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JUN 08 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Antero Resources

**Harrison County West Virginia
Bennett/Brutus Pad
Brutus Unit 2H
Original Wellpath**

Design: As Drilled

EOW Completion Report

02 October, 2013



JUN 08 2015



**GEOLOGICAL SURVEY
MORGANTOWN, WV**

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Bennett/Brutus Pad
Well: Brutus Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Brutus Unit 2H
TVD Reference: Brutus 2H 1235 GL + 28 KB @ 1263.0usft
MD Reference: Brutus 2H 1235 GL + 28 KB @ 1263.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Project	Harrison County West Virginia, Harrison County, USA		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site Bennett/Brutus Pad

Site Position:		Northing:	14,236,491.11 usft	Latitude:	39° 12' 12.876 N
From:	Map	Easting:	1,789,256.82 usft	Longitude:	80° 28' 28.534 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.33 °

Well Brutus Unit 2H, Marcellus

Well Position	+N/-S	0.0 usft	Northing:	14,236,507.59 usft	Latitude:	39° 12' 13.038 N
	+E/-W	0.0 usft	Easting:	1,789,268.13 usft	Longitude:	80° 28' 28.389 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,263.0 usft	Ground Level:	1,235.0 usft

Wellbore Original Wellpath

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/27/2013	-8.63	66.80	52,332

Design As Drilled

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	342.07	

Survey Program Date 10/2/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
115.0	5,155.9	Survey #3 Def Gyro 2 (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
5,155.9	13,988.0	Survey #4 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
115.0	0.95	357.32	115.0	1.0	0.0	0.9	0.83
215.0	0.83	3.44	215.0	2.5	0.0	2.4	0.15
315.0	0.52	6.03	315.0	3.7	0.1	3.5	0.31
415.0	0.48	13.98	415.0	4.5	0.2	4.3	0.08
515.0	0.35	8.57	515.0	5.2	0.3	4.9	0.14
615.0	0.21	10.76	615.0	5.7	0.4	5.3	0.14
715.0	0.36	11.01	715.0	6.2	0.5	5.8	0.15
815.0	0.21	12.71	815.0	6.7	0.6	6.2	0.15
915.0	0.32	354.95	915.0	7.2	0.6	6.6	0.14
1,015.0	0.26	10.57	1,015.0	7.7	0.7	7.1	0.10

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1,115.0	0.36	311.91	1,115.0	8.1	0.5	7.6	0.32
1,215.0	0.42	334.56	1,215.0	8.6	0.1	8.2	0.16
1,315.0	0.44	323.97	1,315.0	9.3	-0.3	8.9	0.08
1,415.0	0.29	340.36	1,415.0	9.8	-0.6	9.5	0.18
1,515.0	0.19	305.71	1,515.0	10.2	-0.8	9.9	0.17
1,615.0	0.40	337.54	1,615.0	10.6	-1.1	10.4	0.26
1,715.0	0.35	276.93	1,715.0	10.9	-1.5	10.9	0.38
1,815.0	0.37	296.04	1,814.9	11.1	-2.1	11.2	0.12
1,915.0	0.20	330.93	1,914.9	11.4	-2.5	11.6	0.24
2,015.0	0.08	86.71	2,014.9	11.6	-2.5	11.8	0.25
2,115.0	0.19	291.14	2,114.9	11.6	-2.6	11.9	0.26
2,215.0	0.25	7.04	2,214.9	11.9	-2.7	12.2	0.27
2,315.0	0.26	44.64	2,314.9	12.3	-2.6	12.5	0.16
2,415.0	0.14	233.48	2,414.9	12.4	-2.5	12.5	0.40
2,515.0	0.11	253.48	2,514.9	12.3	-2.7	12.5	0.05
2,615.0	0.13	313.18	2,614.9	12.3	-2.9	12.6	0.12
2,715.0	0.07	224.77	2,714.9	12.4	-3.0	12.7	0.15
2,815.0	0.12	173.22	2,814.9	12.2	-3.0	12.5	0.09
2,915.0	0.09	126.10	2,914.9	12.1	-2.9	12.4	0.09
3,015.0	0.24	184.05	3,014.9	11.8	-2.9	12.1	0.21
3,115.0	0.16	266.25	3,114.9	11.6	-3.0	12.0	0.27
3,215.0	0.11	137.63	3,214.9	11.5	-3.1	11.9	0.24
3,315.0	0.11	319.67	3,314.9	11.5	-3.1	11.9	0.22
3,415.0	0.06	247.35	3,414.9	11.6	-3.2	12.0	0.11
3,515.0	0.30	250.68	3,514.9	11.5	-3.5	12.0	0.24
3,615.0	0.27	205.64	3,614.9	11.2	-3.9	11.8	0.22
3,715.0	1.81	277.17	3,714.9	11.1	-5.5	12.3	1.74
3,815.0	6.09	287.33	3,814.7	12.9	-12.2	16.0	4.32
3,915.0	7.03	288.09	3,914.0	16.4	-23.1	22.7	0.94
4,015.0	6.76	284.66	4,013.3	19.8	-34.6	29.5	0.49
4,115.0	6.36	281.31	4,112.6	22.4	-45.7	35.3	0.55
4,215.0	5.73	278.99	4,212.1	24.2	-56.1	40.3	0.68
4,315.0	4.10	248.69	4,311.7	23.7	-64.3	42.4	3.01
4,415.0	4.92	234.52	4,411.4	19.9	-71.1	40.9	1.38
4,515.0	5.39	239.92	4,511.0	15.1	-78.7	38.6	0.68
4,615.0	9.95	253.75	4,610.1	10.3	-91.1	37.8	4.89
4,715.0	11.44	232.04	4,708.4	1.8	-107.2	34.7	4.26
4,815.0	16.11	234.67	4,805.5	-12.3	-126.3	27.1	4.71
4,915.0	17.60	248.20	4,901.2	-26.0	-151.7	22.0	4.19
5,015.0	17.62	261.21	4,996.6	-33.9	-180.7	23.4	3.93
5,115.0	19.67	262.81	5,091.3	-38.3	-212.4	28.9	2.11
5,155.9	18.52	267.76	5,130.0	-39.5	-225.7	31.9	4.85
5,213.0	16.20	273.87	5,184.5	-39.3	-242.7	37.4	5.17
5,308.0	15.77	266.98	5,275.8	-39.1	-268.8	45.6	2.05



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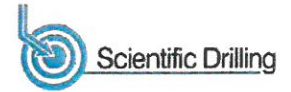
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
5,404.0	16.81	259.52	5,368.0	-42.3	-295.5	50.8	2.43
5,499.0	16.90	263.41	5,458.9	-46.4	-322.7	55.2	1.19
5,593.0	18.23	263.79	5,548.5	-49.5	-350.9	60.9	1.42
5,688.0	23.39	255.63	5,637.3	-55.8	-384.0	65.1	6.22
5,784.0	28.89	243.50	5,723.5	-70.9	-423.3	62.8	7.96
5,878.0	27.98	241.62	5,806.2	-91.5	-463.0	55.5	1.36
5,974.0	27.92	243.85	5,891.0	-112.1	-503.0	48.2	1.09
6,068.0	28.45	246.89	5,973.8	-130.6	-543.3	43.0	1.63
6,163.0	28.03	240.32	6,057.5	-150.6	-583.5	36.4	3.30
6,258.0	29.49	241.93	6,140.8	-172.6	-623.6	27.7	1.74
6,353.0	28.64	240.08	6,223.9	-195.0	-663.9	18.9	1.30
6,448.0	27.39	239.49	6,307.7	-217.4	-702.5	9.4	1.35
6,511.0	26.23	239.90	6,364.0	-231.8	-727.0	3.3	1.86
6,543.0	26.49	240.35	6,392.6	-238.8	-739.3	0.4	1.02
6,575.0	28.90	243.95	6,421.0	-245.8	-752.5	-2.2	9.17
6,606.0	31.96	245.93	6,447.7	-252.4	-766.7	-4.1	10.39
6,638.0	34.42	249.65	6,474.5	-259.0	-782.9	-5.4	9.98
6,669.0	35.98	254.26	6,499.8	-264.5	-799.9	-5.4	9.94
6,701.0	37.42	259.53	6,525.5	-268.8	-818.5	-3.8	10.82
6,733.0	38.20	264.87	6,550.8	-271.5	-838.0	-0.3	10.51
6,764.0	39.70	269.87	6,574.9	-272.4	-857.4	4.8	11.23
6,796.0	42.09	273.84	6,599.1	-271.7	-878.3	11.9	11.03
6,828.0	44.39	277.04	6,622.4	-269.6	-900.1	20.6	9.93
6,860.0	46.84	280.66	6,644.8	-266.1	-922.7	30.9	11.13
6,891.0	49.29	283.72	6,665.5	-261.2	-945.3	42.5	10.79
6,923.0	51.12	287.75	6,686.0	-254.5	-968.9	56.1	11.24
6,955.0	51.86	292.50	6,705.9	-245.9	-992.4	71.6	11.84
6,986.0	53.15	296.68	6,724.8	-235.7	-1,014.8	88.2	11.48
7,018.0	53.75	301.33	6,743.8	-223.2	-1,037.2	107.0	11.82
7,050.0	53.54	306.49	6,762.8	-208.8	-1,058.6	127.2	13.00
7,081.0	55.28	309.84	6,780.9	-193.2	-1,078.4	148.1	10.43
7,113.0	56.41	314.04	6,798.8	-175.5	-1,098.1	171.0	11.42
7,145.0	57.08	318.43	6,816.4	-156.2	-1,116.6	195.1	11.66
7,176.0	58.34	322.86	6,832.9	-136.0	-1,133.2	219.5	12.74
7,208.0	59.35	327.09	6,849.5	-113.5	-1,148.9	245.7	11.74
7,239.0	60.14	331.21	6,865.1	-90.6	-1,162.6	271.8	11.76
7,271.0	62.40	334.70	6,880.5	-65.6	-1,175.4	299.5	11.89
7,303.0	65.68	337.35	6,894.5	-39.3	-1,187.1	328.1	12.67
7,330.0	66.95	340.46	6,905.4	-16.2	-1,196.0	352.8	11.55
Middlesex							
7,335.0	67.19	341.03	6,907.3	-11.9	-1,197.5	357.4	11.55
7,366.0	68.51	344.62	6,919.0	15.6	-1,206.0	386.1	11.54
7,379.0	69.91	346.12	6,923.6	27.3	-1,209.0	398.2	15.24
7,410.0	72.98	347.17	6,933.5	55.9	-1,215.8	427.5	10.41
7,441.0	75.18	347.17	6,942.0	85.0	-1,222.4	457.2	7.10

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7,473.0	77.91	347.00	6,949.4	115.3	-1,229.4	488.2	8.55
7,503.0	79.67	347.26	6,955.3	144.0	-1,235.9	517.5	5.93
7,533.0	79.84	346.29	6,960.6	172.7	-1,242.7	546.9	3.23
7,564.0	79.67	346.03	6,966.1	202.3	-1,250.0	577.3	0.99
7,568.0	79.60	346.05	6,966.8	206.2	-1,250.9	581.3	1.86
Burkett							
7,594.0	79.14	346.21	6,971.6	231.0	-1,257.1	606.7	1.86
7,624.0	81.21	346.99	6,976.8	259.7	-1,263.9	636.2	7.38
Tully							
7,655.0	83.36	347.79	6,980.9	289.7	-1,270.6	666.8	7.38
7,746.0	87.67	347.70	6,988.0	378.3	-1,289.9	757.1	4.74
7,836.0	88.90	346.47	6,990.7	466.0	-1,310.0	846.7	1.93
7,927.0	89.08	346.47	6,992.3	554.5	-1,331.3	937.4	0.20
7,934.0	89.07	346.56	6,992.4	561.3	-1,332.9	944.4	1.36
Marcellus							
8,018.0	88.99	347.70	6,993.9	643.2	-1,351.6	1,028.0	1.36
8,109.0	90.57	349.02	6,994.2	732.3	-1,370.0	1,118.5	2.26
8,199.0	89.25	346.38	6,994.3	820.2	-1,389.1	1,208.0	3.28
8,290.0	88.81	345.94	6,995.9	908.6	-1,410.9	1,298.8	0.68
8,380.0	87.67	345.15	6,998.7	995.7	-1,433.3	1,388.6	1.54
8,471.0	91.55	347.63	6,999.3	1,084.1	-1,454.8	1,479.3	5.06
8,561.0	89.25	344.89	6,998.6	1,171.5	-1,476.1	1,569.0	3.97
8,656.0	88.02	342.78	7,000.9	1,262.7	-1,502.6	1,663.9	2.57
8,749.0	88.81	342.25	7,003.5	1,351.4	-1,530.5	1,756.9	1.02
8,845.0	89.60	342.51	7,004.8	1,442.9	-1,559.6	1,852.9	0.87
8,940.0	89.34	342.69	7,005.7	1,533.5	-1,588.0	1,947.9	0.33
9,034.0	89.87	342.16	7,006.3	1,623.1	-1,616.3	2,041.9	0.80
9,130.0	89.34	341.55	7,007.0	1,714.3	-1,646.2	2,137.9	0.84
9,224.0	88.46	340.93	7,008.8	1,803.3	-1,676.5	2,231.9	1.15
9,318.0	89.06	340.37	7,010.8	1,892.0	-1,707.6	2,325.8	0.87
9,414.0	90.13	342.51	7,011.5	1,983.0	-1,738.2	2,421.8	2.49
9,507.0	89.87	342.78	7,011.5	2,071.8	-1,765.9	2,514.8	0.40
9,602.0	88.81	341.72	7,012.6	2,162.2	-1,794.9	2,609.8	1.58
9,697.0	88.37	342.16	7,014.9	2,252.5	-1,824.3	2,704.7	0.65
9,792.0	89.52	341.81	7,016.7	2,342.8	-1,853.7	2,799.7	1.27
9,887.0	89.60	341.11	7,017.4	2,432.9	-1,883.9	2,894.7	0.74
9,983.0	88.90	340.05	7,018.7	2,523.4	-1,915.8	2,990.7	1.32
10,077.0	89.34	342.16	7,020.1	2,612.4	-1,946.2	3,084.6	2.29
10,172.0	90.31	342.08	7,020.4	2,702.8	-1,975.4	3,179.6	1.02
10,266.0	90.22	341.37	7,020.0	2,792.0	-2,004.9	3,273.6	0.76
10,361.0	89.69	341.90	7,020.1	2,882.2	-2,034.8	3,368.6	0.79
10,456.0	90.22	341.11	7,020.1	2,972.3	-2,064.9	3,463.6	1.00
10,550.0	90.57	342.87	7,019.5	3,061.7	-2,094.0	3,557.6	1.91
10,645.0	88.11	341.90	7,020.6	3,152.2	-2,122.7	3,652.6	2.78

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10,739.0	90.84	346.12	7,021.4	3,242.5	-2,148.6	3,746.5	5.35
10,836.0	87.85	344.80	7,022.5	3,336.4	-2,173.0	3,843.3	3.37
10,929.0	91.71	346.56	7,022.9	3,426.5	-2,196.0	3,936.1	4.56
11,024.0	88.11	341.99	7,023.1	3,517.9	-2,221.7	4,031.0	6.12
11,119.0	88.99	339.00	7,025.5	3,607.4	-2,253.4	4,125.9	3.28
11,215.0	87.41	333.81	7,028.5	3,695.3	-2,291.8	4,221.4	5.65
11,311.0	88.46	336.89	7,031.9	3,782.5	-2,331.8	4,316.6	3.39
11,406.0	89.52	340.23	7,033.6	3,870.9	-2,366.5	4,411.4	3.69
11,501.0	90.31	342.08	7,033.8	3,960.8	-2,397.2	4,506.4	2.12
11,597.0	89.34	344.89	7,034.0	4,052.8	-2,424.5	4,602.4	3.10
11,691.0	87.93	343.48	7,036.3	4,143.2	-2,450.1	4,696.3	2.12
11,786.0	88.99	343.83	7,038.8	4,234.4	-2,476.8	4,791.2	1.17
11,881.0	90.04	342.43	7,039.6	4,325.3	-2,504.4	4,886.2	1.84
11,976.0	89.52	340.67	7,040.0	4,415.4	-2,534.5	4,981.2	1.93
12,071.0	91.80	343.04	7,038.9	4,505.6	-2,564.0	5,076.2	3.46
12,165.0	90.84	342.43	7,036.7	4,595.4	-2,591.9	5,170.1	1.21
12,260.0	90.92	343.66	7,035.3	4,686.2	-2,619.6	5,265.1	1.30
12,354.0	89.25	340.49	7,035.1	4,775.7	-2,648.6	5,359.1	3.81
12,448.0	91.28	342.69	7,034.7	4,864.8	-2,678.2	5,453.1	3.18
12,542.0	91.98	342.60	7,032.0	4,954.5	-2,706.3	5,547.0	0.75
12,637.0	90.13	341.55	7,030.3	5,044.9	-2,735.5	5,642.0	2.24
12,731.0	89.29	341.40	7,030.8	5,134.0	-2,765.4	5,736.0	0.91
12,826.0	88.05	341.55	7,033.0	5,224.1	-2,795.5	5,831.0	1.31
12,920.0	90.66	345.24	7,034.0	5,314.1	-2,822.4	5,924.9	4.81
13,014.0	91.01	345.85	7,032.7	5,405.1	-2,845.9	6,018.7	0.75
13,108.0	89.73	340.59	7,032.1	5,495.1	-2,873.0	6,112.7	5.76
13,202.0	90.31	343.39	7,032.0	5,584.5	-2,902.0	6,206.7	3.04
13,296.0	90.40	344.71	7,031.4	5,674.9	-2,927.9	6,300.6	1.41
13,391.0	91.45	344.36	7,029.9	5,766.4	-2,953.2	6,395.5	1.17
13,486.0	88.90	341.28	7,029.6	5,857.1	-2,981.3	6,490.5	4.21
13,581.0	88.72	338.30	7,031.6	5,946.3	-3,014.1	6,585.4	3.14
13,675.0	89.87	339.70	7,032.7	6,034.0	-3,047.7	6,679.2	1.93
13,769.0	89.43	339.26	7,033.3	6,122.0	-3,080.7	6,773.1	0.66
13,863.0	90.57	341.20	7,033.3	6,210.5	-3,112.5	6,867.1	2.39
13,934.0	89.78	339.88	7,033.1	6,277.4	-3,136.1	6,938.0	2.17
13,988.0	89.78	339.88	7,033.3	6,328.1	-3,154.7	6,992.0	0.00



EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Bennett/Brutus Pad
Well: Brutus Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Brutus Unit 2H
TVD Reference: Brutus 2H 1235 GL + 28 KB @ 1263.0usft
MD Reference: Brutus 2H 1235 GL + 28 KB @ 1263.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,330.0	6,905.4	-16.2	-1,196.0	Middlesex
7,568.0	6,966.8	206.2	-1,250.9	Burkett
7,624.0	6,976.8	259.7	-1,263.9	Tully
7,934.0	6,992.4	561.3	-1,332.9	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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 MORGANTOWN, WV