	180.40	7,259.00	-2,056.93	-447.65	1,242,537.35	3,237,830.34	39.99602532	-104.65110813
8,900.00	90.00	180.40	7,259.00	-2,156.93	-448.35	1,242,437.36	3,237,829.64	39.99575084	-104.65111403
9,000.00	90.00	180.40	7,259.00	-2,256.93	-449.05	1,242,337.36	3,237,828.94	39.99547636	-104.65111994
9,100.00	90.00	180.40	7,259.00	-2,356.93	-449.75	1,242,237.36	3,237,828.24	39.99520188	-104.65112585
9,200.00	90.00	180.40	7,259.00	-2,456.92	-450.44	1,242,137.36	3,237,827.54	39.99492740	-104.65113176
9,300.00	90.00	180.40	7,259.00	-2,556.92	-451.14	1,242,037.37	3,237,826.85	39.99465292	-104.65113767
9,400.00	90.00	180.40	7,259.00	-2,656.92	-451.84	1,241,937.37	3,237,826.15	39.99437843	-104.65114358
9,500.00	90.00	180.40	7,259.00	-2,756.92	-452.54	1,241,837.37	3,237,825.45	39.99410395	-104.65114948
9,600.00	90.00	180.40	7,259.00	-2,856.91	-453.24	1,241,737.37	3,237,824.75	39.99382947	-104.65115539

Planning Report - Geographic

Database:	DB Jul2216dt	Local Co-ordinate Reference:	Well Antico 34-03-11 (B)
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 34-03-11 (B)	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	180.40	7,259.00	-2,956.91	-453.93	1,241,637.38	3,237,824.05	39.99355499	-104.65116130
9,800.00	90.00	180.40	7,259.00	-3,056.91	-454.63	1,241,537.38	3,237,823.36	39.99328051	-104.65116721
9,900.00	90.00	180.40	7,259.00	-3,156.91	-455.33	1,241,437.38	3,237,822.66	39.99300603	-104.65117312
10,000.00	90.00	180.40	7,259.00	-3,256.90	-456.03	1,241,337.38	3,237,821.96	39.99273155	-104.65117902
10,100.00	90.00	180.40	7,259.00	-3,356.90	-456.73	1,241,237.39	3,237,821.26	39.99245707	-104.65118493
10,200.00	90.00	180.40	7,259.00	-3,456.90	-457.42	1,241,137.39	3,237,820.56	39.99218258	-104.65119084
10,300.00	90.00	180.40	7,259.00	-3,556.90	-458.12	1,241,037.39	3,237,819.86	39.99190810	-104.65119675
10,400.00	90.00	180.40	7,259.00	-3,656.90	-458.82	1,240,937.39	3,237,819.17	39.99163362	-104.65120265
10,500.00	90.00	180.40	7,259.00	-3,756.89	-459.52	1,240,837.40	3,237,818.47	39.99135914	-104.65120856
10,600.00	90.00	180.40	7,259.00	-3,856.89	-460.22	1,240,737.40	3,237,817.77	39.99108466	-104.65121447
10,700.00	90.00	180.40	7,259.00	-3,956.89	-460.92	1,240,637.40	3,237,817.07	39.99081018	-104.65122038
10,800.00	90.00	180.40	7,259.00	-4,056.89	-461.61	1,240,537.40	3,237,816.37	39.99053570	-104.65122628
10,900.00	90.00	180.40	7,259.00	-4,156.88	-462.31	1,240,437.41	3,237,815.68	39.99026121	-104.65123219
11,000.00	90.00	180.40	7,259.00	-4,256.88	-463.01	1,240,337.41	3,237,814.98	39.98998673	-104.65123810
11,100.00	90.00	180.40	7,259.00	-4,356.88	-463.71	1,240,237.41	3,237,814.28	39.98971225	-104.65124401
11,200.00	90.00	180.40	7,259.00	-4,456.88	-464.41	1,240,137.41	3,237,813.58	39.98943777	-104.65124991
11,300.00	90.00	180.40	7,259.00	-4,556.87	-465.10	1,240,037.42	3,237,812.88	39.98916329	-104.65125582
11,400.00	90.00	180.40	7,259.00	-4,656.87	-465.80	1,239,937.42	3,237,812.19	39.98888881	-104.65126173
11,500.00	90.00	180.40	7,259.00	-4,756.87	-466.50	1,239,837.42	3,237,811.49	39.98861433	-104.65126764
11,600.00	90.00	180.40	7,259.00	-4,856.87	-467.20	1,239,737.42	3,237,810.79	39.98833984	-104.65127354
11,700.00	90.00	180.40	7,259.00	-4,956.86	-467.90	1,239,637.43	3,237,810.09	39.98806536	-104.65127945
11,709.24	90.00	180.40	7,259.00	-4,966.11	-467.96	1,239,628.18	3,237,810.03	39.98803999	-104.65128000
PBHL/TD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Antico 34-3-11 PBHL 47'	0.00	0.00	7,259.00	-4,966.11	-467.96	1,239,628.18	3,237,810.03	39.98803999	-104.65128000
- 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	-6.25	-8.93	Begin 5.00° tangent section	
6,417.32	6,400.00	-229.58	-327.87	Begin 6°/100' build/turn	
6,621.82	6,600.70	-260.64	-348.35	Begin 16.46° tangent section	
6,866.14	6,835.00	-322.38	-379.66	Begin 10°/100' build/turn	
7,619.24	7,259.00	-876.21	-439.41	Begin 90.00° lateral section	
11,709.24	7,259.00	-4,966.11	-467.96	PBHL/TD	