



Antero Resources
 Shearer Unit 2H
 Doddridge County WV
 Northing: 14272631.37
 Easting: 1690515.37
 As Drilled

WELL DETAILS: Shearer Unit 2H
 Ground Level: 824.0
 Slot
 +N-S 0.0 +E-W 0.0 Northing 14272631.37 Easting 1690515.37
 Longitude 80° 49' 22.463 W

PROJECT DETAILS: Doddridge County WV
 Geodetic System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

DESIGN TARGET DETAILS

Name	TVD	+N-S	Northing	Easting	Latitude	Longitude	Shape
SHL Shearer Unit 2H	0.0	0.0	14272631.37	1690515.37	18° 14' 00.263137" N	49° 22' 46.35 W	Point
Actual BH Shearer Unit 2	6497.6	-4081.8	3695.9	14264549.58	16° 54' 01.8 N50° 48' 35.616 W		Point

FORMATION TOP DETAILS

TVD@Path	MDP@Path	Dip@Path	Dip@Dir
6163.2	6258.0	0.00	0.00
6291.8	6448.0	0.00	0.00
6321.4	6503.0	0.00	0.00
6359.3	6597.0	0.00	0.00

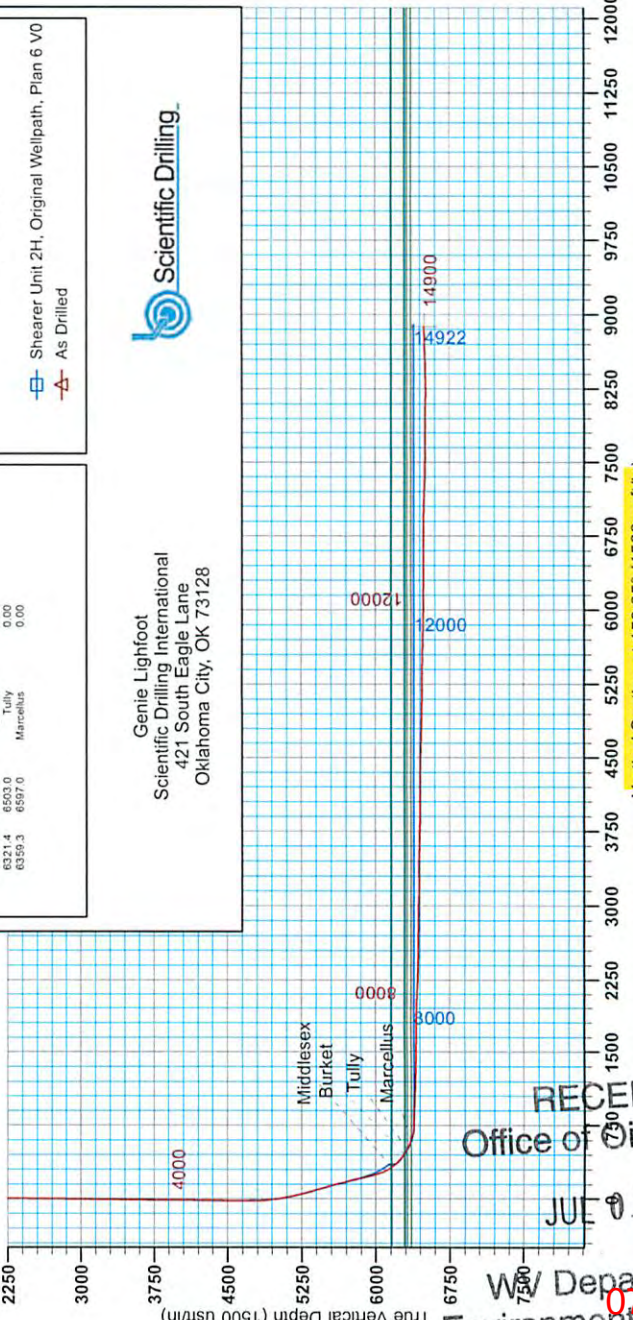
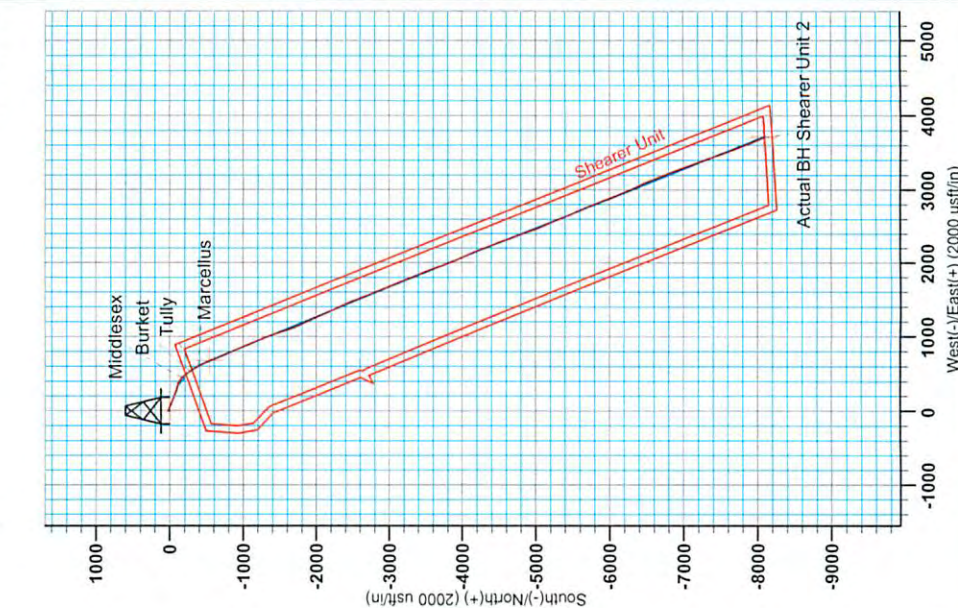
LEGEND

- Shearer Unit 2H, Original Wellpath, Plan 6 V0
- As Drilled

Genie Lightfoot
 Scientific Drilling International
 421 South Eagle Lane
 Oklahoma City, OK 73128



To convert Magnetic North to Grid, Subtract 8.61*
 To convert True North to Grid, Subtract 0.11*
 Azimuths to Grid North
 True North: -0.11*
 Magnetic North: -8.61*
 Magnetic Field
 Strength: 52.27 uT @ 837
 Dip Angle: 66.97
 Date: 5/12/2014
 Model: BCGM2013



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Antero Resources

Doddridge County WV
Shearer/Hiley/McPherson/Twyford Pad
Shearer Unit 2H

Original Wellpath

Design: As Drilled

Standard Survey Report

30 July, 2014

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Environmental Protection

07/24/2015



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shearer Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Site:	Shearer/Hiley/McPherson/Twyford Pad	MD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Well:	Shearer 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 Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Shearer/Hiley/McPherson/Twyford Pad				
Site Position:		Northing:	14,272,631.37 usft	Latitude:	39° 18' 14.002 N
From:	Map	Easting:	1,690,515.37 usft	Longitude:	80° 49' 22.435 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.11 °

Well	Shearer Unit 2H					
Well Position	+N-S	0.0 usft	Northing:	14,272,631.37 usft	Latitude:	39° 18' 14.002 N
	+E-W	0.0 usft	Easting:	1,690,515.37 usft	Longitude:	80° 49' 22.435 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	847.0 usft	Ground Level:	824.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	5/12/2014	-8.50	66.87	52,277

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	158.05

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	7/30/2014	110.0	5,882.0	Survey #1 Def Gyro to KOP (Original Well)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
		5,979.0	14,900.0	Survey #2 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
110.0	0.27	143.63	110.0	-0.2	0.2	0.3	0.25	0.25	0.00
210.0	0.19	215.74	210.0	-0.5	0.2	0.6	0.28	-0.08	72.11
310.0	0.21	218.54	310.0	-0.8	0.0	0.7	0.02	0.02	2.80
410.0	0.21	222.92	410.0	-1.1	-0.3	0.9	0.02	0.00	4.38
510.0	0.24	226.57	510.0	-1.4	-0.5	1.1	0.00	-0.03	3.64
610.0	0.21	239.74	610.0	-1.6	-0.8	1.2	0.06	-0.03	13.17
710.0	0.11	216.21	710.0	-1.8	-1.1	1.2	0.12	-0.10	49.53
810.0	0.08	153.51	810.0	-1.9	-1.1	1.4	0.10	-0.03	-62.70
910.0	0.07	146.05	910.0	-2.0	-1.0	1.5	0.01	-0.01	-7.46



Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shearer Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Site:	Shearer/Hiley/McPherson/Twyford Pad	MD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Well:	Shearer Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey

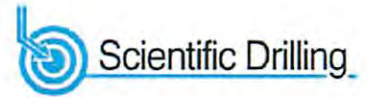
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,010.0	0.08	117.69	1,010.0	-2.1	-0.9	1.6	0.04	0.01	-28.36
1,110.0	0.04	115.71	1,110.0	-2.2	-0.8	1.7	0.04	-0.04	-1.98
1,210.0	0.12	72.58	1,210.0	-2.1	-0.7	1.7	0.09	0.08	-43.13
1,310.0	0.14	119.79	1,310.0	-2.2	-0.5	1.8	0.11	0.02	47.21
1,410.0	0.02	96.18	1,410.0	-2.2	-0.4	1.9	0.12	-0.12	-23.61
1,510.0	0.13	66.56	1,510.0	-2.2	-0.2	1.9	0.11	0.11	-29.62
1,610.0	0.17	54.97	1,610.0	-2.1	0.0	1.9	0.05	0.04	-11.59
1,710.0	0.14	60.72	1,710.0	-1.9	0.2	1.9	0.03	-0.03	5.75
1,810.0	0.08	67.42	1,810.0	-1.8	0.4	1.8	0.06	-0.06	6.70
1,910.0	0.13	39.68	1,910.0	-1.7	0.5	1.8	0.07	0.05	-27.74
2,010.0	0.10	46.65	2,010.0	-1.6	0.7	1.7	0.03	-0.03	6.97
2,110.0	0.28	359.58	2,110.0	-1.3	0.7	1.4	0.22	0.18	-47.07
2,210.0	0.29	8.85	2,210.0	-0.8	0.8	1.0	0.05	0.01	9.27
2,310.0	0.39	0.95	2,310.0	-0.2	0.8	0.5	0.11	0.10	-7.90
2,410.0	0.36	352.96	2,410.0	0.5	0.8	-0.2	0.06	-0.03	-7.99
2,510.0	0.40	354.75	2,510.0	1.1	0.7	-0.8	0.04	0.04	1.79
2,610.0	0.47	334.82	2,610.0	1.9	0.5	-1.5	0.17	0.07	-19.93
2,710.0	0.59	332.45	2,710.0	2.7	0.1	-2.5	0.12	0.12	-2.37
2,810.0	0.55	333.06	2,810.0	3.6	-0.4	-3.4	0.04	-0.04	0.61
2,910.0	0.59	326.79	2,910.0	4.4	-0.9	-4.4	0.07	0.04	-6.27
3,010.0	0.62	323.20	3,010.0	5.3	-1.5	-5.5	0.05	0.03	-3.59
3,110.0	0.51	318.16	3,110.0	6.1	-2.1	-6.4	0.12	-0.11	-5.04
3,210.0	0.57	319.74	3,210.0	6.8	-2.7	-7.3	0.06	0.06	1.58
3,310.0	0.55	316.41	3,310.0	7.5	-3.4	-8.2	0.04	-0.02	-3.33
3,410.0	0.64	318.40	3,410.0	8.3	-4.1	-9.2	0.09	0.09	1.99
3,510.0	0.62	320.73	3,509.9	9.1	-4.8	-10.2	0.03	-0.02	2.33
3,610.0	0.53	321.88	3,609.9	9.9	-5.4	-11.2	0.09	-0.09	1.15
3,710.0	0.55	338.84	3,709.9	10.7	-5.9	-12.1	0.16	0.02	16.96
3,810.0	0.59	0.86	3,809.9	11.6	-6.0	-13.1	0.22	0.04	22.02
3,910.0	0.71	9.03	3,909.9	12.8	-5.9	-14.1	0.15	0.12	8.17
4,010.0	0.70	3.73	4,009.9	14.0	-5.8	-15.2	0.07	-0.01	-5.30
4,110.0	0.72	8.06	4,109.9	15.2	-5.7	-16.2	0.06	0.02	4.33
4,210.0	0.78	1.14	4,209.9	16.5	-5.6	-17.4	0.11	0.06	-6.92
4,310.0	0.70	356.22	4,309.9	17.8	-5.6	-18.6	0.10	-0.08	-4.92
4,410.0	0.73	7.89	4,409.9	19.1	-5.6	-19.8	0.15	0.03	11.67
4,510.0	0.49	27.12	4,509.9	20.1	-5.3	-20.6	0.31	-0.24	19.23
4,610.0	0.60	17.58	4,609.9	21.0	-4.9	-21.3	0.14	0.11	-9.54
4,710.0	0.40	8.76	4,709.9	21.8	-4.7	-22.0	0.21	0.20	0.20
4,810.0	3.53	104.17	4,809.8	21.4	-1.7	-20.5	3.59	9.13	95.41
4,910.0	7.75	110.63	4,909.3	18.3	7.6	-14.1	4.26	4.02	6.46
5,010.0	12.25	112.20	5,007.8	11.9	23.8	-2.1	4.51	4.50	1.56
5,110.0	15.56	113.13	5,104.8	2.6	45.9	14.8	3.32	3.32	0.93
5,210.0	18.19	112.13	5,200.5	-8.6	72.7	35.1	2.65	2.63	-1.00

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Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shearer Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Site:	Shearer/Hiley/McPherson/Twyford Pad	MD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Well:	Shearer Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	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)
5,310.0	20.15	113.00	5,295.0	-21.2	103.1	58.2	1.98	1.96	0.87
5,410.0	22.20	114.10	5,388.2	-35.6	136.2	83.9	2.09	2.05	1.10
5,510.0	24.27	112.10	5,480.1	-51.1	172.5	111.8	2.21	2.07	-2.00
5,610.0	22.98	109.77	5,571.7	-65.4	209.9	139.1	1.59	-1.29	-2.33
5,710.0	21.61	107.81	5,664.2	-77.6	245.8	163.9	1.56	-1.37	-1.96
5,810.0	21.66	107.06	5,757.2	-88.7	280.9	187.3	0.28	0.05	-0.75
5,882.0	21.56	106.55	5,824.1	-96.3	306.3	203.8	0.30	-0.14	-0.71
5,979.0	21.72	104.77	5,914.3	-106.0	340.8	225.7	0.70	0.16	-1.83
6,002.0	21.59	104.05	5,935.7	-108.1	349.0	230.7	1.29	-0.57	-3.13
6,033.0	20.97	103.93	5,964.5	-110.8	359.9	237.3	2.00	-2.00	-0.39
6,065.0	21.63	108.30	5,994.4	-114.0	371.1	244.5	5.37	2.06	13.66
6,097.0	24.32	116.48	6,023.8	-118.8	382.6	253.2	13.03	8.41	25.56
6,128.0	26.21	121.03	6,051.9	-125.2	394.1	263.5	8.74	6.10	14.68
6,160.0	27.10	122.99	6,080.5	-132.8	406.3	275.1	3.91	2.78	6.13
6,192.0	30.35	127.14	6,108.5	-141.7	418.9	288.0	11.91	10.16	12.97
6,223.0	33.83	130.77	6,134.8	-152.0	431.7	302.4	12.83	11.23	11.71
6,255.0	37.44	134.80	6,160.8	-164.7	445.3	319.2	13.45	11.28	12.59
6,258.0	37.72	135.18	6,163.2	-166.0	446.6	320.9	12.23	9.43	12.75
Middlesex									
6,286.0	40.42	138.53	6,184.9	-178.9	458.7	337.4	12.23	9.63	11.96
6,318.0	43.75	141.11	6,208.6	-195.3	472.5	357.7	11.72	10.41	8.06
6,349.0	47.10	142.83	6,230.4	-212.7	486.1	379.0	11.51	10.81	5.55
6,381.0	50.67	144.11	6,251.4	-232.1	500.4	402.3	11.56	11.16	4.00
6,413.0	53.15	144.26	6,271.2	-252.5	515.2	426.7	7.76	7.75	0.47
6,445.0	54.53	144.86	6,290.1	-273.5	530.1	451.9	4.57	4.31	1.88
6,448.0	54.79	145.03	6,291.8	-275.5	531.5	454.2	9.93	8.74	5.78
Burket									
6,476.0	57.25	146.60	6,307.4	-294.7	544.6	476.9	9.93	8.78	5.60
6,503.0	60.57	147.68	6,321.4	-314.2	557.1	499.6	12.78	12.31	3.99
Tully									
6,508.0	61.19	147.87	6,323.8	-317.9	559.5	503.9	12.78	12.33	3.84
6,540.0	65.61	150.04	6,338.1	-342.4	574.2	532.2	15.08	13.81	6.78
6,572.0	68.52	151.79	6,350.6	-368.1	588.5	561.4	10.39	9.09	5.47
6,597.0	70.61	152.28	6,359.3	-388.8	599.5	584.7	8.56	8.35	1.97
Marcellus									
6,603.0	71.11	152.40	6,361.3	-393.8	602.1	590.4	8.56	8.36	1.94
6,635.0	73.52	153.18	6,371.0	-420.9	616.1	620.7	7.88	7.53	2.44
6,666.0	76.81	155.01	6,379.0	-447.9	629.2	650.6	12.05	10.61	5.90
6,698.0	80.96	157.45	6,385.1	-476.6	641.8	682.0	14.97	12.97	7.63
6,715.0	83.29	158.41	6,387.5	-492.2	648.1	698.8	14.80	14.80	9.85
6,761.0	89.03	157.64	6,390.5	-534.8	665.3	744.7	12.59	12.48	-1.67
6,809.0	89.80	157.59	6,391.0	-579.1	683.6	792.7	1.61	1.61	-0.10
6,903.0	88.32	157.60	6,392.6	-666.0	719.4	886.7	1.57	-1.57	0.01
6,997.0	87.62	157.11	6,395.9	-752.7	755.6	980.6	0.91	0.74	0.52

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Design:	As Drilled	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)
7,092.0	87.71	156.80	6,399.8	-840.1	792.7	1,075.5	0.34	0.09	-0.33
7,188.0	87.21	156.38	6,404.0	-928.1	830.8	1,171.4	0.68	-0.52	-0.44
7,282.0	88.42	159.12	6,407.6	-1,015.0	866.4	1,265.3	3.18	1.29	2.91
7,378.0	89.09	158.14	6,409.7	-1,104.4	901.4	1,361.3	1.24	0.70	-1.02
7,473.0	89.06	157.97	6,411.2	-1,192.5	936.9	1,456.3	0.18	-0.03	-0.18
7,568.0	89.29	158.00	6,412.6	-1,280.6	972.5	1,551.2	0.24	0.24	0.03
7,663.0	88.65	158.75	6,414.3	-1,368.9	1,007.5	1,646.2	1.04	-0.67	0.79
7,757.0	88.76	160.59	6,416.4	-1,457.0	1,040.1	1,740.2	1.96	0.12	1.96
7,851.0	89.26	164.87	6,418.1	-1,546.7	1,068.0	1,833.8	4.58	0.53	4.55
7,946.0	89.70	163.18	6,418.9	-1,638.0	1,094.2	1,928.3	1.84	0.46	-1.78
8,041.0	88.59	156.11	6,420.3	-1,727.0	1,127.2	2,023.2	7.53	-1.17	-7.44
8,135.0	87.69	154.87	6,423.4	-1,812.5	1,166.2	2,117.0	1.63	-0.96	-1.32
8,229.0	87.31	155.33	6,427.5	-1,897.7	1,205.7	2,210.8	0.63	-0.40	0.49
8,325.0	88.93	153.94	6,430.6	-1,984.4	1,246.8	2,306.6	2.22	1.69	-1.45
8,419.0	89.09	155.52	6,432.3	-2,069.4	1,286.9	2,400.4	1.69	0.17	1.68
8,514.0	89.16	157.27	6,433.7	-2,156.4	1,324.9	2,495.4	1.84	0.07	1.84
8,609.0	90.34	154.65	6,434.1	-2,243.2	1,363.6	2,590.3	3.02	1.24	-2.76
8,704.0	88.72	155.37	6,434.9	-2,329.3	1,403.8	2,685.1	1.87	-1.71	0.76
8,799.0	88.56	157.68	6,437.2	-2,416.4	1,441.6	2,780.1	2.44	-0.17	2.43
8,894.0	88.96	160.20	6,439.2	-2,505.0	1,475.7	2,875.0	2.69	0.42	2.65
8,989.0	89.06	158.25	6,440.9	-2,593.8	1,509.4	2,970.0	2.06	0.11	-2.05
9,080.0	88.42	158.22	6,442.9	-2,678.3	1,543.2	3,061.0	0.70	-0.70	-0.03
9,170.0	88.86	159.30	6,445.0	-2,762.2	1,575.7	3,150.9	1.30	0.49	1.20
9,260.0	91.14	158.66	6,445.0	-2,846.2	1,608.0	3,240.9	2.63	2.53	-0.71
9,349.0	90.27	157.85	6,443.9	-2,928.8	1,641.0	3,329.9	1.34	-0.98	-0.91
9,439.0	89.70	158.17	6,443.9	-3,012.3	1,674.7	3,419.9	0.73	-0.63	0.36
9,530.0	88.89	157.55	6,445.0	-3,096.6	1,709.0	3,510.9	1.12	-0.89	-0.68
9,621.0	88.15	158.23	6,447.4	-3,180.8	1,743.2	3,601.9	1.10	-0.81	0.75
9,711.0	88.52	157.38	6,450.0	-3,264.1	1,777.2	3,691.8	1.03	0.41	-0.94
9,802.0	88.15	157.42	6,452.7	-3,348.1	1,812.2	3,782.8	0.41	-0.41	0.04
9,892.0	88.96	157.18	6,454.9	-3,431.1	1,846.9	3,872.8	0.94	0.90	-0.27
9,983.0	89.16	159.24	6,456.4	-3,515.6	1,880.7	3,963.7	2.27	0.22	2.26
10,074.0	89.56	160.09	6,457.4	-3,600.9	1,912.3	4,054.7	1.03	0.44	0.93
10,168.0	90.07	162.43	6,457.7	-3,689.9	1,942.5	4,148.5	2.55	0.54	2.49
10,262.0	89.87	157.64	6,457.8	-3,778.3	1,974.6	4,242.5	5.10	-0.21	-5.10
10,358.0	89.63	157.68	6,458.2	-3,867.0	2,011.1	4,338.5	0.25	-0.25	0.04
10,452.0	89.53	155.96	6,458.9	-3,953.5	2,048.1	4,432.4	1.83	-0.11	-1.83
10,546.0	89.16	155.07	6,460.0	-4,039.0	2,087.0	4,526.3	1.03	-0.39	0.95
10,641.0	88.69	157.39	6,461.8	-4,125.9	2,125.3	4,621.3	2.49	-0.49	2.44
10,737.0	88.66	156.57	6,464.0	-4,214.2	2,162.8	4,717.2	0.85	0.85	0.85
10,832.0	88.15	158.81	6,466.6	-4,302.1	2,198.9	4,812.2	2.42	-0.54	2.36
10,927.0	87.65	159.40	6,470.1	-4,390.8	2,232.7	4,907.1	0.81	-0.53	0.81
11,022.0	89.23	158.04	6,472.7	-4,479.3	2,267.2	5,002.0	2.19	1.66	-1.43

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Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shearer Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Site:	Shearer/Hiley/McPherson/Twyford Pad	MD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Well:	Shearer Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	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)
11,116.0	89.93	161.51	6,473.4	-4,567.5	2,299.7	5,096.0	3.77	0.74	3.69
11,211.0	89.23	158.70	6,474.1	-4,656.8	2,332.0	5,190.9	3.05	-0.74	-2.96
11,304.0	89.26	158.93	6,475.3	-4,743.5	2,365.6	5,283.9	0.25	0.03	0.25
11,398.0	89.26	160.69	6,476.5	-4,831.7	2,398.1	5,377.8	1.87	0.00	1.87
11,493.0	89.80	160.99	6,477.3	-4,921.4	2,429.2	5,472.7	0.65	0.57	0.32
11,587.0	89.06	158.31	6,478.2	-5,009.5	2,461.9	5,566.7	2.96	-0.79	-2.85
11,682.0	88.86	157.21	6,480.0	-5,097.5	2,497.9	5,661.6	1.18	-0.21	-1.16
11,777.0	88.86	154.96	6,481.8	-5,184.3	2,536.4	5,756.6	2.37	0.00	-2.37
11,872.0	89.16	156.63	6,483.5	-5,270.9	2,575.3	5,851.5	1.79	0.32	1.76
11,967.0	89.50	158.70	6,484.6	-5,358.8	2,611.4	5,946.5	2.21	0.36	2.18
12,061.0	89.73	156.98	6,485.2	-5,445.8	2,646.9	6,040.5	1.85	0.24	-1.83
12,156.0	89.33	153.82	6,486.0	-5,532.2	2,686.4	6,135.3	3.35	-0.42	-3.33
12,251.0	89.00	155.51	6,487.4	-5,618.0	2,727.0	6,230.2	1.81	-0.35	1.78
12,346.0	87.95	157.48	6,489.9	-5,705.1	2,764.9	6,325.1	2.35	-1.11	2.07
12,439.0	89.80	158.58	6,491.7	-5,791.4	2,799.7	6,418.1	2.31	1.99	1.18
12,532.0	89.93	159.23	6,492.0	-5,878.1	2,833.2	6,511.0	0.71	0.14	0.70
12,627.0	90.10	158.27	6,491.9	-5,966.7	2,867.6	6,606.0	1.03	0.18	-1.01
12,721.0	89.87	157.89	6,492.0	-6,053.9	2,902.7	6,700.0	0.47	-0.24	-0.40
12,816.0	90.34	158.32	6,491.8	-6,142.0	2,938.1	6,795.0	0.67	0.49	0.45
12,912.0	89.13	157.62	6,492.2	-6,231.0	2,974.1	6,891.0	1.46	-1.26	-0.73
13,006.0	88.83	155.10	6,493.9	-6,317.1	3,011.8	6,985.0	2.70	-0.32	-2.68
13,101.0	88.90	153.37	6,495.8	-6,402.6	3,053.1	7,079.7	1.82	0.07	-1.82
13,195.0	87.78	156.18	6,498.5	-6,487.6	3,093.1	7,173.5	3.22	-1.19	2.99
13,290.0	88.29	158.20	6,501.8	-6,575.1	3,129.9	7,268.5	2.19	0.54	2.13
13,385.0	88.35	158.72	6,504.6	-6,663.5	3,164.8	7,363.4	0.55	0.06	0.55
13,480.0	89.13	158.91	6,506.6	-6,752.0	3,199.1	7,458.4	0.85	0.82	0.20
13,576.0	89.20	157.97	6,508.0	-6,841.3	3,234.4	7,554.4	0.98	0.07	-0.98
13,671.0	89.70	161.14	6,509.0	-6,930.3	3,267.6	7,649.3	3.38	0.53	3.34
13,766.0	89.70	160.62	6,509.5	-7,020.0	3,298.7	7,744.2	0.55	0.00	-0.55
13,860.0	89.73	160.09	6,509.9	-7,108.6	3,330.3	7,838.1	0.56	0.03	-0.56
13,954.0	90.60	159.40	6,509.7	-7,196.8	3,362.8	7,932.1	1.18	0.93	-0.73
14,049.0	89.02	160.36	6,510.0	-7,286.0	3,395.5	8,027.0	1.95	-1.66	1.01
14,142.0	89.66	160.33	6,511.0	-7,373.5	3,426.8	8,120.0	0.69	0.69	-0.03
14,237.0	89.77	159.09	6,511.5	-7,462.6	3,459.7	8,214.9	1.31	0.12	-1.31
14,331.0	90.77	161.06	6,511.1	-7,551.0	3,491.8	8,308.8	2.35	1.06	2.10
14,426.0	91.01	160.07	6,509.6	-7,640.6	3,523.4	8,403.7	1.07	0.25	-1.04
14,520.0	91.34	159.98	6,507.7	-7,728.9	3,555.5	8,497.7	0.36	0.35	-0.10
14,615.0	91.41	159.05	6,505.4	-7,817.9	3,588.7	8,592.6	0.98	0.07	-0.98
14,709.0	91.75	157.99	6,502.8	-7,905.3	3,623.1	8,686.6	1.18	0.36	-1.13
14,804.0	91.61	158.18	6,500.0	-7,993.4	3,658.6	8,781.5	0.25	-0.15	0.20
14,841.0	91.64	156.64	6,499.0	-8,027.5	3,672.8	8,818.5	4.16	0.08	-4.16
14,900.0	90.98	157.10	6,497.6	-8,081.8	3,695.9	8,877.5	1.36	-1.13	1.36

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Shearer Unit 2H
Project:	Doddridge County WV	TVD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Site:	Shearer/Hiley/McPherson/Twyford Pad	MD Reference:	Frontier 3 GL 824' + 23' RKB @ 847.0usft
Well:	Shearer Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,258.0	6,163.2	Middlesex		0.00	
6,448.0	6,291.8	Burket		0.00	
6,503.0	6,321.4	Tully		0.00	
6,597.0	6,359.3	Marcellus		0.00	

Checked By: _____ Approved By: _____ Date: _____

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