



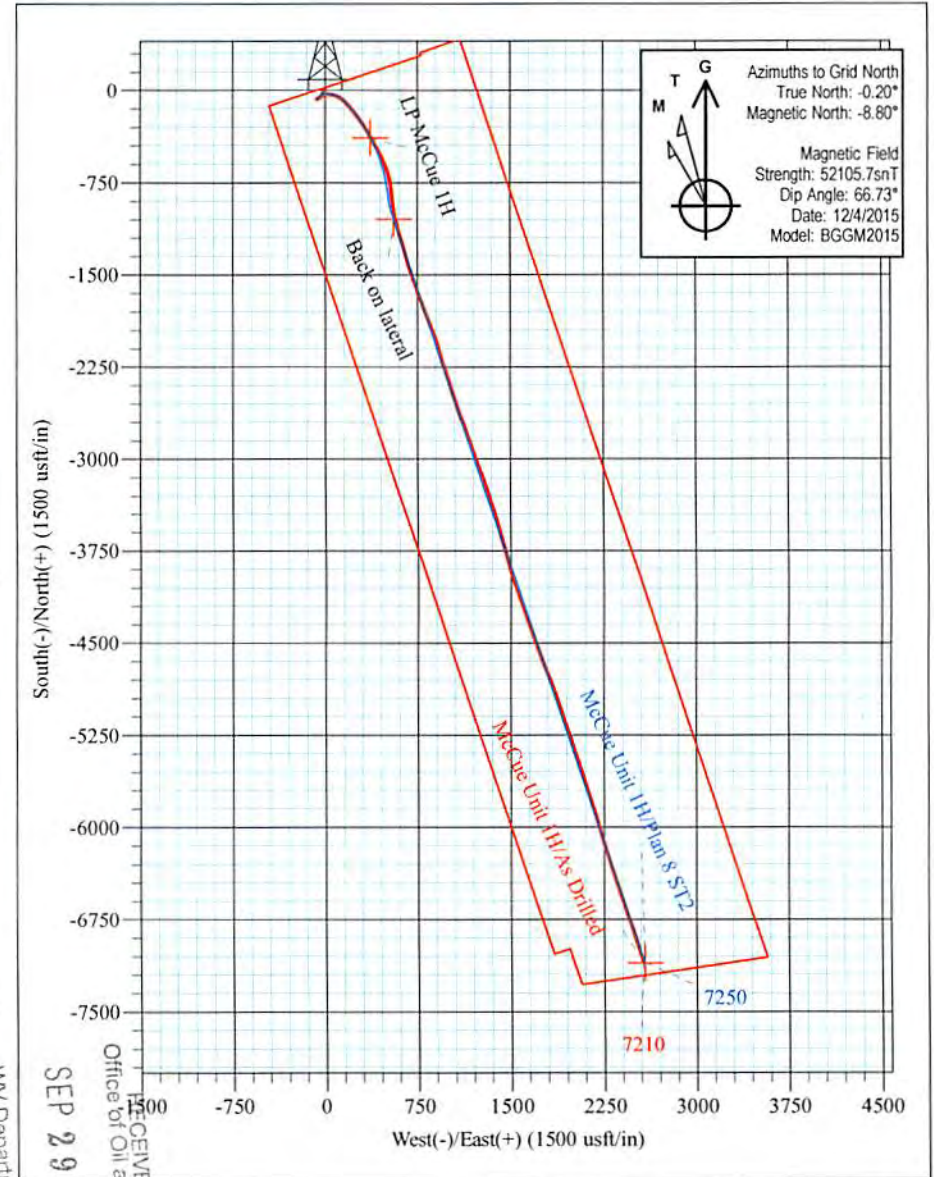
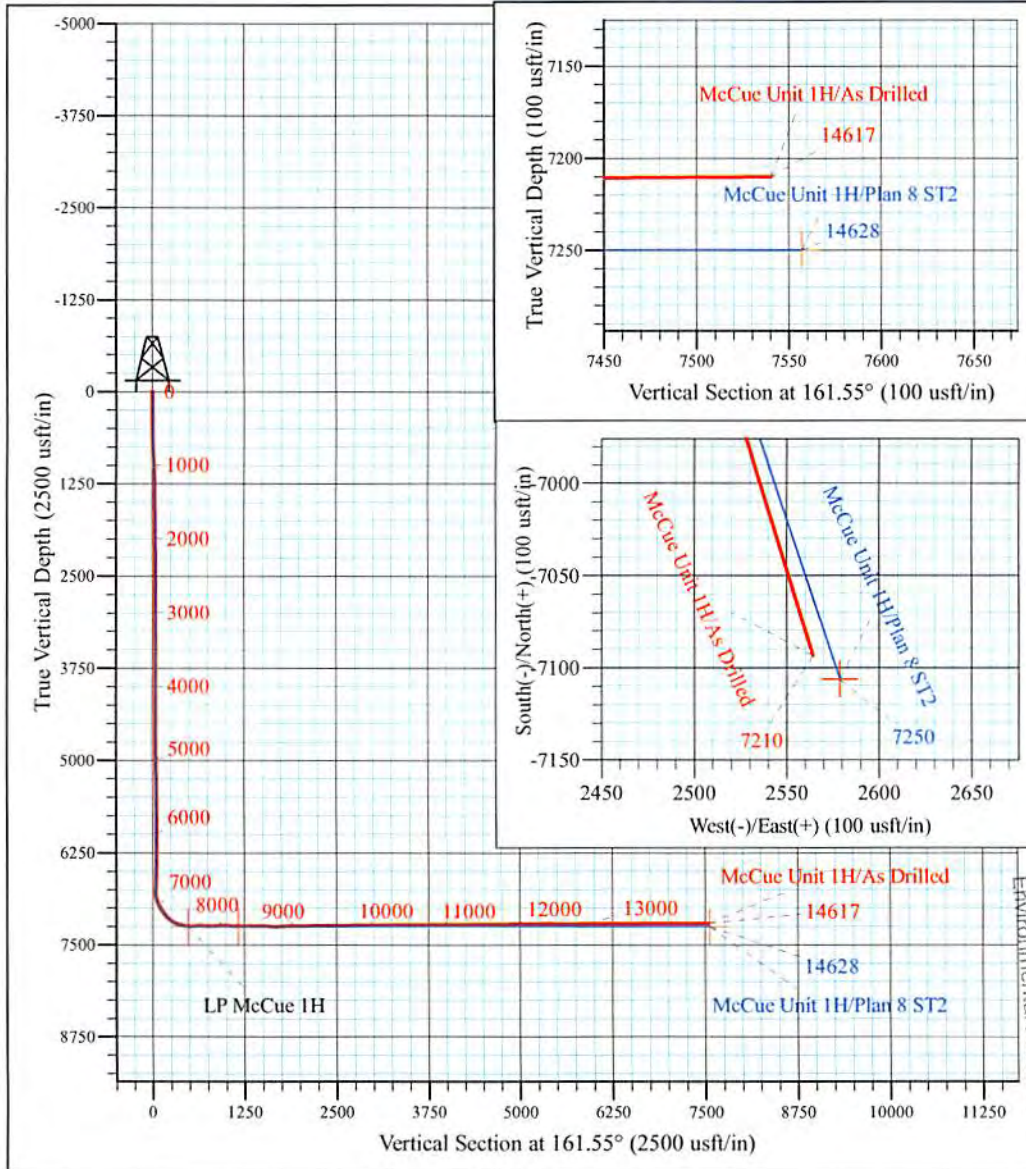
Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo
 McCue Unit 1H
 Plan 8 ST2
 Patterson 340: 1375 GL + 24 KB @ 1399.0usft
 Doddridge County WV

PROJECT DETAILS:
 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



WELL DETAILS: **McCue Unit 1H SHL**

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	14280089.39	1728012.03	39° 19' 26.746 N	80° 41' 24.925 W



McCue Unit 1H
Approx. BHL
39° 18' 16.522 N80° 40' 52.601 W

Shane Rhodes
 14:55, December 15 2015
 Scientific Drilling International
 124 Vista Drive
 Charleroi, PA 15022



Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo				
Site Position:		Northing:	14,280,080.45 usft	Latitude:	39° 19' 26.657 N
From:	Map	Easting:	1,728,015.18 usft	Longitude:	80° 41' 24.885 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well	McCue Unit 1H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,280,089.39 usft	Latitude:	39° 19' 26.746 N
	+E/-W	0.0 usft	Easting:	1,728,012.03 usft	Longitude:	80° 41' 24.925 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,399.0 usft	Ground Level:	1,375.0 usft

Wellbore	ST2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	12/4/2015	-8.60	66.73	52,106

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	7,097.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	161.55
	0.0	0.0	0.0		

Survey Program	Date	12/15/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	6,329.0	Survey #6 - Def Final Gyro (Original Wellp	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
6,439.0	7,097.0	Survey #7 - SDI MWD (Original Wellpath)	SDI MWD	Scientific Drilling Intl. MWD - Standard ver 1.0.1	
7,128.0	14,617.0	Survey #8 - MWD at ST2 (ST2)	SDI MWD	Scientific Drilling Intl. 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
100.0	0.08	180.35	100.0	-0.1	0.0	0.1	0.08	0.08	0.00
125.0	0.16	206.03	125.0	-0.1	0.0	0.1	0.38	0.32	102.72
150.0	0.03	35.34	150.0	-0.1	0.0	0.1	0.76	-0.52	-682.76
175.0	0.08	175.58	175.0	-0.2	0.0	0.1	0.42	0.20	560.96
200.0	0.06	201.52	200.0	-0.2	0.0	0.2	0.15	-0.08	103.76
225.0	0.13	183.04	225.0	-0.2	0.0	0.2	0.30	0.28	-73.92
250.0	0.07	230.65	250.0	-0.3	0.0	0.2	0.39	-0.24	190.44



Scientific Drilling International
Survey Report



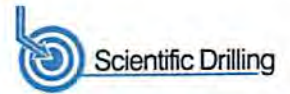
Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)
275.0	0.04	198.63	275.0	-0.3	-0.1	0.2	0.17	-0.12	-128.08
300.0	0.16	138.39	300.0	-0.3	0.0	0.3	0.58	0.48	-240.96
325.0	0.06	123.47	325.0	-0.4	0.0	0.3	0.41	-0.40	-59.68
350.0	0.07	180.31	350.0	-0.4	0.0	0.4	0.25	0.04	227.36
375.0	0.10	160.67	375.0	-0.4	0.0	0.4	0.17	0.12	-78.56
400.0	0.13	183.82	400.0	-0.5	0.0	0.4	0.22	0.12	92.60
425.0	0.23	170.55	425.0	-0.5	0.0	0.5	0.43	0.40	-53.08
450.0	0.24	181.87	450.0	-0.6	0.0	0.6	0.19	0.04	45.28
475.0	0.19	177.08	475.0	-0.7	0.0	0.7	0.21	-0.20	-19.16
500.0	0.13	125.74	500.0	-0.8	0.1	0.8	0.60	-0.24	-205.36
525.0	0.16	185.64	525.0	-0.8	0.1	0.8	0.59	0.12	239.60
550.0	0.14	160.72	550.0	-0.9	0.1	0.9	0.27	-0.08	-99.68
575.0	0.68	198.37	575.0	-1.1	0.0	1.0	2.30	2.16	150.60
600.0	1.21	203.80	600.0	-1.5	-0.1	1.3	2.15	2.12	21.72
625.0	1.55	203.59	625.0	-2.0	-0.3	1.8	1.36	1.36	-0.84
650.0	1.92	210.00	650.0	-2.7	-0.7	2.3	1.67	1.48	25.64
675.0	3.50	218.93	674.9	-3.6	-1.4	3.0	6.52	6.32	35.72
700.0	4.13	221.43	699.9	-4.9	-2.5	3.9	2.61	2.52	10.00
725.0	4.36	221.42	724.8	-6.3	-3.7	4.8	0.92	0.92	-0.04
750.0	5.29	217.34	749.7	-7.9	-5.0	5.9	3.96	3.72	-16.32
775.0	6.14	216.12	774.6	-9.9	-6.5	7.4	3.43	3.40	-4.88
800.0	6.33	215.30	799.5	-12.1	-8.1	8.9	0.84	0.76	-3.28
801.2	6.34	215.26	800.7	-12.2	-8.2	9.0	0.87	0.80	-3.20
825.9	6.59	215.03	825.2	-14.5	-9.8	10.7	1.02	1.02	-0.93
850.8	6.79	214.00	850.0	-16.9	-11.4	12.4	0.93	0.80	-4.13
875.6	6.81	213.82	874.5	-19.3	-13.0	14.2	0.12	0.08	-0.73
900.7	6.94	213.76	899.4	-21.8	-14.7	16.0	0.52	0.52	-0.24
925.9	7.00	213.87	924.4	-24.4	-16.4	17.9	0.24	0.24	0.44
950.7	6.88	213.43	949.2	-26.9	-18.1	19.8	0.53	-0.48	-1.77
975.4	5.76	212.91	973.7	-29.1	-19.6	21.5	4.55	-4.54	-2.11
1,000.3	5.54	212.64	998.4	-31.2	-20.9	23.0	0.89	-0.88	-1.09
1,025.5	5.40	213.33	1,023.6	-33.2	-22.2	24.5	0.61	-0.55	2.73
1,050.5	4.98	213.40	1,048.4	-35.1	-23.4	25.9	1.68	-1.68	0.28
1,075.7	4.61	212.54	1,073.5	-36.9	-24.6	27.2	1.50	-1.47	-3.42
1,101.3	4.13	213.18	1,099.0	-38.5	-25.6	28.4	1.88	-1.87	2.50
1,126.3	3.92	215.02	1,124.0	-40.0	-26.6	29.5	0.99	-0.84	7.36
1,151.5	3.59	213.12	1,149.1	-41.3	-27.6	30.5	1.40	-1.31	-7.53
1,176.1	3.32	212.98	1,173.7	-42.6	-28.4	31.4	1.10	-1.10	-0.57
1,200.9	3.00	212.95	1,198.5	-43.7	-29.1	32.3	1.29	-1.29	-0.12
1,225.3	2.78	215.34	1,222.9	-44.7	-29.8	33.0	1.03	-0.90	9.78
1,252.0	2.61	215.79	1,249.5	-45.8	-30.5	33.7	0.64	-0.64	1.69
1,276.9	2.45	215.38	1,274.4	-46.7	-31.2	34.4	0.65	-0.64	-1.65

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Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Buid Rate (°/100usft)	Turn Rate (°/100usft)
1,301.7	2.09	215.81	1,299.2	-47.5	-31.7	35.0	1.45	-1.45	1.73
1,326.3	1.96	217.23	1,323.7	-48.2	-32.3	35.5	0.57	-0.53	5.78
1,350.6	1.73	216.40	1,348.0	-48.8	-32.7	35.9	0.95	-0.95	-3.42
1,375.4	1.40	217.03	1,372.8	-49.3	-33.1	36.3	1.33	-1.33	2.54
1,401.9	1.36	215.50	1,399.4	-49.8	-33.5	36.7	0.20	-0.15	-5.76
1,426.5	1.35	214.62	1,423.9	-50.3	-33.8	37.0	0.09	-0.04	-3.59
1,451.8	1.25	217.84	1,449.2	-50.8	-34.2	37.3	0.49	-0.39	12.69
1,476.6	1.11	218.18	1,474.0	-51.2	-34.5	37.6	0.57	-0.57	1.37
1,501.1	1.11	219.94	1,498.5	-51.5	-34.8	37.9	0.14	0.00	7.17
1,526.0	1.03	213.33	1,523.4	-51.9	-35.1	38.1	0.59	-0.32	-26.49
1,550.6	1.00	215.08	1,547.9	-52.3	-35.3	38.4	0.18	-0.12	7.14
1,575.5	0.98	215.26	1,572.8	-52.6	-35.6	38.7	0.08	-0.08	0.72
1,600.7	0.88	211.55	1,598.1	-53.0	-35.8	38.9	0.46	-0.40	-14.70
1,625.6	0.81	216.09	1,623.0	-53.3	-36.0	39.1	0.39	-0.28	18.21
1,650.2	0.76	216.15	1,647.6	-53.5	-36.2	39.3	0.20	-0.20	0.24
1,675.5	0.78	210.02	1,672.9	-53.8	-36.4	39.6	0.33	0.08	-24.18
1,700.2	0.51	212.48	1,697.5	-54.1	-36.5	39.7	1.10	-1.10	9.98
1,727.0	0.55	201.53	1,724.3	-54.3	-36.6	39.9	0.41	0.15	-40.84
1,750.2	0.47	200.01	1,747.5	-54.5	-36.7	40.1	0.35	-0.35	-6.56
1,777.1	0.54	204.96	1,774.5	-54.7	-36.8	40.2	0.31	0.26	18.35
1,801.7	0.49	206.77	1,799.0	-54.9	-36.9	40.4	0.21	-0.20	7.37
1,826.3	0.42	192.04	1,823.7	-55.1	-37.0	40.6	0.55	-0.28	-59.81
1,851.4	0.53	194.10	1,848.8	-55.3	-37.0	40.7	0.44	0.44	8.20
1,876.1	0.50	193.74	1,873.4	-55.5	-37.1	40.9	0.12	-0.12	-1.46
1,900.8	0.46	216.23	1,898.1	-55.7	-37.1	41.1	0.78	-0.16	91.16
1,925.4	0.52	198.62	1,922.8	-55.9	-37.2	41.2	0.65	0.24	-71.35
1,950.8	0.58	199.90	1,948.2	-56.1	-37.3	41.4	0.24	0.24	5.00
1,975.6	0.52	191.64	1,973.0	-56.3	-37.4	41.6	0.40	-0.24	-33.35
2,000.3	0.51	196.97	1,997.7	-56.5	-37.4	41.8	0.20	-0.04	21.55
2,025.0	0.42	186.23	2,022.4	-56.7	-37.5	42.0	0.51	-0.36	-43.52
2,051.9	0.45	167.99	2,049.2	-56.9	-37.5	42.2	0.52	0.11	-67.88
2,076.2	0.35	164.14	2,073.5	-57.1	-37.4	42.3	0.43	-0.41	-15.85
2,100.5	0.34	150.81	2,097.9	-57.2	-37.4	42.5	0.33	-0.04	-54.74
2,127.0	0.33	173.29	2,124.3	-57.4	-37.3	42.6	0.50	-0.04	85.05
2,151.7	0.25	168.87	2,149.0	-57.5	-37.3	42.7	0.34	-0.32	-17.90
2,176.1	0.32	169.19	2,173.5	-57.6	-37.3	42.9	0.29	0.29	1.31
2,200.3	0.32	148.24	2,197.7	-57.8	-37.2	43.0	0.48	0.00	-86.53
2,227.4	0.37	156.02	2,224.7	-57.9	-37.2	43.2	0.25	0.18	28.75
2,251.7	0.46	171.14	2,249.1	-58.1	-37.1	43.3	0.58	0.37	62.09
2,276.5	0.36	160.19	2,273.8	-58.2	-37.1	43.5	0.51	-0.40	-44.22
2,300.9	0.33	165.45	2,298.2	-58.4	-37.0	43.7	0.18	-0.12	21.58
2,325.8	0.33	170.94	2,323.1	-58.5	-37.0	43.8	0.13	0.00	22.04
2,350.1	0.29	181.18	2,347.4	-58.6	-37.0	43.9	0.28	-0.16	42.11

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Survey Report



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Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)	
2,376.1	0.34	175.36	2,373.4	-58.8	-37.0	44.1	0.23	0.19	-22.37	
2,400.0	0.22	179.39	2,397.3	-58.9	-37.0	44.2	0.51	-0.50	16.87	
2,425.5	0.15	196.35	2,422.8	-59.0	-37.0	44.2	0.35	-0.27	66.56	
2,450.4	0.16	151.01	2,447.7	-59.0	-37.0	44.3	0.48	0.04	-182.02	
2,476.0	0.20	162.37	2,473.3	-59.1	-36.9	44.4	0.21	0.16	44.41	
2,498.7	0.11	231.27	2,496.1	-59.2	-37.0	44.4	0.84	-0.40	302.59	
2,524.6	0.07	241.77	2,522.0	-59.2	-37.0	44.4	0.17	-0.15	40.54	
2,547.8	0.14	249.03	2,545.2	-59.2	-37.0	44.5	0.31	0.30	31.28	
2,573.6	0.11	253.09	2,571.0	-59.2	-37.1	44.5	0.12	-0.12	15.75	
2,599.1	0.06	303.25	2,596.5	-59.2	-37.1	44.4	0.33	-0.20	196.71	
2,623.1	0.15	236.23	2,620.5	-59.2	-37.1	44.4	0.58	0.37	-279.13	
2,648.6	0.09	270.14	2,646.0	-59.3	-37.2	44.4	0.36	-0.24	133.03	
2,674.1	0.18	255.52	2,671.5	-59.3	-37.3	44.4	0.37	0.35	-57.31	
2,698.1	0.22	253.74	2,695.4	-59.3	-37.3	44.4	0.17	0.17	-7.43	
2,723.6	0.19	263.34	2,720.9	-59.3	-37.4	44.4	0.18	-0.12	37.63	
2,749.1	0.23	255.11	2,746.5	-59.3	-37.5	44.4	0.20	0.16	-32.24	
2,774.6	0.27	253.56	2,771.9	-59.4	-37.6	44.4	0.16	0.16	-6.09	
2,797.8	0.20	269.22	2,795.2	-59.4	-37.7	44.4	0.41	-0.30	67.38	
2,823.6	0.27	249.78	2,821.0	-59.4	-37.8	44.4	0.41	0.27	-75.26	
2,849.1	0.31	265.60	2,846.4	-59.4	-37.9	44.4	0.35	0.16	62.14	
2,874.3	0.20	269.48	2,871.7	-59.4	-38.1	44.3	0.44	-0.44	15.37	
2,899.4	0.31	271.18	2,896.8	-59.4	-38.2	44.3	0.44	0.44	6.77	
2,924.4	0.40	246.30	2,921.8	-59.5	-38.3	44.3	0.71	0.36	-99.52	
2,947.9	0.26	269.01	2,945.3	-59.5	-38.4	44.3	0.81	-0.60	96.76	
2,973.2	0.37	265.73	2,970.6	-59.5	-38.6	44.2	0.44	0.43	-12.95	
2,998.2	0.35	255.26	2,995.6	-59.5	-38.7	44.2	0.27	-0.08	-41.85	
3,024.5	0.24	273.72	3,021.8	-59.5	-38.9	44.2	0.55	-0.42	70.45	
3,047.5	0.26	260.39	3,044.8	-59.6	-39.0	44.2	0.27	0.09	-57.96	
3,072.9	0.30	266.68	3,070.3	-59.6	-39.1	44.1	0.20	0.16	24.71	
3,098.2	0.29	262.18	3,095.6	-59.6	-39.2	44.1	0.10	-0.04	-17.77	
3,124.0	0.39	249.44	3,121.4	-59.6	-39.4	44.1	0.48	0.39	-49.42	
3,149.3	0.32	259.46	3,146.7	-59.7	-39.5	44.1	0.37	-0.28	39.57	
3,174.3	0.31	261.04	3,171.7	-59.7	-39.7	44.1	0.05	-0.04	6.32	
3,200.0	0.33	244.92	3,197.3	-59.7	-39.8	44.1	0.36	0.08	-62.85	
3,224.9	0.31	244.66	3,222.3	-59.8	-39.9	44.1	0.08	-0.08	-1.04	
3,249.9	0.37	249.33	3,247.3	-59.8	-40.1	44.1	0.26	0.24	18.69	
3,274.8	0.34	254.08	3,272.2	-59.9	-40.2	44.1	0.17	-0.12	19.07	
3,298.0	0.36	260.01	3,295.3	-59.9	-40.3	44.1	0.18	0.09	25.66	
3,322.9	0.38	255.80	3,320.3	-60.0	-40.5	44.1	0.14	0.08	-16.85	
3,347.9	0.43	251.12	3,345.3	-60.0	-40.7	44.1	0.24	0.20	-18.73	
3,372.8	0.39	252.54	3,370.2	-60.1	-40.8	44.1	0.17	-0.16	5.70	
3,400.0	0.40	257.38	3,397.3	-60.1	-41.0	44.0	0.13	0.04	17.82	

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Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)	
3,423.1	0.38	252.49	3,420.4	-60.2	-41.2	44.0	0.17	-0.09	-21.17	
3,448.1	0.44	249.99	3,445.4	-60.2	-41.3	44.0	0.25	0.24	-10.01	
3,473.0	0.35	256.42	3,470.3	-60.3	-41.5	44.0	0.40	-0.36	25.81	
3,498.0	0.36	250.47	3,495.3	-60.3	-41.6	44.0	0.15	0.04	-23.83	
3,522.9	0.36	247.23	3,520.3	-60.4	-41.8	44.0	0.08	0.00	-12.98	
3,548.3	0.33	249.86	3,545.6	-60.4	-41.9	44.0	0.13	-0.12	10.38	
3,573.2	0.33	244.53	3,570.6	-60.5	-42.1	44.1	0.12	0.00	-21.33	
3,598.2	0.33	235.19	3,595.5	-60.5	-42.2	44.1	0.22	0.00	-37.40	
3,623.1	0.30	244.56	3,620.4	-60.6	-42.3	44.1	0.24	-0.12	37.69	
3,648.5	0.29	247.69	3,645.8	-60.7	-42.4	44.1	0.07	-0.04	12.30	
3,673.4	0.29	245.50	3,670.8	-60.7	-42.5	44.1	0.04	0.00	-8.79	
3,698.4	0.30	253.65	3,695.7	-60.8	-42.7	44.1	0.17	0.04	32.68	
3,723.7	0.32	251.82	3,721.0	-60.8	-42.8	44.1	0.09	0.08	-7.23	
3,748.5	0.34	265.38	3,745.8	-60.8	-42.9	44.1	0.32	0.08	54.66	
3,772.9	0.38	254.46	3,770.2	-60.9	-43.1	44.1	0.32	0.16	-44.75	
3,798.1	0.36	257.12	3,795.4	-60.9	-43.2	44.1	0.10	-0.08	10.56	
3,824.7	0.38	260.19	3,822.1	-60.9	-43.4	44.1	0.11	0.07	11.51	
3,849.5	0.39	251.70	3,846.9	-61.0	-43.6	44.0	0.23	0.04	-34.25	
3,874.3	0.36	258.80	3,871.6	-61.0	-43.7	44.0	0.22	-0.12	28.64	
3,898.9	0.40	251.29	3,896.2	-61.1	-43.9	44.0	0.26	0.16	-30.62	
3,923.2	0.38	254.62	3,920.6	-61.1	-44.0	44.0	0.12	-0.08	13.66	
3,949.8	0.40	256.52	3,947.2	-61.1	-44.2	44.0	0.09	0.08	7.14	
3,974.6	0.34	249.22	3,971.9	-61.2	-44.4	44.0	0.31	-0.24	-29.46	
3,999.0	0.31	254.00	3,996.3	-61.2	-44.5	44.0	0.17	-0.12	19.61	
4,023.4	0.46	244.35	4,020.8	-61.3	-44.7	44.0	0.67	0.61	-39.69	
4,047.7	0.32	249.04	4,045.1	-61.4	-44.8	44.0	0.59	-0.58	19.29	
4,075.0	0.27	234.19	4,072.3	-61.4	-44.9	44.1	0.33	-0.18	-54.52	
4,099.8	0.39	232.24	4,097.1	-61.5	-45.0	44.1	0.49	0.48	-7.87	
4,124.1	0.30	238.22	4,121.5	-61.6	-45.2	44.1	0.40	-0.37	24.54	
4,148.9	0.41	231.85	4,146.2	-61.7	-45.3	44.2	0.47	0.44	-25.71	
4,173.3	0.39	236.75	4,170.7	-61.8	-45.4	44.2	0.16	-0.08	20.06	
4,197.8	0.40	232.94	4,195.1	-61.9	-45.6	44.3	0.11	0.04	-15.58	
4,224.7	0.41	229.75	4,222.1	-62.0	-45.7	44.4	0.09	0.04	-11.84	
4,249.5	0.58	230.13	4,246.8	-62.1	-45.9	44.4	0.69	0.69	1.54	
4,274.1	0.52	221.35	4,271.4	-62.3	-46.0	44.5	0.42	-0.24	-35.65	
4,299.0	0.34	224.96	4,296.3	-62.4	-46.2	44.6	0.73	-0.72	14.53	
4,324.5	0.64	227.05	4,321.8	-62.6	-46.3	44.7	1.18	1.18	8.19	
4,348.5	0.56	219.44	4,345.9	-62.8	-46.5	44.8	0.47	-0.33	-31.63	
4,373.4	0.59	221.00	4,370.7	-63.0	-46.7	45.0	0.14	0.12	6.27	
4,397.9	0.58	226.75	4,395.2	-63.1	-46.8	45.1	0.24	-0.04	23.48	
4,424.6	0.71	230.62	4,421.9	-63.3	-47.1	45.2	0.51	0.49	14.51	
4,449.4	0.58	234.28	4,446.7	-63.5	-47.3	45.3	0.55	-0.52	14.75	
4,473.9	0.65	221.54	4,471.2	-63.7	-47.5	45.4	0.63	0.29	-52.00	

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Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)
4,498.7	0.76	227.98	4,496.0	-63.9	-47.7	45.5	0.55	0.44	25.97
4,523.1	0.71	219.04	4,520.4	-64.1	-47.9	45.7	0.51	-0.20	-36.59
4,549.9	0.69	222.06	4,547.2	-64.4	-48.1	45.8	0.16	-0.07	11.28
4,573.9	0.65	226.34	4,571.2	-64.6	-48.3	46.0	0.27	-0.17	17.82
4,597.8	0.64	225.79	4,595.1	-64.8	-48.5	46.1	0.05	-0.04	-2.30
4,624.0	0.67	226.03	4,621.3	-65.0	-48.7	46.2	0.12	0.11	0.92
4,648.4	0.74	225.48	4,645.7	-65.2	-48.9	46.3	0.29	0.29	-2.26
4,674.8	0.79	229.13	4,672.1	-65.4	-49.2	46.5	0.26	0.19	13.82
4,698.6	0.75	230.04	4,695.9	-65.6	-49.4	46.6	0.18	-0.17	3.82
4,723.1	0.83	227.08	4,720.4	-65.9	-49.7	46.7	0.37	0.33	-12.09
4,749.2	0.72	226.01	4,746.5	-66.1	-50.0	46.9	0.42	-0.42	-4.09
4,773.2	0.81	225.98	4,770.5	-66.3	-50.2	47.0	0.38	0.38	-0.13
4,800.0	0.68	223.21	4,797.2	-66.6	-50.4	47.2	0.50	-0.49	-10.35
4,823.9	0.75	224.79	4,821.1	-66.8	-50.6	47.3	0.30	0.29	6.61
4,848.0	0.81	232.72	4,845.3	-67.0	-50.9	47.5	0.51	0.25	32.85
4,874.6	0.74	231.10	4,871.9	-67.2	-51.2	47.6	0.28	-0.26	-6.08
4,898.6	0.69	232.25	4,895.9	-67.4	-51.4	47.7	0.22	-0.21	4.80
4,924.7	0.84	233.62	4,921.9	-67.6	-51.7	47.8	0.58	0.58	5.26
4,949.0	0.83	233.54	4,946.2	-67.8	-52.0	47.9	0.04	-0.04	-0.33
4,972.8	0.74	232.86	4,970.1	-68.0	-52.2	48.0	0.38	-0.38	-2.85
4,999.0	0.75	231.75	4,996.2	-68.2	-52.5	48.1	0.07	0.04	-4.25
5,022.9	0.90	233.65	5,020.2	-68.4	-52.8	48.2	0.64	0.63	7.93
5,049.4	0.78	239.48	5,046.6	-68.7	-53.1	48.3	0.56	-0.45	22.04
5,073.7	0.88	237.51	5,071.0	-68.8	-53.4	48.4	0.43	0.41	-8.09
5,098.3	0.80	231.09	5,095.6	-69.0	-53.7	48.5	0.50	-0.33	-26.10
5,124.4	0.71	230.39	5,121.6	-69.3	-53.9	48.6	0.35	-0.35	-2.69
5,148.3	0.77	234.35	5,145.6	-69.5	-54.2	48.7	0.33	0.25	16.53
5,174.8	0.77	233.15	5,172.0	-69.7	-54.5	48.8	0.06	0.00	-4.54
5,198.6	0.75	229.32	5,195.9	-69.9	-54.7	48.9	0.23	-0.08	-16.07
5,223.0	0.73	233.92	5,220.3	-70.1	-55.0	49.1	0.26	-0.08	18.84
5,249.2	0.67	231.84	5,246.4	-70.2	-55.2	49.2	0.25	-0.23	-7.99
5,273.5	0.82	229.49	5,270.7	-70.4	-55.5	49.3	0.63	0.62	-9.65
5,298.2	0.75	230.64	5,295.4	-70.7	-55.7	49.4	0.29	-0.28	4.66
5,323.2	0.79	230.59	5,320.4	-70.9	-56.0	49.5	0.16	0.16	-0.20
5,349.1	0.82	234.74	5,346.3	-71.1	-56.3	49.6	0.25	0.12	16.04
5,373.3	0.73	235.01	5,370.5	-71.3	-56.5	49.7	0.37	-0.37	1.12
5,398.8	0.73	230.75	5,396.0	-71.5	-56.8	49.8	0.21	0.00	-16.68
5,424.8	0.73	237.10	5,422.0	-71.7	-57.1	49.9	0.31	0.00	24.45
5,448.2	0.72	238.63	5,445.5	-71.8	-57.3	50.0	0.09	-0.04	6.52
5,474.4	0.78	238.08	5,471.6	-72.0	-57.6	50.1	0.23	0.23	-2.10
5,498.6	0.67	242.61	5,495.8	-72.2	-57.9	50.1	0.51	-0.45	18.70
5,524.1	0.68	244.44	5,521.3	-72.3	-58.2	50.2	0.09	0.04	7.19

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Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)
5,548.0	0.73	242.36	5,545.2	-72.4	-58.4	50.2	0.23	0.21	-8.70
5,573.4	0.59	238.68	5,570.6	-72.6	-58.7	50.3	0.57	-0.55	-14.45
5,599.4	0.78	243.42	5,596.6	-72.7	-58.9	50.3	0.76	0.73	18.27
5,623.2	0.73	248.22	5,620.4	-72.9	-59.2	50.4	0.34	-0.21	20.13
5,648.7	0.74	245.54	5,645.9	-73.0	-59.5	50.4	0.14	0.04	-10.53
5,674.2	0.72	246.79	5,671.4	-73.1	-59.8	50.4	0.10	-0.08	4.90
5,697.5	0.79	250.71	5,694.7	-73.2	-60.1	50.4	0.37	0.30	16.85
5,723.6	0.74	250.79	5,720.8	-73.3	-60.4	50.4	0.19	-0.19	0.31
5,749.5	0.77	245.30	5,746.7	-73.5	-60.8	50.5	0.30	0.12	-21.24
5,773.2	0.82	250.87	5,770.4	-73.6	-61.1	50.5	0.39	0.21	23.43
5,798.8	0.75	251.75	5,796.0	-73.7	-61.4	50.5	0.28	-0.27	3.44
5,824.4	0.70	257.01	5,821.6	-73.8	-61.7	50.5	0.33	-0.20	20.55
5,848.1	0.70	248.28	5,845.3	-73.9	-62.0	50.5	0.45	0.00	-36.80
5,873.5	0.71	253.73	5,870.7	-74.0	-62.3	50.5	0.27	0.04	21.46
5,899.3	0.68	249.63	5,896.5	-74.1	-62.6	50.5	0.23	-0.12	-15.93
5,922.6	0.68	261.93	5,919.8	-74.1	-62.8	50.4	0.62	0.00	52.70
5,948.6	0.65	257.39	5,945.8	-74.2	-63.1	50.4	0.23	-0.12	-17.45
5,974.3	0.69	257.56	5,971.5	-74.3	-63.4	50.4	0.16	0.16	0.66
5,998.9	0.68	264.38	5,996.1	-74.3	-63.7	50.3	0.33	-0.04	27.72
6,024.9	0.61	256.43	6,022.1	-74.4	-64.0	50.3	0.44	-0.27	-30.57
6,048.7	0.65	257.48	6,045.8	-74.4	-64.3	50.3	0.18	0.17	4.42
6,074.5	0.64	255.94	6,071.7	-74.5	-64.5	50.2	0.08	-0.04	-5.96
6,097.9	0.59	260.78	6,095.1	-74.5	-64.8	50.2	0.31	-0.21	20.67
6,123.5	0.52	251.14	6,120.7	-74.6	-65.0	50.2	0.45	-0.27	-37.66
6,149.4	0.55	255.44	6,146.6	-74.7	-65.3	50.2	0.19	0.12	16.62
6,174.5	0.47	253.39	6,171.7	-74.7	-65.5	50.2	0.33	-0.32	-8.18
6,199.5	0.35	247.76	6,196.7	-74.8	-65.6	50.2	0.51	-0.48	-22.50
6,222.7	0.49	246.00	6,219.9	-74.8	-65.8	50.2	0.61	0.60	-7.59
6,248.1	0.40	252.89	6,245.3	-74.9	-66.0	50.2	0.41	-0.35	27.10
6,273.2	0.28	242.15	6,270.4	-75.0	-66.1	50.2	0.54	-0.48	-42.79
6,299.2	0.29	232.87	6,296.4	-75.0	-66.2	50.2	0.18	0.04	-35.69
6,324.0	0.44	209.51	6,321.2	-75.2	-66.3	50.3	0.84	0.61	-94.27
6,329.0	0.38	194.43	6,326.2	-75.2	-66.3	50.3	2.43	-1.19	-298.61
6,439.0	0.44	239.81	6,436.2	-75.8	-66.8	50.7	0.29	0.05	41.27
6,470.0	0.33	236.54	6,467.2	-75.9	-67.0	50.8	0.36	-0.35	-10.55
6,501.0	0.29	201.17	6,498.2	-76.0	-67.1	50.9	0.62	-0.13	-114.10
6,533.0	1.39	63.51	6,530.2	-75.9	-66.8	50.9	5.05	3.44	-430.19
6,564.0	6.56	60.67	6,561.1	-74.9	-64.9	50.5	16.68	16.68	-9.16
6,595.0	12.45	58.07	6,591.6	-72.2	-60.5	49.4	19.05	19.00	-8.39
6,627.0	16.01	56.38	6,622.6	-68.0	-53.9	47.4	11.20	11.13	-5.28
6,658.0	18.06	58.13	6,652.3	-63.0	-46.3	45.2	6.82	6.61	5.65
6,689.0	20.62	60.09	6,681.5	-57.8	-37.4	43.0	8.52	8.26	6.32
6,720.0	22.78	62.13	6,710.3	-52.3	-27.4	40.9	8.97	8.97	6.58

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Scientific Drilling International
Survey Report



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Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)	
6,752.0	24.14	65.20	6,739.7	-46.6	-16.0	39.2	5.71	4.25	9.59	
6,783.0	24.62	70.39	6,767.9	-41.8	-4.1	38.3	7.08	1.55	16.74	
6,815.0	25.06	78.75	6,797.0	-38.2	8.8	39.0	11.05	1.38	26.13	
6,846.0	25.84	85.35	6,825.0	-36.4	22.0	41.5	9.48	2.52	21.29	
6,877.0	28.17	89.20	6,852.6	-35.8	36.0	45.3	9.39	7.52	12.42	
6,908.0	29.34	97.42	6,879.8	-36.6	50.9	50.8	13.29	3.77	26.52	
6,940.0	30.85	105.04	6,907.5	-39.8	66.6	58.8	12.83	4.72	23.81	
6,971.0	32.48	111.38	6,933.9	-44.9	82.0	68.5	11.95	5.26	20.45	
6,994.0	33.68	115.42	6,953.1	-49.9	93.5	76.9	10.92	5.24	17.57	
Middlesex @ 6994										
7,003.0	34.19	116.93	6,960.6	-52.1	98.0	80.4	10.92	5.62	16.78	
7,034.0	35.22	122.24	6,986.1	-60.8	113.4	93.5	10.30	3.32	17.13	
7,065.0	36.98	125.56	7,011.1	-71.0	128.5	108.0	8.49	5.68	10.71	
7,097.0	38.92	129.09	7,036.4	-82.9	144.1	124.3	9.10	6.06	11.03	
7,128.0	40.52	132.63	7,060.2	-95.9	159.1	141.3	8.94	5.16	11.42	
7,159.0	39.35	136.89	7,084.0	-109.9	173.2	159.1	9.59	-3.77	13.74	
7,173.0	40.50	137.99	7,094.7	-116.5	179.3	167.3	9.64	8.21	7.86	
7,184.0	41.58	138.55	7,103.0	-121.9	184.1	173.9	10.38	9.82	5.12	
Burket @ 7184										
7,190.0	42.17	138.85	7,107.5	-124.9	186.8	177.6	10.38	9.84	4.95	
7,221.0	46.08	140.03	7,129.8	-141.3	200.8	197.6	12.89	12.61	3.81	
7,223.0	46.39	140.07	7,131.1	-142.4	201.7	198.9	15.53	15.46	2.02	
Tully @ 7223										
7,253.0	51.03	140.63	7,150.9	-159.8	216.1	219.9	15.53	15.47	1.87	
7,284.0	55.97	141.06	7,169.4	-179.1	231.8	243.2	15.97	15.94	1.39	
7,315.0	59.88	142.37	7,185.8	-199.7	248.1	268.0	13.11	12.61	4.23	
7,320.0	60.55	142.56	7,188.3	-203.1	250.7	272.1	13.78	13.36	3.88	
Hamilton @ 7320										
7,347.0	64.16	143.57	7,200.8	-222.3	265.1	294.7	13.78	13.38	3.73	
7,369.0	67.43	144.61	7,209.8	-238.5	276.9	313.9	15.48	14.86	4.72	
Marcellus @ 7369										
7,378.0	68.77	145.02	7,213.2	-245.3	281.7	321.9	15.48	14.89	4.56	
7,409.0	74.09	146.03	7,223.1	-269.6	298.3	350.1	17.44	17.16	3.26	
7,441.0	77.80	147.26	7,230.8	-295.5	315.4	380.1	12.18	11.59	3.84	
7,472.0	79.62	148.48	7,236.9	-321.2	331.5	409.6	7.03	5.87	3.94	
7,504.0	80.80	149.42	7,242.4	-348.2	347.8	440.4	4.69	3.69	2.94	
7,535.0	84.42	150.39	7,246.3	-374.8	363.2	470.5	12.08	11.68	3.13	
7,562.0	88.39	150.39	7,248.0	-398.3	376.5	496.9	14.70	14.70	0.00	
7,597.0	92.22	150.62	7,247.8	-428.7	393.7	531.3	10.96	10.94	0.66	
7,625.0	92.75	150.35	7,246.6	-453.1	407.5	558.7	2.12	1.89	-0.96	
7,718.0	91.44	153.81	7,243.2	-535.2	451.0	650.4	3.98	-1.41	3.72	
7,812.0	89.43	158.00	7,242.5	-620.9	489.4	743.9	4.94	-2.14	4.46	
7,906.0	90.44	165.79	7,242.6	-710.2	518.6	837.8	RECEIVED Office of Oil and Gas	1.07	8.29	

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Survey Report



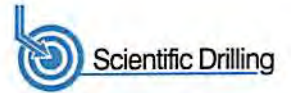
Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

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)
8,000.0	90.54	173.62	7,241.8	-802.6	535.4	930.8	8.33	0.11	8.33
8,095.0	88.02	174.00	7,243.0	-897.1	545.6	1,023.6	2.68	-2.65	0.40
8,189.0	88.72	170.42	7,245.7	-990.1	558.3	1,116.0	3.88	0.74	-3.81
8,283.0	89.29	166.82	7,247.3	-1,082.3	576.9	1,209.2	3.88	0.61	-3.83
8,377.0	89.39	163.24	7,248.4	-1,173.1	601.2	1,303.0	3.81	0.11	-3.81
8,471.0	89.66	162.82	7,249.2	-1,263.0	628.6	1,397.0	0.53	0.29	-0.45
8,565.0	90.44	164.30	7,249.1	-1,353.1	655.2	1,490.9	1.78	0.83	1.57
8,659.0	89.09	161.07	7,249.5	-1,442.8	683.2	1,584.9	3.72	-1.44	-3.44
8,753.0	89.26	160.58	7,250.8	-1,531.6	714.0	1,678.9	0.55	0.18	-0.52
8,847.0	92.25	162.13	7,249.6	-1,620.7	744.1	1,772.8	3.58	3.18	1.65
8,941.0	90.87	160.12	7,247.0	-1,709.6	774.5	1,866.8	2.59	-1.47	-2.14
9,035.0	90.30	158.59	7,246.1	-1,797.5	807.6	1,960.7	1.74	-0.61	-1.63
9,130.0	90.54	158.73	7,245.4	-1,886.0	842.2	2,055.6	0.29	0.25	0.15
9,224.0	89.33	158.78	7,245.5	-1,973.6	876.3	2,149.5	1.29	-1.29	0.05
9,318.0	91.04	164.10	7,245.2	-2,062.7	906.2	2,243.4	5.94	1.82	5.66
9,412.0	90.50	164.58	7,243.9	-2,153.2	931.5	2,337.3	0.77	-0.57	0.51
9,507.0	91.28	161.11	7,242.4	-2,243.9	959.5	2,432.3	3.74	0.82	-3.65
9,601.0	89.73	160.72	7,241.6	-2,332.8	990.3	2,526.3	1.70	-1.65	-0.41
9,695.0	90.40	162.91	7,241.5	-2,422.1	1,019.6	2,620.3	2.44	0.71	2.33
9,789.0	90.84	163.24	7,240.5	-2,512.0	1,047.0	2,714.2	0.59	0.47	0.35
9,883.0	90.81	160.69	7,239.1	-2,601.4	1,076.1	2,808.2	2.71	-0.03	-2.71
9,977.0	90.17	158.97	7,238.3	-2,689.6	1,108.5	2,902.1	1.95	-0.68	-1.83
10,071.0	88.89	160.06	7,239.1	-2,777.6	1,141.4	2,996.1	1.79	-1.36	1.16
10,165.0	89.60	160.65	7,240.3	-2,866.2	1,173.0	3,090.1	0.98	0.76	0.63
10,259.0	91.04	162.23	7,239.8	-2,955.3	1,202.9	3,184.0	2.27	1.53	1.68
10,353.0	90.54	160.38	7,238.5	-3,044.3	1,233.0	3,278.0	2.04	-0.53	-1.97
10,448.0	89.90	158.47	7,238.2	-3,133.2	1,266.4	3,373.0	2.12	-0.67	-2.01
10,541.0	91.68	160.85	7,236.9	-3,220.4	1,298.7	3,465.9	3.20	1.91	2.56
10,636.0	91.44	163.74	7,234.3	-3,310.9	1,327.6	3,560.8	3.05	-0.25	3.04
10,729.0	91.21	162.25	7,232.1	-3,399.8	1,354.8	3,653.8	1.62	-0.25	-1.60
10,823.0	89.83	164.09	7,231.3	-3,489.7	1,382.0	3,747.7	2.45	-1.47	1.96
10,917.0	90.91	163.26	7,230.7	-3,579.9	1,408.4	3,841.7	1.45	1.15	-0.88
11,011.0	89.63	164.24	7,230.2	-3,670.2	1,434.7	3,935.6	1.71	-1.36	1.04
11,105.0	89.87	163.91	7,230.7	-3,760.6	1,460.5	4,029.5	0.43	0.26	-0.35
11,199.0	90.57	166.01	7,230.3	-3,851.3	1,484.9	4,123.3	2.35	0.74	2.23
11,293.0	90.27	163.92	7,229.6	-3,942.1	1,509.3	4,217.1	2.25	-0.32	-2.22
11,387.0	90.20	161.20	7,229.2	-4,031.8	1,537.5	4,311.1	2.89	-0.07	-2.89
11,482.0	90.17	160.37	7,228.9	-4,121.5	1,568.7	4,406.1	0.87	-0.03	-0.87
11,575.0	90.54	160.21	7,228.3	-4,209.0	1,600.1	4,499.1	0.43	0.40	-0.17
11,670.0	90.71	159.99	7,227.3	-4,298.4	1,632.4	4,594.1	0.29	0.18	-0.23
11,764.0	91.28	160.28	7,225.7	-4,386.8	1,664.4	4,688.0	0.68	0.61	0.31
11,858.0	89.63	160.16	7,224.9	-4,475.2	1,696.2	4,782.0	1.76	-1.76	-0.13
11,953.0	91.48	160.96	7,224.0	-4,564.8	1,727.8	4,877.0	1.95	1.95	0.84



Scientific Drilling International
Survey Report



Company:	Antero Resources	Local Co-ordinate Reference:	Well McCue Unit 1H
Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad:Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

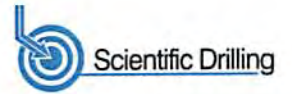
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,047.0	91.78	160.30	7,221.3	-4,653.4	1,758.9	4,970.9	0.77	0.32	-0.70
12,141.0	90.27	159.35	7,219.6	-4,741.6	1,791.4	5,064.8	1.90	-1.61	-1.01
12,235.0	89.50	157.50	7,219.8	-4,829.0	1,825.9	5,158.7	2.13	-0.82	-1.97
12,328.0	90.03	161.46	7,220.2	-4,916.1	1,858.5	5,251.6	4.30	0.57	4.26
12,423.0	90.24	161.61	7,220.0	-5,006.2	1,888.6	5,346.6	0.27	0.22	0.16
12,517.0	90.24	161.62	7,219.6	-5,095.4	1,918.3	5,440.6	0.01	0.00	0.01
12,610.0	90.27	161.81	7,219.2	-5,183.7	1,947.4	5,533.6	0.21	0.03	0.20
12,705.0	89.06	161.19	7,219.7	-5,273.8	1,977.6	5,628.6	1.43	-1.27	-0.65
12,799.0	91.34	161.69	7,219.4	-5,362.9	2,007.5	5,722.6	2.48	2.43	0.53
12,893.0	91.51	160.35	7,217.1	-5,451.8	2,038.1	5,816.6	1.44	0.18	-1.43
12,987.0	90.74	162.55	7,215.2	-5,540.9	2,068.0	5,910.5	2.48	-0.82	2.34
13,081.0	90.17	162.69	7,214.5	-5,630.6	2,096.0	6,004.5	0.62	-0.61	0.15
13,175.0	89.83	162.26	7,214.5	-5,720.2	2,124.3	6,098.5	0.58	-0.36	-0.46
13,269.0	90.07	162.77	7,214.6	-5,809.9	2,152.6	6,192.5	0.60	0.26	0.54
13,363.0	90.13	163.58	7,214.4	-5,899.9	2,179.8	6,286.5	0.66	0.06	0.66
13,457.0	90.40	163.20	7,214.0	-5,989.9	2,206.7	6,380.4	0.50	0.29	-0.40
13,551.0	90.07	162.92	7,213.6	-6,079.9	2,234.0	6,474.4	0.46	-0.35	-0.30
13,645.0	89.83	162.21	7,213.7	-6,169.5	2,262.2	6,568.4	0.80	-0.26	-0.76
13,739.0	89.36	161.71	7,214.3	-6,258.9	2,291.3	6,662.4	0.73	-0.50	-0.53
13,833.0	90.81	162.15	7,214.2	-6,348.3	2,320.5	6,756.4	1.61	1.54	0.47
13,927.0	90.71	162.25	7,212.9	-6,437.8	2,349.2	6,850.3	0.15	-0.11	0.11
14,021.0	89.76	160.29	7,212.5	-6,526.8	2,379.4	6,944.3	2.32	-1.01	-2.09
14,115.0	90.30	161.39	7,212.5	-6,615.6	2,410.2	7,038.3	1.30	0.57	1.17
14,209.0	90.13	161.66	7,212.1	-6,704.7	2,440.0	7,132.3	0.34	-0.18	0.29
14,303.0	90.30	161.71	7,211.8	-6,794.0	2,469.6	7,226.3	0.19	0.18	0.05
14,397.0	90.50	162.18	7,211.1	-6,883.3	2,498.7	7,320.3	0.54	0.21	0.50
14,492.0	90.07	162.60	7,210.7	-6,973.9	2,527.4	7,415.3	0.63	-0.45	0.44
14,555.0	90.34	162.96	7,210.4	-7,034.1	2,546.1	7,478.3	0.71	0.43	0.57
Last SDI MWD @ 14555									
14,617.0	90.34	162.96	7,210.1	-7,093.3	2,564.3	7,540.3	0.00	0.00	0.00
Projection To Bit @ 14617 MD / 7210 TVD									

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,994.0	6,953.1	Middlesex @ 6994		0.00	
7,184.0	7,103.0	Burket @ 7184		0.00	
7,223.0	7,131.1	Tully @ 7223		0.00	
7,320.0	7,188.3	Hamilton @ 7320		0.00	
7,369.0	7,209.8	Marcellus @ 7369		0.00	

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Survey Report



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Project:	Doddridge County WV	TVD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Site:	Revival Pad: Koch/Gains/McCue/Mt Salem Revival/Milo	MD Reference:	Patterson 340: 1375 GL + 24 KB @ 1399.0usft
Well:	McCue Unit 1H	North Reference:	Grid
Wellbore:	ST2	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Antero NE

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
14,555.0	7,210.4	-7,034.1	2,546.1	Last SDI MWD @ 14555
14,617.0	7,210.1	-7,093.3	2,564.3	Projection To Bit @ 14617 MD / 7210 TVD

Checked By: _____ Approved By: _____ Date: _____

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