

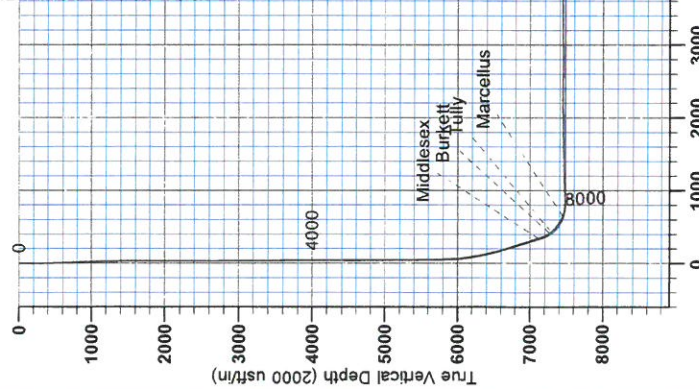
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WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources
Nellie Unit 1H
Harrison County West Virginia
Northing: 14254510.75
Easting: 1764867.49
As Drilled



WELL DETAILS: Nellie Unit 1H

Condition	1H, 2H, 2H, 2H
Vertical (VD) Reference	State Plane 1278 CL - 2448 @ 1400 Draft
Horizontal (HD) Reference	State Plane 1278 CL - 2448 @ 1400 Draft
Measurement System	US (FEET)
Calculation Method	Minimum Curvature

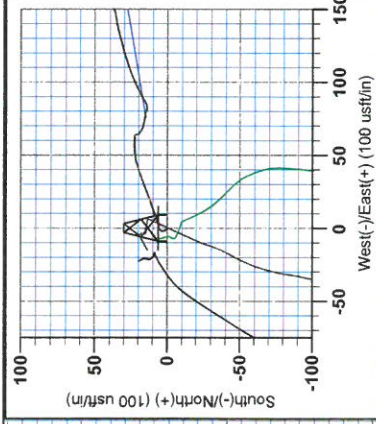
REFERENCE INFORMATION

Condition: 1H, 2H, 2H, 2H
Vertical (VD) Reference: State Plane 1278 CL - 2448 @ 1400 Draft
Horizontal (HD) Reference: State Plane 1278 CL - 2448 @ 1400 Draft
Measurement System: US (FEET)
Calculation Method: Minimum Curvature

Genie Lightfoot
Scientific Drilling
421 South Eagle Lane
Oklahoma City Oklahoma
405-787-3663

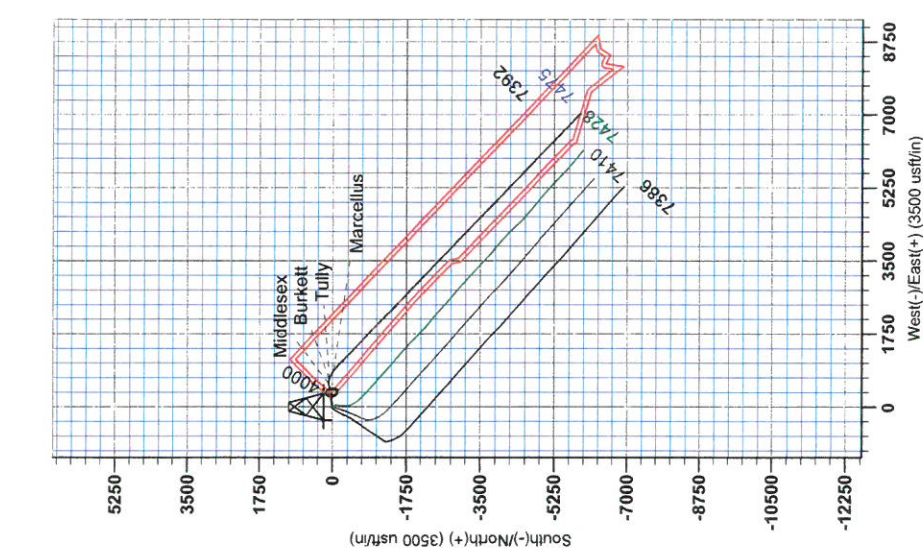
DESIGN TARGET DETAILS (NAD 83)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL Nellie Unit 1H	0.0	0.0	0.0	0.014254510.74	1764867.4993	15° 12' 32.860" 33' 37.354" W	
Actual BHL Nellie Unit 1H	7391.9	-5845.9		7021.014248664.80	1771888.5293	14° 14' 18.000" 32' 8.451" W	
SHL (UTM meters)				4,345,001.917m	537,947.260m		
BHL (UTM meters)				4,343,235.017m	540,064.278m		

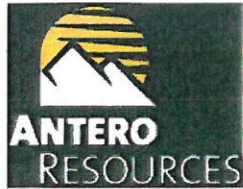


To convert Magnetic North to Grid, Subtract 8.87°
To convert True North to Grid, Subtract 0.28°

Admiralty Grid North
Magnetic North: -8.87°
Magnetic Field
Strength: 52349.0nT
Dip Angle: 66.83°
Date: 8/16/2013
Model: IGRF2010



Vertical Section at 133.48° (2000 usft/m)



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MORGANTOWN, WV

Antero Resources

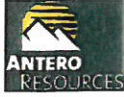
**Harrison County West Virginia
Ruth/Norris/Nellie/Ford Pad
Nellie Unit 1H
Original Wellpath**

Design: As Drilled

EOW Completion Report

17 September, 2013





Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	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	Ruth/Norris/Nellie/Ford Pad				
Site Position:		Northing:	14,254,530.66 usft	Latitude:	39° 15' 12.526 N
From:	Map	Easting:	1,764,845.07 usft	Longitude:	80° 33' 37.638 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.28 °

Well	Nellie Unit 1H					
Well Position	+N/-S	0.0 usft	Northing:	14,254,510.75 usft	Latitude:	39° 15' 12.328 N
	+E/-W	0.0 usft	Easting:	1,764,867.49 usft	Longitude:	80° 33' 37.354 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,400.0 usft	Ground Level:	1,376.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/18/2013	-8.59	66.83	52,349

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	133.48	

Survey Program	Date	9/17/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
50.0	2,535.0	Survey #3 Def Gyro to Intermediate (Origir	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
2,600.0	5,514.0	Survey #4 Def Gyro to KOP (Original Well	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,623.0	16,172.0	Survey #5 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		
50.0	0.97	298.75	50.0	0.2	-0.4	-0.4	1.94		
100.0	0.99	328.27	100.0	0.8	-1.0	-1.2	1.00		
150.0	1.09	333.68	150.0	1.6	-1.4	-2.1	0.28		
200.0	1.20	341.79	200.0	2.5	-1.8	-3.0	0.39		
250.0	1.22	349.69	250.0	3.5	-2.0	-3.9	0.34		
300.0	1.20	36.31	300.0	4.5	-1.8	-4.4	1.92		
350.0	2.66	73.22	349.9	5.2	-0.4	-3.9	3.69		
400.0	4.48	73.65	399.8	6.1	2.6	-2.3	3.64		
450.0	5.36	70.18	449.6	7.4	6.7	-0.3	1.86		

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Ruth/Norris/Nellie/Ford Pad
Well: Nellie Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Nellie Unit 1H
TVD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
MD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
500.0	5.49	69.58	499.4	9.1	11.1	1.8	0.28
550.0	5.59	70.57	549.2	10.7	15.6	4.0	0.28
600.0	5.89	69.54	598.9	12.4	20.3	6.2	0.63
650.0	6.09	69.05	648.7	14.3	25.2	8.5	0.41
700.0	6.41	69.24	698.4	16.2	30.3	10.8	0.64
750.0	6.37	69.24	748.1	18.2	35.5	13.3	0.08
800.0	5.39	70.35	797.8	19.9	40.3	15.5	1.97
850.0	5.11	71.40	847.6	21.4	44.6	17.6	0.59
900.0	3.44	83.91	897.4	22.3	48.2	19.6	3.81
950.0	3.11	84.60	947.4	22.6	51.1	21.5	0.66
1,000.0	2.58	85.01	997.3	22.8	53.5	23.1	1.06
1,050.0	2.27	88.41	1,047.2	23.0	55.7	24.6	0.68
1,100.0	1.80	87.57	1,097.2	23.0	57.4	25.8	0.94
1,150.0	1.70	93.25	1,147.2	23.0	59.0	26.9	0.40
1,200.0	1.27	92.68	1,197.2	22.9	60.2	27.9	0.86
1,250.0	1.05	93.64	1,247.2	22.9	61.3	28.7	0.44
1,300.0	0.82	94.10	1,297.2	22.8	62.1	29.3	0.46
1,350.0	0.61	93.12	1,347.2	22.8	62.7	29.8	0.42
1,400.0	0.43	88.06	1,397.2	22.8	63.1	30.1	0.37
1,450.0	0.24	105.31	1,447.2	22.8	63.4	30.4	0.43
1,500.0	0.16	114.77	1,497.2	22.7	63.6	30.5	0.17
1,550.0	0.18	175.78	1,547.2	22.6	63.7	30.7	0.35
1,600.0	0.12	93.29	1,597.2	22.5	63.7	30.7	0.41
1,650.0	0.13	204.73	1,647.2	22.5	63.8	30.8	0.41
1,700.0	0.05	19.41	1,697.2	22.4	63.7	30.8	0.36
1,750.0	0.09	100.22	1,747.2	22.4	63.8	30.8	0.19
1,800.0	0.32	87.68	1,797.2	22.4	64.0	31.0	0.47
1,850.0	0.30	169.35	1,847.2	22.3	64.1	31.2	0.81
1,900.0	0.29	139.21	1,897.2	22.1	64.2	31.4	0.31
1,950.0	0.26	198.77	1,947.2	21.9	64.3	31.6	0.55
2,000.0	0.10	185.65	1,997.2	21.7	64.2	31.7	0.33
2,050.0	0.26	152.56	2,047.1	21.6	64.3	31.8	0.37
2,100.0	0.28	207.77	2,097.1	21.4	64.3	31.9	0.50
2,150.0	0.28	158.97	2,147.1	21.2	64.3	32.1	0.46
2,200.0	0.21	271.42	2,197.1	21.1	64.2	32.1	0.82
2,250.0	0.08	160.89	2,247.1	21.0	64.1	32.1	0.50
2,300.0	0.18	184.99	2,297.1	20.9	64.1	32.2	0.22
2,350.0	0.48	147.76	2,347.1	20.7	64.3	32.4	0.71
2,400.0	0.44	134.34	2,397.1	20.3	64.5	32.8	0.23
2,450.0	0.35	113.71	2,447.1	20.1	64.8	33.1	0.33
2,500.0	0.32	161.24	2,497.1	20.0	65.0	33.4	0.54
2,535.0	0.24	149.67	2,532.1	19.8	65.0	33.6	0.28
2,600.0	0.10	166.49	2,597.1	19.6	65.1	33.7	0.23
2,650.0	0.14	142.53	2,647.1	19.5	65.2	33.8	0.13
2,700.0	0.37	121.76	2,697.1	19.4	65.3	34.1	0.49

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**WV GEOLOGICAL SURVEY
MORGANTOWN, WV**

EOW Completion Report

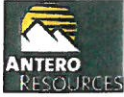


Company:	Antero Resources	Local Co-ordinate Reference:	Well Nellie Unit 1H
Project:	Harrison County West Virginia	TVD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Site:	Ruth/Norris/Nellie/Ford Pad	MD Reference:	Nellie 1H 1376 GL + 24 KB @ 1400.0usft
Well:	Nellie Unit 1H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
2,750.0	0.30	139.62	2,747.1	19.2	65.6	34.3	0.25
2,800.0	0.36	131.35	2,797.1	19.0	65.8	34.6	0.15
2,850.0	0.46	123.46	2,847.1	18.8	66.0	35.0	0.23
2,900.0	0.23	145.17	2,897.1	18.6	66.3	35.3	0.52
2,950.0	0.71	115.24	2,947.1	18.4	66.6	35.7	1.05
3,000.0	0.19	133.27	2,997.1	18.2	66.9	36.1	1.07
3,050.0	0.24	131.85	3,047.1	18.1	67.1	36.2	0.10
3,100.0	0.72	123.57	3,097.1	17.8	67.4	36.7	0.97
3,150.0	0.59	111.74	3,147.1	17.6	67.9	37.2	0.37
3,200.0	0.39	124.74	3,197.1	17.4	68.3	37.6	0.46
3,250.0	0.41	112.62	3,247.1	17.2	68.6	37.9	0.17
3,300.0	0.43	116.04	3,297.1	17.1	68.9	38.3	0.06
3,350.0	0.39	113.08	3,347.1	16.9	69.3	38.6	0.09
3,400.0	0.30	113.17	3,397.1	16.8	69.5	38.9	0.18
3,450.0	0.22	100.93	3,447.1	16.7	69.8	39.1	0.19
3,500.0	0.41	96.00	3,497.1	16.7	70.0	39.3	0.38
3,550.0	0.30	94.18	3,547.1	16.7	70.3	39.6	0.22
3,600.0	0.31	85.73	3,597.1	16.7	70.6	39.8	0.09
3,650.0	0.29	79.93	3,647.1	16.7	70.9	39.9	0.07
3,700.0	0.21	99.02	3,697.1	16.7	71.1	40.1	0.23
3,750.0	0.38	100.60	3,747.1	16.6	71.3	40.3	0.34
3,800.0	0.29	98.71	3,797.1	16.6	71.6	40.5	0.18
3,850.0	0.38	106.48	3,847.1	16.5	71.9	40.8	0.20
3,900.0	0.35	109.85	3,897.1	16.4	72.2	41.1	0.07
3,950.0	0.37	104.79	3,947.1	16.3	72.5	41.4	0.08
4,000.0	0.28	119.82	3,997.1	16.2	72.8	41.6	0.25
4,050.0	0.28	109.72	4,047.1	16.1	73.0	41.9	0.10
4,100.0	0.32	118.34	4,097.1	16.0	73.2	42.1	0.12
4,150.0	0.18	116.21	4,147.1	15.9	73.4	42.3	0.28
4,200.0	0.25	102.45	4,197.1	15.9	73.6	42.5	0.17
4,250.0	0.25	107.63	4,247.1	15.8	73.8	42.7	0.05
4,300.0	0.16	122.94	4,297.1	15.7	74.0	42.8	0.21
4,350.0	0.34	90.34	4,347.1	15.7	74.2	43.0	0.45
4,400.0	0.35	89.25	4,397.1	15.7	74.5	43.2	0.02
4,450.0	0.18	75.95	4,447.1	15.7	74.7	43.4	0.36
4,500.0	0.42	79.16	4,497.1	15.8	75.0	43.5	0.48
4,550.0	0.52	103.85	4,547.1	15.8	75.4	43.8	0.45
4,600.0	0.51	102.13	4,597.1	15.7	75.8	44.2	0.04
4,650.0	0.41	113.40	4,647.1	15.5	76.2	44.6	0.27
4,700.0	0.21	72.08	4,697.1	15.5	76.4	44.8	0.58
4,750.0	0.24	84.74	4,747.1	15.5	76.6	44.9	0.12
4,800.0	0.07	307.19	4,797.1	15.6	76.7	45.0	0.59
4,850.0	0.17	236.07	4,847.1	15.5	76.6	44.9	0.32
4,900.0	0.40	236.84	4,897.1	15.4	76.4	44.8	0.46

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Ruth/Norris/Nellie/Ford Pad
Well: Nellie Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Nellie Unit 1H
TVD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
MD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,950.0	0.45	252.66	4,947.1	15.2	76.1	44.7	0.25
5,000.0	0.13	222.62	4,997.1	15.1	75.9	44.6	0.69
5,050.0	0.24	84.72	5,047.1	15.1	75.9	44.7	0.70
5,100.0	0.11	32.87	5,097.1	15.2	76.1	44.7	0.39
5,150.0	0.47	87.77	5,147.1	15.2	76.3	44.9	0.83
5,200.0	0.29	74.62	5,197.1	15.3	76.6	45.1	0.40
5,250.0	0.40	114.04	5,247.1	15.2	76.9	45.3	0.51
5,300.0	0.33	76.85	5,297.1	15.2	77.2	45.6	0.48
5,350.0	0.33	61.83	5,347.1	15.3	77.5	45.7	0.17
5,400.0	0.44	91.98	5,397.1	15.3	77.8	45.9	0.45
5,450.0	0.38	87.95	5,447.1	15.3	78.1	46.1	0.13
5,500.0	0.35	93.09	5,497.1	15.3	78.5	46.4	0.09
5,514.0	0.45	78.15	5,511.1	15.3	78.5	46.4	1.03
5,623.0	1.06	124.19	5,620.1	14.9	79.8	47.7	0.75
5,654.0	1.93	118.19	5,651.1	14.5	80.5	48.5	2.85
5,717.0	2.88	85.55	5,714.0	14.1	83.0	50.5	2.59
5,811.0	5.88	56.24	5,807.7	16.9	89.4	53.2	3.88
5,905.0	7.81	64.84	5,901.1	22.3	99.2	56.6	2.32
5,999.0	9.93	71.79	5,993.9	27.6	112.6	62.8	2.52
6,094.0	12.58	75.02	6,087.1	32.8	130.4	72.0	2.87
6,187.0	14.61	82.22	6,177.5	37.0	151.8	84.7	2.84
6,282.0	16.78	83.66	6,269.0	40.2	177.3	101.0	2.32
6,376.0	19.27	81.57	6,358.3	43.9	206.2	119.4	2.74
6,470.0	22.16	81.30	6,446.3	48.9	239.0	139.8	3.08
6,564.0	22.77	80.88	6,533.1	54.5	274.5	161.7	0.67
6,659.0	23.19	80.66	6,620.6	60.4	311.1	184.2	0.45
6,721.0	26.08	85.05	6,676.9	63.6	336.8	200.6	5.51
6,847.0	28.09	85.27	6,789.1	68.4	393.9	238.8	1.60
6,941.0	26.73	85.72	6,872.6	71.8	437.1	267.7	1.46
7,129.0	26.64	81.84	7,040.5	80.9	521.0	322.3	0.93
7,159.0	25.58	82.33	7,067.5	82.8	534.0	330.6	3.61
7,194.0	25.17	81.89	7,099.1	84.8	548.9	339.9	1.29
7,218.0	24.95	81.44	7,120.8	86.3	558.9	346.2	1.20
Middlesex							
7,226.0	24.88	81.29	7,128.1	86.8	562.3	348.3	1.20
7,254.0	27.04	85.64	7,153.3	88.2	574.4	356.2	10.28
7,289.0	31.20	90.56	7,183.9	88.7	591.5	368.1	13.70
7,320.0	34.77	94.93	7,209.9	87.9	608.3	380.9	13.83
7,348.0	37.49	98.55	7,232.5	85.9	624.7	394.2	12.34
7,383.0	40.10	101.96	7,259.7	82.0	646.2	412.5	9.63
7,397.0	41.28	103.19	7,270.4	80.0	655.2	420.4	10.21
Burkett							
7,414.0	42.74	104.60	7,283.0	77.3	666.2	430.2	10.21

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Ruth/Norris/Nellie/Ford Pad
Well: Nellie Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Nellie Unit 1H
TVD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
MD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,428.0	43.93	105.54	7,293.2	74.8	675.5	438.7	9.70
Tully							
7,443.0	45.22	106.51	7,303.9	71.9	685.6	448.0	9.70
7,477.0	47.59	108.90	7,327.3	64.4	709.0	470.2	8.63
7,508.0	50.12	112.11	7,347.7	56.2	730.9	491.7	11.29
7,537.0	53.24	114.97	7,365.7	47.1	751.7	513.1	13.25
7,571.0	56.46	116.95	7,385.3	34.9	776.7	539.6	10.60
7,603.0	58.56	119.81	7,402.5	22.1	800.5	565.7	9.99
7,631.0	61.79	122.47	7,416.4	9.5	821.3	589.4	14.18
7,665.0	65.56	124.86	7,431.5	-7.4	846.6	619.4	12.75
7,697.0	68.79	128.07	7,443.9	-24.9	870.3	648.7	13.69
7,707.0	70.09	128.45	7,447.4	-30.7	877.7	658.0	13.51
Marcellus							
7,725.0	72.44	129.12	7,453.2	-41.4	890.9	675.0	13.51
7,760.0	76.93	129.38	7,462.4	-62.8	917.1	708.6	12.85
7,791.0	80.99	129.95	7,468.3	-82.2	940.5	739.0	13.22
7,820.0	85.12	131.02	7,471.8	-100.9	962.4	767.7	14.70
7,882.0	88.92	135.15	7,475.1	-143.1	1,007.6	829.6	9.04
7,976.0	93.67	134.06	7,472.9	-209.1	1,074.5	923.5	5.18
8,071.0	90.94	133.50	7,469.1	-274.8	1,143.0	1,018.5	2.93
8,165.0	90.87	133.60	7,467.6	-339.5	1,211.1	1,112.4	0.13
8,259.0	90.03	133.02	7,466.9	-404.0	1,279.5	1,206.4	1.09
8,353.0	91.78	134.54	7,465.4	-469.0	1,347.4	1,300.4	2.47
8,447.0	91.55	133.72	7,462.7	-534.5	1,414.8	1,394.4	0.91
8,541.0	90.84	131.72	7,460.7	-598.2	1,483.9	1,488.3	2.26
8,635.0	92.49	134.83	7,458.0	-662.6	1,552.3	1,582.3	3.74
8,729.0	92.08	135.02	7,454.2	-728.9	1,618.8	1,676.2	0.48
8,823.0	91.31	133.60	7,451.5	-794.6	1,686.0	1,770.1	1.72
8,917.0	89.46	134.54	7,450.8	-860.0	1,753.5	1,864.1	2.21
9,012.0	91.18	133.56	7,450.3	-926.0	1,821.8	1,959.1	2.08
9,103.0	90.87	133.75	7,448.7	-988.8	1,887.6	2,050.1	0.40
9,194.0	89.63	131.81	7,448.3	-1,050.6	1,954.4	2,141.1	2.53
9,286.0	89.63	133.17	7,448.9	-1,112.8	2,022.2	2,233.1	1.48
9,377.0	90.57	133.17	7,448.7	-1,175.0	2,088.6	2,324.1	1.03
9,468.0	89.60	135.63	7,448.6	-1,238.7	2,153.6	2,415.0	2.91
9,560.0	89.63	137.05	7,449.2	-1,305.2	2,217.1	2,506.9	1.54
9,653.0	90.17	133.09	7,449.4	-1,371.1	2,282.8	2,599.9	4.30
9,744.0	89.63	133.35	7,449.5	-1,433.4	2,349.1	2,690.9	0.66
9,835.0	90.20	130.08	7,449.7	-1,493.9	2,417.0	2,781.8	3.65
9,926.0	89.23	132.73	7,450.1	-1,554.1	2,485.3	2,872.7	3.10
10,018.0	89.87	132.65	7,450.8	-1,616.5	2,552.9	2,964.7	0.70
10,108.0	90.91	134.28	7,450.2	-1,678.4	2,618.2	3,054.7	2.15
10,202.0	89.90	133.42	7,449.5	-1,743.5	2,686.0	3,148.7	1.41
10,296.0	91.95	134.32	7,448.0	-1,808.6	2,753.8	3,242.7	2.38
10,390.0	92.09	134.45	7,444.7	-1,874.3	2,820.9	3,336.6	0.20

AUG 03 2015



WV GEOLOGICAL SURVEY MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Ruth/Norris/Nellie/Ford Pad
Well: Nellie Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Nellie Unit 1H
TVD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
MD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
10,484.0	89.87	134.47	7,443.1	-1,940.2	2,888.0	3,430.6	2.36
10,578.0	90.54	134.56	7,442.8	-2,006.1	2,955.0	3,524.6	0.72
10,673.0	90.84	133.73	7,441.6	-2,072.2	3,023.2	3,619.6	0.93
10,767.0	88.66	132.25	7,442.0	-2,136.3	3,091.9	3,713.5	2.80
10,860.0	91.28	133.18	7,442.1	-2,199.4	3,160.2	3,806.5	2.99
10,954.0	91.75	132.15	7,439.6	-2,263.1	3,229.3	3,900.5	1.20
11,048.0	90.84	132.27	7,437.5	-2,326.2	3,298.9	3,994.4	0.98
11,142.0	90.24	132.60	7,436.6	-2,389.6	3,368.3	4,088.4	0.73
11,237.0	90.07	133.99	7,436.3	-2,454.8	3,437.5	4,183.4	1.47
11,331.0	89.26	133.03	7,436.9	-2,519.5	3,505.6	4,277.4	1.34
11,425.0	89.33	133.33	7,438.0	-2,583.8	3,574.2	4,371.4	0.33
11,519.0	90.07	133.89	7,438.5	-2,648.7	3,642.2	4,465.4	0.99
11,613.0	89.36	132.88	7,439.0	-2,713.2	3,710.5	4,559.4	1.31
11,707.0	89.09	131.94	7,440.3	-2,776.6	3,779.9	4,653.4	1.04
11,801.0	90.24	133.17	7,440.8	-2,840.2	3,849.2	4,747.3	1.79
11,895.0	90.64	133.28	7,440.1	-2,904.6	3,917.7	4,841.3	0.44
11,989.0	90.37	133.59	7,439.3	-2,969.2	3,985.9	4,935.3	0.44
12,083.0	90.71	135.04	7,438.4	-3,034.8	4,053.2	5,029.3	1.58
12,177.0	90.37	135.06	7,437.5	-3,101.4	4,119.6	5,123.3	0.36
12,272.0	89.53	135.54	7,437.6	-3,168.9	4,186.4	5,218.2	1.02
12,366.0	90.10	133.19	7,437.9	-3,234.6	4,253.6	5,312.2	2.57
12,460.0	90.13	133.86	7,437.7	-3,299.3	4,321.8	5,406.2	0.71
12,554.0	90.27	132.34	7,437.4	-3,363.6	4,390.4	5,500.2	1.62
12,648.0	91.24	132.81	7,436.1	-3,427.2	4,459.6	5,594.2	1.15
12,742.0	91.51	132.78	7,433.9	-3,491.0	4,528.6	5,688.2	0.29
12,836.0	89.56	134.20	7,433.0	-3,555.7	4,596.8	5,782.1	2.57
12,930.0	90.30	132.95	7,433.1	-3,620.5	4,664.8	5,876.1	1.55
13,025.0	90.17	133.13	7,432.7	-3,685.3	4,734.3	5,971.1	0.23
13,118.0	90.13	133.07	7,432.5	-3,748.9	4,802.2	6,064.1	0.08
13,212.0	91.61	133.22	7,431.1	-3,813.1	4,870.8	6,158.1	1.58
13,306.0	91.92	135.02	7,428.2	-3,878.5	4,938.2	6,252.1	1.94
13,400.0	90.37	134.02	7,426.3	-3,944.4	5,005.2	6,346.0	1.96
13,495.0	91.51	134.77	7,424.7	-4,010.9	5,073.1	6,441.0	1.44
13,589.0	90.84	132.59	7,422.8	-4,075.8	5,141.0	6,535.0	2.43
13,683.0	91.18	133.76	7,421.1	-4,140.1	5,209.6	6,629.0	1.30
13,777.0	91.65	133.20	7,418.8	-4,204.8	5,277.8	6,722.9	0.78
13,871.0	89.70	131.08	7,417.7	-4,267.8	5,347.5	6,816.9	3.06
13,965.0	91.18	131.41	7,417.0	-4,329.8	5,418.1	6,910.8	1.61
14,059.0	92.72	133.15	7,413.8	-4,393.0	5,487.6	7,004.7	2.47
14,153.0	90.67	133.40	7,411.0	-4,457.4	5,556.0	7,098.7	2.20
14,248.0	89.76	132.66	7,410.7	-4,522.2	5,625.5	7,193.7	1.23
14,342.0	92.38	132.32	7,408.9	-4,585.7	5,694.8	7,287.6	2.81
14,436.0	91.82	134.61	7,405.5	-4,650.3	5,763.0	7,381.6	2.51
14,530.0	92.51	135.53	7,401.9	-4,716.8	5,829.3	7,475.5	1.22

AUG 03 2015



WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company: Antero Resources
Project: Harrison County West Virginia
Site: Ruth/Norris/Nellie/Ford Pad
Well: Nellie Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Nellie Unit 1H
TVD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
MD Reference: Nellie 1H 1376 GL + 24 KB @ 1400.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,624.0	91.63	133.34	7,398.5	-4,782.6	5,896.4	7,569.4	2.51
14,718.0	90.77	133.15	7,396.5	-4,847.0	5,964.8	7,663.4	0.94
14,813.0	91.41	134.75	7,394.7	-4,912.9	6,033.2	7,758.3	1.81
14,907.0	91.21	134.52	7,392.6	-4,978.9	6,100.1	7,852.3	0.32
15,001.0	90.44	134.66	7,391.2	-5,044.9	6,167.0	7,946.3	0.83
15,095.0	90.10	134.13	7,390.8	-5,110.6	6,234.2	8,040.2	0.67
15,189.0	90.27	132.89	7,390.5	-5,175.4	6,302.4	8,134.2	1.33
15,283.0	91.18	133.51	7,389.3	-5,239.7	6,370.9	8,228.2	1.17
15,377.0	89.87	133.15	7,388.4	-5,304.2	6,439.2	8,322.2	1.45
15,472.0	89.50	132.75	7,389.0	-5,368.9	6,508.8	8,417.2	0.57
15,566.0	89.90	132.65	7,389.4	-5,432.7	6,577.9	8,511.2	0.44
15,660.0	89.23	134.02	7,390.2	-5,497.2	6,646.2	8,605.2	1.62
15,754.0	89.76	132.24	7,391.0	-5,561.4	6,714.8	8,699.2	1.98
15,848.0	89.76	133.02	7,391.4	-5,625.1	6,784.0	8,793.2	0.83
15,942.0	89.73	133.63	7,391.8	-5,689.6	6,852.4	8,887.2	0.65
16,036.0	90.07	132.81	7,392.0	-5,754.0	6,920.9	8,981.2	0.94
16,126.0	89.97	132.09	7,391.9	-5,814.7	6,987.3	9,071.2	0.81
16,172.0	90.00	133.48	7,391.9	-5,845.9	7,021.0	9,117.2	3.02

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,218.0	7,120.8	86.3	558.9	Middlesex
7,397.0	7,270.4	80.0	655.2	Burkett
7,428.0	7,293.2	74.8	675.5	Tully
7,707.0	7,447.4	-30.7	877.7	Marcellus

Checked By: _____ Approved By: _____ Date: _____