

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Terry Snider Pad
 Slot: Slot #04
 Well: Marcellus Unit 3H
 Wellbore: Marcellus Unit 3H PWB

This information was derived from the Marcellus Unit 3H PWB Rev-A.0
 True vertical depth is referenced to Mean Sea Level (MSL)
 Measured depths are referenced to Patterson 342 (RKB)
 Patterson 342 (RKB) to Mean Sea Level: 1172 feet
 Mean Sea Level to Mud line (AI Slot: Slot #04): -1187 feet
 Coordinates are in feet referenced to Slot

Location Information			
Property Name	Grid East (US ft)	Grid North (US ft)	Longitude
Terry Snider Pad	1650540.845	14295934.525	80°57'51.040"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Longitude
8.11	-4.72	14295934.630	80°57'51.100"W
Comment: Marcellus Unit 3H			
Patterson 342 (RKB) to Mud line (AI Slot: Slot #04)			25ft
Mean Sea Level to Mud line (AI Slot: Slot #04)			-1187ft
Patterson 342 (RKB) to Mean Sea Level			1172ft

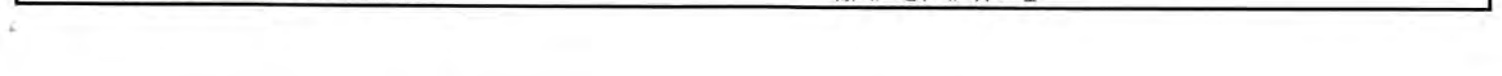
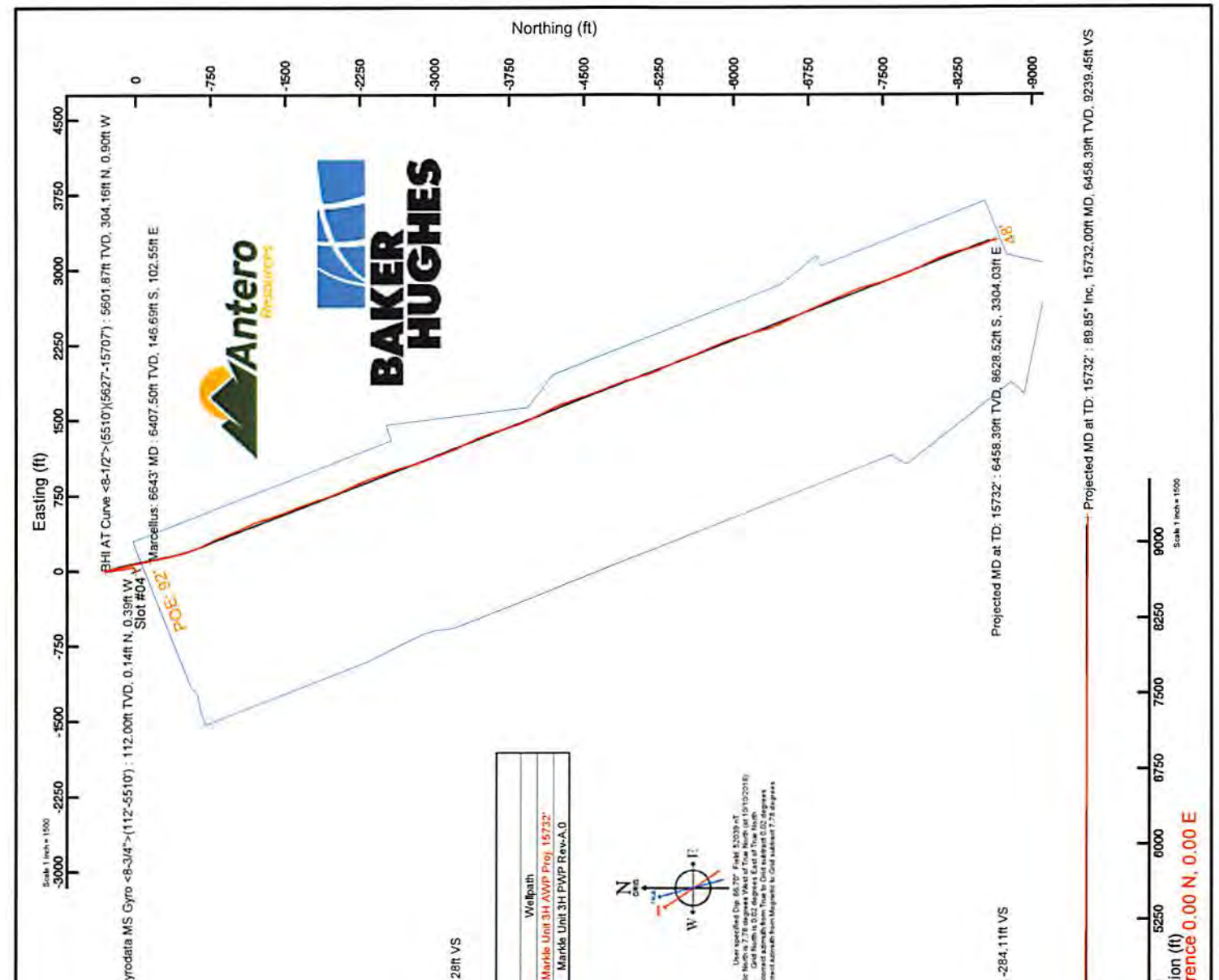
Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	Marcellus Unit 3H	Marcellus Unit 3H AWP	Marcellus Unit 3H AWP Proj. 15732'
Slot #04	Marcellus Unit 3H	Marcellus Unit 3H PWB	Marcellus Unit 3H PWB Rev-A.0

Gyrodata MS Gyro <8-3/4">(112'-5510') : 0.55° Inc. 112.00ft TVD, -0.28ft VS



API: 47-095-02354-00-00
 BHI Job #: 8199535
 Rig: Patterson 342
 Duration: 10.13.2016 - 10.16.2016

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 Marcellus: 6643' MD: 6643' Inc. 6643' 0.0ft TVD, 173.77ft VS
 BHI AT Curve <8-1/2">(5510') (5627'-15707') : 10.89° Inc. 5627.00ft MD, 5601.87ft TVD, -284.11ft VS





Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Hareluk
Scale	0.999600	Report Generated	10/26/2016 at 12:17:54 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Markle_Unit_3H_AWP_Proj_15732_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	9.11	-4.72	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W
Facility Reference Pt			1650540.85	14295934.53	39°22'04.880"N	80°57'51.040"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1172.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #04)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.91°



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Markle Unit 3H AWP Proj: 15732'
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REFERENCE WELLPATH IDENTIFICATION			
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Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations) † = Interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00†	0.000	290.180	0.00	0.00	0.00	0.00	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	290.180	25.00	0.00	0.00	0.00	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W	0.00	0.000	0.00	0.00	0.00	
112.00	0.550	290.180	112.00	-0.28	0.14	-0.39	1650535.74	14295943.77	39°22'04.971"N	80°57'51.105"W	0.42	290.180	0.63	0.63	-80.25	Gyrodata MS Gyro <8-3/4">(112'-5510')
212.00	0.620	290.630	211.99	-0.95	0.50	-1.35	1650534.78	14295944.13	39°22'04.975"N	80°57'51.117"W	1.44	290.349	0.07	0.07	0.45	
312.00	0.370	302.560	311.99	-1.57	0.86	-2.13	1650534.00	14295944.49	39°22'04.979"N	80°57'51.127"W	2.30	292.120	0.27	-0.25	11.93	
412.00	0.360	292.510	411.99	-2.05	1.16	-2.69	1650533.44	14295944.79	39°22'04.982"N	80°57'51.134"W	2.93	293.306	0.06	-0.01	-10.05	
512.00	0.410	293.570	511.99	-2.52	1.42	-3.31	1650532.82	14295945.05	39°22'04.984"N	80°57'51.142"W	3.60	293.263	0.05	0.05	1.06	
612.00	0.460	39.440	611.98	-2.97	1.88	-3.38	1650532.75	14295945.50	39°22'04.989"N	80°57'51.143"W	3.87	299.015	0.69	0.05	105.87	
712.00	2.570	70.540	711.94	-3.10	2.93	-1.01	1650535.12	14295946.56	39°22'04.999"N	80°57'51.113"W	3.10	340.967	2.19	2.11	31.10	
812.00	4.880	60.910	811.73	-3.63	5.75	4.82	1650540.95	14295949.38	39°22'05.027"N	80°57'51.039"W	7.50	39.985	2.39	2.31	-9.63	
912.00	5.140	57.860	911.34	-5.08	10.20	12.33	1650548.46	14295953.82	39°22'05.071"N	80°57'50.943"W	16.00	50.405	0.37	0.26	-3.05	
1012.00	5.310	56.720	1010.93	-6.91	15.12	19.99	1650556.11	14295958.74	39°22'05.119"N	80°57'50.845"W	25.07	52.898	0.20	0.17	-1.14	
1112.00	5.260	53.670	1110.50	-9.10	20.38	27.55	1650563.67	14295964.00	39°22'05.171"N	80°57'50.749"W	34.27	53.517	0.29	-0.05	-3.05	
1212.00	4.160	44.290	1210.17	-11.81	25.69	33.78	1650569.89	14295969.31	39°22'05.224"N	80°57'50.670"W	42.44	52.748	1.34	-1.10	-9.38	
1312.00	1.860	40.150	1310.02	-14.10	29.52	37.36	1650573.47	14295973.14	39°22'05.262"N	80°57'50.624"W	47.62	51.680	2.31	-2.30	-4.14	
1412.00	0.900	52.700	1409.99	-15.10	31.24	39.03	1650575.14	14295974.86	39°22'05.279"N	80°57'50.603"W	49.99	51.324	1.00	-0.96	12.55	
1512.00	0.750	59.400	1509.98	-15.43	32.05	40.22	1650576.33	14295975.67	39°22'05.287"N	80°57'50.588"W	51.43	51.448	0.18	-0.15	6.70	
1612.00	0.730	64.760	1609.97	-15.59	32.66	41.36	1650577.47	14295976.27	39°22'05.293"N	80°57'50.573"W	52.69	51.706	0.07	-0.02	5.36	
1712.00	0.710	65.390	1709.97	-15.67	33.18	42.50	1650578.61	14295976.80	39°22'05.298"N	80°57'50.559"W	53.92	52.014	0.02	-0.02	0.63	
1812.00	0.710	329.390	1809.96	-16.32	33.98	42.74	1650578.86	14295977.59	39°22'05.306"N	80°57'50.556"W	54.60	51.520	1.06	0.00	-96.00	
1912.00	1.290	325.810	1909.95	-18.03	35.44	41.80	1650577.91	14295979.06	39°22'05.320"N	80°57'50.568"W	54.80	49.704	0.58	0.58	-3.58	
2012.00	1.000	304.070	2009.93	-19.84	36.86	40.44	1650576.55	14295980.48	39°22'05.334"N	80°57'50.585"W	54.72	47.652	0.52	-0.29	-21.74	
2112.00	1.190	258.490	2109.91	-20.73	37.14	38.70	1650574.81	14295980.76	39°22'05.337"N	80°57'50.607"W	53.64	46.177	0.87	0.19	-45.58	
2212.00	1.470	195.320	2209.89	-19.87	35.70	37.34	1650573.46	14295979.31	39°22'05.323"N	80°57'50.624"W	51.66	46.291	1.41	0.28	-63.17	
2312.00	1.390	176.630	2309.86	-17.68	33.25	37.08	1650573.19	14295976.87	39°22'05.299"N	80°57'50.628"W	49.80	48.115	0.47	-0.08	-18.69	
2412.00	0.810	33.670	2409.85	-16.93	32.63	37.54	1650573.65	14295976.24	39°22'05.292"N	80°57'50.622"W	49.74	49.005	2.09	-0.58	-142.96	
2512.00	1.250	11.610	2509.83	-18.26	34.28	38.15	1650574.27	14295977.90	39°22'05.309"N	80°57'50.614"W	51.29	48.056	0.58	0.44	-22.06	
2612.00	0.940	294.070	2609.82	-19.76	35.69	37.62	1650573.74	14295979.30	39°22'05.323"N	80°57'50.621"W	51.85	46.512	1.39	-0.31	-77.54	
2712.00	1.330	271.710	2709.80	-20.79	36.06	35.71	1650571.83	14295979.67	39°22'05.326"N	80°57'50.645"W	50.75	44.726	0.58	0.39	-22.36	
2812.00	1.020	197.080	2809.78	-20.54	35.24	34.29	1650570.41	14295978.86	39°22'05.318"N	80°57'50.663"W	49.17	44.218	1.45	-0.31	-74.63	

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
2912.00	1.290	177.800	2909.76	-18.78	33.26	34.07	1650570.19	14295976.88	39°22'05.299"N	80°57'50.666"W	47.62	45.688	0.47	0.27	-19.28	
3012.00	0.510	83.830	3009.75	-17.60	32.19	34.56	1650570.67	14295975.80	39°22'05.288"N	80°57'50.660"W	47.23	47.035	1.42	-0.78	-93.97	
3112.00	0.570	66.730	3109.75	-17.50	32.43	35.46	1650571.57	14295976.05	39°22'05.290"N	80°57'50.648"W	48.05	47.553	0.17	0.06	-17.10	
3212.00	0.410	53.790	3209.74	-17.61	32.84	36.20	1650572.32	14295976.46	39°22'05.294"N	80°57'50.639"W	48.88	47.790	0.19	-0.16	-12.94	
3312.00	0.280	35.640	3309.74	-17.84	33.25	36.63	1650572.75	14295976.87	39°22'05.299"N	80°57'50.633"W	49.47	47.773	0.17	-0.13	-18.15	
3412.00	0.130	44.390	3409.74	-18.02	33.53	36.86	1650572.97	14295977.15	39°22'05.301"N	80°57'50.631"W	49.83	47.707	0.15	-0.15	8.75	
3512.00	0.080	72.320	3509.74	-18.06	33.63	37.00	1650573.12	14295977.25	39°22'05.302"N	80°57'50.629"W	50.00	47.732	0.07	-0.05	27.93	
3612.00	0.040	68.000	3609.74	-18.06	33.67	37.10	1650573.22	14295977.28	39°22'05.303"N	80°57'50.627"W	50.10	47.779	0.04	-0.04	-4.32	
3712.00	0.040	171.440	3709.74	-18.03	33.64	37.14	1650573.25	14295977.26	39°22'05.302"N	80°57'50.627"W	50.11	47.826	0.06	0.00	103.44	
3812.00	0.140	295.560	3809.74	-18.08	33.66	37.03	1650573.15	14295977.28	39°22'05.303"N	80°57'50.628"W	50.05	47.730	0.17	0.10	124.12	
3912.00	2.660	347.770	3909.70	-20.46	35.98	36.43	1650572.55	14295979.60	39°22'05.326"N	80°57'50.636"W	51.21	45.355	2.58	2.52	52.21	
4012.00	4.430	351.220	4009.51	-26.53	42.07	35.35	1650571.47	14295985.68	39°22'05.386"N	80°57'50.650"W	54.95	40.041	1.78	1.77	3.45	
4112.00	6.290	353.570	4109.07	-35.60	51.33	34.15	1650570.26	14295994.94	39°22'05.477"N	80°57'50.665"W	61.65	33.634	1.87	1.86	2.35	
4212.00	7.920	349.110	4208.30	-47.68	63.54	32.23	1650568.35	14296007.14	39°22'05.598"N	80°57'50.689"W	71.25	26.898	1.72	1.63	-4.46	
4312.00	8.990	346.970	4307.21	-62.20	77.92	29.17	1650565.29	14296021.52	39°22'05.740"N	80°57'50.728"W	83.20	20.524	1.12	1.07	-2.14	
4412.00	8.870	345.720	4406.00	-77.59	93.00	25.51	1650561.63	14296036.59	39°22'05.889"N	80°57'50.775"W	96.43	15.337	0.23	-0.12	-1.25	
4512.00	8.570	351.700	4504.84	-92.51	107.85	22.53	1650558.65	14296051.43	39°22'06.036"N	80°57'50.813"W	110.17	11.799	0.95	-0.30	5.98	
4612.00	10.080	350.050	4603.52	-108.37	123.84	19.94	1650556.06	14296067.42	39°22'06.194"N	80°57'50.845"W	125.43	9.147	1.53	1.51	-1.65	
4712.00	10.900	352.300	4701.85	-126.15	141.83	17.16	1650553.28	14296085.40	39°22'06.372"N	80°57'50.881"W	142.86	6.899	0.92	0.82	2.25	
4812.00	11.730	358.120	4799.91	-144.95	161.36	15.56	1650551.69	14296104.92	39°22'06.565"N	80°57'50.901"W	162.11	5.509	1.41	0.83	5.82	
4912.00	11.590	353.620	4897.84	-164.27	181.50	14.11	1650550.24	14296125.06	39°22'06.764"N	80°57'50.919"W	182.05	4.446	0.92	-0.14	-4.50	
5012.00	10.470	340.530	4996.01	-183.07	200.05	9.97	1650546.09	14296143.60	39°22'06.947"N	80°57'50.972"W	200.30	2.852	2.74	-1.12	-13.09	
5112.00	11.620	349.230	5094.16	-202.06	218.52	5.06	1650541.18	14296162.06	39°22'07.130"N	80°57'51.035"W	218.57	1.325	2.02	1.15	8.70	
5212.00	10.190	355.650	5192.36	-220.44	237.23	2.50	1650538.63	14296180.77	39°22'07.315"N	80°57'51.067"W	237.24	0.604	1.87	-1.43	6.42	
5312.00	9.160	358.790	5290.94	-236.40	254.01	1.66	1650537.79	14296197.54	39°22'07.481"N	80°57'51.078"W	254.02	0.375	1.16	-1.03	3.14	
5412.00	7.990	355.500	5389.82	-250.54	268.90	0.95	1650537.08	14296212.42	39°22'07.628"N	80°57'51.087"W	268.90	0.202	1.27	-1.17	-3.29	
5510.00	9.380	355.560	5486.69	-264.72	283.65	-0.20	1650535.93	14296227.17	39°22'07.774"N	80°57'51.101"W	283.65	359.959	1.42	1.42	0.06	
5627.00	10.840	0.230	5601.87	-284.11	304.16	-0.90	1650535.23	14296247.67	39°22'07.976"N	80°57'51.110"W	304.16	359.831	1.43	1.25	3.99	BHI AT Curve <8-1/2">(5510')(5627'-15707')
5684.00	7.210	2.130	5658.16	-292.39	313.10	-0.74	1650535.39	14296256.60	39°22'08.065"N	80°57'51.108"W	313.10	359.864	6.39	-6.37	3.33	
5731.00	2.380	25.540	5704.98	-295.77	316.93	-0.21	1650535.92	14296260.43	39°22'08.102"N	80°57'51.101"W	316.93	359.962	10.88	-10.28	49.81	

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Area	Tyler County, WV	Well	Markie Unit 3H
Field	Tyler	Wellbore	Markie Unit 3H AWP
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(°)	(m)	(°/100m)	(°/100m)	
5778.00	2.870	141.620	5751.96	-295.32	316.89	0.94	1650537.07	14296260.39	39°22'08.102"N	80°57'51.086"W	316.89	0.170	9.49	1.04	246.98	
5825.00	6.370	156.990	5798.80	-291.59	313.56	2.69	1650538.82	14296257.07	39°22'08.069"N	80°57'51.064"W	313.57	0.492	7.83	7.45	32.70	
5873.00	10.210	162.170	5846.29	-284.68	307.06	5.03	1650541.16	14296250.57	39°22'08.005"N	80°57'51.034"W	307.10	0.939	8.14	8.00	10.79	
5920.00	13.710	164.830	5892.26	-274.98	297.71	7.77	1650543.90	14296241.22	39°22'07.913"N	80°57'51.000"W	297.82	1.495	7.54	7.45	5.66	
5967.00	16.480	167.850	5937.64	-262.85	285.82	10.63	1650546.76	14296229.33	39°22'07.795"N	80°57'50.963"W	286.02	2.130	6.12	5.88	6.43	
6014.00	19.580	169.370	5982.32	-248.52	271.56	13.49	1650549.61	14296215.08	39°22'07.654"N	80°57'50.927"W	271.89	2.843	6.67	6.60	3.23	
6062.00	21.030	169.510	6027.34	-232.14	255.18	16.54	1650552.66	14296198.71	39°22'07.492"N	80°57'50.888"W	255.72	3.708	3.02	3.02	0.29	
6108.00	25.070	170.020	6069.66	-214.46	237.46	19.73	1650555.85	14296181.00	39°22'07.317"N	80°57'50.848"W	238.28	4.750	8.79	8.78	1.11	
6156.00	28.840	170.000	6112.44	-193.11	216.04	23.51	1650559.63	14296159.58	39°22'07.105"N	80°57'50.800"W	217.31	6.209	7.85	7.85	-0.04	
6200.00	32.810	169.740	6150.21	-170.98	193.85	27.47	1650563.59	14296137.40	39°22'06.886"N	80°57'50.749"W	195.79	8.066	9.03	9.02	-0.59	
6250.00	36.580	169.540	6191.32	-142.97	165.91	32.85	1650568.96	14296109.47	39°22'06.610"N	80°57'50.681"W	169.13	11.199	7.54	7.54	-2.40	
6294.00	41.070	166.640	6225.59	-115.71	138.98	38.80	1650574.91	14296082.55	39°22'06.344"N	80°57'50.605"W	144.29	15.597	10.56	-4.32	0.34	
6344.00	46.370	166.810	6261.71	-81.49	105.36	46.73	1650582.84	14296048.95	39°22'06.011"N	80°57'50.505"W	115.25	23.917	10.50	10.50	0.34	
6370.00	48.851	166.883	6279.24	-62.47	86.66	51.09	1650587.20	14296030.26	39°22'05.826"N	80°57'50.449"W	100.60	30.524	9.54	9.54	0.28	Middlesex: 6370 MD
6392.00	50.950	166.900	6293.41	-45.81	70.27	54.91	1650591.01	14296013.87	39°22'05.664"N	80°57'50.401"W	89.18	38.002	9.54	9.54	0.26	
6439.00	55.870	167.030	6321.42	-45.45	33.51	63.40	1650599.51	14295977.13	39°22'05.301"N	80°57'50.293"W	71.71	62.139	10.47	10.47	0.18	
6486.00	61.520	167.450	6345.83	31.26	-5.64	72.26	1650608.36	14295957.99	39°22'04.914"N	80°57'50.180"W	72.48	94.461	12.05	12.02	0.89	
6533.00	66.720	168.190	6366.33	73.02	-46.96	81.17	1650617.27	14295896.69	39°22'04.506"N	80°57'50.067"W	93.78	120.049	11.15	11.06	1.57	
6556.00	67.487	168.257	6375.28	93.93	-67.70	85.50	1650621.59	14295875.96	39°22'04.301"N	80°57'50.012"W	109.06	128.373	3.34	3.33	0.29	Burkett: 6556 MD
6581.00	68.320	168.330	6384.69	116.78	-90.38	90.20	1650626.29	14295863.28	39°22'04.076"N	80°57'49.962"W	127.69	135.058	3.34	3.33	0.29	
6621.00	68.285	167.377	6399.48	153.50	-126.72	98.02	1650634.11	14295816.97	39°22'03.717"N	80°57'49.853"W	160.20	142.277	2.22	-0.09	-2.38	Tully: 6621 MD
6628.00	68.280	167.210	6402.07	159.93	-133.06	99.45	1650635.54	14295810.62	39°22'03.655"N	80°57'49.834"W	166.12	143.225	2.22	-0.08	-2.38	
6643.00	69.266	167.136	6407.50	173.77	-146.69	102.55	1650638.64	14295797.00	39°22'03.520"N	80°57'49.795"W	178.99	145.042	6.59	6.57	-0.50	Marcellus: 6643 MD
6675.00	71.370	166.980	6418.27	203.59	-176.06	109.30	1650645.39	14295767.64	39°22'03.230"N	80°57'49.709"W	207.23	148.167	6.59	6.57	-0.49	
6722.00	77.470	168.040	6430.89	248.33	-220.24	119.08	1650655.16	14295723.48	39°22'02.793"N	80°57'49.585"W	250.37	151.600	13.16	12.88	2.26	
6769.00	80.600	167.890	6439.83	293.90	-265.36	128.70	1650664.78	14295678.38	39°22'02.347"N	80°57'49.463"W	294.92	154.126	6.67	6.66	-0.32	
6816.00	85.870	167.820	6445.36	339.98	-310.97	138.52	1650674.59	14295632.78	39°22'01.896"N	80°57'49.338"W	340.43	155.990	11.21	11.21	-0.15	
6845.00	89.820	168.130	6446.45	368.60	-339.31	144.55	1650680.63	14295604.46	39°22'01.616"N	80°57'49.261"W	368.82	156.925	13.66	13.62	1.07	
6911.00	90.650	166.370	6446.18	433.89	-403.68	159.12	1650695.19	14295540.11	39°22'00.980"N	80°57'49.076"W	433.91	158.487	2.95	1.26	-2.67	
7005.00	90.580	161.630	6445.17	527.49	-494.01	185.02	1650721.08	14295449.82	39°22'00.087"N	80°57'48.747"W	527.52	159.468	5.04	-0.07	-5.04	

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Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
7099.00	91.050	159.070	6443.84	621.44	-582.52	216.62	1650752.67	14295361.35	39°21'59.212"N	80°57'48.345"W	621.49	159.601	2.77	0.50	-2.72	
7194.00	90.770	153.930	6442.33	716.32	-669.60	254.49	1650790.52	14295274.30	39°21'58.351"N	80°57'47.863"W	716.33	159.190	5.42	-0.29	-5.41	
7288.00	90.120	154.180	6441.60	809.98	-754.12	295.61	1650831.62	14295189.81	39°21'57.515"N	80°57'47.340"W	809.99	158.595	0.74	-0.69	0.27	
7382.00	89.910	157.840	6441.57	903.84	-839.98	333.82	1650869.82	14295103.98	39°21'56.667"N	80°57'46.854"W	903.89	158.326	3.90	-0.22	3.89	
7476.00	90.310	158.850	6441.39	997.83	-927.35	368.51	1650904.49	14295016.65	39°21'55.803"N	80°57'46.413"W	997.89	158.328	1.16	0.43	1.07	
7570.00	90.830	155.840	6440.46	1091.78	-1014.08	404.71	1650940.68	14294929.96	39°21'54.946"N	80°57'45.952"W	1091.86	158.243	3.25	0.55	-3.20	
7664.00	90.220	154.550	6439.60	1185.58	-1099.40	444.15	1650980.10	14294844.67	39°21'54.102"N	80°57'45.451"W	1185.73	158.002	1.52	-0.65	-1.37	
7758.00	89.630	158.620	6439.72	1279.48	-1185.64	481.49	1651017.43	14294758.46	39°21'53.250"N	80°57'44.976"W	1279.68	157.898	4.38	-0.63	4.33	
7852.00	90.120	161.770	6439.92	1373.45	-1274.07	513.34	1651049.26	14294670.07	39°21'52.376"N	80°57'44.571"W	1373.60	158.055	3.39	0.52	3.35	
7947.00	90.150	162.310	6439.70	1468.30	-1364.44	542.63	1651078.54	14294579.74	39°21'51.482"N	80°57'44.198"W	1468.38	158.313	0.57	0.03	0.57	
8041.00	91.200	160.750	6438.59	1562.19	-1453.59	572.41	1651108.31	14294490.62	39°21'50.601"N	80°57'43.819"W	1562.23	158.506	2.00	1.12	-1.66	
8137.00	90.250	157.400	6437.38	1658.17	-1543.24	606.68	1651142.57	14294401.01	39°21'49.715"N	80°57'43.384"W	1658.21	158.539	3.63	-0.99	-3.49	
8230.00	89.540	159.270	6437.55	1751.16	-1629.66	641.02	1651176.89	14294314.62	39°21'48.861"N	80°57'42.947"W	1751.20	158.528	2.15	-0.76	2.01	
8324.00	89.940	160.810	6437.97	1845.14	-1718.01	673.10	1651208.96	14294226.31	39°21'47.987"N	80°57'42.539"W	1845.17	158.605	1.69	0.43	1.64	
8419.00	89.910	161.220	6438.10	1940.08	-1807.84	704.01	1651239.86	14294136.51	39°21'47.099"N	80°57'42.146"W	1940.09	158.723	0.43	-0.03	0.43	
8513.00	90.400	161.810	6437.84	2033.98	-1896.99	733.81	1651269.65	14294047.40	39°21'46.218"N	80°57'41.767"W	2033.98	158.852	0.82	0.52	0.63	
8607.00	92.250	159.130	6435.67	2127.90	-1985.55	765.22	1651301.04	14293958.88	39°21'45.343"N	80°57'41.367"W	2127.90	158.924	3.46	1.97	-2.85	
8702.00	90.400	155.230	6433.47	2222.81	-2073.07	802.05	1651337.86	14293871.39	39°21'44.477"N	80°57'40.899"W	2222.81	158.849	4.54	-1.95	-4.11	
8796.00	90.060	154.310	6433.10	2316.57	-2158.10	842.12	1651377.91	14293786.40	39°21'43.637"N	80°57'40.389"W	2316.58	158.684	1.04	-0.36	-0.98	
8890.00	89.820	156.610	6433.19	2410.39	-2243.60	881.15	1651416.93	14293700.93	39°21'42.792"N	80°57'39.893"W	2410.43	158.558	2.46	-0.26	2.45	
8985.00	89.720	159.040	6433.58	2505.36	-2331.57	917.01	1651452.77	14293613.00	39°21'41.922"N	80°57'39.437"W	2505.42	158.530	2.56	-0.11	2.56	
9079.00	89.820	160.760	6433.95	2599.35	-2419.84	949.31	1651485.06	14293524.76	39°21'41.049"N	80°57'39.026"W	2599.39	158.580	1.83	0.11	1.83	
9173.00	89.750	160.880	6434.31	2693.29	-2508.62	980.19	1651515.93	14293436.02	39°21'40.172"N	80°57'38.633"W	2693.32	158.658	0.15	-0.07	0.13	
9267.00	89.880	161.160	6434.61	2787.23	-2597.51	1010.77	1651546.49	14293347.16	39°21'39.293"N	80°57'38.245"W	2787.24	158.738	0.33	0.14	0.30	
9361.00	89.510	163.570	6435.11	2881.05	-2687.09	1039.24	1651574.95	14293257.62	39°21'38.408"N	80°57'37.883"W	2881.05	158.856	2.59	-0.39	2.56	
9455.00	89.910	163.850	6435.59	2974.72	-2777.31	1065.61	1651601.31	14293167.44	39°21'37.516"N	80°57'37.547"W	2974.72	159.009	0.52	0.43	0.30	
9548.00	89.880	160.970	6435.76	3067.53	-2865.95	1093.71	1651629.40	14293078.83	39°21'36.640"N	80°57'37.190"W	3067.55	159.112	3.10	-0.03	-3.10	
9642.00	89.690	159.440	6436.11	3161.51	-2954.40	1125.54	1651661.22	14292990.42	39°21'35.765"N	80°57'36.785"W	3161.53	159.145	1.64	-0.20	-1.63	
9737.00	89.540	160.840	6436.75	3256.48	-3043.74	1157.81	1651693.48	14292901.11	39°21'34.882"N	80°57'36.375"W	3256.52	159.174	1.48	-0.16	1.47	
9831.00	90.800	159.930	6436.47	3350.45	-3132.28	1189.37	1651725.02	14292812.61	39°21'34.007"N	80°57'35.974"W	3350.49	159.208	1.65	1.34	-0.97	

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Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Taylor
Facility	Terry Snider Pad
Slot	Slot #04
Well	Markle Unit 3H
Wellbore	Markle Unit 3H AWB

WELLPATH DATA (184 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
9925.00	82.930	155.680	6433.41	3444.35	-3219.25	1224.85	1651760.48	14292725.68	39°21'33.147"N	80°57'35.523"W	3444.39	159.169	5.05	2.27	-4.52	
10019.00	80.090	152.240	6430.93	3537.95	-3303.65	1266.09	1651801.71	14292641.30	39°21'32.313"N	80°57'34.998"W	3537.95	159.031	4.74	-3.02	-3.66	
10114.00	89.880	155.820	6430.96	3632.59	-3389.05	1307.88	1651843.29	14292555.94	39°21'31.489"N	80°57'34.469"W	3632.59	158.901	3.77	-0.22	3.77	
10208.00	89.630	159.100	6431.36	3726.54	-3475.85	1343.71	1651879.30	14292489.17	39°21'30.610"N	80°57'34.011"W	3726.54	158.864	3.50	-0.27	3.48	
10302.00	89.720	160.460	6431.89	3820.53	-3564.06	1376.20	1651911.77	14292381.00	39°21'29.739"N	80°57'33.598"W	3820.53	158.887	1.45	0.10	1.45	
10397.00	89.510	163.020	6432.53	3915.40	-3654.26	1405.96	1651941.53	14292290.83	39°21'28.847"N	80°57'33.218"W	3915.40	158.956	2.70	-0.22	2.68	
10491.00	89.940	163.060	6432.98	4009.16	-3744.18	1433.38	1651968.93	14292200.96	39°21'27.958"N	80°57'32.871"W	4009.17	159.052	0.48	0.46	0.04	
10586.00	90.460	159.380	6432.65	4104.06	-3834.10	1463.96	1651999.50	14292111.07	39°21'27.059"N	80°57'32.482"W	4104.08	159.102	3.91	0.55	-3.87	
10680.00	89.940	156.620	6432.32	4198.04	-3921.25	1499.17	1652034.70	14292023.96	39°21'26.208"N	80°57'32.034"W	4198.06	159.077	2.99	-0.55	-2.94	
10774.00	90.060	154.320	6432.32	4291.86	-4006.76	1538.19	1652073.70	14291938.48	39°21'25.362"N	80°57'31.538"W	4291.87	158.998	2.45	0.13	-2.45	
10868.00	89.480	152.240	6432.70	4385.40	-4090.71	1580.45	1652115.95	14291854.56	39°21'24.532"N	80°57'31.000"W	4385.40	158.876	2.30	-0.62	-2.21	
10963.00	89.410	154.550	6433.62	4479.95	-4175.65	1622.98	1652158.47	14291769.66	39°21'23.693"N	80°57'30.459"W	4479.97	158.760	2.43	-0.07	2.43	
11057.00	89.450	158.840	6434.55	4573.86	-4261.95	1660.17	1652195.63	14291683.39	39°21'22.840"N	80°57'29.987"W	4573.88	158.717	4.56	0.04	4.56	
11151.00	89.320	161.610	6435.56	4667.82	-4350.39	1691.97	1652227.42	14291594.98	39°21'21.965"N	80°57'29.582"W	4667.84	158.748	2.95	-0.14	2.95	
11246.00	89.480	161.470	6436.56	4762.71	-4440.50	1722.05	1652257.49	14291504.91	39°21'21.075"N	80°57'29.200"W	4762.72	158.803	0.22	0.17	-0.15	
11340.00	89.420	160.880	6437.46	4856.63	-4529.47	1752.38	1652287.81	14291415.98	39°21'20.195"N	80°57'28.814"W	4856.64	158.849	0.63	-0.06	-0.63	
11434.00	89.630	160.580	6438.24	4950.58	-4618.20	1783.40	1652318.81	14291327.29	39°21'19.318"N	80°57'28.420"W	4950.58	158.885	0.39	0.22	-0.32	
11528.00	89.630	158.690	6438.85	5044.57	-4706.32	1816.11	1652351.51	14291239.20	39°21'18.447"N	80°57'28.004"W	5044.57	158.899	2.01	0.00	-2.01	
11622.00	88.950	157.920	6440.01	5138.56	-4793.65	1850.86	1652386.24	14291151.91	39°21'17.584"N	80°57'27.562"W	5138.56	158.888	1.09	-0.72	-0.82	
11716.00	88.370	159.940	6442.21	5232.52	-4881.34	1884.64	1652420.01	14291064.25	39°21'16.717"N	80°57'27.133"W	5232.52	158.889	2.24	-0.62	2.15	
11810.00	89.600	163.640	6443.88	5326.37	-4970.60	1914.00	1652449.36	14290975.03	39°21'15.834"N	80°57'26.759"W	5326.37	158.940	4.15	1.31	3.94	
11905.00	90.490	164.290	6443.80	5421.00	-5061.90	1940.24	1652475.59	14290883.76	39°21'14.932"N	80°57'26.426"W	5421.01	159.028	1.16	0.94	0.68	
11999.00	90.090	160.410	6443.32	5514.81	-5151.46	1968.74	1652504.08	14290794.24	39°21'14.047"N	80°57'26.064"W	5514.84	159.065	4.15	-0.43	-4.13	
12093.00	90.030	156.120	6443.23	5608.79	-5238.75	2003.54	1652538.86	14290706.98	39°21'13.184"N	80°57'25.621"W	5608.81	159.071	4.56	-0.06	-4.56	
12187.00	89.630	153.850	6443.50	5702.56	-5323.93	2043.29	1652578.59	14290621.84	39°21'12.342"N	80°57'25.116"W	5702.57	159.004	2.45	-0.43	-2.41	
12282.00	89.630	156.110	6444.12	5797.33	-5410.01	2083.46	1652618.75	14290535.80	39°21'11.491"N	80°57'24.605"W	5797.33	158.938	2.38	0.00	2.38	
12376.00	89.720	161.150	6444.65	5891.29	-5497.62	2117.70	1652652.98	14290448.32	39°21'10.626"N	80°57'24.169"W	5891.29	158.933	5.36	0.10	5.36	
12470.00	90.620	159.560	6444.37	5985.28	-5586.04	2149.30	1652684.57	14290359.83	39°21'09.751"N	80°57'23.768"W	5985.28	158.965	1.94	0.96	-1.65	
12564.00	90.920	154.970	6443.11	6079.19	-5672.71	2185.62	1652720.87	14290273.20	39°21'08.894"N	80°57'23.306"W	6079.19	158.929	4.89	0.32	-4.88	
12658.00	89.480	155.120	6442.78	6172.97	-5757.93	2225.28	1652760.51	14290188.02	39°21'08.051"N	80°57'22.802"W	6172.97	158.870	1.54	-1.53	0.16	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #04
Area	Tyler County, WV		Well	Markle Unit 3H
Field	Tyler		Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (184 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
12753.00	89.140	157.320	6443.93	6267.85	-5844.85	2263.58	1652798.80	14290101.13	39°21'07.192"N	80°57'22.315"W	6267.86	158.830	2.34	-0.36	2.32	
12847.00	89.600	159.620	6444.96	6361.84	-5932.28	2298.07	1652833.28	14290013.73	39°21'06.328"N	80°57'21.876"W	6361.84	158.824	2.50	0.49	2.45	
12941.00	89.540	161.750	6445.66	6455.78	-6020.98	2329.16	1652864.35	14289925.07	39°21'05.451"N	80°57'21.481"W	6455.79	158.852	2.27	-0.06	2.27	
13035.00	89.750	164.810	6446.25	6549.50	-6110.99	2356.20	1652891.38	14289835.09	39°21'04.561"N	80°57'21.137"W	6549.50	158.915	3.26	0.22	3.26	
13129.00	89.690	165.630	6446.71	6642.93	-6201.88	2380.18	1652915.35	14289744.24	39°21'03.663"N	80°57'20.833"W	6642.94	159.004	0.87	-0.06	0.87	
13223.00	89.910	164.340	6447.03	6736.40	-6292.67	2404.53	1652939.69	14289653.49	39°21'02.765"N	80°57'20.523"W	6736.43	159.087	1.39	0.23	-1.37	
13317.00	89.820	160.860	6447.26	6830.19	-6382.36	2432.63	1652967.79	14289563.84	39°21'01.879"N	80°57'20.166"W	6830.24	159.136	3.70	-0.10	-3.70	
13412.00	91.230	157.160	6446.39	6925.16	-6471.03	2466.66	1653001.79	14289475.20	39°21'01.002"N	80°57'19.733"W	6925.22	159.134	4.17	1.48	-3.89	
13506.00	89.820	151.500	6445.52	7018.82	-6555.71	2507.36	1653042.48	14289390.55	39°21'00.165"N	80°57'19.216"W	7018.85	159.070	6.20	-1.50	-6.02	
13600.00	89.600	153.370	6446.00	7112.21	-6639.04	2550.85	1653085.96	14289307.26	39°20'59.341"N	80°57'18.663"W	7112.22	158.982	2.00	-0.23	1.99	
13694.00	89.850	156.720	6446.45	7205.99	-6724.25	2590.51	1653125.59	14289222.08	39°20'58.499"N	80°57'18.158"W	7205.99	158.931	3.57	0.27	3.56	
13789.00	89.660	155.440	6446.86	7300.87	-6811.09	2629.02	1653164.10	14289135.28	39°20'57.640"N	80°57'17.669"W	7300.87	158.894	1.36	-0.20	-1.35	
13883.00	89.630	156.410	6447.44	7394.74	-6896.91	2667.37	1653202.43	14289049.49	39°20'56.792"N	80°57'17.181"W	7394.74	158.856	1.03	-0.03	1.03	
13977.00	89.540	156.080	6448.12	7488.63	-6982.94	2705.23	1653240.28	14288963.50	39°20'55.941"N	80°57'16.700"W	7488.64	158.823	0.36	-0.10	-0.35	
14071.00	89.630	156.760	6448.80	7582.54	-7069.09	2742.83	1653277.86	14288877.38	39°20'55.090"N	80°57'16.222"W	7582.56	158.794	0.73	0.10	0.72	
14165.00	89.320	157.080	6449.66	7676.48	-7155.56	2779.68	1653314.69	14288790.94	39°20'54.235"N	80°57'15.753"W	7676.50	158.771	0.47	-0.33	0.34	
14260.00	89.380	159.720	6450.74	7771.46	-7243.88	2814.65	1653349.65	14288702.66	39°20'53.362"N	80°57'15.309"W	7771.49	158.766	2.78	0.06	2.78	
14354.00	88.860	164.200	6452.18	7865.29	-7333.22	2843.75	1653378.73	14288613.36	39°20'52.479"N	80°57'14.939"W	7865.31	158.804	4.80	-0.55	4.77	
14448.00	90.030	165.740	6453.10	7958.76	-7424.00	2868.12	1653403.10	14288522.62	39°20'51.581"N	80°57'14.629"W	7958.76	158.877	2.06	1.24	1.64	
14542.00	90.060	162.450	6453.02	8052.36	-7514.39	2893.88	1653428.85	14288432.26	39°20'50.688"N	80°57'14.302"W	8052.36	158.938	3.50	0.03	-3.50	
14636.00	89.750	161.880	6453.18	8146.21	-7603.87	2922.67	1653457.62	14288342.82	39°20'49.803"N	80°57'13.936"W	8146.21	158.975	0.69	-0.33	-0.61	
14730.00	89.970	160.150	6453.41	8240.14	-7692.75	2953.25	1653488.19	14288253.97	39°20'48.925"N	80°57'13.547"W	8240.15	158.998	1.86	0.23	-1.84	
14824.00	90.490	155.290	6453.03	8334.09	-7779.71	2988.87	1653523.80	14288167.05	39°20'48.065"N	80°57'13.094"W	8334.10	158.984	5.20	0.55	-5.17	
14919.00	89.380	153.710	6453.14	8428.81	-7865.45	3029.77	1653564.68	14288081.34	39°20'47.217"N	80°57'12.574"W	8428.81	158.933	2.03	-1.17	-1.66	
15013.00	89.660	155.010	6453.92	8522.50	-7950.19	3070.44	1653605.34	14287996.64	39°20'46.380"N	80°57'12.057"W	8522.51	158.883	1.41	0.30	1.38	
15107.00	89.600	155.140	6454.53	8616.29	-8035.43	3110.06	1653644.94	14287911.43	39°20'45.537"N	80°57'11.554"W	8616.30	158.841	0.15	-0.06	0.14	
15201.00	89.170	159.440	6455.54	8710.23	-8122.12	3146.34	1653681.20	14287824.78	39°20'44.680"N	80°57'11.092"W	8710.24	158.825	4.60	-0.46	4.57	
15295.00	89.660	164.930	6456.50	8804.03	-8211.57	3175.08	1653709.94	14287735.36	39°20'43.796"N	80°57'10.727"W	8804.04	158.861	5.88	0.52	5.84	
15389.00	89.850	166.890	6456.90	8897.33	-8302.74	3197.97	1653732.81	14287644.23	39°20'42.895"N	80°57'10.436"W	8897.33	158.935	2.09	0.20	2.09	
15484.00	89.780	164.540	6457.21	8991.65	-8394.79	3221.40	1653756.24	14287552.21	39°20'41.985"N	80°57'10.139"W	8991.66	159.006	2.47	-0.07	-2.47	

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Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #04
ANTERO RESOURCES CORPORATION	Markle Unit 3H
Tyler County, WV	Well
Tyler	Wellbore
Terry Snider Pad	Markle Unit 3H AWB

WELLPATH DATA (184 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
15578.00	89.630	159.900	6457.69	8085.47	-8484.28	3250.10	1653784.92	14287462.76	39°20'41.100"N	80°57'09.774"W	9085.49	159.039	4.94	-0.18	-4.94	
15673.00	89.750	159.660	6458.21	8180.45	-8573.42	3282.93	1653817.75	14287373.65	39°20'40.219"N	80°57'09.357"W	9180.48	159.047	0.28	0.13	-0.25	
15707.00	89.850	158.800	6458.33	8214.45	-8605.21	3294.99	1653829.80	14287341.88	39°20'39.905"N	80°57'09.203"W	9214.48	159.048	2.55	0.29	-2.53	
15732.00	89.850	158.800	6458.39	8239.45	-8628.52	3304.03	1653838.83	14287318.58	39°20'39.674"N	80°57'09.088"W	9239.48	159.047	0.00	0.00	0.00	Projected MD at TD: 15732'

HOLE & CASING SECTIONS - Ref Wellbore: Markle Unit 3H AWB Ref Wellpath: Markle Unit 3H AWP Proj: 15732'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	End N/S (ft)	Start E/W (ft)	End E/W (ft)
20in Conductor	25.00	65.00	40.00	25.00	65.00	0.00	0.03	0.00	-0.08
13.375in Casing Surface	25.00	513.00	488.00	25.00	512.99	0.00	1.42	0.00	-3.31
9.625in Casing Intermediate	25.00	2575.00	2550.00	25.00	2572.82	0.00	35.34	0.00	38.04

TARGETS

Name	TVD (ft)	North (ft)	East (ft)	Interval (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape
Markle Unit 3H POE Rev-2	6409.00	-102.09	100.24		1650636.33	14295841.58	39°22'03.961"N	80°57'49.824"W	point
Markle Unit 3H BHL Rev-2	6447.00	-8561.07	3294.19		1653829.00	14287386.00	39°20'40.341"N	80°57'09.213"W	point
Markle Unit 3H LP Rev-2	6447.00	-298.42	138.72		1650674.79	14295645.33	39°22'02.020"N	80°57'49.335"W	point

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH COMPOSITION - Ref Wellbore: Markle Unit 3H AWB Ref Wellpath: Markle Unit 3H AWP Proj: 15732'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5510.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <8-3/4">(100'-5498')	Markle Unit 3H AWB
5510.00	15707.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2">(5510')(5627'-15707')	Markle Unit 3H AWB
15707.00	15732.00	Blind Drilling (std)	Projection to bit	Markle Unit 3H AWB

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Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
112.00	0.550	290.180	112.00	Gyrodatta MS Gyro <8-3/4">(112'-5510')
5627.00	10.840	0.230	5601.87	BHI AT Curve <8-1/2">(5510')(5627'-15707')
6370.00	48.851	166.883	6279.24	Middlesex: 6370' MD
6556.00	67.487	168.257	6375.28	Burkett: 6556' MD
6621.00	68.285	167.377	6399.48	Tully: 6621' MD
6643.00	69.266	167.136	6407.50	Marcellus: 6643' MD
15732.00	89.850	158.800	6458.39	Projected MD at TD: 15732'

COMMENTS
<p>Wellpath general comments API: 47-095-02354-00-00 BHI Job #: 8199535 Rig: Patterson 342 Duration: 10.13.2016 - 10.16.2016 Gyrodatta MS Gyro <8-3/4">(112'-5510') BHI AT Curve <8-1/2">(5510')(5627'-15707') Middlesex: 6370' MD Burkett: 6556' MD Tully: 6621' MD Marcellus: 6643' MD Projected MD at TD: 15732'</p>

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ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Terry Snider Pad
 Slot: Slot #04
 Well: Markle Unit 3H
 Wellbore: Markle Unit 3H PWB

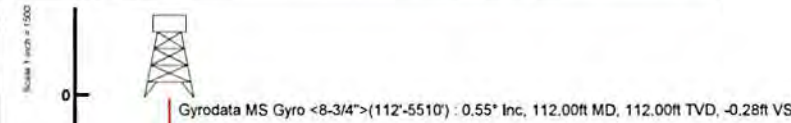
Plot reference wellpath is Markle Unit 3H PWB Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	* - Wellpath was transformed from a different geoid datum
Measured depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Patterson 342 (RKB) to Mean Sea Level: 1172 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot Slot #04): -1147 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: harsik on 2016-10-26
	Delivered: WA_MPL_EASTERNUS_04h

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Terry Snider Pad	1650540.845	14295934.525	39°22'04.880"N	80°57'51.040"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #04	9.11	-4.72	1650536.130	14295943.630	39°22'04.970"N	80°57'51.100"W
Comment: Markle Unit 3H						
Patterson 342 (RKB) to Mud line (At Slot Slot #04)					25ft	
Mean Sea Level to Mud line (At Slot Slot #04)					-1147ft	
Patterson 342 (RKB) to Mean Sea Level					1172ft	

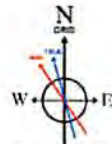
Scale 1 inch = 1500
 Easting (ft)
 -3000 -2250 -1500 -750 0 750 1500 2250 3000 3750 4500

BHI AT Curve <8-1/2">(5510')(5627-15707) : 5601.87ft TVD, 304.16ft N, 0.90ft W
 Slot #04
 Gyrodatta MS Gyro <8-3/4">(112'-5510') : 112.00ft TVD, 0.14ft N, 0.39ft W
 Marcellus: 6643' MD : 6407.50ft TVD, 146.69ft S, 102.55ft E



Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	Markle Unit 3H	Markle Unit 3H AWB	Markle Unit 3H AWP Proj 15732'
Slot #04	Markle Unit 3H	Markle Unit 3H PWB	Markle Unit 3H PWP Rev-A.0

API: 47-095-02354-00-00
 BHI Job #: 8199535
 Rig: Patterson 342
 Duration: 10.13.2016 - 10.16.2016



User specified Dip: 66.20° Field: 52033 nT
 Magnetic North is 7.76 degrees West of True North (at 10/10/2016)
 Grid North is 0.02 degrees East of True North
 To correct azimuth from True to Grid subtract 0.02 degrees
 To correct azimuth from Magnetic to Grid subtract 7.78 degrees

BHI AT Curve <8-1/2">(5510')(5627-15707) : 10.84° Inc, 5627.00ft MD, 5601.87ft TVD, -284.11ft VS

Marcellus: 6643' MD : 59.27° Inc, 6643.00ft MD, 6407.50ft TVD, 173.77ft VS

Projected MD at TD: 15732' : 6458.39ft TVD, 8628.52ft S, 3304.03ft E

Projected MD at TD: 15732' : 89.85° Inc, 15732.00ft MD, 6458.39ft TVD, 9239.45ft VS

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Vertical Section (ft)

Azimuth 158.91° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

Northing (ft)



Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Hareluk
Scale	0.999600	Report Generated	10/26/2016 at 12:17:54 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Markle_Unit_3H_AWP_Proj_15732_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	9.11	-4.72	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W
Facility Reference Pt			1650540.85	14295934.53	39°22'04.880"N	80°57'51.040"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1172.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #04)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.91°

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Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #04
Area	Tyler County, WV		Well
Field	Tyler		Wellbore
Facility	Terry Snider Pad		Markle Unit 3H AWB

WELLPATH DATA (184 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
0.00†	0.000	290.180	0.00	0.00	0.00	0.00	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	290.180	25.00	0.00	0.00	0.00	1650536.13	14295943.63	39°22'04.970"N	80°57'51.100"W	0.00	0.000	0.00	0.00	0.00	
112.00	0.550	290.180	112.00	-0.28	0.14	-0.39	1650535.74	14295943.77	39°22'04.971"N	80°57'51.105"W	0.42	290.180	0.63	0.63	-80.25	Gyrodata MS Gyro <8-3/4">(112'-5510')
212.00	0.620	290.630	211.99	-0.95	0.50	-1.35	1650534.78	14295944.13	39°22'04.975"N	80°57'51.117"W	1.44	290.349	0.07	0.07	0.45	
312.00	0.370	302.560	311.99	-1.57	0.86	-2.13	1650534.00	14295944.49	39°22'04.979"N	80°57'51.127"W	2.30	292.120	0.27	-0.25	11.93	
412.00	0.360	292.510	411.99	-2.05	1.16	-2.69	1650533.44	14295944.79	39°22'04.982"N	80°57'51.134"W	2.93	293.306	0.06	-0.01	-10.05	
512.00	0.410	293.570	511.99	-2.52	1.42	-3.31	1650532.82	14295945.05	39°22'04.984"N	80°57'51.142"W	3.60	293.263	0.05	0.05	1.06	
612.00	0.460	39.440	611.98	-2.97	1.88	-3.38	1650532.75	14295945.50	39°22'04.989"N	80°57'51.143"W	3.87	299.015	0.69	0.05	105.87	
712.00	2.570	70.540	711.94	-3.10	2.93	-1.01	1650535.12	14295946.56	39°22'04.999"N	80°57'51.113"W	3.10	340.967	2.19	2.11	31.10	
812.00	4.880	60.910	811.73	-3.63	5.75	4.82	1650540.95	14295949.38	39°22'05.027"N	80°57'51.039"W	7.50	39.985	2.39	2.31	-9.63	
912.00	5.140	57.860	911.34	-5.08	10.20	12.33	1650548.46	14295953.82	39°22'05.071"N	80°57'50.943"W	16.00	50.405	0.37	0.26	-3.05	
1012.00	5.310	56.720	1010.93	-6.91	15.12	19.99	1650556.11	14295958.74	39°22'05.119"N	80°57'50.845"W	25.07	52.898	0.20	0.17	-1.14	
1112.00	5.260	53.670	1110.50	-9.10	20.38	27.55	1650563.67	14295964.00	39°22'05.171"N	80°57'50.749"W	34.27	53.517	0.29	-0.05	-3.05	
1212.00	4.160	44.290	1210.17	-11.81	25.69	33.78	1650569.89	14295969.31	39°22'05.224"N	80°57'50.670"W	42.44	52.748	1.34	-1.10	-9.38	
1312.00	1.860	40.150	1310.02	-14.10	29.52	37.36	1650573.47	14295973.14	39°22'05.262"N	80°57'50.624"W	47.62	51.680	2.31	-2.30	-4.14	
1412.00	0.900	52.700	1409.99	-15.10	31.24	39.03	1650575.14	14295974.86	39°22'05.279"N	80°57'50.603"W	49.99	51.324	1.00	-0.96	12.55	
1512.00	0.750	59.400	1509.98	-15.43	32.05	40.22	1650576.33	14295975.67	39°22'05.287"N	80°57'50.588"W	51.43	51.448	0.18	-0.15	6.70	
1612.00	0.730	64.760	1609.97	-15.59	32.66	41.36	1650577.47	14295976.27	39°22'05.293"N	80°57'50.573"W	52.69	51.706	0.07	-0.02	5.36	
1712.00	0.710	65.390	1709.97	-15.67	33.18	42.50	1650578.61	14295976.80	39°22'05.298"N	80°57'50.559"W	53.92	52.014	0.02	-0.02	0.63	
1812.00	0.710	329.390	1809.96	-16.32	33.98	42.74	1650578.86	14295977.59	39°22'05.306"N	80°57'50.556"W	54.60	51.520	1.06	0.00	-96.00	
1912.00	1.290	325.810	1909.95	-18.03	35.44	41.80	1650577.91	14295979.06	39°22'05.320"N	80°57'50.568"W	54.80	49.704	0.58	0.58	-3.58	
2012.00	1.000	304.070	2009.93	-19.84	36.86	40.44	1650576.55	14295980.48	39°22'05.334"N	80°57'50.585"W	54.72	47.652	0.52	-0.29	-21.74	
2112.00	1.190	258.490	2109.91	-20.73	37.14	38.70	1650574.81	14295980.76	39°22'05.337"N	80°57'50.607"W	53.64	46.177	0.87	0.19	-45.58	
2212.00	1.470	195.320	2209.89	-19.87	35.70	37.34	1650573.46	14295979.31	39°22'05.323"N	80°57'50.624"W	51.66	46.291	1.41	0.28	-63.17	
2312.00	1.390	176.630	2309.86	-17.68	33.25	37.08	1650573.19	14295976.87	39°22'05.289"N	80°57'50.628"W	49.80	48.115	0.47	-0.08	-18.69	
2412.00	0.810	33.670	2409.85	-16.93	32.63	37.54	1650573.65	14295976.24	39°22'05.292"N	80°57'50.622"W	49.74	49.005	2.09	-0.58	-142.96	
2512.00	1.250	11.610	2509.83	-18.26	34.28	38.15	1650574.27	14295977.90	39°22'05.309"N	80°57'50.614"W	51.29	48.056	0.58	0.44	-22.06	
2612.00	0.940	294.070	2609.82	-19.76	35.69	37.62	1650573.74	14295979.30	39°22'05.323"N	80°57'50.621"W	51.85	46.512	1.39	-0.31	-77.54	
2712.00	1.330	271.710	2709.80	-20.79	36.06	35.71	1650571.83	14295979.67	39°22'05.326"N	80°57'50.645"W	50.75	44.726	0.58	0.39	-22.36	
2812.00	1.020	197.080	2809.78	-20.54	35.24	34.29	1650570.41	14295978.86	39°22'05.318"N	80°57'50.663"W	49.17	44.218	1.45	-0.31	-74.63	

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Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #04
Area	Tyler County, WV		Well	Markle Unit 3H
Field	Tyler		Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad			

WELLPATH DATA (184 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
2912.00	1.290	177.800	2909.76	-18.78	33.26	34.07	1650570.19	14295976.88	39°22'05.299"N	80°57'50.666"W	47.62	45.688	0.47	0.27	-19.28	
3012.00	0.510	83.830	3009.75	-17.60	32.19	34.56	1650570.67	14295975.80	39°22'05.288"N	80°57'50.660"W	47.23	47.035	1.42	-0.78	-93.97	
3112.00	0.570	66.730	3109.75	-17.50	32.43	35.46	1650571.57	14295976.05	39°22'05.290"N	80°57'50.648"W	48.05	47.553	0.17	0.06	-17.10	
3212.00	0.410	53.790	3209.74	-17.61	32.84	36.20	1650572.32	14295976.46	39°22'05.294"N	80°57'50.639"W	48.88	47.790	0.19	-0.16	-12.94	
3312.00	0.280	35.640	3309.74	-17.84	33.25	36.63	1650572.75	14295976.87	39°22'05.299"N	80°57'50.633"W	49.47	47.773	0.17	-0.13	-18.15	
3412.00	0.130	44.390	3409.74	-18.02	33.53	36.86	1650572.97	14295977.15	39°22'05.301"N	80°57'50.631"W	49.83	47.707	0.15	-0.15	8.75	
3512.00	0.080	72.320	3509.74	-18.06	33.63	37.00	1650573.12	14295977.25	39°22'05.302"N	80°57'50.629"W	50.00	47.732	0.07	-0.05	27.93	
3612.00	0.040	68.000	3609.74	-18.06	33.67	37.10	1650573.22	14295977.28	39°22'05.303"N	80°57'50.627"W	50.10	47.779	0.04	-0.04	-4.32	
3712.00	0.040	171.440	3709.74	-18.03	33.64	37.14	1650573.25	14295977.28	39°22'05.302"N	80°57'50.627"W	50.11	47.826	0.06	0.00	103.44	
3812.00	0.140	295.560	3809.74	-18.08	33.66	37.03	1650573.15	14295977.28	39°22'05.303"N	80°57'50.628"W	50.05	47.730	0.17	0.10	124.12	
3912.00	2.660	347.770	3909.70	-20.46	35.98	36.43	1650572.55	14295979.60	39°22'05.326"N	80°57'50.636"W	51.21	45.355	2.58	2.52	52.21	
4012.00	4.430	351.220	4009.61	-26.53	42.07	35.35	1650571.47	14295985.68	39°22'05.386"N	80°57'50.650"W	54.95	40.041	1.78	1.77	3.45	
4112.00	6.290	353.570	4109.07	-35.60	51.33	34.15	1650570.26	14295994.94	39°22'05.477"N	80°57'50.665"W	61.65	33.634	1.87	1.86	2.35	
4212.00	7.920	349.110	4208.30	-47.68	63.54	32.23	1650568.35	14296007.14	39°22'05.598"N	80°57'50.689"W	71.25	26.898	1.72	1.63	-4.46	
4312.00	8.990	346.970	4307.21	-62.20	77.92	29.17	1650565.29	14296021.52	39°22'05.740"N	80°57'50.728"W	83.20	20.524	1.12	1.07	-2.14	
4412.00	8.870	345.720	4406.00	-77.59	93.00	25.51	1650561.63	14296036.59	39°22'05.889"N	80°57'50.775"W	96.43	15.337	0.23	-0.12	-1.25	
4512.00	8.570	351.700	4504.84	-92.51	107.85	22.53	1650558.65	14296051.43	39°22'06.036"N	80°57'50.813"W	110.17	11.799	0.95	-0.30	5.98	
4612.00	10.080	350.050	4603.52	-108.37	123.84	19.94	1650556.06	14296067.42	39°22'06.194"N	80°57'50.845"W	125.43	9.147	1.53	1.51	-1.65	
4712.00	10.900	352.300	4701.85	-126.15	141.83	17.16	1650553.28	14296085.40	39°22'06.372"N	80°57'50.881"W	142.86	6.899	0.92	0.82	2.25	
4812.00	11.730	358.120	4799.91	-144.95	161.36	15.66	1650551.69	14296104.92	39°22'06.565"N	80°57'50.901"W	162.11	5.509	1.41	0.83	5.82	
4912.00	11.590	353.620	4897.84	-164.27	181.50	14.11	1650550.24	14296125.06	39°22'06.764"N	80°57'50.919"W	182.05	4.446	0.92	-0.14	-4.50	
5012.00	10.470	340.530	4996.01	-183.07	200.05	9.97	1650546.09	14296143.60	39°22'06.947"N	80°57'50.972"W	200.30	2.852	2.74	-1.12	-13.09	
5112.00	11.620	349.230	5094.16	-202.06	218.52	5.06	1650541.18	14296162.06	39°22'07.130"N	80°57'51.035"W	218.57	1.325	2.02	1.15	8.70	
5212.00	10.190	355.650	5192.36	-220.44	237.23	2.50	1650538.63	14296180.77	39°22'07.315"N	80°57'51.067"W	237.24	0.604	1.87	-1.43	6.42	
5312.00	9.160	358.790	5290.94	-236.40	254.01	1.66	1650537.79	14296197.54	39°22'07.481"N	80°57'51.078"W	254.02	0.375	1.16	-1.03	3.14	
5412.00	7.990	355.500	5389.82	-250.54	268.90	0.95	1650537.08	14296212.42	39°22'07.628"N	80°57'51.087"W	268.90	0.202	1.27	-1.17	-3.29	
5510.00	9.380	355.560	5486.69	-264.72	283.65	-0.20	1650535.93	14296227.17	39°22'07.774"N	80°57'51.101"W	283.65	359.959	1.42	1.42	0.06	
5627.00	10.840	0.230	5601.87	-284.11	304.16	-0.90	1650535.23	14296247.67	39°22'07.976"N	80°57'51.110"W	304.16	359.831	1.43	1.25	3.99	BHI AT Curve <8-1/2">(5510')(5627'-15707')
5684.00	7.210	2.130	5658.16	-292.39	313.10	-0.74	1650535.39	14296256.60	39°22'08.065"N	80°57'51.108"W	313.10	359.864	6.39	-6.37	3.33	
5731.00	2.380	25.640	5704.98	-295.77	316.93	-0.21	1650535.92	14296260.43	39°22'08.102"N	80°57'51.101"W	316.93	359.962	10.88	-10.28	49.81	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations) † = Interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
5778.00	2.870	141.620	5751.96	-295.32	316.89	0.94	1650537.07	14296260.39	39°22'08.102"N	80°57'51.086"W	316.89	0.170	9.49	1.04	246.98	
5825.00	6.370	156.990	5798.80	-291.59	313.56	2.69	1650538.82	14296257.07	39°22'08.069"N	80°57'51.064"W	313.57	0.492	7.83	7.45	32.70	
5873.00	10.210	162.170	5846.29	-284.68	307.06	5.03	1650541.16	14296250.57	39°22'08.005"N	80°57'51.034"W	307.10	0.939	8.14	8.00	10.79	
5920.00	13.710	164.830	5892.26	-274.98	297.71	7.77	1650543.90	14296241.22	39°22'07.913"N	80°57'51.000"W	297.82	1.495	7.54	7.45	5.66	
5967.00	16.480	167.850	5937.64	-262.85	285.82	10.63	1650546.76	14296229.33	39°22'07.795"N	80°57'50.963"W	286.02	2.130	6.12	5.89	6.43	
6014.00	19.580	169.370	5982.32	-248.52	271.56	13.49	1650549.61	14296215.08	39°22'07.654"N	80°57'50.927"W	271.89	2.843	6.67	6.60	3.23	
6062.00	21.030	169.510	6027.34	-232.14	255.18	16.54	1650552.66	14296198.71	39°22'07.492"N	80°57'50.888"W	255.72	3.708	3.02	3.02	0.29	
6108.00	25.070	170.020	6069.66	-214.46	237.46	19.73	1650555.85	14296181.00	39°22'07.317"N	80°57'50.848"W	238.28	4.750	8.79	8.78	1.11	
6156.00	28.840	170.000	6112.44	-193.11	216.04	23.51	1650559.63	14296159.58	39°22'07.105"N	80°57'50.800"W	217.31	6.209	7.85	7.85	-0.04	
6200.00	32.810	169.740	6150.21	-170.98	193.85	27.47	1650563.59	14296137.40	39°22'06.886"N	80°57'50.749"W	195.79	8.066	9.03	9.02	-0.59	
6250.00	36.580	168.540	6191.32	-142.97	165.91	32.85	1650568.96	14296109.47	39°22'06.610"N	80°57'50.681"W	169.13	11.199	7.66	7.54	-2.40	
6294.00	41.070	166.640	6225.59	-115.71	138.98	38.80	1650574.91	14296082.55	39°22'06.344"N	80°57'50.605"W	144.29	15.597	10.56	10.20	-4.32	
6344.00	46.370	166.810	6261.71	-81.49	105.36	46.73	1650582.84	14296048.95	39°22'06.011"N	80°57'50.505"W	115.25	23.917	10.60	10.60	0.34	
6370.00†	48.851	166.883	6279.24	-62.47	86.66	51.09	1650587.20	14296030.26	39°22'05.826"N	80°57'50.449"W	100.60	30.524	9.54	9.54	0.28	Middlesex: 6370' MD
6392.00	50.950	166.940	6293.41	-45.81	70.27	54.91	1650591.01	14296013.87	39°22'05.664"N	80°57'50.401"W	89.18	38.002	9.54	9.54	0.26	
6439.00	55.870	167.030	6321.42	-8.45	33.51	63.40	1650599.51	14295977.13	39°22'05.301"N	80°57'50.293"W	71.71	62.139	10.47	10.47	0.19	
6486.00	61.520	167.450	6345.83	31.26	-5.64	72.26	1650608.36	14295937.99	39°22'04.914"N	80°57'50.180"W	72.48	94.461	12.05	12.02	0.89	
6533.00	66.720	168.190	6366.33	73.02	-46.96	81.17	1650617.27	14295896.69	39°22'04.506"N	80°57'50.067"W	93.78	120.049	11.15	11.06	1.57	
6556.00†	67.487	168.257	6375.28	93.93	-67.70	85.50	1650621.59	14295875.96	39°22'04.301"N	80°57'50.012"W	109.06	128.373	3.34	3.33	0.29	Burkett: 6556' MD
6581.00	68.320	168.330	6384.69	116.78	-90.38	90.20	1650626.29	14295853.28	39°22'04.076"N	80°57'49.952"W	127.69	135.058	3.34	3.33	0.29	
6621.00†	68.285	167.377	6399.48	153.50	-126.72	98.02	1650634.11	14295816.97	39°22'03.717"N	80°57'49.853"W	160.20	142.277	2.22	-0.09	-2.38	Tully: 6621' MD
6628.00	68.280	167.210	6402.07	159.93	-133.06	99.45	1650635.54	14295810.62	39°22'03.655"N	80°57'49.834"W	166.12	143.225	2.22	-0.08	-2.38	
6643.00†	69.266	167.136	6407.50	173.77	-146.69	102.55	1650638.64	14295797.00	39°22'03.520"N	80°57'49.795"W	178.99	145.042	6.59	6.57	-0.50	Marcellus: 6643' MD
6675.00	71.370	166.980	6418.27	203.59	-176.06	109.30	1650645.39	14295767.64	39°22'03.230"N	80°57'49.709"W	207.23	148.167	6.59	6.57	-0.49	
6722.00	77.470	168.040	6430.89	248.33	-220.24	119.08	1650655.16	14295723.48	39°22'02.793"N	80°57'49.585"W	250.37	151.600	13.16	12.98	2.26	
6769.00	80.600	167.890	6439.83	293.90	-265.36	128.70	1650664.78	14295678.38	39°22'02.347"N	80°57'49.463"W	294.92	154.126	6.67	6.66	-0.32	
6816.00	85.870	167.820	6445.36	339.98	-310.97	138.52	1650674.59	14295632.78	39°22'01.896"N	80°57'49.338"W	340.43	155.990	11.21	11.21	-0.15	
6845.00	89.820	168.130	6446.45	368.60	-339.31	144.55	1650680.63	14295604.46	39°22'01.616"N	80°57'49.261"W	368.82	156.925	13.66	13.62	1.07	
6911.00	90.650	166.370	6446.18	433.89	-403.68	159.12	1650695.19	14295540.11	39°22'00.980"N	80°57'49.076"W	433.91	158.487	2.95	1.26	-2.67	
7005.00	90.580	161.630	6445.17	527.49	-494.01	185.02	1650721.08	14295449.82	39°22'00.087"N	80°57'48.747"W	527.52	159.468	5.04	-0.07	-5.04	

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
7099.00	91.050	159.070	6443.84	621.44	-582.52	216.62	1650752.67	14295361.35	39°21'59.212"N	80°57'48.345"W	621.49	159.601	2.77	0.50	-2.72	
7194.00	90.770	153.930	6442.33	716.32	-669.60	254.49	1650790.52	14295274.30	39°21'58.351"N	80°57'47.863"W	716.33	159.190	5.42	-0.29	-5.41	
7288.00	90.120	154.180	6441.60	809.98	-754.12	295.61	1650831.62	14295189.81	39°21'57.515"N	80°57'47.340"W	809.99	158.595	0.74	-0.69	0.27	
7382.00	89.910	157.840	6441.57	903.84	-839.98	333.82	1650869.82	14295103.98	39°21'56.667"N	80°57'46.854"W	903.89	158.326	3.90	-0.22	3.89	
7476.00	90.310	158.850	6441.39	997.83	-927.35	368.51	1650904.49	14295016.65	39°21'55.803"N	80°57'46.413"W	997.89	158.328	1.16	0.43	1.07	
7570.00	90.830	155.840	6440.46	1091.78	-1014.08	404.71	1650940.68	14294929.96	39°21'54.946"N	80°57'45.952"W	1091.86	158.243	3.25	0.55	-3.20	
7664.00	90.220	154.550	6439.60	1185.58	-1099.40	444.15	1650980.10	14294844.67	39°21'54.102"N	80°57'45.451"W	1185.73	158.002	1.52	-0.65	-1.37	
7758.00	89.630	158.620	6439.72	1279.48	-1185.64	481.49	1651017.43	14294758.46	39°21'53.250"N	80°57'44.976"W	1279.68	157.898	4.38	-0.63	4.33	
7852.00	90.120	161.770	6439.92	1373.45	-1274.07	513.34	1651049.26	14294670.07	39°21'52.376"N	80°57'44.571"W	1373.60	158.055	3.39	0.52	3.35	
7947.00	90.150	162.310	6439.70	1468.30	-1364.44	542.63	1651078.54	14294579.74	39°21'51.482"N	80°57'44.198"W	1468.38	158.313	0.57	0.03	0.57	
8041.00	91.200	160.750	6438.59	1562.19	-1453.59	572.41	1651108.31	14294490.62	39°21'50.601"N	80°57'43.819"W	1562.23	158.506	2.00	1.12	-1.66	
8137.00	90.250	157.400	6437.38	1658.17	-1543.24	606.68	1651142.57	14294401.01	39°21'49.715"N	80°57'43.384"W	1658.21	158.539	3.63	-0.99	-3.49	
8230.00	89.540	159.270	6437.55	1751.16	-1629.66	641.02	1651176.89	14294314.62	39°21'48.861"N	80°57'42.947"W	1751.20	158.528	2.15	-0.76	2.01	
8324.00	89.940	160.810	6437.97	1845.14	-1718.01	673.10	1651208.96	14294226.31	39°21'47.987"N	80°57'42.539"W	1845.17	158.605	1.69	0.43	1.64	
8419.00	89.910	161.220	6438.10	1940.08	-1807.84	704.01	1651239.86	14294136.51	39°21'47.099"N	80°57'42.146"W	1940.09	158.723	0.43	-0.03	0.43	
8513.00	90.400	161.810	6437.84	2033.98	-1896.99	733.81	1651269.65	14294047.40	39°21'46.218"N	80°57'41.767"W	2033.98	158.852	0.82	0.52	0.63	
8607.00	92.250	159.130	6435.67	2127.90	-1985.55	765.22	1651301.04	14293958.88	39°21'45.343"N	80°57'41.367"W	2127.90	158.924	3.46	1.97	-2.85	
8702.00	90.400	155.230	6433.47	2222.81	-2073.07	802.05	1651337.86	14293871.39	39°21'44.477"N	80°57'40.899"W	2222.81	158.849	4.54	-1.95	-4.11	
8796.00	90.060	154.310	6433.10	2316.57	-2158.10	842.12	1651377.91	14293786.40	39°21'43.637"N	80°57'40.389"W	2316.58	158.684	1.04	-0.36	-0.98	
8890.00	89.820	156.610	6433.19	2410.39	-2243.60	881.15	1651416.93	14293700.93	39°21'42.792"N	80°57'39.893"W	2410.43	158.558	2.46	-0.26	2.45	
8985.00	89.720	159.040	6433.58	2505.36	-2331.57	917.01	1651452.77	14293613.00	39°21'41.922"N	80°57'39.437"W	2505.42	158.530	2.56	-0.11	2.56	
9079.00	89.820	160.760	6433.95	2599.35	-2419.84	949.31	1651485.06	14293524.76	39°21'41.049"N	80°57'39.026"W	2599.39	158.580	1.83	0.11	1.83	
9173.00	89.750	160.880	6434.31	2693.29	-2508.62	980.19	1651515.93	14293436.02	39°21'40.172"N	80°57'38.633"W	2693.32	158.658	0.15	-0.07	0.13	
9267.00	89.880	161.160	6434.61	2787.23	-2597.51	1010.77	1651546.49	14293347.16	39°21'39.293"N	80°57'38.245"W	2787.24	158.738	0.33	0.14	0.30	
9361.00	89.510	163.570	6435.11	2881.05	-2687.09	1039.24	1651574.95	14293257.62	39°21'38.408"N	80°57'37.883"W	2881.05	158.856	2.59	-0.33	2.56	
9455.00	89.910	163.850	6435.59	2974.72	-2777.31	1065.61	1651601.31	14293167.44	39°21'37.516"N	80°57'37.547"W	2974.72	159.009	0.52	0.43	0.30	
9548.00	89.880	160.970	6435.76	3067.53	-2865.95	1093.71	1651629.40	14293078.83	39°21'36.640"N	80°57'37.190"W	3067.55	159.112	3.10	-0.03	-3.10	
9642.00	89.690	159.440	6436.11	3161.51	-2954.40	1125.54	1651661.22	14292990.42	39°21'35.765"N	80°57'36.785"W	3161.53	159.145	1.64	-0.20	-1.63	
9737.00	89.540	160.840	6436.75	3256.48	-3043.74	1157.81	1651693.48	14292901.11	39°21'34.882"N	80°57'36.375"W	3256.52	159.174	1.48	-0.16	1.47	
9831.00	90.800	159.930	6436.47	3350.45	-3132.28	1189.37	1651725.02	14292812.61	39°21'34.007"N	80°57'35.974"W	3350.49	159.208	1.65	1.34	-0.97	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
9925.00	82.930	155.680	6433.41	3444.35	-3219.25	1224.85	1651760.48	14292725.68	39°21'33.147"N	80°57'35.523"W	3444.39	159.169	5.05	2.27	-4.52	
10019.00	90.090	152.240	6430.93	3537.95	-3303.65	1266.09	1651801.71	14292641.30	39°21'32.313"N	80°57'34.998"W	3537.95	159.031	4.74	-3.02	-3.66	
10114.00	89.880	155.820	6430.96	3632.59	-3389.05	1307.68	1651843.29	14292555.94	39°21'31.469"N	80°57'34.469"W	3632.59	158.901	3.77	-0.22	3.77	
10208.00	89.630	159.100	6431.36	3726.54	-3475.85	1343.71	1651879.30	14292469.17	39°21'30.610"N	80°57'34.011"W	3726.54	158.864	3.50	-0.27	3.49	
10302.00	89.720	160.460	6431.89	3820.53	-3564.06	1376.20	1651911.77	14292381.00	39°21'29.739"N	80°57'33.598"W	3820.53	158.887	1.45	0.10	1.45	
10397.00	89.510	163.020	6432.53	3915.40	-3654.26	1405.96	1651941.53	14292290.83	39°21'28.847"N	80°57'33.219"W	3915.40	158.956	2.70	-0.22	2.69	
10491.00	89.940	163.060	6432.98	4009.16	-3744.18	1433.38	1651968.93	14292200.96	39°21'27.958"N	80°57'32.871"W	4009.17	159.052	0.46	0.46	0.04	
10586.00	90.460	159.380	6432.65	4104.06	-3834.10	1463.96	1651999.50	14292111.07	39°21'27.069"N	80°57'32.482"W	4104.08	159.102	3.91	0.55	-3.87	
10680.00	89.940	156.620	6432.32	4198.04	-3921.25	1499.17	1652034.70	14292023.96	39°21'26.208"N	80°57'32.034"W	4198.06	159.077	2.99	-0.55	-2.94	
10774.00	90.060	154.320	6432.32	4291.86	-4006.76	1538.19	1652073.70	14291938.48	39°21'25.362"N	80°57'31.538"W	4291.87	158.998	2.45	0.13	-2.45	
10868.00	89.480	152.240	6432.70	4385.40	-4090.71	1580.45	1652115.95	14291854.56	39°21'24.532"N	80°57'31.000"W	4385.40	158.876	2.30	-0.62	-2.21	
10963.00	89.410	154.550	6433.62	4479.95	-4175.65	1622.99	1652158.47	14291769.66	39°21'23.693"N	80°57'30.459"W	4479.97	158.760	2.43	-0.07	2.43	
11057.00	89.450	158.840	6434.55	4573.86	-4261.95	1660.17	1652195.63	14291683.39	39°21'22.840"N	80°57'29.987"W	4573.88	158.717	4.56	0.04	4.56	
11151.00	89.320	161.610	6435.56	4667.82	-4350.39	1691.97	1652227.42	14291594.98	39°21'21.965"N	80°57'29.582"W	4667.84	158.748	2.95	-0.14	2.95	
11246.00	89.480	161.470	6436.56	4762.71	-4440.50	1722.05	1652267.49	14291504.91	39°21'21.075"N	80°57'29.200"W	4762.72	158.803	0.22	0.17	-0.15	
11340.00	89.420	160.880	6437.46	4856.63	-4529.47	1752.38	1652287.81	14291415.98	39°21'20.195"N	80°57'28.814"W	4856.64	158.849	0.63	-0.06	-0.63	
11434.00	89.630	160.580	6438.24	4950.58	-4618.20	1783.40	1652318.81	14291327.29	39°21'19.318"N	80°57'28.420"W	4950.58	158.885	0.39	0.22	-0.32	
11528.00	89.630	158.690	6438.85	5044.57	-4706.32	1816.11	1652351.51	14291239.20	39°21'18.447"N	80°57'28.004"W	5044.57	158.899	2.01	0.00	-2.01	
11622.00	88.950	157.920	6440.01	5138.56	-4793.65	1850.86	1652386.24	14291151.91	39°21'17.584"N	80°57'27.562"W	5138.56	158.888	1.09	-0.72	-0.82	
11716.00	88.370	159.940	6442.21	5232.52	-4881.34	1884.64	1652420.01	14291064.25	39°21'16.717"N	80°57'27.133"W	5232.52	158.889	2.24	-0.62	2.15	
11810.00	89.600	163.640	6443.88	5326.37	-4970.60	1914.00	1652449.36	14290975.03	39°21'15.834"N	80°57'26.759"W	5326.37	158.940	4.15	1.31	3.94	
11905.00	90.490	164.290	6443.80	5421.00	-5061.90	1940.24	1652475.59	14290883.76	39°21'14.932"N	80°57'26.426"W	5421.01	159.028	1.16	0.94	0.68	
11999.00	90.090	160.410	6443.32	5514.81	-5151.46	1968.74	1652504.08	14290794.24	39°21'14.047"N	80°57'26.064"W	5514.84	159.085	4.15	-0.43	-4.13	
12093.00	90.030	156.120	6443.23	5608.79	-5238.75	2003.54	1652538.86	14290706.98	39°21'13.184"N	80°57'25.621"W	5608.81	159.071	4.56	-0.06	-4.56	
12187.00	89.630	153.850	6443.50	5702.56	-5323.93	2043.29	1652578.59	14290621.84	39°21'12.342"N	80°57'25.116"W	5702.57	159.004	2.45	-0.43	-2.41	
12282.00	89.630	156.110	6444.12	5797.33	-5410.01	2083.46	1652618.75	14290535.80	39°21'11.491"N	80°57'24.605"W	5797.33	158.938	2.38	0.00	2.38	
12376.00	89.720	161.150	6444.65	5891.29	-5497.52	2117.70	1652652.98	14290448.32	39°21'10.626"N	80°57'24.169"W	5891.29	158.933	5.36	0.10	5.36	
12470.00	90.620	159.560	6444.37	5985.26	-5586.04	2149.30	1652684.57	14290359.83	39°21'09.751"N	80°57'23.768"W	5985.26	158.955	1.94	0.96	-1.69	
12564.00	90.920	154.970	6443.11	6079.19	-5672.71	2185.62	1652720.87	14290273.20	39°21'08.894"N	80°57'23.306"W	6079.19	158.929	4.89	0.32	-4.88	
12658.00	89.480	155.120	6442.78	6172.97	-5757.93	2225.28	1652760.51	14290188.02	39°21'08.051"N	80°57'22.802"W	6172.97	158.870	1.54	-1.53	0.16	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
12753.00	89.140	157.320	6443.93	6267.85	-5844.85	2263.58	1652798.80	14290101.13	39°21'07.192"N	80°57'22.315"W	6267.86	158.830	2.34	-0.36	2.32	
12847.00	89.600	159.620	6444.96	6361.84	-5932.28	2298.07	1652833.28	14290013.73	39°21'06.328"N	80°57'21.876"W	6361.84	158.824	2.50	0.49	2.45	
12941.00	89.540	161.750	6445.66	6455.78	-6020.98	2329.16	1652864.35	14289925.07	39°21'05.451"N	80°57'21.481"W	6455.79	158.852	2.27	-0.06	2.27	
13035.00	89.750	164.810	6446.25	6549.50	-6110.99	2356.20	1652891.38	14289835.09	39°21'04.561"N	80°57'21.137"W	6549.50	158.915	3.26	0.22	3.26	
13129.00	89.690	165.630	6446.71	6642.93	-6201.88	2380.18	1652915.35	14289744.24	39°21'03.663"N	80°57'20.833"W	6642.94	159.004	0.87	-0.06	0.87	
13223.00	89.910	164.340	6447.03	6736.40	-6292.67	2404.53	1652939.69	14289653.49	39°21'02.765"N	80°57'20.523"W	6736.43	159.087	1.39	0.23	-1.37	
13317.00	89.820	160.860	6447.26	6830.19	-6382.36	2432.63	1652967.79	14289563.84	39°21'01.879"N	80°57'20.166"W	6830.24	159.136	3.70	-0.10	-3.70	
13412.00	91.230	157.160	6446.39	6925.16	-6471.03	2466.66	1653001.79	14289475.20	39°21'01.002"N	80°57'19.733"W	6925.22	159.134	4.17	1.48	-3.89	
13506.00	89.820	151.500	6445.52	7018.82	-6555.71	2507.36	1653042.48	14289390.55	39°21'00.165"N	80°57'19.216"W	7018.85	159.070	6.20	-1.50	-6.02	
13600.00	89.600	153.370	6446.00	7112.21	-6639.04	2550.85	1653085.96	14289307.26	39°20'59.341"N	80°57'18.663"W	7112.22	158.982	2.00	-0.23	1.99	
13694.00	89.850	156.720	6446.45	7205.99	-6724.25	2590.51	1653125.59	14289222.08	39°20'58.499"N	80°57'18.158"W	7205.99	158.931	3.57	0.27	3.56	
13789.00	89.660	155.440	6446.86	7300.87	-6811.09	2629.02	1653164.10	14289135.28	39°20'57.640"N	80°57'17.669"W	7300.87	158.894	1.36	-0.20	-1.35	
13883.00	89.630	156.410	6447.44	7394.74	-6896.91	2667.37	1653202.43	14289049.49	39°20'56.792"N	80°57'17.181"W	7394.74	158.856	1.03	-0.03	1.03	
13977.00	89.540	156.080	6448.12	7488.63	-6982.94	2705.23	1653240.28	14288963.50	39°20'55.941"N	80°57'16.700"W	7488.64	158.823	0.36	-0.10	-0.35	
14071.00	89.630	156.780	6448.80	7582.54	-7069.09	2742.83	1653277.86	14288877.38	39°20'55.090"N	80°57'16.222"W	7582.58	158.794	0.73	0.10	0.72	
14165.00	89.320	157.080	6449.66	7676.48	-7155.56	2779.68	1653314.69	14288790.94	39°20'54.235"N	80°57'15.753"W	7676.50	158.771	0.47	-0.33	0.34	
14260.00	89.380	159.720	6450.74	7771.46	-7243.88	2814.65	1653349.65	14288702.66	39°20'53.362"N	80°57'15.309"W	7771.49	158.766	2.78	0.06	2.78	
14354.00	88.860	164.200	6452.18	7865.29	-7333.22	2843.75	1653378.73	14288613.36	39°20'52.479"N	80°57'14.939"W	7865.31	158.804	4.80	-0.55	4.77	
14448.00	90.030	165.740	6453.10	7958.76	-7424.00	2868.12	1653403.10	14288522.62	39°20'51.581"N	80°57'14.629"W	7958.76	158.877	2.06	1.24	1.64	
14542.00	90.060	162.450	6453.02	8052.36	-7514.39	2893.88	1653428.85	14288432.26	39°20'50.688"N	80°57'14.302"W	8052.36	158.938	3.50	0.03	-3.50	
14636.00	89.750	161.880	6453.18	8146.21	-7603.87	2922.67	1653457.62	14288342.82	39°20'49.803"N	80°57'13.936"W	8146.21	158.975	0.69	-0.33	-0.61	
14730.00	89.970	160.150	6453.41	8240.14	-7692.75	2953.25	1653488.19	14288253.97	39°20'48.925"N	80°57'13.547"W	8240.15	158.998	1.86	0.23	-1.84	
14824.00	90.490	155.290	6453.03	8334.09	-7779.71	2988.87	1653523.80	14288167.05	39°20'48.065"N	80°57'13.094"W	8334.10	158.984	5.20	0.55	-5.17	
14919.00	89.380	153.710	6453.14	8428.81	-7865.45	3029.77	1653564.68	14288081.34	39°20'47.217"N	80°57'12.574"W	8428.81	158.933	2.03	-1.17	-1.66	
15013.00	89.660	155.010	6453.92	8522.50	-7950.19	3070.44	1653605.34	14287996.64	39°20'46.380"N	80°57'12.057"W	8522.51	158.883	1.41	0.30	1.38	
15107.00	89.600	155.140	6454.53	8616.29	-8035.43	3110.06	1653644.94	14287911.43	39°20'45.537"N	80°57'11.554"W	8616.30	158.841	0.15	-0.06	0.14	
15201.00	89.170	159.440	6455.54	8710.23	-8122.12	3146.34	1653681.20	14287824.78	39°20'44.680"N	80°57'11.092"W	8710.24	158.825	4.60	-0.46	4.57	
15295.00	89.660	164.930	6456.50	8804.03	-8211.57	3175.08	1653709.94	14287735.36	39°20'43.796"N	80°57'10.727"W	8804.04	158.861	5.86	0.52	5.84	
15389.00	89.850	166.890	6456.90	8897.33	-8302.74	3197.97	1653732.81	14287644.23	39°20'42.895"N	80°57'10.436"W	8897.33	158.935	2.09	0.20	2.09	
15484.00	89.780	164.540	6457.21	8991.65	-8394.79	3221.40	1653756.24	14287552.21	39°20'41.985"N	80°57'10.139"W	8991.66	159.006	2.47	-0.07	-2.47	

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Actual Wellpath Report

Markle Unit 3H AWP Proj: 15732'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH DATA (184 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
15578.00	89.630	159.900	6457.69	9085.47	-8484.28	3250.10	1653784.92	14287462.76	39°20'41.100"N	80°57'09.774"W	9085.49	159.039	4.94	-0.16	-4.94	
15673.00	89.750	159.660	6458.21	9180.45	-8573.42	3282.93	1653817.75	14287373.65	39°20'40.219"N	80°57'09.357"W	9180.48	159.047	0.28	0.13	-0.25	
15707.00	89.850	158.800	6458.33	9214.45	-8605.21	3294.99	1653829.80	14287341.88	39°20'39.905"N	80°57'09.203"W	9214.48	159.048	2.55	0.29	-2.53	
15732.00	89.850	158.800	6458.39	9239.45	-8628.52	3304.03	1653838.83	14287318.58	39°20'39.674"N	80°57'09.088"W	9239.48	159.047	0.00	0.00	0.00	Projected MD at TD: 15732'

HOLE & CASING SECTIONS - Ref Wellbore: Markle Unit 3H AWB Ref Wellpath: Markle Unit 3H AWP Proj: 15732'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.00	65.00	40.00	25.00	65.00	0.00	0.00	0.03	-0.08
13.375in Casing Surface	25.00	513.00	488.00	25.00	512.99	0.00	0.00	1.42	-3.31
9.625in Casing Intermediate	25.00	2575.00	2550.00	25.00	2572.82	0.00	0.00	35.34	38.04

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Markle Unit 3H POE Rev-2	6409.00	-102.09	100.24	1650636.33	14295841.58	39°22'03.961"N	80°57'49.824"W	point
Markle Unit 3H BHL Rev-2	6447.00	-8561.07	3294.19	1653829.00	14287386.00	39°20'40.341"N	80°57'09.213"W	point
Markle Unit 3H LP Rev-2	6447.00	-298.42	138.72	1650674.79	14295645.33	39°22'02.020"N	80°57'49.335"W	point

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Markle Unit 3H AWP Proj: 15732'

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
Field	Tyler	Wellbore	Markle Unit 3H AWB
Facility	Terry Snider Pad		

WELLPATH COMPOSITION - Ref Wellbore: Markle Unit 3H AWB Ref Wellpath: Markle Unit 3H AWP Proj: 15732'				
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5510.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <8-3/4">(100'-5498')	Markle Unit 3H AWB
5510.00	15707.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2">(5510')(5627'-15707')	Markle Unit 3H AWB
15707.00	15732.00	Blind Drilling (std)	Projection to bit	Markle Unit 3H AWB

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Markle Unit 3H AWP Proj: 15732'

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Markle Unit 3H
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Facility	Terry Snider Pad		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
112.00	0.550	290.180	112.00	Gyrodatta MS Gyro <8-3/4">(112'-5510')	
5627.00	10.840	0.230	5601.87	BHI AT Curve <8-1/2">(5510')(5627'-15707')	
6370.00	48.851	166.883	6279.24	Middlesex: 6370' MD	
6556.00	67.487	168.257	6375.28	Burkett: 6556' MD	
6621.00	68.285	167.377	6399.48	Tully: 6621' MD	
6643.00	69.266	167.136	6407.50	Marcellus: 6643' MD	
15732.00	89.850	158.800	6458.39	Projected MD at TD: 15732'	

COMMENTS
<p>Wellpath general comments API: 47-095-02354-00-00 BHI Job #: 8199535 Rig: Patterson 342 Duration: 10.13.2016 - 10.16.2016 Gyrodatta MS Gyro <8-3/4">(112'-5510') BHI AT Curve <8-1/2">(5510')(5627'-15707') Middlesex: 6370' MD Burkett: 6556' MD Tully: 6621' MD Marcellus: 6643' MD Projected MD at TD: 15732'</p>

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