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JUN 15 2015

WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources
Pike Unit 2H
Doddridge County WV
Northing: 14248471.27
Easting: 1679228.04
As Drilled

WELL DETAILS: Pike Unit 2H
Ground Level: 990.0
Latitude: 38° 14' 15.308 N
Longitude: 80° 51' 46.544 W
Slot: 1679228.04

DESIGN TARGET DETAILS

Name	TVD	+N/S	+E/W	Northing	Easting
Actual BH Pike Unit 2H	6532.3	5670.2	-2368.5	14254341.43	1676859.58
SH Pike Unit 2H	0.0	0.0	0.0	142748471.27	1679228.04

REFERENCE INFORMATION
Coordinates (N/E) Reference: Well Pike Unit 2H, Grid North
Datum: NAD 1983
Spheroid: Clarke 1866
Sector (US) Reference: State Plane (NAD 83)
Measured Depth Reference: True Vertical Depth (TVD)
Coordinate System: UTM
System Datum: Mean Sea Level

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

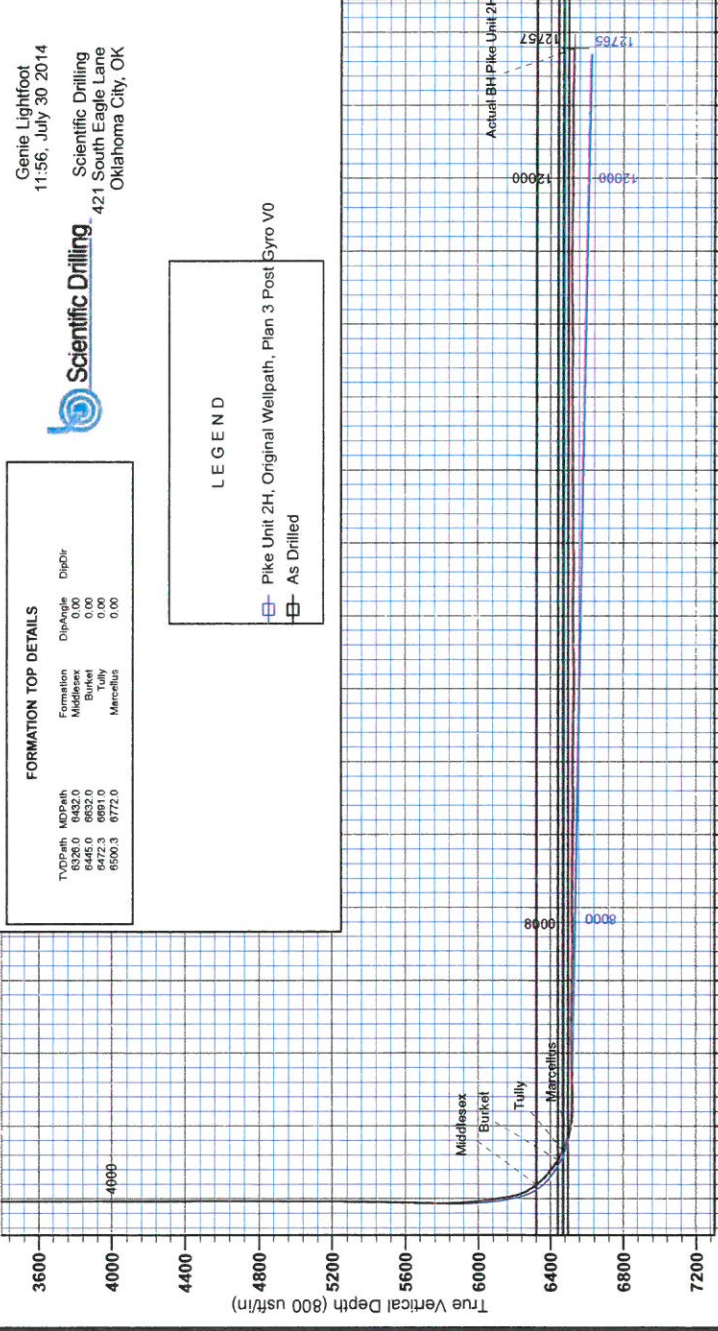
FORMATION TOP DETAILS

TVD Path	MD Path	Formation	Dip/Angle	Dip/Dipr
6446.0	6632.0	Middlesex	0.00	0.00
6472.3	6681.0	Burket	0.00	0.00
6500.3	6772.0	Marcellus	0.00	0.00



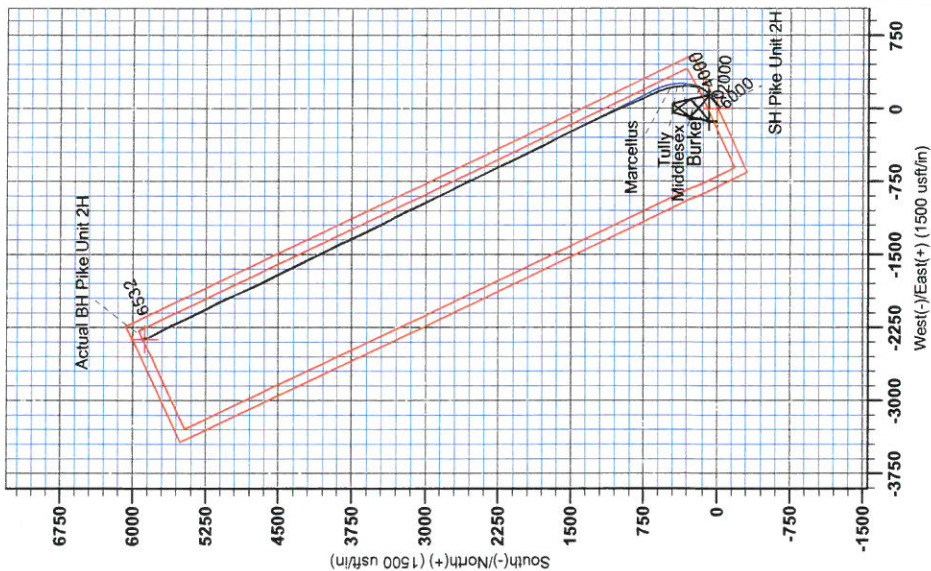
Genie Lightfoot
11-56, July 30 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK

LEGEND
 Pike Unit 2H, Original Wellpath, Plan 3 Post Gyro VO
 As Drilled



To convert Magnetic North to Grid, Subtract 8.47°
To convert True North to Grid, Subtract 0.09°

Magnetic Field
Strength: 52337.66 nT
Dir. Angle: 68.83°
Date: 12/20/2013
Model: IGRF2010





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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Antero Resources

**Doddridge County WV
Leggett/ Pike Pad
Pike Unit 2H**

Original Wellpath

Design: As Drilled

Standard Survey Report

30 July, 2014



JUN 15 2015



Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Pike Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 522: GL 990' + 18' RKB @ 1008.0usft
Site:	Leggett/ Pike Pad	MD Reference:	Precision 522: GL 990' + 18' RKB @ 1008.0usft
Well:	Pike Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	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 2H					
Well Position	+N/-S	0.0 usft	Northing:	14,248,471.27 usft	Latitude:	39° 14' 15.308 N
	+E/-W	0.0 usft	Easting:	1,679,228.04 usft	Longitude:	80° 51' 46.544 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,008.0 usft	Ground Level:	990.0 usft

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

Design	As Drilled				
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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			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
107.0	5,649.5	Survey #4 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper	
5,710.0	12,757.0	Survey #5 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	0.60	157.17	107.0	-0.5	0.2	-0.6	0.56	0.56	0.00
207.0	0.39	198.07	207.0	-1.3	0.3	-1.3	0.40	-0.21	40.90
307.0	0.37	184.31	307.0	-2.0	0.2	-1.8	0.09	-0.02	-13.76
407.0	0.32	172.73	407.0	-2.6	0.2	-2.4	0.09	-0.05	-11.58
507.0	0.32	180.79	507.0	-3.1	0.2	-2.9	0.04	0.00	8.06
607.0	0.37	179.00	607.0	-3.7	0.2	-3.4	0.05	0.05	-1.79
707.0	0.37	181.63	707.0	-4.4	0.2	-4.0	0.02	0.00	2.63
807.0	0.37	171.21	807.0	-5.0	0.3	-4.6	0.07	0.00	-10.42
907.0	0.38	178.51	907.0	-5.7	0.3	-5.2	0.05	0.01	7.30

JUN 15 2015



Scientific Drilling International
Survey Report



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 2H
TVD Reference: Precision 522: GL 990' + 18' RKB @ 1008.0usft
MD Reference: Precision 522: GL 990' + 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	0.31	184.34	1,007.0	-6.3	0.3	-5.8	0.08	-0.07	5.83
1,107.0	0.23	201.76	1,107.0	-6.7	0.2	-6.1	0.11	-0.08	17.42
1,207.0	0.10	180.34	1,207.0	-7.0	0.1	-6.3	0.14	-0.13	-21.42
1,307.0	0.14	215.58	1,307.0	-7.2	0.1	-6.5	0.08	0.04	35.24
1,407.0	0.12	163.42	1,407.0	-7.4	0.0	-6.6	0.12	-0.02	-52.16
1,507.0	0.20	116.23	1,507.0	-7.6	0.2	-6.9	0.15	0.08	-47.19
1,607.0	0.27	110.97	1,607.0	-7.7	0.6	-7.2	0.07	0.07	-5.26
1,707.0	0.22	118.55	1,707.0	-7.9	1.0	-7.5	0.06	-0.05	7.58
1,807.0	0.18	146.19	1,807.0	-8.1	1.2	-7.8	0.10	-0.04	27.64
1,907.0	0.25	180.85	1,907.0	-8.5	1.3	-8.2	0.14	0.07	34.66
2,007.0	0.24	184.63	2,007.0	-8.9	1.3	-8.6	0.02	-0.01	3.78
2,107.0	0.24	183.62	2,107.0	-9.3	1.3	-8.9	0.00	0.00	-1.01
2,207.0	0.32	181.73	2,207.0	-9.8	1.2	-9.4	0.08	0.08	-1.89
2,307.0	0.25	192.59	2,307.0	-10.3	1.2	-9.8	0.09	-0.07	10.86
2,407.0	0.32	189.83	2,407.0	-10.8	1.1	-10.2	0.07	0.07	-2.76
2,507.0	0.36	200.21	2,507.0	-11.3	0.9	-10.6	0.07	0.04	10.38
2,607.0	0.35	198.59	2,607.0	-11.9	0.7	-11.0	0.01	-0.01	-1.62
2,707.0	0.32	185.08	2,707.0	-12.5	0.6	-11.5	0.08	-0.03	-13.51
2,807.0	0.49	210.93	2,807.0	-13.1	0.4	-12.0	0.25	0.17	25.85
2,907.0	0.46	205.52	2,907.0	-13.9	0.0	-12.5	0.05	-0.03	-5.41
3,007.0	0.45	205.37	3,007.0	-14.6	-0.4	-12.9	0.01	-0.01	-0.15
3,107.0	0.48	202.23	3,107.0	-15.3	-0.7	-13.5	0.04	0.03	-3.14
3,207.0	0.41	199.39	3,206.9	-16.1	-1.0	-14.0	0.07	-0.07	-2.84
3,307.0	0.34	203.40	3,306.9	-16.7	-1.2	-14.4	0.07	-0.07	4.01
3,407.0	0.34	198.45	3,406.9	-17.2	-1.4	-14.9	0.03	0.00	-4.95
3,507.0	0.34	225.44	3,506.9	-17.7	-1.7	-15.2	0.16	0.00	26.99
3,607.0	0.37	225.62	3,606.9	-18.1	-2.2	-15.4	0.03	0.03	0.18
3,707.0	0.19	245.62	3,706.9	-18.4	-2.5	-15.4	0.20	-0.18	20.00
3,807.0	0.23	219.44	3,806.9	-18.7	-2.8	-15.5	0.10	0.04	-26.18
3,907.0	0.27	223.45	3,906.9	-19.0	-3.1	-15.7	0.04	0.04	4.01
4,007.0	0.30	339.17	4,006.9	-18.9	-3.4	-15.5	0.48	0.03	115.72
4,107.0	0.51	20.78	4,106.9	-18.3	-3.3	-14.9	0.35	0.21	41.61
4,207.0	0.83	41.02	4,206.9	-17.3	-2.7	-14.4	0.39	0.32	20.24
4,307.0	0.88	45.23	4,306.9	-16.2	-1.7	-13.8	0.08	0.05	4.21
4,407.0	0.96	42.81	4,406.9	-15.1	-0.5	-13.3	0.09	0.08	-2.42
4,507.0	0.97	44.49	4,506.9	-13.8	0.6	-12.7	0.03	0.01	1.68
4,607.0	0.93	66.90	4,606.9	-12.9	2.0	-12.5	0.37	-0.04	22.41
4,707.0	0.77	108.90	4,706.9	-12.8	3.3	-13.0	0.63	-0.16	42.00
4,807.0	0.32	173.08	4,806.9	-13.3	4.0	-13.7	0.69	-0.45	64.18
4,907.0	0.41	244.26	4,906.9	-13.7	3.7	-14.0	0.43	0.09	71.18
5,007.0	0.46	237.79	5,006.9	-14.1	3.1	-14.0	0.07	0.05	-6.47
5,107.0	0.42	212.04	5,106.9	-14.6	2.5	-14.3	0.20	-0.04	-25.75
5,207.0	0.60	204.57	5,206.9	-15.4	2.1	-14.8	0.19	0.18	-7.47



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 2H
TVD Reference: Precision 522: GL 990' + 18' RKB @ 1008.0usft
MD Reference: Precision 522: GL 990' + 18' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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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	0.74	188.46	5,306.8	-16.5	1.8	-15.6	0.23	0.14	-16.11
5,407.0	0.94	166.04	5,406.8	-18.0	1.9	-17.0	0.38	0.20	-22.42
5,507.0	1.38	169.05	5,506.8	-19.9	2.3	-18.9	0.44	0.44	3.01
5,607.0	1.20	168.88	5,606.8	-22.2	2.8	-21.1	0.18	-0.18	-0.17
5,649.5	1.17	165.83	5,649.3	-23.0	3.0	-22.0	0.16	-0.07	-7.17
5,710.0	1.33	160.48	5,709.8	-24.3	3.3	-23.3	0.33	0.26	-8.85
5,803.0	0.93	124.32	5,802.7	-25.7	4.3	-25.0	0.86	-0.43	-38.88
5,833.0	3.25	60.44	5,832.7	-25.4	5.3	-25.2	9.87	7.73	-212.93
5,864.0	6.83	50.76	5,863.6	-23.8	7.5	-24.7	11.83	11.55	-31.23
5,895.0	9.94	47.31	5,894.3	-20.9	10.9	-23.5	10.16	10.03	-11.13
5,926.0	13.79	47.64	5,924.6	-16.5	15.6	-21.7	12.42	12.42	1.06
5,957.0	16.95	48.57	5,954.5	-11.1	21.7	-19.5	10.22	10.19	3.00
5,988.0	20.12	48.63	5,983.9	-4.6	29.1	-16.9	10.23	10.23	0.19
6,019.0	23.08	48.66	6,012.7	3.0	37.6	-13.8	9.55	9.55	0.10
6,049.0	25.62	47.86	6,040.0	11.2	46.9	-10.5	8.54	8.47	-2.67
6,080.0	27.83	47.60	6,067.7	20.6	57.2	-6.6	7.14	7.13	-0.84
6,111.0	30.63	49.72	6,094.8	30.6	68.5	-2.6	9.63	9.03	6.84
6,142.0	33.52	51.79	6,121.0	41.0	81.3	1.1	9.97	9.32	6.68
6,173.0	36.84	52.01	6,146.4	52.0	95.4	4.8	10.72	10.71	0.71
6,204.0	40.70	51.32	6,170.5	64.1	110.6	9.0	12.53	12.45	-2.23
6,234.0	44.12	51.47	6,192.7	76.7	126.4	13.4	11.40	11.40	0.50
6,265.0	46.52	50.12	6,214.5	90.6	143.5	18.4	8.34	7.74	-4.35
6,296.0	47.57	45.40	6,235.6	105.9	160.2	24.7	11.65	3.39	-15.23
6,327.0	47.74	39.98	6,256.5	122.7	175.8	33.0	12.93	0.55	-17.48
6,358.0	48.02	34.58	6,277.3	141.0	189.7	43.3	12.95	0.90	-17.42
6,389.0	48.80	28.33	6,297.9	160.7	201.8	55.8	15.28	2.52	-20.16
6,420.0	49.28	22.55	6,318.2	181.9	211.8	70.3	14.16	1.55	-18.65
6,432.0	49.24	20.22	6,326.0	190.3	215.1	76.5	14.70	-0.36	-19.39
Middlesex									
6,450.0	49.26	16.73	6,337.8	203.3	219.4	86.2	14.70	0.13	-19.40
6,481.0	50.19	11.00	6,357.8	226.2	225.1	104.3	14.41	3.00	-18.48
6,512.0	52.06	6.01	6,377.3	250.1	228.6	124.2	13.91	6.03	-16.10
6,543.0	54.13	2.66	6,395.9	274.8	230.5	145.6	10.92	6.68	-10.81
6,574.0	55.54	359.53	6,413.8	300.1	231.0	168.1	9.42	4.55	-10.10
6,605.0	57.49	357.10	6,430.9	325.9	230.2	191.7	9.07	6.29	-7.84
6,632.0	59.44	355.19	6,445.0	348.9	228.7	213.0	9.41	7.22	-7.09
Burket									
6,636.0	59.73	354.91	6,447.0	352.3	228.4	216.2	9.41	7.28	-6.92
6,667.0	62.99	353.56	6,461.9	379.4	225.6	241.7	11.19	10.52	-4.35
6,691.0	65.85	352.51	6,472.3	400.9	223.0	262.2	12.54	11.90	-4.39
Tully									
6,697.0	66.56	352.25	6,474.7	406.3	222.3	267.4	12.54	11.92	-4.27
6,728.0	69.78	349.82	6,486.2	434.7	217.8	294.9	12.68	10.39	-7.84
6,759.0	71.93	346.58	6,496.4	463.4	211.8	323.2	12.07	6.94	-10.45



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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)
6,772.0	72.89	345.91	6,500.3	475.4	208.9	335.4	8.85	7.38	-5.13
Marcellus									
6,790.0	74.22	345.00	6,505.4	492.1	204.5	352.3	8.85	7.40	-5.07
6,821.0	76.79	342.56	6,513.2	521.0	196.1	381.8	11.26	8.29	-7.87
6,852.0	80.94	341.73	6,519.1	549.9	186.8	411.9	13.64	13.39	-2.68
6,913.0	88.20	337.88	6,524.9	606.8	165.8	472.3	13.46	11.90	-6.31
7,016.0	91.01	335.33	6,525.6	701.4	125.0	575.2	3.68	2.73	-2.48
7,109.0	91.54	336.03	6,523.6	786.1	86.7	668.1	0.94	0.57	0.75
7,201.0	91.10	336.56	6,521.4	870.3	49.7	760.0	0.75	-0.48	0.58
7,294.0	89.69	337.17	6,520.8	955.8	13.2	852.9	1.65	-1.52	0.66
7,387.0	90.13	336.30	6,520.9	1,041.3	-23.6	945.8	1.05	0.47	-0.94
7,479.0	89.69	334.36	6,521.1	1,124.8	-62.0	1,037.7	2.16	-0.48	-2.11
7,574.0	88.90	334.89	6,522.2	1,210.7	-102.7	1,132.7	1.00	-0.83	0.56
7,668.0	88.02	334.98	6,524.8	1,295.8	-142.5	1,226.7	0.94	-0.94	0.10
7,763.0	89.43	334.90	6,526.9	1,381.8	-182.7	1,321.6	1.49	1.48	-0.08
7,857.0	90.84	335.33	6,526.7	1,467.1	-222.3	1,415.6	1.57	1.50	0.46
7,951.0	91.10	333.31	6,525.1	1,551.8	-263.0	1,509.6	2.17	0.28	-2.15
8,046.0	90.48	332.17	6,523.8	1,636.2	-306.5	1,604.5	1.37	-0.65	-1.20
8,141.0	90.04	332.43	6,523.3	1,720.3	-350.7	1,699.5	0.54	-0.46	0.27
8,236.0	89.08	333.48	6,524.1	1,805.0	-393.9	1,794.5	1.50	-1.01	1.11
8,329.0	89.16	332.96	6,525.5	1,888.0	-435.8	1,887.5	0.57	0.09	-0.56
8,423.0	90.04	335.07	6,526.1	1,972.5	-476.9	1,981.5	2.43	0.94	2.24
8,517.0	89.34	333.92	6,526.7	2,057.3	-517.4	2,075.4	1.43	-0.74	-1.22
8,609.0	89.43	335.59	6,527.6	2,140.5	-556.6	2,167.4	1.82	0.10	1.82
8,702.0	89.96	336.47	6,528.1	2,225.5	-594.4	2,260.4	1.10	0.57	0.95
8,795.0	90.40	336.12	6,527.8	2,310.6	-631.8	2,353.3	0.60	0.47	-0.38
8,887.0	89.78	334.54	6,527.7	2,394.2	-670.2	2,445.3	1.84	-0.67	-1.72
8,980.0	89.78	334.27	6,528.1	2,478.1	-710.4	2,538.2	0.29	0.00	-0.29
9,073.0	87.67	332.17	6,530.1	2,561.1	-752.3	2,631.2	3.20	-2.27	-2.26
9,165.0	88.64	333.04	6,533.1	2,642.7	-794.6	2,723.1	1.42	1.05	0.95
9,258.0	89.08	333.13	6,534.9	2,725.6	-836.7	2,816.1	0.48	0.47	0.10
9,350.0	92.24	335.59	6,533.9	2,808.6	-876.5	2,908.1	4.35	3.43	2.67
9,443.0	91.54	335.24	6,530.8	2,893.1	-915.1	3,001.0	0.84	-0.75	-0.38
9,535.0	90.04	334.80	6,529.5	2,976.5	-954.0	3,093.0	1.70	-1.63	-0.48
9,628.0	90.40	334.80	6,529.2	3,060.6	-993.6	3,186.0	0.39	0.39	0.00
9,721.0	89.16	333.75	6,529.5	3,144.4	-1,034.0	3,278.9	1.75	-1.33	-1.13
9,813.0	89.16	332.25	6,530.9	3,226.4	-1,075.7	3,370.9	1.63	0.00	-1.63
9,906.0	90.22	332.43	6,531.4	3,308.7	-1,118.9	3,463.9	1.16	1.14	0.19
9,998.0	89.78	330.14	6,531.4	3,389.4	-1,163.1	3,555.8	2.53	-0.48	-2.49
10,091.0	91.19	332.87	6,530.6	3,471.1	-1,207.4	3,648.7	3.30	1.52	2.94
10,184.0	91.19	333.57	6,528.7	3,554.1	-1,249.3	3,741.7	0.75	0.00	0.75
10,276.0	90.04	334.89	6,527.7	3,637.0	-1,289.3	3,833.6	1.90	-1.25	1.43
10,369.0	90.31	334.36	6,527.4	3,721.0	-1,329.2	3,926.6	0.64	0.29	-0.57

JUN 15 2015



Scientific Drilling International
Survey Report



Company: Antero Resources
Project: Doddridge County WV
Site: Leggett/ Pike Pad
Well: Pike Unit 2H
Wellbore: Original Wellpath
Design: As Drilled

Local Co-ordinate Reference: Well Pike Unit 2H
TVD Reference: Precision 522: GL 990' + 18' RKB @ 1008.0usft
MD Reference: Precision 522: GL 990' + 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)
10,462.0	89.43	334.36	6,527.6	3,804.8	-1,369.4	4,019.6	0.95	-0.95	0.00
10,554.0	90.20	334.12	6,527.9	3,887.7	-1,409.4	4,111.6	0.88	0.84	-0.26
10,647.0	90.57	334.01	6,527.3	3,971.3	-1,450.1	4,204.6	0.42	0.40	-0.12
10,739.0	91.19	333.31	6,525.9	4,053.8	-1,490.9	4,296.6	1.02	0.67	-0.76
10,832.0	90.48	335.50	6,524.5	4,137.6	-1,531.1	4,389.6	2.48	-0.76	2.35
10,924.0	88.99	334.36	6,524.9	4,221.0	-1,570.1	4,481.6	2.04	-1.62	-1.24
11,017.0	89.16	333.75	6,526.5	4,304.6	-1,610.7	4,574.6	0.68	0.18	-0.66
11,109.0	89.96	332.87	6,527.2	4,386.8	-1,652.1	4,666.6	1.29	0.87	-0.96
11,202.0	90.66	333.31	6,526.7	4,469.7	-1,694.1	4,759.5	0.89	0.75	0.47
11,294.0	91.01	332.17	6,525.3	4,551.5	-1,736.3	4,851.5	1.30	0.38	-1.24
11,387.0	90.22	334.63	6,524.3	4,634.6	-1,777.9	4,944.5	2.78	-0.85	2.65
11,479.0	91.10	334.36	6,523.3	4,717.6	-1,817.5	5,036.5	1.00	0.96	-0.29
11,572.0	90.40	336.38	6,522.0	4,802.2	-1,856.3	5,129.4	2.30	-0.75	2.17
11,664.0	88.99	337.09	6,522.5	4,886.7	-1,892.6	5,221.3	1.72	-1.53	0.77
11,757.0	89.60	337.59	6,523.7	4,972.5	-1,928.4	5,314.2	0.85	0.66	0.54
11,849.0	88.72	334.89	6,525.0	5,056.7	-1,965.5	5,406.1	3.09	-0.96	-2.93
11,942.0	89.25	333.92	6,526.7	5,140.5	-2,005.7	5,499.0	1.19	0.57	-1.04
12,034.0	89.96	333.04	6,527.3	5,222.9	-2,046.7	5,591.0	1.23	0.77	-0.96
12,127.0	90.57	332.17	6,526.9	5,305.4	-2,089.5	5,684.0	1.14	0.66	-0.94
12,220.0	90.57	333.13	6,525.9	5,388.0	-2,132.3	5,777.0	1.03	0.00	1.03
12,312.0	89.69	335.33	6,525.7	5,470.9	-2,172.3	5,869.0	2.58	-0.96	2.39
12,405.0	89.69	334.80	6,526.2	5,555.2	-2,211.5	5,962.0	0.57	0.00	-0.57
12,497.0	88.29	333.31	6,527.9	5,637.9	-2,251.7	6,053.9	2.22	-1.52	-1.62
12,590.0	88.72	333.66	6,530.3	5,721.1	-2,293.2	6,146.9	0.60	0.46	0.38
12,683.0	89.43	333.13	6,531.8	5,804.2	-2,334.9	6,239.9	0.95	0.76	-0.57
12,697.0	89.60	332.96	6,531.9	5,816.7	-2,341.2	6,253.9	1.72	1.21	-1.21
12,757.0	89.60	332.96	6,532.3	5,870.2	-2,368.5	6,313.9	0.00	0.00	0.00

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,432.0	6,326.0	Middlesex		0.00	
6,632.0	6,445.0	Burket		0.00	
6,691.0	6,472.3	Tully		0.00	
6,772.0	6,500.3	Marcellus		0.00	

Checked By: _____ Approved By: _____ Date: _____