



Antero Resources  
 Downs Unit 1H  
 Doddridge County WV  
 Northing: 1423887.79  
 Easting: 1752528.79  
 As Drilled

WELL DETAILS: Downs Unit 1H

Grand Level	1270.0	Grid	SIK
N/S	0.0	E/W	0.0
Northing	1423887.79	Easting	1752528.79
Latitude	39° 12' 30.418" N	Longitude	80° 30' 15.130" W

REFERENCE INFORMATION  
 Coordinates: NAD 83  
 Datum: NAD 83  
 Ellipsoid: GRS 1980  
 Zone: Zone 17N (6° W to 7° W)  
 System Datum: Mean Sea Level

PROJECT DETAILS: Doddridge County WV  
 Geoid: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD 1983 (NAD83 CONUS)  
 Ellipsoid: GRS 1980  
 Zone: Zone 17N (6° W to 7° W)  
 System Datum: Mean Sea Level

Genie Lightfoot  
 14:49, August 05 2014  
 Scientific Drilling  
 421 South Eagle Lane  
 Oklahoma City, OK

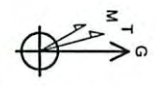
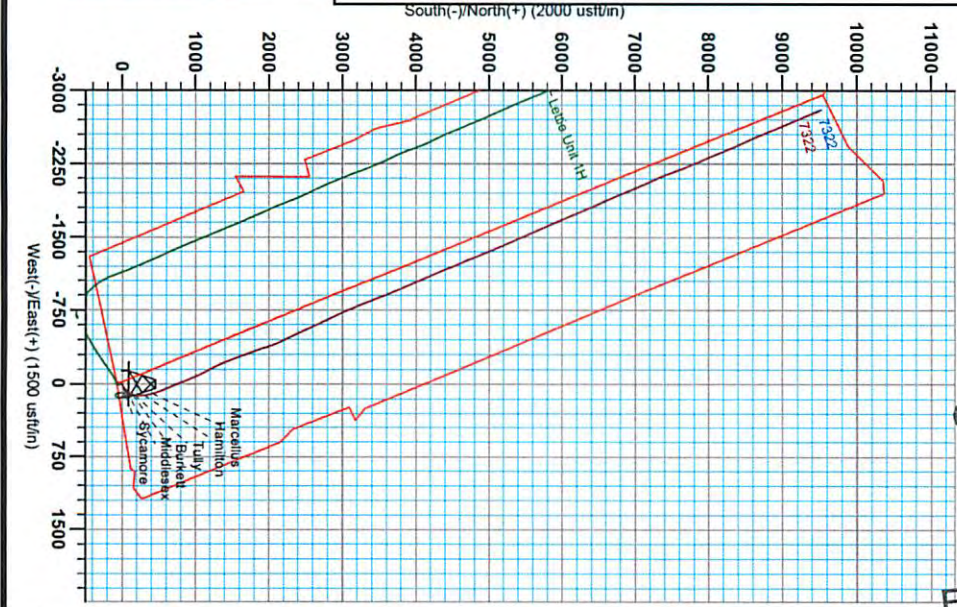
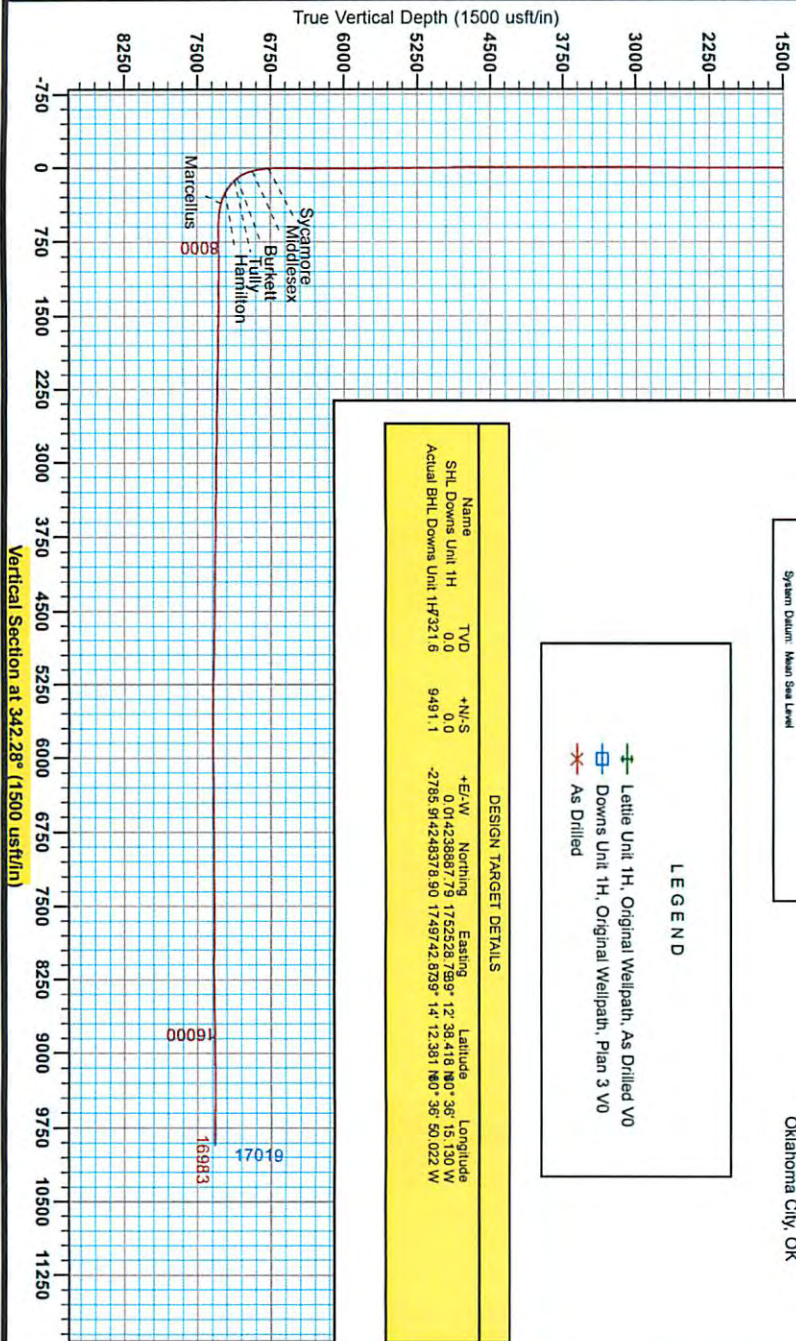


LEGEND

- Green line with arrow: Lettie Unit 1H, Original Wellpath, As Drilled VO
- Blue line with square: Downs Unit 1H, Original Wellpath, Plan 3 VO
- Red star: As Drilled

DESIGN TARGET DETAILS

Name	TVD	N/S	E/W	Northing	Easting	Latitude	Longitude
SHL Downs Unit 1H	0.0	0.0	0.0	1423887.79	1752528.79	39° 12' 30.418" N	80° 30' 15.130" W
Actual BHL Downs Unit 1H	321.6	9.491	-2.785	1424957.9	174942.9759	39° 14' 12.361" N	80° 36' 50.022" W



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# Antero Resources

Doddridge County WV

Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire

Downs Unit 1H

Original Wellpath

Design: As Drilled

## EOW Completion Report

05 August, 2014



Scientific Drilling

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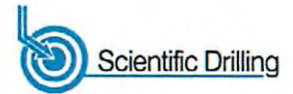
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WV Department of  
Environmental Protection

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

<b>Project</b>	Doddridge County WV, McClellan District		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 17N (84 W to 78 W)		

<b>Site</b>	Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire				
<b>Site Position:</b>	<b>Northing:</b>	14,238,847.81 usft	<b>Latitude:</b>	39° 12' 38.023 N	
<b>From:</b> Map	<b>Easting:</b>	1,752,529.46 usft	<b>Longitude:</b>	80° 36' 15.124 W	
<b>Position Uncertainty:</b>	2.0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0.25 °

<b>Well</b>	Downs Unit 1H, Marcellus				
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	14,238,887.79 usft	
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,752,528.79 usft	
<b>Position Uncertainty</b>	2.0 usft	<b>Wellhead Elevation:</b>	1,289.0 usft	<b>Ground Level:</b>	1,270.0 usft

<b>Wellbore</b>	Original Wellpath				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	3/4/2014	-8.57	66.75	52,267

<b>Design</b>	As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	342.28	

<b>Survey Program</b>	Date 8/5/2014			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
108.0	6,502.2	Survey #4 Gyro Final (Original Wellpath)	SDI Standard Keeper	Scientific Drilling Intl. Standard Wireline Keeper
6,565.0	16,983.0	Survey #5 MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1

<b>Survey</b>									
<b>MD (usft)</b>	<b>Inc (°)</b>	<b>Azi (azimuth) (°)</b>	<b>TVD (usft)</b>	<b>N/S (usft)</b>	<b>E/W (usft)</b>	<b>V. Sec (usft)</b>	<b>DLeg (°/100usft)</b>		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	
108.0	0.14	291.71	108.0	0.0	-0.1	0.1	0.1	0.13	
208.0	0.25	338.81	208.0	0.3	-0.3	0.4	0.4	0.19	
308.0	0.28	359.19	308.0	0.7	-0.4	0.8	0.8	0.10	
408.0	0.18	153.12	408.0	0.8	-0.3	0.9	0.9	0.45	
508.0	0.16	139.11	508.0	0.6	-0.2	0.6	0.6	0.05	
608.0	0.20	149.87	608.0	0.3	0.0	0.0	0.0	0.05	
708.0	0.18	151.94	708.0	0.1	0.2	0.0	0.0	0.02	
808.0	0.16	129.98	808.0	-0.2	0.4	0.3	0.3	0.07	
908.0	0.19	127.43	908.0	-0.4	0.6	-0.5	-0.5	0.03	
1,008.0	0.26	147.66	1,008.0	-0.7	0.8	-0.9	-0.9	0.10	

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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Bole/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)		
1,108.0	0.23	124.93	1,108.0	-1.0	1.1	-1.3	0.10		
1,208.0	0.14	102.25	1,208.0	-1.1	1.4	-1.5	0.11		
1,308.0	0.17	68.26	1,308.0	-1.1	1.7	-1.5	0.10		
1,408.0	0.23	106.41	1,408.0	-1.1	2.0	-1.6	0.14		
1,508.0	0.16	124.20	1,508.0	-1.2	2.3	-1.9	0.09		
1,608.0	0.18	64.19	1,608.0	-1.2	2.6	-1.9	0.17		
1,708.0	0.32	71.56	1,708.0	-1.1	3.0	-1.9	0.14		
1,808.0	0.29	78.05	1,808.0	-0.9	3.5	-1.9	0.05		
1,908.0	0.35	100.84	1,908.0	-0.9	4.0	-2.1	0.14		
2,008.0	0.38	114.41	2,008.0	-1.1	4.6	-2.5	0.09		
2,108.0	0.30	105.39	2,108.0	-1.3	5.2	-2.8	0.10		
2,208.0	0.18	110.78	2,208.0	-1.5	5.6	-3.1	0.12		
2,308.0	0.20	115.01	2,308.0	-1.6	5.9	-3.3	0.02		
2,408.0	0.06	130.20	2,408.0	-1.7	6.1	-3.5	0.14		
2,508.0	0.19	139.65	2,508.0	-1.9	6.2	-3.7	0.13		
2,608.0	0.17	165.51	2,608.0	-2.1	6.4	-4.0	0.08		
2,708.0	0.18	170.32	2,708.0	-2.4	6.4	-4.3	0.02		
2,808.0	0.28	201.14	2,808.0	-2.8	6.4	-4.6	0.16		
2,908.0	0.29	213.22	2,908.0	-3.2	6.2	-5.0	0.06		
3,008.0	0.25	220.83	3,008.0	-3.6	5.9	-5.2	0.05		
3,108.0	0.30	223.63	3,108.0	-4.0	5.6	-5.5	0.05		
3,208.0	0.31	227.93	3,208.0	-4.3	5.2	-5.7	0.02		
3,308.0	0.33	213.79	3,308.0	-4.8	4.8	-6.0	0.08		
3,408.0	0.26	199.74	3,408.0	-5.2	4.6	-6.4	0.10		
3,508.0	0.24	197.35	3,508.0	-5.6	4.4	-6.7	0.02		
3,608.0	0.30	209.51	3,608.0	-6.1	4.2	-7.1	0.08		
3,708.0	0.27	210.89	3,708.0	-6.5	4.0	-7.4	0.03		
3,808.0	0.14	200.43	3,808.0	-6.8	3.8	-7.6	0.13		
3,908.0	0.16	193.43	3,908.0	-7.1	3.8	-7.9	0.03		
4,008.0	0.14	193.37	4,008.0	-7.3	3.7	-8.1	0.02		
4,108.0	0.02	67.74	4,108.0	-7.4	3.7	-8.2	0.15		
4,208.0	0.07	124.47	4,208.0	-7.4	3.8	-8.2	0.06		
4,308.0	0.15	78.78	4,308.0	-7.5	3.9	-8.3	0.11		
4,408.0	0.22	71.25	4,408.0	-7.4	4.2	-8.3	0.07		
4,508.0	0.46	75.32	4,508.0	-7.2	4.8	-8.3	0.24		
4,608.0	0.81	38.08	4,608.0	-6.6	5.6	-8.0	0.52		
4,708.0	0.90	33.66	4,707.9	-5.3	6.5	-7.1	0.11		
4,808.0	1.17	27.98	4,807.9	-3.8	7.4	-5.9	0.29		
4,908.0	1.19	22.59	4,907.9	-1.9	8.3	-4.4	0.11		
5,008.0	1.23	24.57	5,007.9	0.0	10.0	-2.8	0.06		
5,108.0	1.06	24.60	5,107.9	1.8	10.8	-1.3	0.17		
5,208.0	1.02	29.41	5,207.9	3.4	11.6	0.0	0.10		
5,308.0	0.83	34.97	5,307.8	4.8	12.4	1.0	0.21		
5,408.0	0.60	34.51	5,407.8	5.8		1.8	0.23		

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EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Boite/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
5,508.0	0.60	30.66	5,507.8	6.7	12.9	2.5	0.04
5,608.0	0.50	32.45	5,607.8	7.5	13.4	3.1	0.10
5,708.0	0.68	22.08	5,707.8	8.5	13.9	3.8	0.21
5,808.0	0.50	37.28	5,807.8	9.4	14.4	4.5	0.24
5,908.0	0.44	41.71	5,907.8	10.0	14.9	5.0	0.07
6,008.0	0.31	48.82	6,007.8	10.5	15.3	5.3	0.14
6,108.0	0.35	85.26	6,107.8	10.7	15.9	5.3	0.21
6,208.0	0.36	121.90	6,207.8	10.5	16.4	5.0	0.22
6,308.0	0.38	127.09	6,307.8	10.1	17.0	4.5	0.04
6,408.0	0.52	144.68	6,407.8	9.6	17.5	3.8	0.20
6,502.2	0.47	139.25	6,502.0	8.9	18.0	3.0	0.07
6,565.0	0.43	127.78	6,564.8	8.6	18.3	2.6	0.16
6,596.0	0.44	123.98	6,595.8	8.5	18.5	2.4	0.10
6,626.0	0.28	132.12	6,625.8	8.3	18.7	2.3	0.56
6,655.0	0.35	126.24	6,654.8	8.2	18.8	2.1	0.27
6,686.0	0.79	72.83	6,685.8	8.3	19.1	2.1	2.08
6,716.0	4.17	46.92	6,715.8	9.1	20.1	2.5	11.59
6,744.0	7.44	44.08	6,743.6	11.1	22.1	3.8	11.72
6,769.0	9.50	43.22	6,768.3	13.7	24.6	5.6	8.27
<b>Sycamore</b>							
6,775.0	10.00	43.07	6,774.2	14.5	25.3	6.1	8.27
6,805.0	13.10	44.09	6,803.6	18.8	29.5	9.0	10.36
6,834.0	15.86	44.35	6,831.7	24.0	34.5	12.4	9.52
6,865.0	18.90	45.38	6,861.3	30.6	41.1	16.6	9.86
6,895.0	21.98	46.81	6,889.4	37.8	48.6	21.2	10.40
6,923.0	24.53	44.30	6,915.1	45.6	56.5	26.2	9.77
6,946.0	25.96	39.21	6,935.9	52.9	63.0	31.2	11.28
<b>Middlesex</b>							
6,954.0	26.49	37.57	6,943.1	55.7	65.2	33.2	11.28
6,984.0	28.83	32.18	6,969.7	67.1	73.1	41.6	11.41
7,013.0	31.65	29.22	6,994.7	79.6	80.6	51.3	11.00
7,044.0	34.05	24.71	7,020.8	94.6	88.2	63.3	11.05
7,074.0	36.41	20.19	7,045.3	110.6	94.8	76.5	11.72
7,102.0	38.94	17.03	7,067.4	126.8	100.2	90.3	11.37
7,129.0	41.77	14.21	7,088.0	143.7	104.9	104.9	12.48
<b>Burkett</b>							
7,133.0	42.20	13.82	7,091.0	146.3	105.6	107.2	12.48
7,163.0	45.62	11.14	7,112.6	166.6	110.0	125.2	12.97
7,168.0	46.22	10.62	7,116.1	170.1	110.7	128.3	14.22
<b>Tully</b>							
7,192.0	49.15	8.24	7,132.2	187.6	113.6	144.1	14.22
7,223.0	52.67	4.63	7,151.8	211.5	116.3	166.1	14.51
7,253.0	55.34	1.79	7,169.4	235.7	117.6	188.8	11.74
7,281.0	56.89	358.65	7,185.0	259.0	117.7	210.99	10.83
7,312.0	59.71	356.28	7,201.3	285.3	116.5	236.3	11.18

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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Boite/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
7,328.0	61.73	355.01	7,209.2	299.2	115.5	249.9	14.39	
<b>Hamilton</b>								
7,342.0	63.50	353.93	7,215.6	311.6	114.3	262.0	14.39	
7,371.0	66.58	352.11	7,227.8	337.7	111.1	287.9	12.05	
7,402.0	69.62	350.71	7,239.4	366.1	106.8	316.3	10.66	
7,432.0	73.46	348.69	7,248.9	394.1	101.7	344.5	14.30	
7,452.0	75.64	347.41	7,254.2	413.0	97.7	363.7	12.52	
<b>Marcellus</b>								
7,460.0	76.51	346.90	7,256.1	420.6	96.0	371.4	12.52	
7,491.0	78.85	346.40	7,262.8	450.0	89.0	401.6	7.71	
7,521.0	80.41	345.64	7,268.2	478.7	81.9	431.0	5.77	
7,550.0	82.78	344.97	7,272.4	506.4	74.6	459.7	8.49	
7,576.0	84.57	344.32	7,275.3	531.3	67.7	485.5	7.32	
7,635.0	89.77	343.41	7,278.2	587.9	51.4	544.4	8.95	
7,679.0	89.83	342.81	7,278.3	630.0	38.6	588.4	1.37	
7,769.0	89.93	342.51	7,278.5	715.9	11.8	678.4	0.35	
7,858.0	90.13	342.81	7,278.5	800.9	-14.8	767.4	0.41	
7,948.0	90.07	342.62	7,278.3	886.8	-41.5	857.4	0.22	
8,037.0	90.74	342.75	7,277.7	971.8	-68.0	946.4	0.77	
8,127.0	89.26	340.42	7,277.7	1,057.2	-96.4	1,036.4	3.07	
8,217.0	88.66	338.52	7,279.3	1,141.4	-128.0	1,126.2	2.21	
8,306.0	88.49	339.45	7,281.5	1,224.5	-159.9	1,215.1	1.06	
8,396.0	89.06	339.80	7,283.5	1,308.8	-191.2	1,304.9	0.74	
8,486.0	89.63	343.30	7,284.5	1,394.2	-219.7	1,394.9	3.94	
8,575.0	89.60	344.54	7,285.1	1,479.7	-244.3	1,483.9	1.39	
8,665.0	89.90	343.97	7,285.5	1,566.3	-268.8	1,573.8	0.72	
8,754.0	89.33	344.54	7,286.1	1,652.0	-292.9	1,662.8	0.91	
8,844.0	89.16	345.48	7,287.3	1,738.9	-316.2	1,752.6	1.06	
8,934.0	89.36	344.50	7,288.4	1,825.8	-339.5	1,842.5	1.11	
9,023.0	89.23	346.51	7,289.5	1,912.0	-361.8	1,931.4	2.26	
9,113.0	88.99	346.80	7,290.9	1,999.5	-382.5	2,021.1	0.42	
9,202.0	88.02	343.32	7,293.2	2,085.5	-405.5	2,110.0	4.06	
9,292.0	88.89	340.33	7,295.7	2,171.0	-433.5	2,199.9	3.46	
9,381.0	89.29	339.65	7,297.1	2,254.6	-464.0	2,288.8	0.89	
9,471.0	89.83	340.96	7,297.8	2,339.3	-494.3	2,378.8	1.57	
9,561.0	89.33	341.31	7,298.4	2,424.5	-523.4	2,468.8	0.68	
9,650.0	88.83	340.23	7,299.9	2,508.5	-552.7	2,557.7	1.34	
9,740.0	89.16	340.64	7,301.4	2,593.3	-582.9	2,647.6	0.58	
9,830.0	89.13	341.60	7,302.8	2,678.4	-612.0	2,737.6	1.07	
9,919.0	88.46	341.38	7,304.6	2,762.8	-640.2	2,826.6	0.79	
10,009.0	89.16	339.04	7,306.5	2,847.5	-670.7	2,916.5	2.71	
10,099.0	89.56	341.07	7,307.5	2,932.1	-701.4	3,006.4	2.30	
10,188.0	90.24	342.73	7,307.7	3,016.6	-729.0	3,095.4	2.02	
10,278.0	90.13	342.04	7,307.4	3,102.4	-756.3	3,185.4	0.78	
10,367.0	88.08	342.78	7,308.8	3,187.3	-783.2	3,274.4	2.45	



EOW Completion Report



<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Bole/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
10,461.0	88.56	343.62	7,311.5	3,277.2	-810.3	3,368.3	1.03
10,555.0	88.49	343.08	7,314.0	3,367.2	-837.2	3,462.3	0.58
10,649.0	90.07	344.27	7,315.1	3,457.4	-863.7	3,556.3	2.10
10,743.0	89.77	343.32	7,315.3	3,547.7	-889.9	3,650.2	1.06
10,837.0	89.40	343.39	7,315.9	3,637.7	-916.8	3,744.2	0.40
10,931.0	88.86	342.80	7,317.4	3,727.7	-944.2	3,838.2	0.85
11,026.0	89.60	340.79	7,318.6	3,817.9	-973.8	3,933.2	2.25
11,120.0	89.13	341.53	7,319.7	3,906.9	-1,004.2	4,027.1	0.93
11,214.0	89.33	342.95	7,321.0	3,996.4	-1,032.8	4,121.1	1.53
11,309.0	88.89	341.30	7,322.4	4,086.8	-1,062.0	4,216.1	1.80
11,398.0	89.97	340.93	7,323.3	4,171.0	-1,090.8	4,305.1	1.28
11,487.0	89.43	340.30	7,323.8	4,254.9	-1,120.3	4,394.1	0.93
11,576.0	90.20	342.47	7,324.1	4,339.3	-1,148.8	4,483.0	2.59
11,667.0	89.97	343.65	7,323.9	4,426.3	-1,175.3	4,574.0	1.32
11,755.0	89.83	342.98	7,324.1	4,510.6	-1,200.5	4,662.0	0.78
11,845.0	88.86	341.46	7,325.1	4,596.3	-1,228.0	4,752.0	2.00
11,935.0	87.82	342.09	7,327.7	4,681.8	-1,256.1	4,842.0	1.35
12,024.0	88.82	343.37	7,330.3	4,766.7	-1,282.6	4,930.9	1.82
12,114.0	88.86	343.60	7,332.2	4,853.0	-1,308.1	5,020.9	0.26
12,203.0	88.39	343.13	7,334.3	4,938.2	-1,333.6	5,109.8	0.75
12,293.0	87.95	342.51	7,337.2	5,024.2	-1,360.2	5,199.8	0.84
12,383.0	87.62	341.99	7,340.6	5,109.8	-1,387.6	5,289.7	0.68
12,471.0	91.37	342.51	7,341.4	5,193.6	-1,414.4	5,377.7	4.30
12,561.0	90.70	341.82	7,339.8	5,279.3	-1,442.0	5,467.7	1.07
12,650.0	90.57	342.05	7,338.8	5,363.9	-1,469.6	5,556.7	0.30
12,739.0	89.56	342.66	7,338.7	5,448.7	-1,496.6	5,645.7	1.33
12,829.0	89.50	341.54	7,339.4	5,534.3	-1,524.2	5,735.7	1.25
12,919.0	89.67	341.87	7,340.1	5,619.8	-1,552.5	5,825.7	0.41
13,008.0	90.00	341.31	7,340.4	5,704.2	-1,580.6	5,914.7	0.73
13,098.0	90.34	341.68	7,340.1	5,789.6	-1,609.1	6,004.6	0.56
13,188.0	90.57	342.13	7,339.4	5,875.1	-1,637.1	6,094.6	0.56
13,277.0	91.34	340.89	7,337.9	5,959.5	-1,665.3	6,183.6	1.64
13,367.0	91.01	342.97	7,336.0	6,045.0	-1,693.2	6,273.6	2.34
13,456.0	91.00	343.47	7,334.5	6,130.2	-1,718.9	6,362.6	0.56
13,545.0	90.74	342.83	7,333.1	6,215.4	-1,744.7	6,451.5	0.78
13,635.0	90.47	342.84	7,332.2	6,301.4	-1,771.3	6,541.5	0.30
13,725.0	90.47	342.82	7,331.4	6,387.4	-1,797.8	6,631.5	0.02
13,814.0	90.13	341.73	7,331.0	6,472.1	-1,824.9	6,720.5	1.28
13,903.0	89.63	339.99	7,331.2	6,556.2	-1,854.1	6,809.5	2.03
13,993.0	90.50	341.97	7,331.1	6,641.3	-1,883.4	6,899.5	2.40
14,082.0	90.67	342.85	7,330.1	6,726.1	-1,910.3	6,988.5	1.01
14,172.0	90.40	342.29	7,329.3	6,812.0	-1,937.3	7,078.5	0.69
14,262.0	89.66	342.00	7,329.3	6,897.7	-1,964.9	7,168.5	0.88
14,351.0	89.36	342.70	7,330.0	6,982.5	-1,991.9	7,257.4	0.86

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<b>Company:</b>	Antero Resources	<b>Local Co-ordinate Reference:</b>	Well Downs Unit 1H
<b>Project:</b>	Doddridge County WV	<b>TVD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Site:</b>	Wagner Pad : Lettie/Downs/Bolte/Mason/McQuire	<b>MD Reference:</b>	Precision 523: 1270' GL + 19' KB @ 1289.0usft
<b>Well:</b>	Downs Unit 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Wellpath	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,441.0	90.84	342.55	7,329.9	7,068.4	-2,018.7	7,347.4	1.65
14,531.0	90.37	341.66	7,328.9	7,154.0	-2,046.4	7,437.4	1.12
14,620.0	90.13	341.47	7,328.5	7,238.4	-2,074.5	7,526.4	0.34
14,710.0	90.77	340.84	7,327.8	7,323.6	-2,103.6	7,616.4	1.00
14,799.0	90.27	344.18	7,327.0	7,408.5	-2,130.3	7,705.4	3.79
14,889.0	90.70	344.92	7,326.3	7,495.2	-2,154.3	7,795.3	0.95
14,979.0	88.08	343.48	7,327.2	7,581.8	-2,178.8	7,885.2	3.32
15,068.0	87.31	343.13	7,330.8	7,667.0	-2,204.4	7,974.2	0.95
15,158.0	89.33	343.21	7,333.4	7,753.1	-2,230.4	8,064.1	2.25
15,248.0	91.11	341.78	7,333.1	7,838.9	-2,257.5	8,154.1	2.54
15,337.0	91.28	341.89	7,331.2	7,923.5	-2,285.2	8,243.1	0.23
15,427.0	91.28	341.59	7,329.2	8,008.9	-2,313.4	8,333.1	0.33
15,517.0	91.11	342.47	7,327.3	8,094.5	-2,341.2	8,423.0	1.00
15,606.0	91.27	343.77	7,325.5	8,179.6	-2,367.0	8,512.0	1.47
15,696.0	90.54	342.29	7,324.1	8,265.7	-2,393.3	8,602.0	1.83
15,786.0	90.64	341.27	7,323.1	8,351.2	-2,421.4	8,692.0	1.14
15,875.0	90.50	341.04	7,322.3	8,435.4	-2,450.2	8,780.9	0.30
15,965.0	90.67	342.08	7,321.3	8,520.8	-2,478.6	8,870.9	1.17
16,054.0	90.61	340.20	7,320.3	8,605.0	-2,507.4	8,959.9	2.11
16,144.0	91.11	342.83	7,319.0	8,690.3	-2,535.9	9,049.9	2.97
16,234.0	90.57	342.45	7,317.7	8,776.2	-2,562.8	9,139.9	0.73
16,323.0	90.07	342.55	7,317.2	8,861.1	-2,589.5	9,228.9	0.57
16,413.0	89.97	342.19	7,317.1	8,946.9	-2,616.8	9,318.9	0.42
16,502.0	89.73	341.53	7,317.4	9,031.5	-2,644.5	9,407.9	0.79
16,592.0	89.30	342.33	7,318.1	9,117.0	-2,672.4	9,497.9	1.01
16,681.0	89.13	342.40	7,319.4	9,201.8	-2,699.4	9,586.8	0.21
16,771.0	89.23	342.42	7,320.6	9,287.6	-2,726.6	9,676.8	0.11
16,860.0	89.66	343.55	7,321.5	9,372.7	-2,752.6	9,765.8	1.36
16,923.0	90.07	344.55	7,321.7	9,433.3	-2,769.9	9,828.8	1.72
16,983.0	90.07	344.55	7,321.6	9,491.1	-2,785.9	9,888.7	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,769.0	6,768.3	13.7	24.6	Sycamore
6,946.0	6,935.9	52.9	63.0	Middlesex
7,129.0	7,088.0	143.7	104.9	Burkett
7,168.0	7,116.1	170.1	110.7	Tully
7,328.0	7,209.2	299.2	115.5	Hamilton
7,452.0	7,254.2	413.0	97.7	Marcellus

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Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_  
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