



Antero Resources
 Shale Unit 2H
 Doddridge County WV
 Northing: 14270988.89
 Easting: 1688848.14
 As Drilled



Genie Lightfoot
 11:34, March 17 2014
 Scientific Drilling
 421 South Eagle Lane
 Oklahoma City, OK

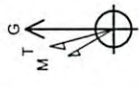
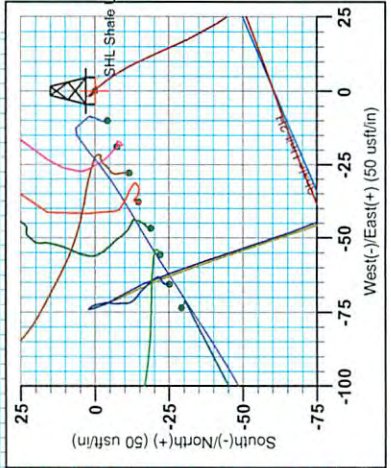
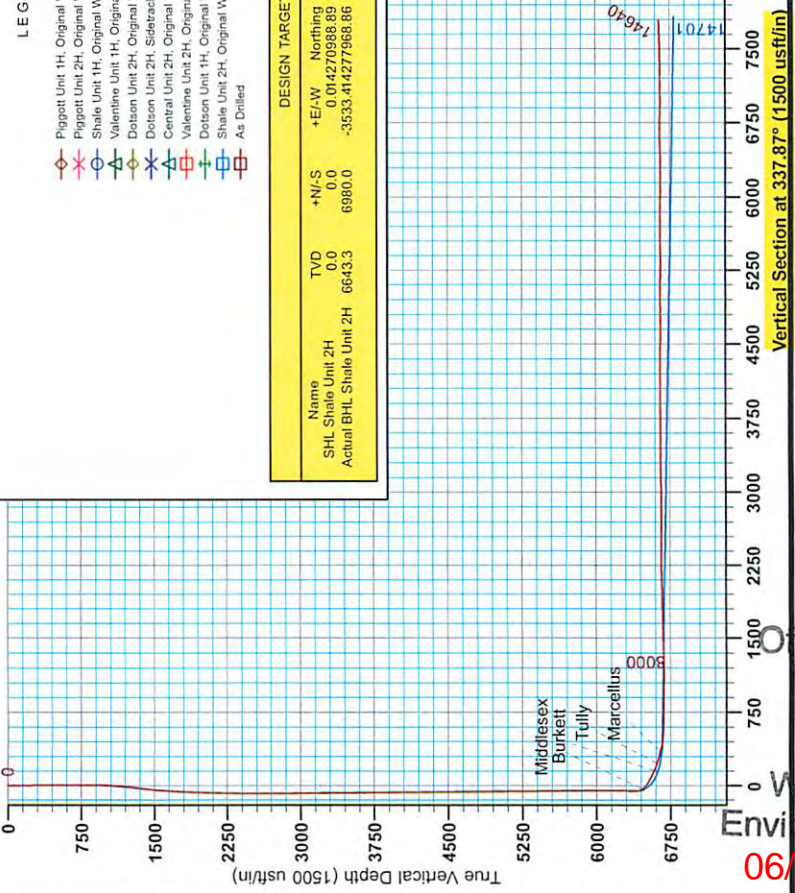
WELL DETAILS: Shale Unit 2H
 Ground Level: 1148.0
 Slot
 Longitude: 80° 49' 43.052 W
 Latitude: 39° 17' 57.794 N
 Northing: 14270988.89
 Easting: 1688848.14

REFERENCE INFORMATION
 Coordinates (N/S): Well Shale Unit 2H, Grid North
 Vertical (V/D): Reference: Shale Unit 2H 1148.0 ft. • 13 RAB @ 1159.0' Out
 Measured Depth Reference: Shale Unit 2H 1148.0 ft. • 13 RAB @ 1159.0' Out
 Calculation Method: Minimum Curvature

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

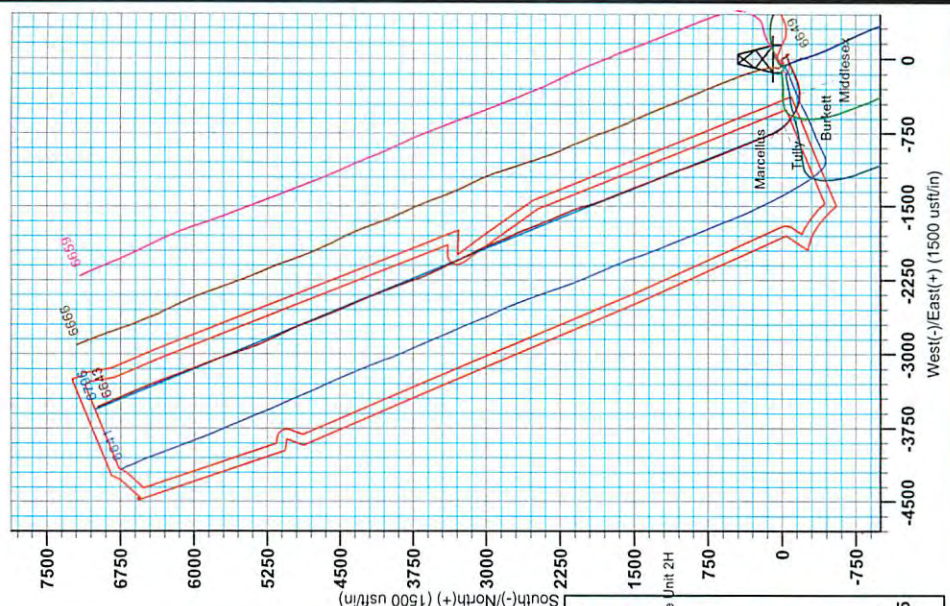
- LEGEND**
- Piggott Unit 1H, Original Wellpath, As Drilled V0
 - Shale Unit 2H, Original Wellpath, As Drilled V0
 - Valentine Unit 1H, Original Wellpath, As Drilled V0
 - Dotson Unit 2H, Original Wellpath, As Drilled V0
 - Central Unit 2H, Sidetrack 1 Wellpath, As Drilled V0
 - Valentine Unit 2H, Original Wellpath, As Drilled V0
 - Dotson Unit 1H, Original Wellpath, As Drilled V0
 - Shale Unit 2H, Original Wellpath, Plan 4 Post Gyro (Precision 522) V0 As Drilled

DESIGN TARGET DETAILS					
Name	+N/S	+E/W	Northing	Length	Latitude
SHL Shale Unit 2H	0.0	6980.0	0.014270988.89	1688848.1339	17° 57' 57.794 N 80° 49' 43.052 W
Actual BHL Shale Unit 2H	6643.3		-3533.414277968.86	1688514.77 39° 19' 6.873 N 80° 50' 28.499 W	



Azimuths to Grid North
 True North: -0.11°
 Magnetic North: -0.53°
 Magnetic Field
 Strength: 52382.8nT
 Dip Angle: 66.89°
 Date: 10/25/2013
 Model: IGRF-2010

To convert Magnetic North to Grid, Subtract 8.53°
 To convert True North to Grid, Subtract 0.11°



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Antero Resources

Doddridge County WV
Valentine/Dotson/Piggott/Shale Pad
Shale Unit 2H
Original Wellpath

Design: As Drilled

EOW Completion Report

17 March, 2014

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Environmental Protection



Scientific Drilling

06/05/2015



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shale Unit 2H
Project:	Doddridge County WV	TVD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Site:	Valentine/Dotson/Piggott/Shale Pad	MD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Well:	Shale 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	Valentine/Dotson/Piggott/Shale Pad		
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Site Position:		Northing:	14,270,970.12 usft	Latitude:	39° 17' 57.609 N
From:	Map	Easting:	1,688,801.46 usft	Longitude:	80° 49' 44.286 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.11 °

Well	Shale Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,270,988.89 usft	Latitude:	39° 17' 57.794 N
	+E/-W	0.0 usft	Easting:	1,688,848.14 usft	Longitude:	80° 49' 43.692 W
Position Uncertainty	2.0 usft		Wellhead Elevation:	1,164.0 usft	Ground Level:	1,146.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/25/2013	-8.42	66.89	52,383

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	337.87	

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	3/17/2014	100.0	5,844.2	Survey #4 Final Gyro (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
		5,849.2	14,640.0	Survey #5 MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1

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
100.0	0.46	300.42	100.0	0.2	-0.3	0.3	0.46
200.0	0.22	305.05	200.0	0.5	-0.8	0.8	0.24
300.0	0.25	321.73	300.0	0.8	-1.1	1.2	0.07
400.0	0.05	307.17	400.0	1.0	-1.3	1.4	0.20
500.0	0.24	303.16	500.0	1.1	-1.5	1.6	0.19
600.0	0.27	352.67	600.0	1.5	-1.7	2.0	0.22
700.0	0.12	35.45	700.0	1.8	-1.7	2.3	0.20
800.0	0.23	317.62	800.0	2.0	-1.8	2.6	0.24
900.0	0.12	6.49	900.0	2.3	-1.9	2.8	0.18
1,000.0	2.08	134.85	1,000.0	1.1	0.6	1.3	2.16

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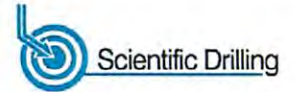
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WV Dept. of Energy



EOW Completion Report



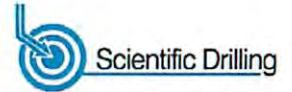
Company:	Antero Resources	Local Co-ordinate Reference:	Well Shale Unit 2H
Project:	Doddridge County WV	TVD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Site:	Valentine/Dotson/Piggott/Shale Pad	MD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Well:	Shale Unit 2H	North Reference:	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)		
1,100.0	4.50	143.18	1,099.8	-3.3	3.0	-4.2	2.46		
1,200.0	5.34	150.67	1,199.4	-10.5	7.7	-12.6	1.06		
1,300.0	6.70	157.19	1,298.9	-19.9	12.2	-23.1	1.52		
1,400.0	7.08	153.97	1,398.2	-30.9	17.2	-35.1	0.54		
1,500.0	6.51	148.59	1,497.5	-41.2	22.8	-46.8	0.85		
1,600.0	4.46	132.70	1,597.0	-48.7	28.7	-55.9	2.53		
1,700.0	3.57	135.93	1,696.8	-53.6	33.7	-62.3	0.92		
1,800.0	2.95	136.43	1,796.6	-57.7	37.6	-67.6	0.62		
1,900.0	2.61	132.65	1,896.5	-61.1	41.1	-72.1	0.39		
2,000.0	2.51	130.10	1,996.4	-64.0	44.4	-76.1	0.15		
2,100.0	1.43	136.59	2,096.3	-66.4	46.9	-79.2	1.10		
2,200.0	1.09	131.11	2,196.3	-67.9	48.5	-81.2	0.36		
2,300.0	0.78	129.59	2,296.3	-68.9	49.8	-82.6	0.31		
2,400.0	0.41	149.68	2,396.3	-69.7	50.5	-83.6	0.42		
2,500.0	0.37	122.95	2,496.3	-70.2	50.9	-84.2	0.18		
2,600.0	0.10	163.99	2,596.3	-70.4	51.2	-84.5	0.30		
2,700.0	0.02	32.87	2,696.3	-70.5	51.2	-84.6	0.11		
2,800.0	0.14	338.13	2,796.3	-70.4	51.2	-84.5	0.13		
2,900.0	0.49	306.57	2,896.3	-70.0	50.8	-84.0	0.38		
3,000.0	0.53	312.31	2,996.3	-69.4	50.1	-83.2	0.06		
3,100.0	0.75	318.14	3,096.3	-68.6	49.4	-82.2	0.23		
3,200.0	0.69	315.66	3,196.2	-67.7	48.5	-81.0	0.07		
3,300.0	0.70	313.88	3,296.2	-66.9	47.6	-79.9	0.02		
3,400.0	0.76	311.50	3,396.2	-66.0	46.7	-78.7	0.07		
3,500.0	0.68	323.60	3,496.2	-65.1	45.9	-77.6	0.17		
3,600.0	0.71	320.45	3,596.2	-64.1	45.1	-76.4	0.05		
3,700.0	0.69	319.71	3,696.2	-63.2	44.3	-75.2	0.02		
3,800.0	0.72	320.65	3,796.2	-62.3	43.5	-74.1	0.03		
3,900.0	0.48	333.57	3,896.2	-61.4	42.9	-73.0	0.27		
4,000.0	0.48	338.08	3,996.2	-60.6	42.6	-72.2	0.04		
4,100.0	0.42	341.95	4,096.2	-59.9	42.3	-71.4	0.07		
4,200.0	0.43	1.78	4,196.2	-59.2	42.2	-70.7	0.15		
4,300.0	0.53	4.44	4,296.2	-58.3	42.3	-70.0	0.10		
4,400.0	0.58	16.24	4,396.2	-57.4	42.5	-69.2	0.12		
4,500.0	0.56	12.74	4,496.2	-56.4	42.7	-68.4	0.04		
4,600.0	0.68	358.51	4,596.2	-55.4	42.8	-67.4	0.19		
4,700.0	0.64	9.93	4,696.2	-54.2	42.9	-66.4	0.14		
4,800.0	0.69	14.59	4,796.2	-53.1	43.1	-65.4	0.07		
4,900.0	0.68	15.92	4,896.1	-51.9	43.4	-64.5	0.02		
5,000.0	0.61	13.80	4,996.1	-50.8	43.7	-63.6	0.07		
5,100.0	0.58	16.41	5,096.1	-49.8	44.0	-62.7	0.04		
5,200.0	0.63	11.38	5,196.1	-48.8	44.3	-61.9	0.07		
5,300.0	0.55	16.89	5,296.1	-47.8	44.5	-61.1	0.10		
5,400.0	0.63	5.67	5,396.1	-46.8	44.7	-60.2	0.14		

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Shale Unit 2H
Project:	Doddridge County WV	TVD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Site:	Valentine/Dotson/Piggott/Shale Pad	MD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Well:	Shale Unit 2H	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)
5,500.0	0.66	355.10	5,496.1	-45.7	44.7	-59.2	0.12
5,600.0	0.57	352.91	5,596.1	-44.6	44.6	-58.1	0.09
5,700.0	0.45	348.85	5,696.1	-43.7	44.5	-57.3	0.13
5,800.0	0.38	7.30	5,796.1	-43.0	44.4	-56.6	0.15
5,844.2	0.27	3.32	5,840.3	-42.8	44.4	-56.4	0.25
5,849.2	0.27	3.32	5,845.3	-42.8	44.4	-56.3	0.00
5,900.0	0.27	358.71	5,896.1	-42.5	44.4	-56.1	0.04
5,932.0	0.19	19.01	5,928.1	-42.4	44.5	-56.0	0.35
5,963.0	2.16	241.90	5,959.1	-42.6	44.0	-56.0	7.43
5,993.0	6.71	242.87	5,989.0	-43.7	41.9	-56.2	15.17
6,024.0	11.50	245.29	6,019.6	-45.8	37.5	-56.5	15.50
6,055.0	15.22	247.02	6,049.7	-48.7	30.9	-56.7	12.07
6,086.0	18.53	248.39	6,079.4	-52.1	22.6	-56.8	10.75
6,117.0	21.59	250.11	6,108.5	-55.8	12.7	-56.5	10.05
6,148.0	24.21	250.47	6,137.1	-59.9	1.3	-56.0	8.46
6,179.0	26.88	250.25	6,165.0	-64.4	-11.3	-55.4	8.62
6,210.0	30.65	248.79	6,192.2	-69.6	-25.3	-55.0	12.37
6,241.0	34.38	246.71	6,218.4	-75.9	-40.7	-55.0	12.56
6,271.0	37.41	245.23	6,242.7	-83.1	-56.7	-55.6	10.51
6,302.0	40.62	244.43	6,266.7	-91.4	-74.4	-56.7	10.48
6,333.0	43.18	244.76	6,289.8	-100.3	-93.1	-57.8	8.29
6,364.0	45.38	244.56	6,312.0	-109.6	-112.6	-59.1	7.11
6,395.0	47.57	244.67	6,333.4	-119.2	-132.9	-60.3	7.07
6,426.0	50.39	245.30	6,353.7	-129.1	-154.1	-61.5	9.23
6,457.0	53.26	246.12	6,372.9	-139.1	-176.4	-62.4	9.49
6,488.0	57.49	248.26	6,390.5	-149.0	-199.9	-62.7	14.78
6,518.0	61.26	250.68	6,405.7	-158.0	-224.0	-62.0	14.36
6,549.0	63.56	252.96	6,420.1	-166.6	-250.1	-60.1	9.88
6,580.0	64.78	257.75	6,433.6	-173.6	-277.1	-56.4	14.45
6,611.0	65.69	262.27	6,446.6	-178.5	-304.8	-50.5	13.56
6,642.0	66.18	266.23	6,459.3	-181.3	-333.0	-42.5	11.77
6,659.0	66.19	268.60	6,466.1	-182.0	-348.5	-37.3	12.78
Middlesex							
6,673.0	66.23	270.56	6,471.8	-182.1	-361.3	-32.6	12.78
6,704.0	65.87	274.92	6,484.4	-180.8	-389.6	-20.7	12.91
6,735.0	66.11	280.14	6,497.0	-177.1	-417.7	-6.7	15.40
6,766.0	66.43	285.83	6,509.5	-170.7	-445.3	9.6	16.83
6,797.0	66.94	290.93	6,521.7	-161.7	-472.3	28.1	15.20
6,827.0	67.30	294.82	6,533.4	-151.0	-497.8	47.7	12.01
6,858.0	67.70	298.90	6,545.3	-138.0	-523.3	69.3	12.23
6,889.0	68.15	302.10	6,556.9	-123.5	-548.1	92.1	9.68
6,920.0	68.76	305.06	6,568.3	-107.5	-572.1	115.9	9.10
6,951.0	69.91	308.13	6,579.3	-90.2	-595.4	140.7	9.98
6,971.0	70.12	309.78	6,586.1	-78.4	-610.0	157.2	7.84

Burkett

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
6,982.0	70.24	310.69	6,589.8	-71.7	-617.9	166.3	7.84
7,013.0	70.77	312.62	6,600.2	-52.3	-639.7	192.5	6.11
7,043.0	72.10	315.04	6,609.7	-32.6	-660.2	218.5	8.84
7,058.0	72.90	316.38	6,614.2	-22.4	-670.2	231.8	10.03
Tully							
7,074.0	73.76	317.79	6,618.8	-11.1	-680.7	246.1	10.03
7,105.0	75.18	321.05	6,627.1	11.5	-700.1	274.4	11.12
7,136.0	75.75	325.36	6,634.9	35.6	-718.1	303.4	13.58
7,167.0	75.91	330.43	6,642.5	61.0	-734.0	333.0	15.87
7,189.0	75.68	333.03	6,647.9	79.8	-744.1	354.2	11.49
Marcellus							
7,198.0	75.60	334.09	6,650.1	87.6	-748.0	362.9	11.49
7,229.0	75.50	337.55	6,657.9	115.0	-760.3	392.9	10.81
7,260.0	77.92	338.18	6,665.0	142.9	-771.7	423.1	8.05
7,291.0	81.43	338.20	6,670.5	171.2	-783.0	453.6	11.32
7,321.0	85.09	338.18	6,674.1	198.9	-794.1	483.4	12.20
7,352.0	87.28	338.52	6,676.1	227.6	-805.5	514.3	7.15
7,387.0	88.46	338.98	6,677.4	260.2	-818.1	549.3	3.62
7,480.0	90.13	337.92	6,678.6	346.7	-852.3	642.3	2.13
7,572.0	89.16	337.48	6,679.1	431.8	-887.2	734.3	1.16
7,665.0	88.99	336.52	6,680.6	517.4	-923.5	827.2	1.05
7,758.0	88.55	337.04	6,682.6	602.9	-960.2	920.2	0.73
7,850.0	88.81	338.10	6,684.8	687.9	-995.3	1,012.2	1.19
7,943.0	90.13	338.63	6,685.6	774.3	-1,029.6	1,105.2	1.53
8,035.0	89.34	338.19	6,686.0	859.9	-1,063.4	1,197.1	0.98
8,128.0	90.48	339.68	6,686.2	946.7	-1,096.9	1,290.1	2.02
8,221.0	91.04	340.59	6,685.0	1,034.1	-1,128.5	1,383.0	1.15
8,314.0	91.68	339.55	6,682.8	1,121.5	-1,160.2	1,475.9	1.31
8,406.0	91.71	337.28	6,680.0	1,207.0	-1,194.0	1,567.9	2.47
8,499.0	91.98	337.04	6,677.0	1,292.7	-1,230.1	1,660.8	0.39
8,591.0	90.04	338.80	6,675.4	1,377.9	-1,264.6	1,752.8	2.85
8,684.0	90.57	339.68	6,674.9	1,464.9	-1,297.6	1,845.8	1.10
8,777.0	91.71	337.48	6,673.1	1,551.4	-1,331.6	1,938.8	2.66
8,872.0	91.80	337.57	6,670.2	1,639.2	-1,367.9	2,033.7	0.13
8,966.0	92.24	336.52	6,666.8	1,725.7	-1,404.5	2,127.6	1.21
9,061.0	90.92	337.57	6,664.2	1,813.1	-1,441.5	2,222.6	1.78
9,156.0	90.77	343.37	6,662.8	1,902.6	-1,473.3	2,317.4	6.11
9,251.0	90.31	343.99	6,661.9	1,993.8	-1,500.0	2,411.9	0.81
9,346.0	90.13	340.56	6,661.6	2,084.3	-1,528.9	2,506.7	3.62
9,440.0	90.66	337.04	6,660.9	2,171.9	-1,562.9	2,600.6	3.79
9,535.0	89.52	338.19	6,660.8	2,259.7	-1,599.0	2,695.6	1.70
9,630.0	89.87	336.25	6,661.3	2,347.3	-1,635.8	2,790.6	2.08
9,725.0	90.04	338.54	6,661.3	2,435.0	-1,672.3	2,885.6	2.42
9,818.0	90.04	338.01	6,661.3	2,521.4	-1,708.8	2,978.6	0.57

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Shale Unit 2H
Project:	Doddridge County WV	TVD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Site:	Valentine/Dotson/Piggott/Shale Pad	MD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Well:	Shale Unit 2H	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)
9,913.0	90.13	336.96	6,661.1	2,609.1	-1,743.1	3,073.6	1.11
10,005.0	89.60	336.17	6,661.4	2,693.6	-1,779.7	3,165.6	1.03
10,098.0	89.78	336.96	6,661.9	2,778.9	-1,816.7	3,258.5	0.87
10,191.0	90.75	336.69	6,661.4	2,864.4	-1,853.3	3,351.5	1.08
10,283.0	90.40	338.27	6,660.5	2,949.4	-1,888.5	3,443.5	1.76
10,376.0	90.48	336.87	6,659.8	3,035.3	-1,924.0	3,536.5	1.51
10,469.0	90.04	333.70	6,659.4	3,119.8	-1,962.9	3,629.4	3.44
10,561.0	90.31	333.00	6,659.1	3,202.0	-2,004.2	3,721.1	0.82
10,654.0	90.04	332.56	6,658.8	3,284.7	-2,046.7	3,813.7	0.56
10,746.0	90.31	333.62	6,658.5	3,366.7	-2,088.3	3,905.4	1.19
10,839.0	90.57	335.02	6,657.8	3,450.6	-2,128.6	3,998.2	1.53
10,931.0	90.92	335.73	6,656.6	3,534.2	-2,167.0	4,090.1	0.86
11,024.0	90.13	336.34	6,655.8	3,619.2	-2,204.7	4,183.1	1.07
11,116.0	89.52	340.03	6,656.0	3,704.6	-2,238.9	4,275.1	4.07
11,209.0	89.43	341.17	6,656.9	3,792.3	-2,269.8	4,368.0	1.23
11,301.0	89.52	339.42	6,657.7	3,878.9	-2,300.8	4,459.9	1.90
11,394.0	89.87	339.24	6,658.2	3,965.9	-2,333.7	4,552.8	0.42
11,486.0	90.13	339.68	6,658.2	4,052.0	-2,365.9	4,644.8	0.56
11,579.0	90.13	339.07	6,658.0	4,139.1	-2,398.7	4,737.8	0.66
11,672.0	90.48	335.98	6,657.5	4,225.0	-2,434.2	4,830.8	3.34
11,764.0	90.40	337.22	6,656.8	4,309.4	-2,470.8	4,922.7	1.35
11,857.0	90.48	336.96	6,656.1	4,395.1	-2,507.0	5,015.7	0.29
11,949.0	89.69	337.13	6,656.0	4,479.8	-2,542.9	5,107.7	0.88
12,042.0	89.52	338.36	6,656.6	4,565.9	-2,578.1	5,200.7	1.34
12,134.0	89.52	339.77	6,657.4	4,651.8	-2,611.0	5,292.7	1.53
12,227.0	89.87	338.01	6,657.9	4,738.6	-2,644.5	5,385.7	1.93
12,319.0	90.22	338.71	6,657.8	4,824.1	-2,678.4	5,477.7	0.85
12,412.0	90.40	338.01	6,657.3	4,910.5	-2,712.7	5,570.6	0.78
12,504.0	90.48	336.34	6,656.6	4,995.3	-2,748.4	5,662.6	1.82
12,597.0	90.57	333.70	6,655.7	5,079.6	-2,787.6	5,755.5	2.84
12,689.0	89.69	334.23	6,655.5	5,162.3	-2,828.0	5,847.3	1.12
12,782.0	90.04	335.64	6,655.8	5,246.5	-2,867.4	5,940.2	1.56
12,874.0	89.52	337.66	6,656.1	5,331.0	-2,903.9	6,032.1	2.27
12,967.0	89.34	341.97	6,657.0	5,418.2	-2,935.9	6,125.1	4.64
13,060.0	89.78	340.74	6,657.7	5,506.3	-2,965.7	6,217.9	1.40
13,152.0	90.13	341.17	6,657.8	5,593.3	-2,995.7	6,309.8	0.60
13,245.0	90.75	342.58	6,657.1	5,681.7	-3,024.6	6,402.5	1.66
13,337.0	91.01	339.50	6,655.7	5,768.7	-3,054.5	6,494.4	3.36
13,430.0	89.78	339.07	6,655.1	5,855.6	-3,087.4	6,587.3	1.40
13,523.0	90.13	339.07	6,655.1	5,942.5	-3,120.6	6,680.3	0.38
13,615.0	89.52	339.68	6,655.4	6,028.6	-3,153.0	6,772.3	0.94
13,708.0	89.25	339.86	6,656.4	6,115.9	-3,185.2	6,865.2	0.35
13,800.0	89.87	337.92	6,657.1	6,201.7	-3,218.3	6,957.2	2.21
13,893.0	90.31	339.50	6,657.0	6,288.3	-3,251.1	7,050.2	1.76
13,985.0	89.69	340.21	6,657.0	6,374.7	-3,283.8	7,142.1	1.02

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Company:	Antero Resources	Local Co-ordinate Reference:	Well Shale Unit 2H
Project:	Doddridge County WV	TVD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Site:	Valentine/Dotson/Piggott/Shale Pad	MD Reference:	Shale Unit 2H 1146' GL + 13' RKB @ 1159.0usft
Well:	Shale Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,078.0	90.84	339.33	6,656.5	6,462.0	-3,315.9	7,235.1	1.56
14,170.0	90.04	336.78	6,655.8	6,547.3	-3,350.3	7,327.1	2.90
14,263.0	90.92	337.22	6,655.0	6,632.9	-3,386.6	7,420.0	1.06
14,356.0	91.45	337.48	6,653.1	6,718.7	-3,422.5	7,513.0	0.63
14,448.0	91.89	336.96	6,650.4	6,803.5	-3,458.1	7,605.0	0.74
14,541.0	92.15	336.87	6,647.2	6,889.0	-3,494.5	7,697.9	0.30
14,580.0	92.24	336.87	6,645.7	6,924.8	-3,509.8	7,736.9	0.23
14,640.0	92.24	336.87	6,643.3	6,980.0	-3,533.4	7,796.8	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,659.0	6,466.1	-182.0	-348.5	Middlesex
6,971.0	6,586.1	-78.4	-610.0	Burkett
7,058.0	6,614.2	-22.4	-670.2	Tully
7,189.0	6,647.9	79.8	-744.1	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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