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WV GEOLOGICAL SURVEY
MORGANTOWN, WV



Antero Resources
Amanda Unit 2H
Doddridge County WV
Northing: 14261508.36
Easting: 1676350.00
As Drilled

PROJECT DETAILS: Doddridge County WV
Geoid: System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1983 (NAD80 CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 17N (84 W to 76 W)
System Datum: Mean Sea Level



Genie Lightfoot
9:33, September 15 2014
Scientific Drilling
421 South Eagle Lane
Oklahoma City, OK

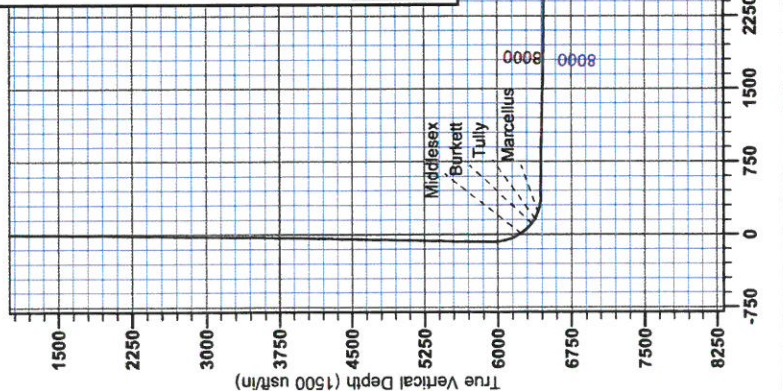
WELL DETAILS: Amanda Unit 2H
Ground Level: 898.0
Easting: 1676350.00
Northing: 14261508.36
Longitude: 80° 52' 22.804 W
Slat

DESIGN TARGET DETAILS
Name: SHL Amanda Unit 2H
TVD: 0.0
+NLS: 0.0
+E-W: 2765.1
-S: 0.0
Northing: 14261508.36
Easting: 1676350.00

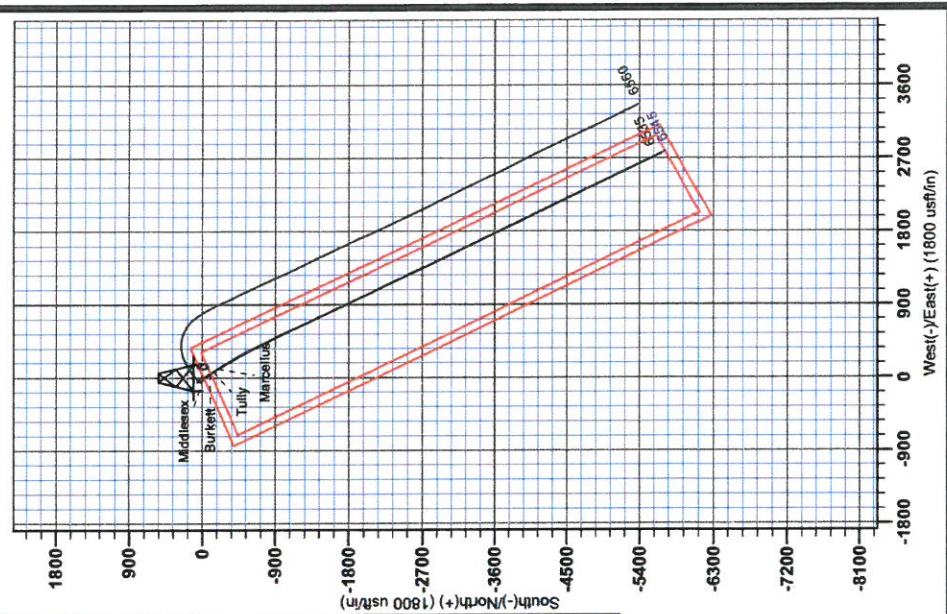
LEGEND
-X- Zellerback Unit 1H, Original Wellpath, As Drilled VO
-A- Amanda Unit 2H, Original Wellpath, Plan 3 VO
-B- As Drilled

DESIGN TARGET DETAILS

Name	TVD	+NLS	Northing	Easting	Latitude	Longitude
SHL Amanda Unit 2H	0.0	0.0	0.01426150836	1676350.0589	16° 24' 25.700" N	80° 52' 22.804" W
Actual BHL Amanda Unit 2H	6685.0	-5679.6	2765.11426150836	1679115.0739	15° 28' 05.900" N	80° 51' 47.839" W



To convert Magnetic North to Grid, Subtract 8.49°
To convert True North to Grid, Subtract 0.08°
Magnetic North: -8.49°
True North: -0.08°
Grid North: 0.00°
Magnetic Field
Strength: 52339.66nT
Dip Angle: 65.86°
Date: 5/20/2014
Model: BGGM2014



Vertical Section at 154.54° (1500 usf/m)



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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

Antero Resources

**Doddridge County WV
Zellerback/Amanda Pad
Amanda Unit 2H
Original Wellpath**

Design: As Drilled

EOW Completion Report

15 September, 2014



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EOW Completion Report



WV GEOLOGICAL SURVEY MORGANTOWN, WV

Company: Antero Resources	Local Co-ordinate Reference: Well Amanda Unit 2H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
Site: Zellerback/Amanda Pad	MD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
Well: Amanda 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	Zellerback/Amanda Pad				
Site Position:	Northing:	14,261,489.45 usft	Latitude:	39° 16' 24.070 N	
From: Map	Easting:	1,676,355.00 usft	Longitude:	80° 52' 22.841 W	
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.08 °

Well	Amanda Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,261,508.36 usft	Latitude:	39° 16' 24.257 N
	+E/-W	0.0 usft	Easting:	1,676,350.00 usft	Longitude:	80° 52' 22.904 W
Position Uncertainty	2.0 usft	Wellhead Elevation:	1,008.0 usft	Ground Level:	989.0 usft	

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	8/20/2014	-8.41	66.86	52,240

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	154.54	

Survey Program	Date 9/12/2014				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
25.0	5,790.0	Survey #4 Gyro to KOP (Original Wellpath)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
5,799.0	12,640.0	Survey #6 SDI 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
25.0	0.10	307.49	25.0	0.0	0.0	0.0	0.40
50.0	0.20	307.49	50.0	0.1	-0.1	-0.1	0.40
75.0	0.31	307.49	75.0	0.1	-0.2	-0.2	0.44
100.0	0.41	307.49	100.0	0.2	-0.3	-0.3	0.40
125.0	0.34	304.12	125.0	0.3	-0.4	-0.5	0.29
150.0	0.30	319.44	150.0	0.4	-0.5	-0.6	0.38
175.0	0.21	326.65	175.0	0.5	-0.6	-0.7	0.38
200.0	0.16	341.14	200.0	0.6	-0.6	-0.8	0.27
225.0	0.16	336.57	225.0	0.6	-0.6	-0.8	0.05
250.0	0.18	345.34	250.0	0.7	-0.7	-0.9	0.13

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Scientific Drilling

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

Local Co-ordinate Reference: Well Amanda Unit 2H
TVD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
MD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
275.0	0.16	357.86	275.0	0.8	-0.7	-1.0	0.17
300.0	0.06	350.61	300.0	0.8	-0.7	-1.0	0.40
325.0	0.05	292.20	325.0	0.8	-0.7	-1.1	0.22
350.0	0.06	322.15	350.0	0.9	-0.7	-1.1	0.12
375.0	0.07	14.18	375.0	0.9	-0.7	-1.1	0.23
400.0	0.06	27.11	400.0	0.9	-0.7	-1.1	0.07
425.0	0.05	21.45	425.0	0.9	-0.7	-1.1	0.05
450.0	0.05	8.87	450.0	0.9	-0.7	-1.2	0.04
475.0	0.06	353.22	475.0	1.0	-0.7	-1.2	0.07
500.0	0.06	10.93	500.0	1.0	-0.7	-1.2	0.07
525.0	0.09	29.86	525.0	1.0	-0.7	-1.2	0.15
550.0	0.11	37.00	550.0	1.1	-0.7	-1.2	0.09
575.0	0.06	36.92	575.0	1.1	-0.6	-1.3	0.20
600.0	0.09	1.20	600.0	1.1	-0.6	-1.3	0.22
625.0	0.11	13.26	625.0	1.2	-0.6	-1.3	0.12
650.0	0.06	4.90	650.0	1.2	-0.6	-1.3	0.21
675.0	0.11	342.70	675.0	1.2	-0.6	-1.4	0.24
700.0	0.15	342.19	700.0	1.3	-0.6	-1.4	0.16
725.0	0.16	343.45	725.0	1.4	-0.7	-1.5	0.04
750.0	0.15	336.00	750.0	1.4	-0.7	-1.6	0.09
775.0	0.19	327.29	775.0	1.5	-0.7	-1.6	0.19
800.0	0.26	326.69	800.0	1.6	-0.8	-1.7	0.28
825.0	0.23	329.87	825.0	1.7	-0.8	-1.9	0.13
850.0	0.20	317.67	850.0	1.7	-0.9	-1.9	0.22
875.0	0.21	300.83	875.0	1.8	-1.0	-2.0	0.24
900.0	0.20	304.23	900.0	1.8	-1.0	-2.1	0.06
925.0	0.23	309.15	925.0	1.9	-1.1	-2.2	0.14
950.0	0.22	306.10	950.0	2.0	-1.2	-2.3	0.06
975.0	0.24	304.66	975.0	2.0	-1.3	-2.4	0.08
1,000.0	0.26	293.48	1,000.0	2.1	-1.4	-2.4	0.21
1,025.0	0.25	283.60	1,025.0	2.1	-1.5	-2.5	0.18
1,050.0	0.26	285.66	1,050.0	2.1	-1.6	-2.6	0.05
1,075.0	0.27	281.88	1,075.0	2.2	-1.7	-2.7	0.08
1,100.0	0.27	280.92	1,100.0	2.2	-1.8	-2.7	0.02
1,125.0	0.28	279.02	1,125.0	2.2	-1.9	-2.8	0.05
1,150.0	0.33	274.22	1,150.0	2.2	-2.0	-2.9	0.22
1,175.0	0.36	266.67	1,175.0	2.2	-2.2	-2.9	0.22
1,200.0	0.38	262.93	1,200.0	2.2	-2.4	-3.0	0.13
1,225.0	0.38	265.89	1,225.0	2.2	-2.5	-3.1	0.08
1,250.0	0.38	264.72	1,250.0	2.2	-2.7	-3.1	0.03
1,275.0	0.37	269.65	1,275.0	2.2	-2.9	-3.2	0.14
1,300.0	0.42	271.37	1,300.0	2.2	-3.0	-3.3	0.21
1,325.0	0.48	268.08	1,325.0	2.2	-3.2	-3.3	0.26
1,350.0	0.47	265.29	1,350.0	2.1	-3.4	-3.4	0.10

AUG 31 2015



EOW Completion Report



Company: Antero Resources	Local Co-ordinate Reference: Well Amanda Unit 2H
Project: Doddridge County WV	TVD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
Site: Zellerback/Amanda Pad	MD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
Well: Amanda 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)
1,375.0	0.44	265.40	1,375.0	2.1	-3.6	-3.5	0.12
1,400.0	0.46	271.85	1,400.0	2.1	-3.8	-3.6	0.22
1,425.0	0.51	274.11	1,425.0	2.1	-4.0	-3.7	0.21
1,450.0	0.53	281.15	1,450.0	2.2	-4.3	-3.8	0.27
1,475.0	0.57	283.66	1,475.0	2.2	-4.5	-3.9	0.19
1,500.0	0.59	282.04	1,500.0	2.3	-4.7	-4.1	0.10
1,525.0	0.61	285.62	1,525.0	2.3	-5.0	-4.3	0.17
1,550.0	0.66	287.71	1,550.0	2.4	-5.3	-4.4	0.22
1,575.0	0.70	288.46	1,575.0	2.5	-5.5	-4.6	0.16
1,600.0	0.71	286.84	1,600.0	2.6	-5.8	-4.9	0.09
1,625.0	0.70	285.54	1,625.0	2.7	-6.1	-5.1	0.08
1,650.0	0.70	287.51	1,650.0	2.8	-6.4	-5.3	0.10
1,675.0	0.73	285.95	1,675.0	2.9	-6.7	-5.5	0.14
1,700.0	0.76	290.81	1,700.0	3.0	-7.0	-5.7	0.28
1,725.0	0.73	294.82	1,725.0	3.1	-7.3	-5.9	0.24
1,750.0	0.71	292.97	1,750.0	3.2	-7.6	-6.2	0.12
1,775.0	0.73	296.08	1,775.0	3.4	-7.9	-6.4	0.18
1,800.0	0.71	296.93	1,800.0	3.5	-8.2	-6.7	0.09
1,825.0	0.66	297.56	1,825.0	3.6	-8.4	-6.9	0.20
1,850.0	0.61	301.16	1,850.0	3.8	-8.7	-7.1	0.26
1,875.0	0.64	305.29	1,875.0	3.9	-8.9	-7.4	0.22
1,900.0	0.68	311.33	1,900.0	4.1	-9.1	-7.6	0.32
1,925.0	0.72	311.90	1,925.0	4.3	-9.4	-7.9	0.16
1,950.0	0.80	314.09	1,949.9	4.5	-9.6	-8.2	0.34
1,975.0	0.70	307.33	1,974.9	4.7	-9.9	-8.5	0.53
2,000.0	0.62	303.31	1,999.9	4.9	-10.1	-8.8	0.37
2,025.0	0.70	312.36	2,024.9	5.1	-10.3	-9.0	0.52
2,050.0	0.72	311.82	2,049.9	5.3	-10.5	-9.3	0.08
2,075.0	0.71	308.46	2,074.9	5.5	-10.8	-9.6	0.17
2,100.0	0.70	304.78	2,099.9	5.7	-11.0	-9.9	0.19
2,125.0	0.75	306.59	2,124.9	5.9	-11.3	-10.1	0.22
2,150.0	0.81	309.06	2,149.9	6.1	-11.6	-10.4	0.28
2,175.0	0.82	308.73	2,174.9	6.3	-11.8	-10.8	0.04
2,200.0	0.78	307.18	2,199.9	6.5	-12.1	-11.1	0.18
2,225.0	0.79	308.65	2,224.9	6.7	-12.4	-11.4	0.09
2,250.0	0.72	314.80	2,249.9	6.9	-12.6	-11.7	0.43
2,275.0	0.73	313.80	2,274.9	7.2	-12.9	-12.0	0.06
2,300.0	0.84	310.57	2,299.9	7.4	-13.1	-12.3	0.47
2,325.0	0.84	312.23	2,324.9	7.6	-13.4	-12.6	0.10
2,350.0	0.89	315.81	2,349.9	7.9	-13.7	-13.0	0.29
2,375.0	0.93	314.64	2,374.9	8.2	-13.9	-13.4	0.18
2,400.0	0.92	310.87	2,399.9	8.4	-14.2	-13.7	0.25
2,425.0	0.94	311.49	2,424.9	8.7	-14.5	-14.1	0.09
2,450.0	0.93	310.01	2,449.9	9.0	-14.8	-14.5	0.10
2,475.0	0.92	306.95	2,474.9	9.2	-15.2	-14.8	0.20

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Well:	Amanda 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)
2,500.0	0.88	306.06	2,499.9	9.5	-15.5	-15.2	0.17
2,525.0	0.81	309.14	2,524.9	9.7	-15.8	-15.5	0.33
2,550.0	0.82	314.19	2,549.9	9.9	-16.0	-15.9	0.29
2,575.0	0.85	314.64	2,574.9	10.2	-16.3	-16.2	0.12
2,600.0	0.80	310.82	2,599.9	10.4	-16.6	-16.5	0.30
2,625.0	0.79	311.77	2,624.9	10.7	-16.8	-16.8	0.07
2,650.0	0.82	312.77	2,649.9	10.9	-17.1	-17.2	0.13
2,675.0	0.87	309.81	2,674.9	11.1	-17.4	-17.5	0.27
2,700.0	0.92	308.22	2,699.9	11.4	-17.7	-17.9	0.22
2,725.0	0.86	308.76	2,724.9	11.6	-18.0	-18.2	0.24
2,750.0	0.89	309.02	2,749.9	11.9	-18.3	-18.6	0.12
2,775.0	0.92	305.59	2,774.9	12.1	-18.6	-18.9	0.25
2,800.0	0.89	301.91	2,799.9	12.3	-18.9	-19.2	0.26
2,825.0	0.89	302.34	2,824.9	12.5	-19.2	-19.6	0.03
2,850.0	0.91	306.09	2,849.9	12.7	-19.6	-19.9	0.25
2,875.0	0.94	307.13	2,874.9	13.0	-19.9	-20.3	0.14
2,900.0	0.93	308.71	2,899.8	13.2	-20.2	-20.6	0.11
2,925.0	0.89	308.26	2,924.8	13.5	-20.5	-21.0	0.16
2,950.0	0.93	307.60	2,949.8	13.7	-20.8	-21.3	0.17
2,975.0	0.99	307.65	2,974.8	14.0	-21.2	-21.7	0.24
3,000.0	0.93	303.62	2,999.8	14.2	-21.5	-22.1	0.36
3,025.0	0.94	305.98	3,024.8	14.5	-21.8	-22.4	0.16
3,050.0	1.00	305.74	3,049.8	14.7	-22.2	-22.8	0.24
3,075.0	0.99	303.31	3,074.8	15.0	-22.5	-23.2	0.17
3,100.0	1.00	305.73	3,099.8	15.2	-22.9	-23.6	0.17
3,125.0	0.97	303.95	3,124.8	15.4	-23.2	-23.9	0.17
3,150.0	0.88	301.92	3,149.8	15.7	-23.6	-24.3	0.38
3,175.0	0.80	303.89	3,174.8	15.9	-23.9	-24.6	0.34
3,200.0	0.81	307.56	3,199.8	16.1	-24.2	-24.9	0.21
3,225.0	0.79	310.24	3,224.8	16.3	-24.4	-25.2	0.17
3,250.0	0.74	311.96	3,249.8	16.5	-24.7	-25.5	0.22
3,275.0	0.77	313.97	3,274.8	16.7	-24.9	-25.8	0.16
3,300.0	0.85	316.81	3,299.8	17.0	-25.2	-26.2	0.36
3,325.0	0.88	318.13	3,324.8	17.3	-25.4	-26.5	0.14
3,350.0	0.81	316.35	3,349.8	17.5	-25.7	-26.9	0.30
3,375.0	0.82	310.88	3,374.8	17.8	-25.9	-27.2	0.31
3,400.0	0.79	306.11	3,399.8	18.0	-26.2	-27.5	0.29
3,425.0	0.76	303.50	3,424.8	18.2	-26.5	-27.8	0.19
3,450.0	0.72	300.33	3,449.8	18.4	-26.8	-28.1	0.23
3,475.0	0.69	301.81	3,474.8	18.5	-27.0	-28.3	0.14
3,500.0	0.74	307.20	3,499.8	18.7	-27.3	-28.6	0.34
3,525.0	0.73	308.23	3,524.8	18.9	-27.5	-28.9	0.07
3,550.0	0.78	311.03	3,549.8	19.1	-27.8	-29.2	0.25
3,575.0	0.82	313.83	3,574.8	19.3	-28.1	-29.5	0.22

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EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Well:	Amanda 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)
3,600.0	0.79	312.41	3,599.8	19.6	-28.3	-29.8	0.14
3,625.0	0.82	308.02	3,624.8	19.8	-28.6	-30.2	0.27
3,650.0	0.81	305.34	3,649.8	20.0	-28.9	-30.5	0.16
3,675.0	0.78	307.09	3,674.8	20.2	-29.1	-30.8	0.15
3,700.0	0.71	305.59	3,699.8	20.4	-29.4	-31.1	0.29
3,725.0	0.68	303.27	3,724.8	20.6	-29.7	-31.3	0.16
3,750.0	0.71	306.65	3,749.8	20.8	-29.9	-31.6	0.20
3,775.0	0.72	310.19	3,774.8	21.0	-30.2	-31.9	0.18
3,800.0	0.75	309.25	3,799.8	21.2	-30.4	-32.2	0.13
3,825.0	0.73	308.42	3,824.8	21.4	-30.6	-32.5	0.09
3,850.0	0.69	311.80	3,849.8	21.6	-30.9	-32.7	0.23
3,875.0	0.81	316.69	3,874.7	21.8	-31.1	-33.0	0.54
3,900.0	1.03	313.98	3,899.7	22.1	-31.4	-33.4	0.90
3,925.0	1.22	312.17	3,924.7	22.4	-31.8	-33.9	0.77
3,950.0	1.31	312.83	3,949.7	22.8	-32.2	-34.4	0.36
3,975.0	1.35	312.94	3,974.7	23.2	-32.6	-34.9	0.16
4,000.0	1.35	312.62	3,999.7	23.6	-33.0	-35.5	0.03
4,025.0	1.28	314.72	4,024.7	24.0	-33.4	-36.0	0.34
4,050.0	1.36	319.67	4,049.7	24.4	-33.8	-36.6	0.56
4,075.0	1.43	320.93	4,074.7	24.9	-34.2	-37.2	0.31
4,100.0	1.49	324.72	4,099.7	25.4	-34.6	-37.8	0.45
4,125.0	1.49	326.43	4,124.7	25.9	-35.0	-38.4	0.18
4,150.0	1.46	326.23	4,149.7	26.4	-35.3	-39.1	0.12
4,175.0	1.44	325.22	4,174.7	27.0	-35.7	-39.7	0.13
4,200.0	1.38	326.45	4,199.7	27.5	-36.0	-40.3	0.27
4,225.0	1.31	328.68	4,224.7	28.0	-36.3	-40.9	0.35
4,250.0	1.26	327.94	4,249.6	28.4	-36.6	-41.4	0.21
4,275.0	1.20	329.63	4,274.6	28.9	-36.9	-42.0	0.28
4,300.0	1.21	334.39	4,299.6	29.4	-37.2	-42.5	0.40
4,325.0	1.26	336.87	4,324.6	29.9	-37.4	-43.0	0.29
4,350.0	1.28	337.22	4,349.6	30.4	-37.6	-43.6	0.09
4,375.0	1.28	336.32	4,374.6	30.9	-37.8	-44.1	0.08
4,400.0	1.31	334.21	4,399.6	31.4	-38.1	-44.7	0.23
4,425.0	1.28	333.06	4,424.6	31.9	-38.3	-45.3	0.16
4,450.0	1.27	333.84	4,449.6	32.4	-38.6	-45.8	0.08
4,475.0	1.26	333.75	4,474.6	32.9	-38.8	-46.4	0.04
4,500.0	1.25	333.50	4,499.6	33.4	-39.0	-46.9	0.05
4,525.0	1.24	333.99	4,524.6	33.9	-39.3	-47.5	0.06
4,550.0	1.23	337.17	4,549.6	34.4	-39.5	-48.0	0.28
4,575.0	1.24	340.94	4,574.6	34.9	-39.7	-48.5	0.33
4,600.0	1.24	340.79	4,599.6	35.4	-39.9	-49.1	0.01
4,625.0	1.29	338.49	4,624.6	35.9	-40.1	-49.6	0.29
4,650.0	1.33	337.31	4,649.6	36.4	-40.3	-50.2	0.19
4,675.0	1.27	337.83	4,674.5	36.9	-40.5	-50.8	0.24

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EOW Completion Report



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

Local Co-ordinate Reference: Well Amanda Unit 2H
TVD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
MD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
4,700.0	1.24	338.02	4,699.5	37.5	-40.7	-51.3	0.12
4,725.0	1.18	337.43	4,724.5	37.9	-40.9	-51.8	0.25
4,750.0	1.19	340.57	4,749.5	38.4	-41.1	-52.4	0.26
4,775.0	1.31	342.73	4,774.5	38.9	-41.3	-52.9	0.52
4,800.0	1.33	343.08	4,799.5	39.5	-41.4	-53.5	0.09
4,825.0	1.38	345.37	4,824.5	40.1	-41.6	-54.1	0.29
4,850.0	1.39	342.72	4,849.5	40.6	-41.8	-54.6	0.26
4,875.0	1.41	338.75	4,874.5	41.2	-42.0	-55.3	0.40
4,900.0	1.43	339.84	4,899.5	41.8	-42.2	-55.9	0.13
4,925.0	1.35	338.61	4,924.5	42.4	-42.4	-56.5	0.34
4,950.0	1.30	336.13	4,949.5	42.9	-42.6	-57.1	0.30
4,975.0	1.36	337.16	4,974.5	43.4	-42.8	-57.6	0.26
5,000.0	1.38	338.89	4,999.5	44.0	-43.1	-58.2	0.18
5,025.0	1.34	341.70	5,024.5	44.5	-43.3	-58.8	0.31
5,050.0	1.31	341.06	5,049.4	45.1	-43.5	-59.4	0.13
5,075.0	1.29	340.00	5,074.4	45.6	-43.6	-60.0	0.13
5,100.0	1.31	338.60	5,099.4	46.2	-43.8	-60.5	0.15
5,125.0	1.30	340.13	5,124.4	46.7	-44.0	-61.1	0.15
5,150.0	1.28	339.88	5,149.4	47.2	-44.2	-61.7	0.08
5,175.0	1.27	335.45	5,174.4	47.7	-44.4	-62.2	0.40
5,200.0	1.20	335.99	5,199.4	48.2	-44.7	-62.7	0.28
5,225.0	1.15	337.63	5,224.4	48.7	-44.9	-63.3	0.24
5,250.0	1.18	336.54	5,249.4	49.2	-45.1	-63.8	0.15
5,275.0	1.24	334.56	5,274.4	49.6	-45.3	-64.3	0.29
5,300.0	1.31	334.70	5,299.4	50.1	-45.5	-64.8	0.28
5,325.0	1.28	330.66	5,324.4	50.6	-45.8	-65.4	0.38
5,350.0	1.22	326.42	5,349.4	51.1	-46.1	-66.0	0.44
5,375.0	1.21	331.93	5,374.4	51.6	-46.3	-66.5	0.47
5,400.0	1.18	334.52	5,399.4	52.0	-46.6	-67.0	0.25
5,425.0	1.16	330.99	5,424.4	52.5	-46.8	-67.5	0.30
5,450.0	1.13	330.43	5,449.4	52.9	-47.1	-68.0	0.13
5,475.0	1.07	333.62	5,474.3	53.3	-47.3	-68.5	0.34
5,500.0	1.06	336.46	5,499.3	53.8	-47.5	-69.0	0.21
5,525.0	1.01	335.24	5,524.3	54.2	-47.7	-69.4	0.22
5,550.0	0.98	329.86	5,549.3	54.6	-47.9	-69.8	0.39
5,575.0	0.97	331.54	5,574.3	54.9	-48.1	-70.3	0.12
5,600.0	0.96	334.41	5,599.3	55.3	-48.3	-70.7	0.20
5,625.0	1.03	325.55	5,624.3	55.7	-48.5	-71.1	0.68
5,650.0	1.03	323.26	5,649.3	56.1	-48.7	-71.6	0.16
5,675.0	0.96	329.42	5,674.3	56.4	-49.0	-72.0	0.51
5,700.0	0.88	329.95	5,699.3	56.8	-49.2	-72.4	0.32
5,725.0	0.86	327.46	5,724.3	57.1	-49.4	-72.8	0.17
5,750.0	0.87	324.19	5,749.3	57.4	-49.6	-73.1	0.20
5,775.0	0.89	327.69	5,774.3	57.7	-49.8	-73.5	0.23

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WV GEOLOGICAL SURVEY
MORGANTOWN, WV

EOW Completion Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well Amanda Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Site:	Zellerback/Amanda Pad	MD Reference:	Precision 523: GL 989' + 19' RKB @ 1008.0usft
Well:	Amanda 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)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)
5,790.0	0.74	332.70	5,789.3	57.9	-49.9	-73.7	1.11
5,799.0	0.70	327.34	5,798.3	58.0	-50.0	-73.8	0.87
5,829.0	0.69	324.54	5,828.3	58.3	-50.2	-74.2	0.12
5,859.0	0.71	323.10	5,858.3	58.6	-50.4	-74.6	0.09
5,889.0	0.67	323.14	5,888.3	58.9	-50.6	-74.9	0.13
5,919.0	0.80	318.60	5,918.3	59.2	-50.9	-75.3	0.47
5,949.0	0.05	170.79	5,948.3	59.3	-51.0	-75.5	2.81
5,979.0	3.15	145.86	5,978.3	58.6	-50.5	-74.7	10.35
6,009.0	6.53	145.57	6,008.2	56.5	-49.1	-72.2	11.27
6,038.0	9.39	142.95	6,036.9	53.3	-46.7	-68.2	9.94
6,068.0	12.61	143.93	6,066.3	48.7	-43.3	-62.6	10.75
6,098.0	15.73	144.17	6,095.4	42.7	-39.0	-55.4	10.40
6,128.0	18.96	144.61	6,124.0	35.5	-33.8	-46.6	10.78
6,158.0	21.90	146.11	6,152.2	26.9	-27.9	-36.2	9.95
6,188.0	25.23	147.45	6,179.6	16.8	-21.3	-24.3	11.24
6,218.0	28.86	147.62	6,206.4	5.3	-14.0	-10.8	12.10
6,248.0	31.92	148.13	6,232.2	-7.5	-5.9	4.3	10.24
6,255.0	32.69	148.22	6,238.2	-10.7	-4.0	8.0	11.05
Middlesex							
6,278.0	35.23	148.49	6,257.2	-21.7	2.8	20.8	11.05
6,307.0	38.74	147.90	6,280.4	-36.5	12.0	38.1	12.17
6,337.0	42.31	147.91	6,303.2	-53.0	22.3	57.5	11.90
6,367.0	46.31	147.87	6,324.7	-70.7	33.5	78.3	13.33
6,397.0	49.83	147.85	6,344.7	-89.6	45.3	100.4	11.73
6,407.0	51.04	147.67	6,351.1	-96.2	49.5	108.1	12.14
Burkett							
6,427.0	53.45	147.34	6,363.3	-109.5	58.0	123.8	12.14
6,457.0	57.76	147.10	6,380.3	-130.3	71.4	148.3	14.38
6,467.0	59.28	147.31	6,385.5	-137.5	76.0	156.8	15.27
Tully							
6,486.0	62.16	147.69	6,394.8	-151.4	84.9	173.2	15.27
6,516.0	66.86	148.70	6,407.7	-174.5	99.1	200.1	15.96
6,539.0	70.55	149.46	6,416.0	-192.8	110.1	221.5	16.35
Marcellus							
6,546.0	71.68	149.68	6,418.3	-198.5	113.5	228.1	16.35
6,585.0	77.45	150.47	6,428.7	-231.1	132.2	265.5	14.92
6,614.0	81.51	151.32	6,434.0	-256.0	146.1	294.0	14.29
6,644.0	83.88	151.81	6,437.8	-282.2	160.3	323.7	8.06
6,701.0	89.29	150.93	6,441.2	-332.1	187.5	380.5	9.62
6,793.0	89.80	151.08	6,441.9	-412.6	232.1	472.3	0.58
6,861.0	89.70	150.07	6,442.2	-471.8	265.5	540.1	1.49
6,955.0	89.20	150.05	6,443.1	-553.3	312.4	633.8	0.53
7,049.0	90.13	151.84	6,443.6	-635.4	358.1	727.6	2.15
7,143.0	89.60	153.77	6,443.9	-719.0	401.0	821.6	2.13
7,237.0	88.02	153.50	6,445.8	-803.2	442.8	915.6	1.71

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EOW Completion Report



WV GEOLOGICAL SURVEY MORGANTOWN, WV

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

Local Co-ordinate Reference: Well Amanda Unit 2H
TVD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
MD Reference: Precision 523: GL 989' + 19' RKB @ 1008.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Oklahoma District

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
7,331.0	88.35	152.66	6,448.8	-887.0	485.3	1,009.5	0.96
7,425.0	88.29	153.06	6,451.6	-970.6	528.2	1,103.4	0.43
7,452.0	88.42	152.73	6,452.3	-994.6	540.5	1,130.4	1.31
7,546.0	88.09	156.93	6,455.2	-1,079.7	580.4	1,224.3	4.48
7,640.0	88.19	157.03	6,458.2	-1,166.1	617.2	1,318.2	0.15
7,734.0	88.62	155.33	6,460.9	-1,252.1	655.1	1,412.1	1.86
7,828.0	88.16	153.79	6,463.5	-1,336.9	695.5	1,506.1	1.71
7,921.0	87.62	153.15	6,466.9	-1,420.1	737.0	1,599.0	0.90
8,012.0	88.19	155.44	6,470.3	-1,502.0	776.4	1,689.9	2.59
8,101.0	88.89	154.69	6,472.5	-1,582.7	813.9	1,778.9	1.15
8,190.0	88.43	154.18	6,474.6	-1,663.0	852.3	1,867.9	0.77
8,280.0	90.00	155.62	6,475.8	-1,744.4	890.5	1,957.8	2.37
8,369.0	89.73	153.96	6,476.0	-1,825.0	928.4	2,046.8	1.89
8,459.0	89.73	154.11	6,476.5	-1,905.9	967.8	2,136.8	0.17
8,549.0	89.23	153.25	6,477.3	-1,986.5	1,007.7	2,226.8	1.11
8,638.0	90.10	154.86	6,477.8	-2,066.6	1,046.7	2,315.8	2.06
8,728.0	89.90	154.35	6,477.8	-2,147.9	1,085.3	2,405.8	0.61
8,818.0	89.53	155.18	6,478.3	-2,229.3	1,123.6	2,495.8	1.01
8,907.0	90.37	155.03	6,478.3	-2,310.0	1,161.1	2,584.8	0.96
8,996.0	90.07	154.18	6,478.0	-2,390.4	1,199.3	2,673.8	1.01
9,086.0	90.20	155.00	6,477.8	-2,471.7	1,237.9	2,763.8	0.92
9,176.0	88.83	154.89	6,478.5	-2,553.2	1,276.0	2,853.8	1.53
9,266.0	89.03	153.83	6,480.2	-2,634.3	1,314.9	2,943.8	1.20
9,355.0	88.63	154.11	6,482.0	-2,714.3	1,354.0	3,032.8	0.55
9,445.0	89.63	154.97	6,483.4	-2,795.6	1,392.7	3,122.7	1.47
9,535.0	89.26	155.01	6,484.3	-2,877.1	1,430.7	3,212.7	0.41
9,624.0	88.86	154.75	6,485.7	-2,957.7	1,468.5	3,301.7	0.54
9,714.0	89.19	154.58	6,487.3	-3,039.0	1,507.0	3,391.7	0.41
9,803.0	89.53	155.37	6,488.3	-3,119.7	1,544.6	3,480.7	0.97
9,893.0	89.26	154.17	6,489.2	-3,201.1	1,583.0	3,570.7	1.37
9,983.0	88.99	153.78	6,490.6	-3,281.9	1,622.5	3,660.7	0.53
10,072.0	89.40	153.30	6,491.8	-3,361.6	1,662.1	3,749.6	0.71
10,162.0	89.50	154.42	6,492.7	-3,442.4	1,701.8	3,839.6	1.25
10,252.0	89.43	154.36	6,493.5	-3,523.5	1,740.7	3,929.6	0.10
10,341.0	89.13	154.60	6,494.7	-3,603.8	1,779.0	4,018.6	0.43
10,431.0	89.80	155.37	6,495.5	-3,685.4	1,817.1	4,108.6	1.13
10,520.0	89.93	155.72	6,495.7	-3,766.4	1,853.9	4,197.6	0.42
10,610.0	89.13	156.74	6,496.4	-3,848.8	1,890.2	4,287.6	1.44
10,700.0	88.62	153.97	6,498.2	-3,930.6	1,927.7	4,377.5	3.13
10,789.0	89.46	154.38	6,499.7	-4,010.7	1,966.5	4,466.5	1.05
10,879.0	90.57	154.22	6,499.7	-4,091.8	2,005.5	4,556.5	1.25
10,969.0	89.93	154.45	6,499.3	-4,172.9	2,044.5	4,646.5	0.76
11,058.0	90.20	153.07	6,499.2	-4,252.7	2,083.8	4,735.5	1.58
11,148.0	89.73	153.15	6,499.2	-4,333.0	2,124.5	4,825.5	0.53



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Project: Doddridge County WV
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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
11,237.0	88.96	155.18	6,500.3	-4,413.1	2,163.3	4,914.5	2.44
11,327.0	88.69	155.36	6,502.1	-4,494.8	2,201.0	5,004.4	0.36
11,417.0	89.83	154.83	6,503.3	-4,576.4	2,238.8	5,094.4	1.40
11,506.0	89.93	153.79	6,503.5	-4,656.6	2,277.4	5,183.4	1.17
11,596.0	89.33	153.67	6,504.0	-4,737.3	2,317.3	5,273.4	0.68
11,686.0	89.57	154.82	6,504.9	-4,818.4	2,356.4	5,363.4	1.31
11,775.0	90.34	155.53	6,505.0	-4,899.1	2,393.7	5,452.4	1.18
11,865.0	89.97	155.83	6,504.7	-4,981.2	2,430.8	5,542.4	0.53
11,955.0	88.80	154.60	6,505.7	-5,062.9	2,468.5	5,632.4	1.89
12,044.0	88.06	153.32	6,508.1	-5,142.8	2,507.6	5,721.3	1.66
12,134.0	88.29	154.32	6,511.0	-5,223.5	2,547.3	5,811.3	1.14
12,223.0	87.98	154.72	6,513.9	-5,303.8	2,585.5	5,900.2	0.57
12,313.0	87.62	155.12	6,517.3	-5,385.3	2,623.7	5,990.1	0.60
12,403.0	86.71	153.09	6,521.8	-5,466.1	2,662.9	6,080.0	2.47
12,492.0	87.05	154.92	6,526.6	-5,546.0	2,701.9	6,168.9	2.09
12,583.0	86.62	154.56	6,531.7	-5,628.2	2,740.6	6,259.7	0.62
12,640.0	86.62	154.56	6,535.0	-5,679.6	2,765.1	6,316.6	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
6,255.0	6,238.2	-10.7	-4.0	Middlesex
6,407.0	6,351.1	-96.2	49.5	Burkett
6,467.0	6,385.5	-137.5	76.0	Tully
6,539.0	6,416.0	-192.8	110.1	Marcellus

Checked By: _____ Approved By: _____ Date: _____

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