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JUN 15 2015



Antero Resources
Pike Unit 1H
Doddridge County WV
Northing: 14248473.10
Easting: 1679218.01
As Drilled

WELL DETAILS: Pike Unit 1H

Ground Level: 990.0
Easting: 1679218.01
Northing: 14248473.10
Longitude: 80° 51' 46.02" W
Latitude: 39° 14' 15.327" N

DESIGN TARGET DETAILS

Name: Actual BH Pike Unit 1H
SH Pick Unit 1H
TVD: 6510.4
SH Pick Unit 1H
+N/S: 0.0
-N/S: 0.0
+E/W: -2933.9
-E/W: 0.0
Northing: 14253996.10
Easting: 1679218.01

REFERENCE INFORMATION

Coordinates (NE) Reference: Well Pike Unit 1H, Grid North
Coordinates (NS) Reference: SH Pick Unit 1H, Grid North
Measurements Method: Minimum Error GL - 1" R/O @ 1000 surf
Calculation Method: Minimum Error

PROJECT DETAILS: Doddridge County WV
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1983 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 78 W)
System Datum: Mean Sea Level

FORMATION TOP DETAILS

TOP Path	MD Path	Formation	Dip/Arch	Dip/Ch
6316.4	6300.0	Marcellus	0.00	0.00
6437.9	6536.0	Burket	0.00	0.00
6464.3	6586.0	Tully	0.00	0.00
6491.4	6951.0	Marcellus	0.00	0.00

Genie Lightfoot
13:58, July 30 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK



LEGEND

- Pike Unit 1H, Original Wellpath, Plan 5 V0
- As Drilled

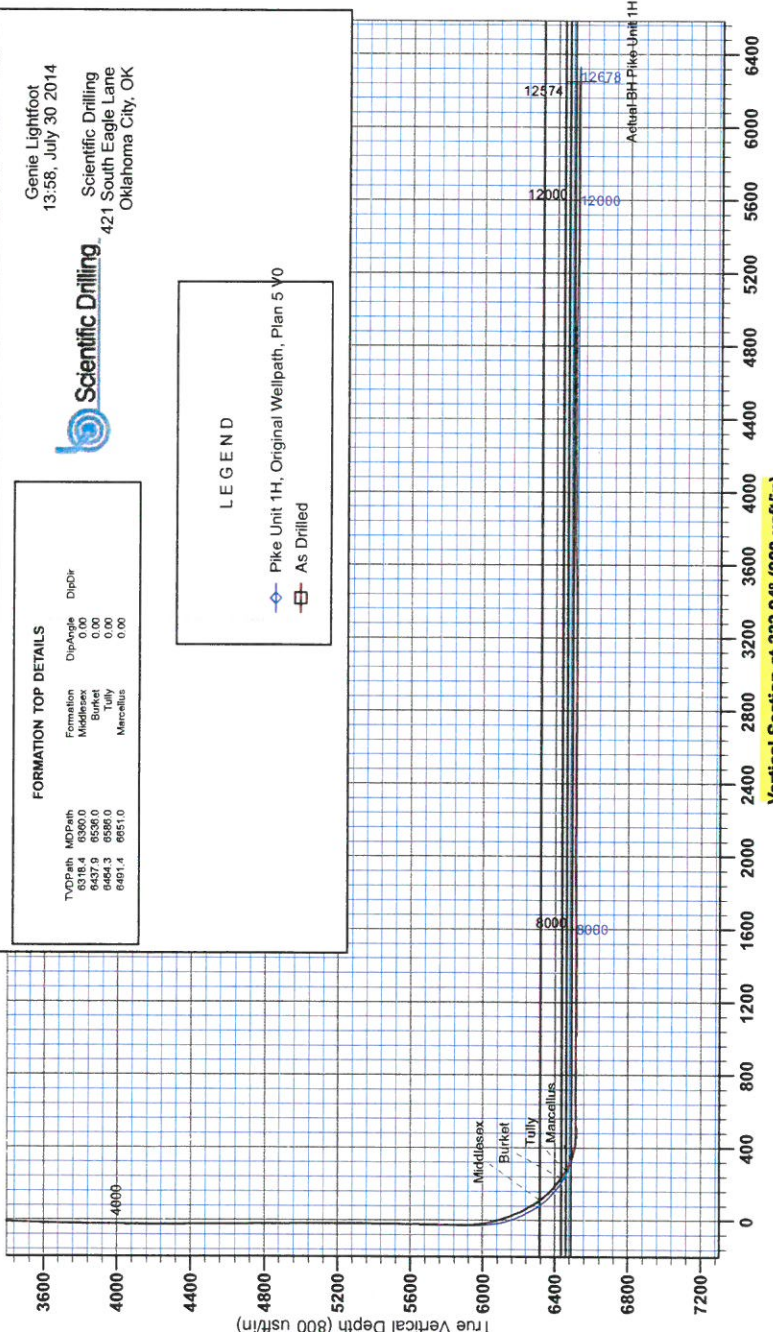
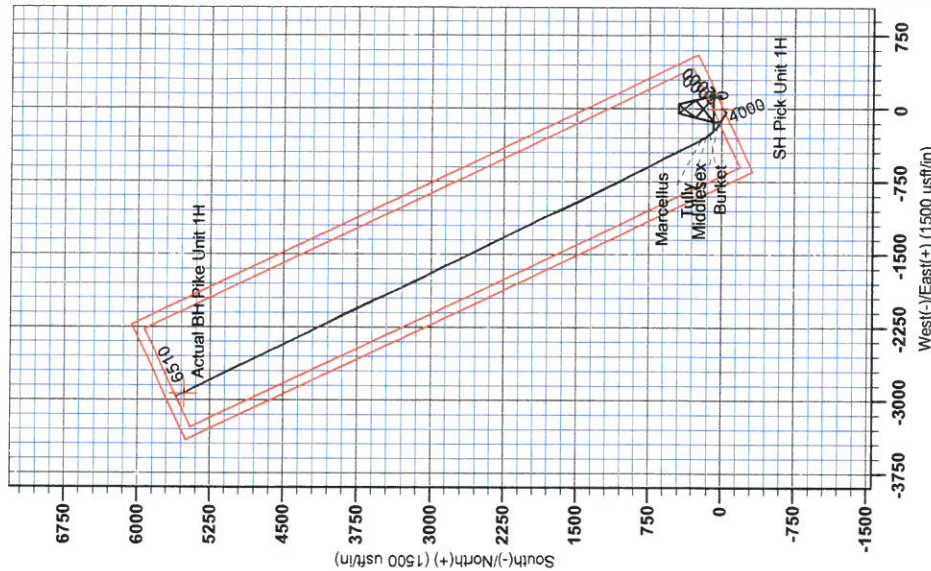
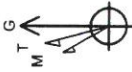
To convert Magnetic North to Grid, Subtract 8.47"
To convert True North to Grid, Subtract 0.02"

Magnetic Field Strength
Dip Angle
Date
Model

Azimuths to Grid North
True North: -0.09"
Magnetic North: -8.47"

Magnetic Field Strength
Dip Angle
Date
Model

Strength: 46.83
Angle: 46.83
Date: 12/20/2013
Model: IGRF2010



Vertical Section at 333.94' (800 usf/in)

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Antero Resources

**Doddridge County WV
Leggett/ Pike Pad
Pike Unit 1H**

Original Wellpath

Design: As Drilled

Standard Survey Report

30 July, 2014



JUN 15 2015



Scientific Drilling International
Survey Report



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 1H
TVD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
MD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Project	Doddridge County WV, McClellan District		
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	Leggett/ Pike Pad				
Site Position:		Northing:	14,248,467.61 usft	Latitude:	39° 14' 15.272 N
From:	Map	Easting:	1,679,248.10 usft	Longitude:	80° 51' 46.289 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.09 °

Well	Pike Unit 1H					
Well Position	+N/-S	0.0 usft	Northing:	14,248,473.10 usft	Latitude:	39° 14' 15.327 N
	+E/-W	0.0 usft	Easting:	1,679,218.01 usft	Longitude:	80° 51' 46.672 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,008.0 usft	Ground Level:	990.0 usft

Wellbore	Original Wellpath				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/20/2013	-8.39	66.83	52,338

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	333.94

Survey Program	Date	7/30/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
107.0	5,872.0	Survey #6 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,898.0	12,574.0	Survey #7 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
107.0	1.06	36.33	107.0	0.8	0.6	0.5	0.99	0.99	0.00
207.0	0.73	57.89	207.0	1.9	1.7	1.0	0.47	-0.33	21.56
307.0	0.45	54.50	307.0	2.4	2.5	1.1	0.28	-0.28	-3.39
407.0	0.25	80.80	407.0	2.7	3.1	1.1	0.25	-0.20	26.30
507.0	0.17	93.28	507.0	2.7	3.4	1.0	0.09	-0.08	12.48
607.0	0.11	142.97	607.0	2.7	3.6	0.8	0.13	-0.06	49.69
707.0	0.11	165.81	707.0	2.5	3.7	0.6	0.04	0.00	22.84
807.0	0.18	173.56	807.0	2.2	3.8	0.4	0.07	0.07	7.75
907.0	0.11	189.86	907.0	2.0	3.8	0.1	0.08	-0.07	16.30

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Scientific Drilling International
Survey Report



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 1H
TVD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
MD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

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)
1,007.0	0.09	193.01	1,007.0	1.8	3.7	0.0	0.02	-0.02	3.15
1,107.0	0.17	243.23	1,107.0	1.7	3.6	-0.1	0.13	0.08	50.22
1,207.0	0.17	250.52	1,207.0	1.6	3.3	-0.1	0.02	0.00	7.29
1,307.0	0.18	228.90	1,307.0	1.4	3.0	-0.1	0.07	0.01	-21.62
1,407.0	0.16	207.94	1,407.0	1.2	2.9	-0.2	0.06	-0.02	-20.96
1,507.0	0.10	111.94	1,507.0	1.0	2.9	-0.4	0.20	-0.06	-96.00
1,607.0	0.18	118.52	1,607.0	0.9	3.1	-0.5	0.08	0.08	6.58
1,707.0	0.23	118.50	1,707.0	0.7	3.4	-0.8	0.05	0.05	-0.02
1,807.0	0.17	136.30	1,807.0	0.5	3.7	-1.1	0.09	-0.06	17.80
1,907.0	0.16	149.64	1,907.0	0.3	3.9	-1.4	0.04	-0.01	13.34
2,007.0	0.21	129.42	2,007.0	0.1	4.1	-1.7	0.08	0.05	-20.22
2,107.0	0.15	130.44	2,107.0	-0.1	4.3	-2.0	0.06	-0.06	1.02
2,207.0	0.22	166.45	2,207.0	-0.4	4.5	-2.3	0.13	0.07	36.01
2,307.0	0.28	189.92	2,307.0	-0.8	4.5	-2.7	0.12	0.06	23.47
2,407.0	0.44	189.99	2,407.0	-1.4	4.4	-3.2	0.16	0.16	0.07
2,507.0	0.23	223.25	2,507.0	-2.0	4.2	-3.6	0.28	-0.21	33.26
2,607.0	0.32	203.35	2,607.0	-2.4	3.9	-3.8	0.13	0.09	-19.90
2,707.0	0.34	193.00	2,707.0	-2.9	3.7	-4.3	0.06	0.02	-10.35
2,807.0	0.43	197.24	2,807.0	-3.6	3.5	-4.8	0.09	0.09	4.24
2,907.0	0.39	208.41	2,907.0	-4.2	3.3	-5.2	0.09	-0.04	11.17
3,007.0	0.39	202.30	3,007.0	-4.8	3.0	-5.7	0.04	0.00	-6.11
3,107.0	0.28	199.64	3,107.0	-5.4	2.8	-6.1	0.11	-0.11	-2.66
3,207.0	0.43	192.92	3,206.9	-6.0	2.6	-6.5	0.16	0.15	-6.72
3,307.0	0.65	210.55	3,306.9	-6.8	2.2	-7.1	0.27	0.22	17.63
3,407.0	5.13	219.89	3,406.8	-10.8	-0.9	-9.3	4.49	4.48	9.34
3,507.0	5.73	218.53	3,506.3	-18.1	-6.9	-13.2	0.61	0.60	-1.36
3,607.0	5.33	226.13	3,605.9	-25.2	-13.4	-16.8	0.83	-0.40	7.60
3,707.0	5.01	229.05	3,705.5	-31.3	-20.0	-19.3	0.41	-0.32	2.92
3,807.0	4.20	226.87	3,805.1	-36.7	-26.0	-21.5	0.83	-0.81	-2.18
3,907.0	1.93	233.74	3,905.0	-40.2	-30.0	-22.9	2.30	-2.27	6.87
4,007.0	1.30	248.05	4,005.0	-41.6	-32.4	-23.1	0.74	-0.63	14.31
4,107.0	0.66	256.62	4,104.9	-42.1	-34.0	-22.9	0.65	-0.64	8.57
4,207.0	0.16	281.45	4,204.9	-42.2	-34.7	-22.7	0.52	-0.50	24.83
4,307.0	0.28	29.51	4,304.9	-42.0	-34.7	-22.5	0.36	0.12	108.06
4,407.0	0.43	29.30	4,404.9	-41.5	-34.4	-22.1	0.15	0.15	-0.21
4,507.0	0.39	32.51	4,504.9	-40.9	-34.1	-21.7	0.05	-0.04	3.21
4,607.0	0.29	65.65	4,604.9	-40.5	-33.7	-21.6	0.22	-0.10	33.14
4,707.0	0.28	43.34	4,704.9	-40.2	-33.3	-21.5	0.11	-0.01	-22.31
4,807.0	0.20	323.77	4,804.9	-39.9	-33.2	-21.2	0.31	-0.08	-79.57
4,907.0	0.33	298.37	4,904.9	-39.6	-33.6	-20.8	0.17	0.13	-25.40
5,007.0	0.38	298.35	5,004.9	-39.3	-34.1	-20.3	0.05	0.05	-0.02
5,107.0	0.27	260.89	5,104.9	-39.2	-34.6	-20.0	0.23	-0.11	-37.46
5,207.0	0.36	258.93	5,204.9	-39.3	-35.2	-19.8	0.09	0.09	-1.96

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Scientific Drilling International
Survey Report



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 1H
TVD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
MD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
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Database: Oklahoma District

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)
5,307.0	0.35	261.12	5,304.9	-39.4	-35.8	-19.7	0.02	-0.01	2.19
5,407.0	0.59	175.03	5,404.9	-39.9	-36.0	-20.0	0.67	0.24	-86.09
5,507.0	0.68	174.05	5,504.9	-41.0	-35.9	-21.1	0.09	0.09	-0.98
5,607.0	0.74	172.21	5,604.9	-42.3	-35.8	-22.3	0.06	0.06	-1.84
5,707.0	1.03	163.08	5,704.9	-43.8	-35.4	-23.8	0.32	0.29	-9.13
5,807.0	0.79	170.40	5,804.9	-45.3	-35.0	-25.3	0.27	-0.24	7.32
5,872.0	0.60	170.51	5,869.8	-46.1	-34.9	-26.1	0.29	-0.29	0.17
5,898.0	0.80	174.94	5,895.9	-46.4	-34.9	-26.4	0.80	0.77	17.01
5,928.0	1.80	274.46	5,925.9	-46.6	-35.3	-26.3	6.96	3.33	331.73
5,959.0	5.98	292.08	5,956.8	-45.9	-37.3	-24.9	13.87	13.48	56.84
5,990.0	9.34	299.93	5,987.5	-44.1	-41.0	-21.6	11.33	10.84	25.32
6,021.0	11.91	310.75	6,018.0	-40.7	-45.6	-16.5	10.46	8.29	34.90
6,052.0	14.52	309.28	6,048.2	-36.2	-51.0	-10.1	8.49	8.42	-4.74
6,082.0	16.96	308.12	6,077.0	-31.1	-57.4	-2.7	8.20	8.13	-3.87
6,113.0	19.61	306.24	6,106.5	-25.2	-65.1	6.0	8.76	8.55	-6.06
6,144.0	21.99	304.44	6,135.4	-18.9	-74.1	15.6	7.95	7.68	-5.81
6,175.0	24.33	302.65	6,163.9	-12.1	-84.3	26.1	7.88	7.55	-5.77
6,206.0	27.52	301.31	6,191.8	-5.0	-95.8	37.6	10.46	10.29	-4.32
6,237.0	30.67	300.93	6,218.9	2.8	-108.7	50.3	10.18	10.16	-1.23
6,267.0	32.88	301.40	6,244.4	11.0	-122.2	63.6	7.41	7.37	1.57
6,298.0	35.53	301.40	6,270.0	20.1	-137.1	78.3	8.55	8.55	0.00
6,329.0	38.79	301.26	6,294.7	29.8	-153.1	94.0	10.52	10.52	-0.45
6,360.0	41.70	303.66	6,318.4	40.6	-170.0	111.1	10.64	9.39	7.74
Middlesex									
6,391.0	43.72	307.61	6,341.2	52.8	-187.0	129.6	10.82	6.52	12.74
6,422.0	45.32	311.88	6,363.3	66.7	-203.7	149.4	10.95	5.16	13.77
6,453.0	46.22	316.53	6,384.9	82.2	-219.6	170.3	11.13	2.90	15.00
6,484.0	48.90	320.55	6,405.8	99.4	-234.8	192.4	12.89	8.65	12.97
6,514.0	52.43	322.05	6,424.9	117.5	-249.3	215.0	12.39	11.77	5.00
6,536.0	55.10	322.84	6,437.9	131.5	-260.1	232.4	12.47	12.12	3.60
Burket									
6,545.0	56.19	323.15	6,442.9	137.5	-264.5	239.7	12.47	12.14	3.43
6,576.0	59.67	324.62	6,459.4	158.7	-280.0	265.6	11.92	11.23	4.74
6,586.0	61.04	324.88	6,464.3	165.8	-285.0	274.2	13.89	13.70	2.59
Tully									
6,607.0	63.92	325.40	6,474.0	181.1	-295.7	292.6	13.89	13.71	2.48
6,638.0	67.93	326.42	6,486.7	204.5	-311.5	320.6	13.28	12.94	3.29
6,651.0	69.67	327.12	6,491.4	214.6	-318.2	332.6	14.29	13.37	5.40
Marcellus									
6,669.0	72.08	328.07	6,497.3	229.0	-327.3	349.5	14.29	13.40	5.26
6,699.0	76.54	329.65	6,505.4	253.7	-342.2	378.3	15.71	14.87	5.27
6,730.0	79.94	331.56	6,511.7	280.2	-357.1	408.6	12.52	10.97	6.16
6,761.0	83.78	333.19	6,516.1	307.3	-371.3	439.2	13.44	12.39	5.26
6,828.0	91.10	334.71	6,519.1	367.4	-400.7	506.1	11.16	10.93	2.27

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Scientific Drilling International

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Site: Leggett/ Pike Pad
Well: Pike Unit 1H
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Design: As Drilled

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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)
6,921.0	91.89	334.89	6,516.7	451.6	-440.3	599.1	0.87	0.85	0.19
7,013.0	90.57	333.39	6,514.7	534.3	-480.4	691.0	2.17	-1.43	-1.63
7,106.0	89.16	331.20	6,514.9	616.6	-523.6	784.0	2.80	-1.52	-2.35
7,199.0	89.43	332.34	6,516.1	698.6	-567.6	876.9	1.26	0.29	1.23
7,291.0	89.34	331.64	6,517.0	779.8	-610.8	968.9	0.77	-0.10	-0.76
7,384.0	89.60	333.66	6,517.9	862.4	-653.6	1,061.8	2.19	0.28	2.17
7,476.0	89.60	333.83	6,518.6	944.9	-694.2	1,153.8	0.18	0.00	0.18
7,571.0	89.69	332.87	6,519.1	1,029.8	-736.9	1,248.8	1.01	0.09	-1.01
7,665.0	90.84	334.54	6,518.7	1,114.1	-778.5	1,342.8	2.16	1.22	1.78
7,760.0	90.92	334.36	6,517.2	1,199.8	-819.5	1,437.8	0.21	0.08	-0.19
7,854.0	89.87	333.31	6,516.6	1,284.1	-860.9	1,531.8	1.58	-1.12	-1.12
7,948.0	90.40	333.66	6,516.4	1,368.2	-902.9	1,625.8	0.68	0.56	0.37
8,043.0	90.66	332.60	6,515.5	1,453.0	-945.8	1,720.8	1.15	0.27	-1.12
8,138.0	91.01	334.71	6,514.1	1,538.1	-988.0	1,815.8	2.25	0.37	2.22
8,232.0	91.24	334.37	6,512.3	1,623.0	-1,028.4	1,909.7	0.44	0.24	-0.36
8,327.0	90.48	336.12	6,510.8	1,709.2	-1,068.1	2,004.7	2.01	-0.80	1.84
8,421.0	88.29	336.91	6,511.9	1,795.4	-1,105.6	2,098.6	2.48	-2.33	0.84
8,516.0	89.08	335.06	6,514.0	1,882.2	-1,144.2	2,193.5	2.12	0.83	-1.95
8,610.0	90.13	333.75	6,514.7	1,966.9	-1,184.9	2,287.5	1.79	1.12	-1.39
8,703.0	90.40	332.60	6,514.2	2,049.9	-1,226.8	2,380.5	1.27	0.29	-1.24
8,795.0	90.75	333.66	6,513.3	2,132.0	-1,268.4	2,472.5	1.21	0.38	1.15
8,888.0	89.08	334.98	6,513.5	2,215.8	-1,308.7	2,565.5	2.29	-1.80	1.42
8,981.0	89.69	334.98	6,514.5	2,300.1	-1,348.0	2,658.4	0.66	0.66	0.00
9,073.0	89.69	334.10	6,515.0	2,383.1	-1,387.6	2,750.4	0.96	0.00	-0.96
9,166.0	89.43	334.18	6,515.7	2,466.8	-1,428.1	2,843.4	0.29	-0.28	0.09
9,259.0	89.46	332.26	6,516.6	2,549.8	-1,470.0	2,936.4	2.06	0.03	-2.06
9,351.0	90.84	332.78	6,516.3	2,631.4	-1,512.5	3,028.4	1.60	1.50	0.57
9,444.0	91.28	334.54	6,514.6	2,714.8	-1,553.7	3,121.4	1.95	0.47	1.89
9,536.0	89.60	334.89	6,513.9	2,798.0	-1,593.0	3,213.3	1.87	-1.83	0.38
9,629.0	89.87	335.33	6,514.3	2,882.3	-1,632.2	3,306.3	0.56	0.29	0.47
9,722.0	90.57	332.34	6,514.0	2,965.8	-1,673.2	3,399.3	3.30	0.75	-3.22
9,814.0	89.97	329.72	6,513.5	3,046.3	-1,717.7	3,491.2	2.92	-0.65	-2.85
9,907.0	93.56	334.36	6,510.7	3,128.3	-1,761.3	3,584.0	6.31	3.86	4.99
9,999.0	91.28	334.18	6,506.8	3,211.1	-1,801.2	3,676.0	2.49	-2.48	-0.20
10,092.0	90.48	335.50	6,505.4	3,295.3	-1,840.7	3,768.9	1.66	-0.86	1.42
10,184.0	89.08	334.27	6,505.7	3,378.6	-1,879.8	3,860.9	2.03	-1.52	-1.34
10,277.0	89.25	334.36	6,507.1	3,462.4	-1,920.1	3,953.9	0.21	0.18	0.10
10,369.0	90.31	335.77	6,507.4	3,545.8	-1,958.9	4,045.9	1.92	1.15	1.53
10,462.0	91.19	336.82	6,506.2	3,631.0	-1,996.3	4,138.8	1.47	0.95	1.13
10,555.0	89.78	334.45	6,505.4	3,715.7	-2,034.6	4,231.7	2.97	-1.52	-2.55
10,647.0	89.25	333.66	6,506.2	3,798.4	-2,074.9	4,323.7	1.03	-0.58	-0.86
10,740.0	90.57	332.95	6,506.3	3,881.5	-2,116.6	4,416.7	1.61	1.42	-0.76
10,832.0	90.66	332.78	6,505.4	3,963.3	-2,158.6	4,508.7	0.21	0.10	-0.18



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 1H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 1H
TVD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
MD Reference: Precision 522: 990' GL + 18' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

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)
10,925.0	90.84	332.34	6,504.1	4,045.9	-2,201.5	4,601.7	0.51	0.19	-0.47
11,018.0	89.69	333.48	6,503.7	4,128.7	-2,243.8	4,694.6	1.74	-1.24	1.23
11,110.0	89.43	332.34	6,504.4	4,210.6	-2,285.7	4,786.6	1.27	-0.28	-1.24
11,203.0	89.96	333.83	6,504.9	4,293.5	-2,327.8	4,879.6	1.70	0.57	1.60
11,295.0	88.11	334.18	6,506.5	4,376.2	-2,368.1	4,971.6	2.05	-2.01	0.38
11,388.0	88.11	333.83	6,509.5	4,459.7	-2,408.8	5,064.5	0.38	0.00	-0.38
11,481.0	89.60	333.48	6,511.4	4,543.0	-2,450.1	5,157.5	1.65	1.60	-0.38
11,573.0	89.43	333.92	6,512.2	4,625.5	-2,490.9	5,249.5	0.51	-0.18	0.48
11,666.0	89.96	333.66	6,512.7	4,708.9	-2,531.9	5,342.5	0.63	0.57	-0.28
11,758.0	89.52	336.03	6,513.1	4,792.2	-2,571.0	5,434.5	2.62	-0.48	2.58
11,851.0	89.08	334.18	6,514.2	4,876.6	-2,610.2	5,527.5	2.04	-0.47	-1.99
11,943.0	90.04	333.66	6,514.9	4,959.2	-2,650.6	5,619.5	1.19	1.04	-0.57
12,036.0	91.10	334.27	6,514.0	5,042.7	-2,691.5	5,712.5	1.32	1.14	0.66
12,128.0	90.40	333.66	6,512.8	5,125.4	-2,731.8	5,804.4	1.01	-0.76	-0.66
12,221.0	90.92	332.95	6,511.7	5,208.5	-2,773.6	5,897.4	0.95	0.56	-0.76
12,314.0	89.69	332.87	6,511.2	5,291.3	-2,816.0	5,990.4	1.33	-1.32	-0.09
12,406.0	89.96	333.39	6,511.5	5,373.3	-2,857.5	6,082.4	0.64	0.29	0.57
12,499.0	90.40	333.04	6,511.2	5,456.4	-2,899.4	6,175.4	0.60	0.47	-0.38
12,574.0	90.92	332.34	6,510.4	5,523.0	-2,933.9	6,250.4	1.16	0.69	-0.93

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,360.0	6,318.4	Middlesex		0.00	
6,536.0	6,437.9	Burket		0.00	
6,586.0	6,464.3	Tully		0.00	
6,651.0	6,491.4	Marcellus		0.00	

Checked By: _____ Approved By: _____ Date: _____

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JUN 15 2015

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MORGANTOWN, WV