



ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Bachelor Pad

Slot: Slot #01
 Well: Raines Unit 1H
 Wellbore: Raines Unit 1H PWB



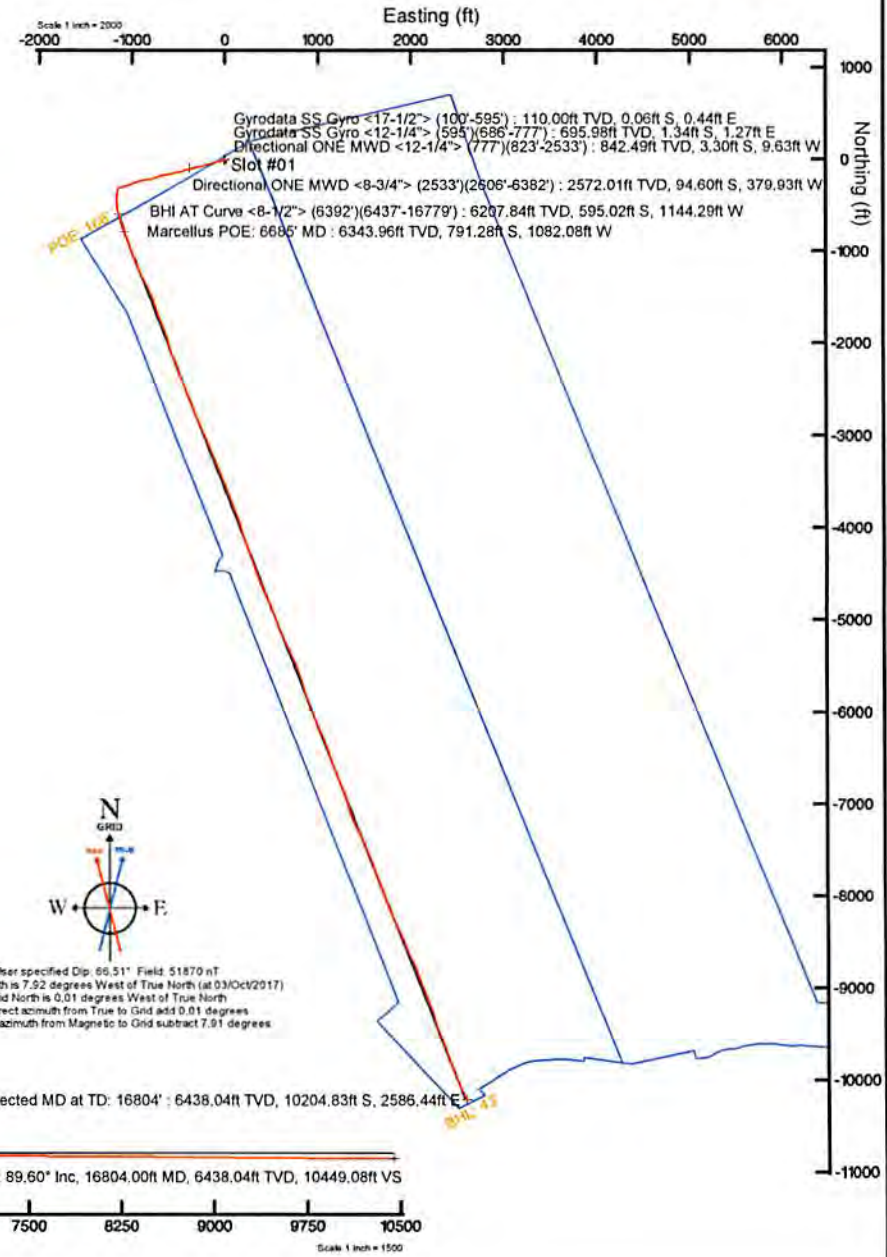
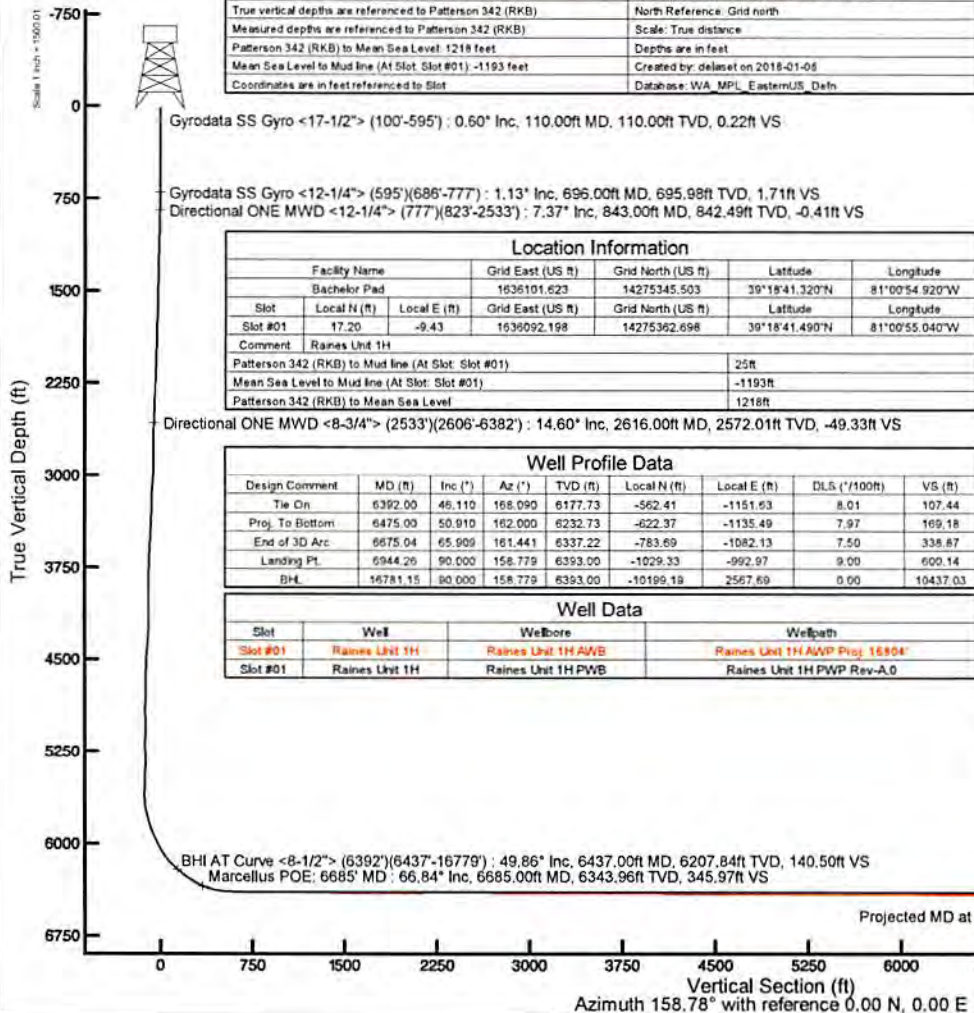
RECEIVED
 Office of Oil and Gas

JUL 2 2018

WV Department of
 Environmental Protection

API: 47-085-10311-0000
 BHI Job #: 8794344
 Rig: Patterson 342
 Duration: 10/09/2017-10/12/2017

Plot reference wellpath is Raines Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 1218 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: Slot #01) -1193 feet	Created by: delaset on 2018-01-08
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn



Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Bachelor Pad	1636101.623	14275345.503	39°18'41.320"N	81°00'54.920"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #01	17.20	-9.43	1636092.198	14275362.698	39°18'41.490"N
Comment: Raines Unit 1H					
Patterson 342 (RKB) to Mud line (At Slot: Slot #01)			25ft		
Mean Sea Level to Mud line (At Slot: Slot #01)			-1193ft		
Patterson 342 (RKB) to Mean Sea Level			1218ft		

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	6392.00	48.110	168.090	6177.73	-562.41	-1151.63	107.44
Proj. To Bottom	6475.00	50.910	162.000	6232.73	-622.37	-1135.49	169.18
End of 3D Arc	6675.04	65.909	161.441	6337.22	-783.69	-1082.13	338.67
Landing Pt.	6944.26	90.000	158.779	6393.00	-1029.33	-992.97	600.14
BH	16781.15	80.000	158.779	6393.00	-10199.19	2567.69	10437.03

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #01	Raines Unit 1H	Raines Unit 1H A/WB	Raines Unit 1H A/WP Proj: 16804'
Slot #01	Raines Unit 1H	Raines Unit 1H PWB	Raines Unit 1H PWP Rev-A.0

User specified Dip: 66.51° Field: 51870 nT
 Magnetic North is 7.92 degrees West of True North (at 03/Oct/2017)
 Grid North is 0.01 degrees West of True North
 To correct azimuth from True to Grid add 0.01 degrees
 To correct azimuth from Magnetic to Grid subtract 7.91 degrees

Projected MD at TD: 16804' : 6438.04ft TVD, 10204.83ft S, 2586.44ft E
 Projected MD at TD: 16804' : 89.60° Inc, 16804.00ft MD, 6438.04ft TVD, 10449.08ft VS

Vertical Section (ft)
 Azimuth 158.78° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'
Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Ritchie County, WV	Well	Raines Unit 1H
Field	Ritchie	Wellbore	Raines Unit 1H AWB
Facility	Bachelor Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999600	Report Generated	08/Jan/2018 at 11:37
Convergence at slot	0.01° West	Database/Source file	WA_MPL_EasternUS_Defn/Raines_Unit_1H_AWP_Proj_16804_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	17.20	-9.43	1636092.20	14275362.70	39°18'41.490"N	81°00'55.040"W
Facility Reference Pt			1636101.62	14275345.50	39°18'41.320"N	81°00'54.920"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	1218.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Mud Line at Slot (Slot #01)	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	158.78°

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'
Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #01
Area	Ritchie County, WV		Well	Raines Unit 1H
Field	Ritchie		Wellbore	Raines Unit 1H AWB
Facility	Bachelor Pad			

WELLPATH DATA (202 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	98.390	0.00	0.00	0.00	0.00	1636092.20	14275362.70	39°18'41.490"N	81°00'55.040"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	98.390	25.00	0.00	0.00	0.00	1636092.20	14275362.70	39°18'41.490"N	81°00'55.040"W	0.00	0.000	0.00	0.00	0.00	
110.00	0.600	98.390	110.00	0.22	-0.06	0.44	1636092.64	14275362.63	39°18'41.489"N	81°00'55.034"W	0.45	98.390	0.71	0.71	115.75	Gyrodata SS Gyro <17-1/2"> (100'-595')
210.00	0.520	109.110	209.99	0.77	-0.29	1.39	1636093.58	14275362.41	39°18'41.487"N	81°00'55.022"W	1.42	101.805	0.13	-0.08	10.72	
310.00	0.150	105.150	309.99	1.14	-0.47	1.94	1636094.14	14275362.23	39°18'41.485"N	81°00'55.015"W	2.00	103.678	0.37	-0.37	-3.96	
410.00	0.200	98.090	409.99	1.31	-0.53	2.24	1636094.44	14275362.17	39°18'41.485"N	81°00'55.011"W	2.30	103.339	0.05	0.05	-7.06	
510.00	0.130	213.190	509.99	1.46	-0.65	2.35	1636094.55	14275362.05	39°18'41.484"N	81°00'55.010"W	2.44	105.470	0.28	-0.07	115.10	
605.00	0.180	232.660	604.99	1.56	-0.83	2.17	1636094.37	14275361.87	39°18'41.482"N	81°00'55.012"W	2.33	110.931	0.08	0.05	20.49	
696.00	1.130	241.940	695.98	1.71	-1.34	1.27	1636093.47	14275361.36	39°18'41.477"N	81°00'55.024"W	1.85	136.571	1.05	1.04	10.20	Gyrodata SS Gyro <12-1/4"> (595')(686'-777')
787.00	5.180	260.450	786.83	0.98	-2.44	-3.58	1636088.62	14275360.25	39°18'41.466"N	81°00'55.085"W	4.33	235.644	4.53	4.45	20.34	
843.00	7.370	262.960	842.49	-0.41	-3.30	-9.63	1636082.57	14275359.39	39°18'41.457"N	81°00'55.163"W	10.19	251.070	3.94	3.91	4.48	Directional ONE MWD <12-1/4"> (777')(823'-2533')
932.00	7.440	261.150	930.75	-3.04	-4.89	-20.99	1636071.21	14275357.81	39°18'41.442"N	81°00'55.307"W	21.56	256.897	0.27	0.08	-2.03	
1020.00	7.360	258.740	1018.01	-5.24	-6.87	-32.15	1636060.06	14275355.83	39°18'41.422"N	81°00'55.449"W	32.88	257.943	0.36	-0.09	-2.74	
1108.00	9.060	259.550	1105.11	-7.50	-9.23	-44.49	1636047.72	14275353.48	39°18'41.399"N	81°00'55.606"W	45.44	258.287	1.94	1.93	0.92	
1196.00	9.770	259.210	1191.92	-10.15	-11.88	-58.64	1636033.58	14275350.82	39°18'41.372"N	81°00'55.786"W	59.83	258.548	0.81	0.81	-0.39	
1285.00	10.580	256.450	1279.52	-12.61	-15.21	-74.00	1636018.22	14275347.50	39°18'41.340"N	81°00'55.981"W	75.55	258.387	1.06	0.91	-3.10	
1373.00	11.220	253.640	1365.94	-14.41	-19.51	-90.07	1636002.16	14275343.19	39°18'41.297"N	81°00'56.186"W	92.16	257.777	0.95	0.73	-3.19	
1461.00	12.430	253.960	1452.07	-15.99	-24.54	-107.39	1635984.85	14275338.17	39°18'41.247"N	81°00'56.406"W	110.16	257.128	1.38	1.38	0.36	
1550.00	12.210	254.400	1539.02	-17.78	-29.72	-125.66	1635966.59	14275332.99	39°18'41.196"N	81°00'56.639"W	129.13	256.694	0.27	-0.25	0.49	
1638.00	12.360	252.920	1625.00	-19.37	-34.99	-143.63	1635948.63	14275327.72	39°18'41.144"N	81°00'56.867"W	147.83	256.310	0.40	0.17	-1.68	
1726.00	13.550	251.710	1710.76	-20.58	-40.99	-162.42	1635929.84	14275321.73	39°18'41.085"N	81°00'57.106"W	167.51	255.836	1.39	1.35	-1.37	
1815.00	14.400	253.220	1797.13	-21.97	-47.46	-182.91	1635909.36	14275315.26	39°18'41.021"N	81°00'57.367"W	188.97	255.456	1.04	0.96	1.70	
1903.00	14.370	253.030	1882.37	-23.62	-53.80	-203.83	1635888.45	14275308.92	39°18'40.958"N	81°00'57.633"W	210.82	255.214	0.06	-0.03	-0.22	
1991.00	14.030	256.130	1967.68	-25.80	-59.55	-224.64	1635867.65	14275303.18	39°18'40.901"N	81°00'57.898"W	232.39	255.153	0.95	-0.39	3.52	
2079.00	13.360	256.090	2053.18	-28.46	-64.55	-244.86	1635847.44	14275298.18	39°18'40.852"N	81°00'58.155"W	253.23	255.232	0.76	-0.76	-0.05	
2168.00	15.360	257.540	2139.39	-31.56	-69.56	-266.35	1635825.95	14275293.16	39°18'40.802"N	81°00'58.429"W	275.29	255.363	2.28	2.25	1.63	
2256.00	15.760	257.630	2224.17	-35.17	-74.64	-289.41	1635802.91	14275288.09	39°18'40.752"N	81°00'58.722"W	298.88	255.539	0.46	0.45	0.10	
2344.00	15.480	256.850	2308.92	-38.66	-79.87	-312.52	1635779.81	14275282.86	39°18'40.700"N	81°00'59.016"W	322.56	255.664	0.40	-0.32	-0.89	
2432.00	14.710	258.560	2393.88	-42.21	-84.76	-334.90	1635757.43	14275277.97	39°18'40.652"N	81°00'59.301"W	345.46	255.798	1.01	-0.88	1.94	
2520.00	14.390	257.630	2479.06	-45.79	-89.32	-356.53	1635735.81	14275273.42	39°18'40.607"N	81°00'59.576"W	367.55	255.936	0.45	-0.36	-1.06	

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804

Page 3 of 10



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Bachelor Pad
Slot #01	Well	Wellbore	Raines Unit 1H AWB

WELLPATH DATA (202 stations)

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	ft	ft	ft	ft	ft	ft	ft	ft/100ft	°/100ft	
2543.00	14.390	256.960	2501.34	-46.63	-90.57	-362.11	1635730.23	14275272.16	39°18'40.594"N	81°00'59.647"W	373.27	255.957	0.72	0.00	-2.91	
2616.00	14.600	257.590	2572.01	-49.33	-94.60	-379.93	1635712.42	14275266.14	39°18'40.654"N	81°00'59.873"W	391.53	256.019	0.36	0.29	0.86	Directional ONE MWD <8-3/4"> (2533)(2606-6382)
2704.00	13.350	252.990	2657.41	-51.78	-99.95	-400.48	1635691.88	14275262.78	39°18'40.501"N	81°01'00.135"W	412.77	255.986	1.90	-1.42	-5.23	
2793.00	14.260	252.380	2743.84	-53.22	-106.28	-420.76	1635671.61	14275256.46	39°18'40.439"N	81°01'00.393"W	433.97	255.824	1.04	1.02	-0.69	
2881.00	15.580	251.220	2828.87	-54.40	-113.36	-442.27	1635660.10	14275249.38	39°18'40.369"N	81°01'00.667"W	456.57	255.624	1.54	1.50	-1.32	
2970.00	15.000	248.900	2914.72	-54.54	-121.73	-464.18	1635628.20	14275241.02	39°18'40.286"N	81°01'00.945"W	479.88	255.305	1.44	-0.65	-4.85	
3058.00	16.400	256.940	2999.45	-55.71	-129.22	-486.72	1635605.68	14275233.04	39°18'40.172"N	81°01'01.232"W	503.58	255.132	3.20	1.59	10.27	
3146.00	17.460	267.960	3083.66	-61.60	-132.71	-511.97	1635580.44	14275230.04	39°18'40.177"N	81°01'01.553"W	528.89	255.468	4.15	1.20	13.66	
3235.00	15.430	255.320	3169.04	-67.34	-136.18	-536.78	1635555.64	14275226.57	39°18'40.143"N	81°01'01.869"W	553.78	255.764	4.61	-2.28	-14.20	
3323.00	14.750	252.910	3254.01	-69.48	-142.44	-558.81	1635533.61	14275220.31	39°18'40.081"N	81°01'02.149"W	576.68	255.700	1.05	-0.77	-2.74	
3411.00	12.630	254.550	3349.50	-71.25	-148.30	-578.79	1635513.64	14275214.46	39°18'40.023"N	81°01'02.403"W	597.49	255.629	2.45	-2.41	1.86	
3500.00	11.700	264.470	3426.51	-74.67	-151.76	-597.15	1635495.28	14275211.00	39°18'39.989"N	81°01'02.637"W	616.14	255.741	2.57	-1.04	11.15	
3588.00	12.940	262.370	3512.49	-79.40	-153.93	-615.80	1635476.64	14275208.83	39°18'39.968"N	81°01'02.874"W	634.75	255.966	1.50	1.41	-2.39	
3676.00	14.500	261.570	3597.97	-84.15	-156.85	-636.47	1635455.99	14275205.91	39°18'39.939"N	81°01'03.137"W	655.51	256.156	1.79	1.77	-0.91	
3765.00	13.850	267.270	3684.27	-88.27	-160.75	-657.89	1635434.57	14275202.01	39°18'39.900"N	81°01'03.410"W	677.24	256.269	1.29	-0.74	-4.31	
3853.00	12.570	254.980	3769.94	-90.95	-165.47	-677.43	1635415.04	14275197.30	39°18'39.853"N	81°01'03.658"W	697.34	256.274	1.61	-1.44	-3.13	
3941.00	11.990	252.690	3855.93	-92.60	-170.67	-696.40	1635397.08	14275192.10	39°18'39.802"N	81°01'03.887"W	716.04	256.211	0.86	-0.66	-2.60	
4029.00	15.240	250.680	3941.62	-93.59	-176.97	-714.34	1635378.14	14275185.80	39°18'39.740"N	81°01'04.128"W	735.94	256.086	2.61	-2.28		
4118.00	14.330	248.670	4027.68	-93.93	-184.87	-735.63	1635356.86	14275177.90	39°18'39.661"N	81°01'04.399"W	758.51	255.893	1.35	1.22	-2.26	
4206.00	14.310	243.000	4112.75	-92.81	-194.04	-756.16	1635336.34	14275168.74	39°18'39.571"N	81°01'04.660"W	780.66	255.608	2.01	-1.16	-6.44	
4294.00	13.260	254.990	4198.24	-92.81	-201.59	-775.60	1635316.91	14275161.19	39°18'39.496"N	81°01'04.907"W	801.37	255.430	3.45	-1.19	13.63	
4383.00	14.470	269.850	4370.19	-101.71	-208.09	-816.93	1635295.59	14275154.69	39°18'39.432"N	81°01'05.433"W	843.02	255.710	3.03	0.98	11.85	
4471.00	16.830	264.240	4454.92	-109.06	-209.40	-840.61	1635275.19	14275153.39	39°18'39.419"N	81°01'05.734"W	866.29	256.012	3.18	2.68	-6.38	
4559.00	15.530	257.180	4539.44	-114.18	-213.28	-864.77	1635257.77	14275149.49	39°18'39.380"N	81°01'06.041"W	890.69	256.145	2.68	-1.48	-8.02	
4647.00	13.940	251.120	4625.52	-116.35	-219.40	-886.54	1635206.02	14275143.38	39°18'39.320"N	81°01'06.318"W	913.28	256.100	2.49	-1.79	-6.81	
4736.00	14.660	253.350	4710.79	-117.67	-226.02	-907.23	1635185.33	14275136.76	39°18'39.254"N	81°01'06.582"W	934.97	256.010	1.03	0.82	2.53	
4824.00	15.920	253.630	4795.68	-119.58	-232.62	-929.48	1635163.09	14275130.17	39°18'39.189"N	81°01'06.865"W	958.15	255.950	1.43	0.32	4.92	
4912.00	15.100	249.510	4881.44	-120.76	-240.11	-952.05	1635140.53	14275122.68	39°18'39.115"N	81°01'07.152"W	981.87	255.845	1.54	-0.92	-4.63	
5001.00	14.020	247.520	4966.61	-120.67	-248.20	-972.64	1635119.95	14275114.59	39°18'39.035"N	81°01'07.414"W	1003.81	255.685	1.35	-1.23	-2.26	

RECEIVED
Office of Oil and Gas
JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'
Page 4 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Ritchie County, WV	Well	Raines Unit 1H
Field	Ritchie	Wellbore	Raines Unit 1H AWP
Facility	Bachelor Pad		

WELLPATH DATA (202 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)	
5177.00	14.720	248.440	5051.86	-120.37	-256.39	-992.89	1635099.71	14275106.41	39°18'38.954"N	81°01'07.671"W	1025.46	255.521	0.84	0.80	1.05	
5266.00	15.180	250.870	5137.84	-120.73	-264.36	-1014.42	1635078.19	14275098.44	39°18'38.875"N	81°01'07.945"W	1048.30	255.393	0.87	0.52	2.73	
5354.00	14.600	247.200	5222.89	-120.85	-272.44	-1035.53	1635057.09	14275090.37	39°18'38.795"N	81°01'08.214"W	1070.76	255.260	1.26	-0.66	-4.17	
5442.00	14.690	247.910	5308.03	-120.37	-280.93	-1056.09	1635036.53	14275081.88	39°18'38.711"N	81°01'08.475"W	1092.82	255.104	0.23	0.10	0.81	
5530.00	14.540	250.880	5393.19	-120.61	-288.74	-1076.87	1635015.77	14275074.07	39°18'38.634"N	81°01'08.740"W	1114.90	254.990	0.87	-0.17	3.37	
5618.00	13.730	258.660	5478.53	-122.80	-294.42	-1097.54	1634995.09	14275068.40	39°18'38.578"N	81°01'09.003"W	1136.35	254.984	2.34	-0.92	8.84	
5707.00	12.980	255.290	5565.12	-125.75	-299.03	-1117.57	1634975.08	14275063.79	39°18'38.532"N	81°01'09.257"W	1156.88	255.020	1.21	-0.84	-3.79	
5795.00	13.600	240.620	5650.79	-125.40	-306.62	-1136.15	1634956.51	14275056.20	39°18'38.457"N	81°01'09.494"W	1176.80	254.897	3.89	0.70	-16.67	
5839.00	15.550	220.640	5693.40	-121.88	-313.64	-1144.50	1634948.15	14275049.19	39°18'38.388"N	81°01'09.600"W	1186.70	254.675	12.18	4.43	-45.41	
5883.00	16.370	203.420	5735.73	-114.68	-323.81	-1150.81	1634941.85	14275039.02	39°18'38.287"N	81°01'09.680"W	1195.50	254.285	10.88	1.86	-39.14	
5927.00	19.060	194.450	5777.64	-104.43	-336.46	-1155.07	1634937.59	14275026.37	39°18'38.162"N	81°01'09.734"W	1203.08	253.760	8.69	6.11	-20.39	
5972.00	20.550	191.900	5819.98	-91.85	-351.30	-1158.53	1634934.13	14275011.54	39°18'38.016"N	81°01'09.778"W	1210.63	253.131	3.83	3.31	-5.67	
6016.00	20.920	190.880	5861.13	-78.72	-366.57	-1161.61	1634931.06	14274996.27	39°18'37.865"N	81°01'09.818"W	1218.08	252.486	1.18	0.84	-2.32	
6060.00	23.710	187.350	5901.83	-64.30	-383.07	-1164.22	1634928.44	14274979.79	39°18'37.702"N	81°01'09.851"W	1225.63	251.787	7.03	6.34	-8.02	
6104.00	26.340	184.640	5941.70	-47.74	-401.57	-1166.15	1634926.52	14274961.29	39°18'37.519"N	81°01'09.875"W	1233.35	250.998	6.52	5.98	-6.16	
6148.00	28.520	181.120	5980.76	-29.24	-421.81	-1167.14	1634925.53	14274941.06	39°18'37.319"N	81°01'09.888"W	1241.02	250.130	6.17	4.95	-8.00	
6192.00	29.360	177.830	6019.26	-9.32	-443.09	-1166.94	1634925.73	14274919.78	39°18'37.108"N	81°01'09.885"W	1248.23	249.208	4.09	1.91	-7.48	
6237.00	30.960	177.120	6058.17	12.09	-465.68	-1165.94	1634926.73	14274897.21	39°18'36.885"N	81°01'09.872"W	1255.49	248.228	3.64	3.56	-1.58	
6281.00	35.990	174.370	6094.86	35.30	-489.86	-1164.10	1634928.57	14274873.03	39°18'36.646"N	81°01'09.849"W	1262.97	247.178	11.94	11.43	-6.25	
6325.00	41.280	170.690	6129.22	61.98	-517.08	-1160.48	1634932.18	14274845.83	39°18'36.377"N	81°01'09.803"W	1270.47	245.984	13.10	12.02	-8.36	
6369.00	44.270	168.190	6161.52	91.34	-546.44	-1154.99	1634937.67	14274816.48	39°18'36.087"N	81°01'09.733"W	1277.73	244.681	7.81	6.80	-5.68	
6392.00	46.110	168.090	6177.73	107.44	-562.41	-1151.63	1634941.03	14274800.52	39°18'35.929"N	81°01'09.690"W	1281.63	243.971	8.01	8.00	-0.43	
6437.00	49.860	166.560	6207.84	140.50	-595.02	-1144.29	1634948.37	14274767.92	39°18'35.607"N	81°01'09.597"W	1289.74	242.526	8.71	8.33	-3.40	BHI AT Curve <8-1/2"> (6392)-(6437-16779')
6472.00†	51.527	165.764	6230.01	167.35	-621.31	-1137.81	1634954.85	14274741.64	39°18'35.347"N	81°01'09.514"W	1296.39	241.363	5.08	4.76	-2.27	Middlesex: 6472' MD
6484.00	52.100	165.500	6237.43	176.72	-630.45	-1135.47	1634957.19	14274732.50	39°18'35.257"N	81°01'09.484"W	1298.75	240.960	5.08	4.77	-2.20	
6531.00	52.370	164.530	6266.22	213.65	-666.34	-1125.86	1634966.79	14274696.63	39°18'34.902"N	81°01'09.362"W	1308.27	239.381	1.73	0.57	-2.06	
6578.00	56.670	161.960	6293.49	251.80	-702.96	-1114.81	1634977.84	14274660.02	39°18'34.540"N	81°01'09.221"W	1317.94	237.766	10.17	9.15	-5.47	
6626.00	61.380	159.380	6318.19	292.91	-741.78	-1101.17	1634991.47	14274621.22	39°18'34.156"N	81°01'09.048"W	1327.71	236.035	10.84	9.81	-5.38	
6637.00†	62.393	159.167	6323.38	302.61	-750.85	-1097.74	1634994.90	14274612.15	39°18'34.067"N	81°01'09.004"W	1329.96	235.628	9.34	9.21	-1.75	Burkett: 6637' MD
6673.00	65.710	158.580	6339.13	334.98	-781.04	-1086.08	1635006.56	14274581.97	39°18'33.768"N	81°01'08.855"W	1337.75	234.279	9.34	9.21	-1.69	

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804
Page 5 of 10



Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Bachelor Pad
Slot	Slot #01
Raines Unit 1H	Well
Raines Unit 1H AWB	Wellbore

REFERENCE WELLPATH IDENTIFICATION

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)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft/100ft)	(ft/100ft)	(ft/100ft)
6685.00	158.812	6343.96	345.97	-791.28	-1082.08	1635010.55	14274571.74	39°18'33.667"N	81°01'08.805"W	1340.53	233.824	9.55	9.39	1.94	Marcellus POE: 6685' MD	
6719.00	159.450	6356.45	377.58	-820.82	-1070.82	1635021.80	14274542.21	39°18'33.375"N	81°01'08.661"W	1349.22	232.529	9.55	9.39	1.88		
6760.00	159.960	6369.13	416.56	-857.38	-1057.30	1635035.32	14274505.66	39°18'33.014"N	81°01'08.489"W	1361.25	230.961	9.61	9.54	1.24		
6813.00	160.630	6381.48	468.06	-905.89	-1039.94	1635052.68	14274457.17	39°18'32.535"N	81°01'08.268"W	1379.17	228.941	9.81	9.74	1.26		
6860.00	160.480	6388.60	514.49	-949.68	-1024.47	1635068.14	14274413.39	39°18'32.102"N	81°01'08.071"W	1396.94	227.170	9.28	9.28	-0.32		
6907.00	160.160	6392.12	561.32	-993.80	-1008.69	1635083.91	14274369.29	39°18'31.666"N	81°01'07.870"W	1416.02	225.426	9.62	9.60	-0.68		
7002.00	158.770	6393.98	656.29	-1082.74	-975.38	1635117.21	14274280.39	39°18'30.787"N	81°01'07.446"W	1457.29	222.014	2.40	1.91	-1.46		
7098.00	159.430	6394.99	750.27	-1169.64	-939.56	1635153.02	14274193.52	39°18'29.828"N	81°01'06.990"W	1500.28	218.774	2.49	-0.06	-2.49		
7190.00	164.220	6394.92	844.09	-1255.05	-900.32	1635192.24	14274108.15	39°18'29.084"N	81°01'06.491"W	1544.58	215.654	2.35	-0.10	-2.35		
7285.00	163.840	6395.56	938.76	-1340.46	-858.72	1635233.82	14274022.78	39°18'28.240"N	81°01'05.962"W	1591.93	212.644	0.40	-0.03	-0.40		
7379.00	164.820	6396.19	1032.47	-1425.18	-818.00	1635274.52	14273938.09	39°18'27.402"N	81°01'05.443"W	1643.25	209.854	1.04	0.03	1.04		
7473.00	168.440	6396.80	1126.39	-1511.45	-780.72	1635311.79	14273851.65	39°18'26.550"N	81°01'04.969"W	1701.18	207.318	3.85	0.00	3.85		
7567.00	161.180	6397.20	1220.36	-1599.67	-748.28	1635344.21	14273763.67	39°18'26.678"N	81°01'04.556"W	1766.03	205.069	2.93	0.27	2.91		
7662.00	159.000	6397.51	1315.33	-1688.98	-715.93	1635376.55	14273674.39	39°18'24.795"N	81°01'04.144"W	1834.45	202.971	2.30	-0.14	-2.29		
7756.00	160.220	6397.94	1409.33	-1776.51	-681.65	1635410.82	14273586.91	39°18'23.930"N	81°01'03.708"W	1902.79	200.992	0.83	-0.03	-0.83		
7851.00	159.480	6398.38	1504.33	-1865.10	-647.38	1635445.08	14273498.34	39°18'23.055"N	81°01'03.272"W	1974.26	199.142	1.33	0.03	1.33		
7944.00	165.880	6398.61	1597.06	-1953.84	-619.70	1635472.74	14273409.64	39°18'22.178"N	81°01'02.819"W	2049.76	197.598	6.89	0.24	6.88		
8039.00	164.680	6398.49	1691.45	-2045.72	-595.57	1635498.87	14273317.80	39°18'21.270"N	81°01'02.612"W	2130.65	196.232	1.28	0.22	-1.26		
8133.00	160.710	6398.24	1785.21	-2135.45	-567.61	1635524.82	14273228.11	39°18'20.383"N	81°01'02.256"W	2209.60	194.885	4.22	-0.06	-4.22		
8227.00	158.450	6398.07	1879.20	-2223.54	-534.82	1635557.60	14273140.06	39°18'19.512"N	81°01'01.839"W	2286.95	193.524	2.40	-0.03	-2.40		
8322.00	158.100	6397.92	1974.19	-2311.79	-499.65	1635592.75	14273051.84	39°18'18.640"N	81°01'01.391"W	2365.17	192.196	0.37	0.00	-0.37		
8415.00	157.110	6397.85	2067.17	-2397.77	-464.22	1635628.16	14272965.89	39°18'17.790"N	81°01'00.940"W	2442.30	190.957	1.07	-0.10	-1.06		
8510.00	158.810	6397.82	2162.16	-2485.83	-428.57	1635663.80	14272877.87	39°18'16.920"N	81°01'00.487"W	2522.50	189.782	1.79	0.03	1.79		
8604.00	159.790	6397.80	2256.15	-2573.76	-395.35	1635697.01	14272789.98	39°18'16.051"N	81°01'00.064"W	2603.94	188.733	1.04	-0.03	1.04		
8698.00	159.060	6397.67	2350.15	-2661.76	-362.31	1635730.03	14272702.01	39°18'15.181"N	81°00'59.643"W	2686.31	187.751	0.79	0.16	-0.78		
8793.00	156.620	6397.52	2445.13	-2749.74	-326.48	1635765.85	14272614.07	39°18'14.312"N	81°00'59.187"W	2769.05	186.771	2.57	-0.13	-2.57		
8887.00	157.230	6397.43	2539.08	-2836.22	-289.64	1635802.68	14272527.62	39°18'13.457"N	81°00'58.718"W	2850.97	185.831	0.65	0.06	0.65		
8982.00	155.790	6397.56	2634.00	-2923.34	-251.77	1635840.53	14272440.53	39°18'12.596"N	81°00'58.237"W	2934.16	184.922	1.56	-0.36	-1.52		
9076.00	156.770	6397.94	2727.91	-3009.40	-213.96	1635878.32	14272354.51	39°18'11.746"N	81°00'57.755"W	3016.99	184.067	1.04	0.03	1.04		
9170.00	157.580	6398.25	2821.87	-3096.04	-177.50	1635914.77	14272267.91	39°18'10.889"N	81°00'57.291"W	3101.12	183.281	0.86	0.07	0.86		

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804



Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Bachelor Pad
Slot	Slot #01
Raines Unit 1H	Raines Unit 1H
Raines Unit 1H AWB	Raines Unit 1H AWB

WELLPATH DATA (202 stations)

MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[°]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft/100ft]	[ft/100ft]	[ft/100ft]
9264.00	89.780	6398.55	2915.83	-3182.61	-140.88	1635951.38	14272181.37	39°18'10.04"N	81°00'56.825"W	3185.72	182.534	1.09	-0.07	-1.09		
9359.00	89.780	6398.92	3010.79	-3270.23	-104.18	1635988.06	14272093.78	39°18'09.168"N	81°00'56.358"W	3271.89	181.825	1.51	0.00	1.51		
9453.00	89.780	6399.28	3104.79	-3357.90	-70.29	1636021.94	14272006.15	39°18'08.301"N	81°00'55.927"W	3358.64	181.199	1.86	0.00	1.86		
9547.00	89.720	6399.69	3198.78	-3445.37	-35.89	1636056.32	14271918.71	39°18'07.437"N	81°00'55.489"W	3445.56	180.597	2.56	-0.06	-2.56		
9642.00	89.750	6400.13	3293.72	-3532.70	1.51	1636093.71	14271831.42	39°18'06.574"N	81°00'55.013"W	3532.70	179.976	1.08	0.03	-1.08		
9736.00	89.690	6400.59	3387.70	-3620.12	35.99	1636128.17	14271744.03	39°18'05.710"N	81°00'54.574"W	3620.30	179.430	4.63	-0.06	4.63		
9830.00	89.820	160.880	6400.99	-3708.82	67.11	1636159.28	14271655.37	39°18'04.833"N	81°00'54.178"W	3709.43	178.963	0.14	0.14	0.03		
9924.00	89.720	6401.37	3575.63	-3796.86	100.02	1636192.18	14271567.36	39°18'03.963"W	81°00'53.759"W	3798.18	178.491	2.50	-0.11	-2.50		
10019.00	89.780	160.540	6401.78	-3885.80	133.39	1636225.53	14271478.46	39°18'03.084"N	81°00'53.335"W	3888.09	178.034	2.33	0.06	2.33		
10113.00	89.820	162.380	6402.11	-3974.92	163.28	1636256.41	14271389.38	39°18'02.203"N	81°00'52.954"W	3978.27	177.648	1.86	0.04	1.86		
10207.00	89.820	162.540	6402.40	-3858.31	191.61	1636283.73	14271299.78	39°18'01.318"N	81°00'52.594"W	4069.06	177.301	0.17	0.00	0.17		
10301.00	89.910	162.080	6402.63	-3952.14	220.17	1636312.28	14271210.26	39°18'00.432"N	81°00'52.230"W	4159.93	176.966	0.50	0.10	-0.49		
10396.00	89.940	160.350	6402.75	-4047.05	250.76	1636342.86	14271120.36	39°17'59.544"N	81°00'51.841"W	4251.44	176.619	1.82	0.03	-1.82		
10490.00	89.780	159.130	6402.98	-4141.03	283.31	1636375.39	14271032.22	39°17'58.672"N	81°00'51.427"W	4341.48	176.258	1.31	-0.17	-1.30		
10584.00	89.850	160.030	6403.58	-4328.99	347.96	1636440.02	14270855.76	39°17'56.927"N	81°00'50.604"W	4522.16	175.587	0.17	0.03	-0.17		
10772.00	89.820	157.520	6403.85	-4422.98	381.99	1636474.04	14270768.18	39°17'56.062"N	81°00'50.171"W	4612.21	175.249	2.67	-0.03	-2.67		
10866.00	90.000	155.130	6404.00	-4516.89	419.73	1636511.76	14270682.13	39°17'55.211"N	81°00'49.691"W	4701.22	174.878	2.55	0.19	-2.54		
10960.00	89.880	155.950	6404.10	-4768.01	458.66	1636550.67	14270596.60	39°17'54.365"N	81°00'49.196"W	4790.02	174.505	0.88	-0.13	0.87		
11054.00	89.940	158.720	6404.24	-4854.74	494.87	1636586.87	14270509.90	39°17'53.508"N	81°00'48.735"W	4879.90	174.180	2.95	0.06	2.95		
11149.00	90.030	160.360	6404.27	-4799.69	528.08	1636620.07	14270420.94	39°17'52.628"N	81°00'48.312"W	4971.87	173.903	1.73	0.09	1.73		
11243.00	89.910	158.940	6404.32	-4893.68	560.77	1636652.74	14270332.84	39°17'51.757"N	81°00'47.896"W	5063.03	173.641	1.52	-0.13	-1.51		
11337.00	89.880	157.370	6404.49	-4987.67	595.74	1636687.70	14270245.63	39°17'50.895"N	81°00'47.451"W	5153.68	173.362	1.67	-0.03	-1.67		
11432.00	89.910	155.850	6404.66	-5082.60	633.46	1636725.40	14270158.47	39°17'50.033"N	81°00'46.971"W	5244.71	173.083	1.60	0.03	-1.60		
11526.00	89.910	154.680	6404.81	-5176.42	672.79	1636764.71	14270073.13	39°17'49.180"N	81°00'46.471"W	5334.29	172.754	1.24	0.00	-1.24		
11621.00	89.850	155.060	6405.01	-5271.20	713.13	1636805.04	14269987.16	39°17'48.340"N	81°00'45.958"W	5424.78	172.446	0.40	-0.06	0.40		
11714.00	89.850	158.950	6405.26	-5462.85	750.49	1636842.39	14269902.04	39°17'47.488"N	81°00'45.482"W	5514.17	172.178	2.69	0.00	2.69		
11808.00	89.850	158.950	6405.50	-5550.16	785.32	1636877.20	14269814.77	39°17'46.635"N	81°00'45.039"W	5605.45	171.946	1.48	0.00	1.48		
11903.00	89.600	162.800	6405.96	-5553.01	816.44	1636908.31	14269725.06	39°17'45.748"N	81°00'44.643"W	5698.69	171.763	4.06	-0.26	4.05		
11997.00	90.090	163.370	6406.21	-5646.75	843.79	1636935.64	14269635.17	39°17'44.859"N	81°00'44.295"W	5791.63	171.523	0.80	0.52	0.61		

RECEIVED
Office of Oil and Gas
JUL 2 2018
WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804
Page 7 of 10



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Bachelor Pad
	Well	Wellbore	
	Raines Unit 1H	Raines Unit 1H AWB	
	Slot		
	Slot #01		

WELLPATH DATA (202 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(m)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
12091.00	89.880	160.450	6408.23	5740.60	-5819.18	872.97	1636964.82	14269545.86	39°17'43.976"N	81°00'43.924"W	5884.29	171.468
12185.00	89.850	158.890	6406.46	5834.58	-5907.32	905.63	1636997.46	14268457.75	39°17'43.105"N	81°00'43.608"W	5976.34	171.284
12279.00	89.780	159.510	6406.76	5928.58	-5995.19	939.01	1637030.83	14269369.91	39°17'42.237"N	81°00'43.083"W	6068.28	171.098
12373.00	89.820	158.190	6407.09	6022.57	-6082.86	972.92	1637064.73	14269282.28	39°17'41.370"N	81°00'42.652"W	6160.17	170.913
12467.00	89.570	156.890	6407.59	6116.55	-6169.72	1008.83	1637100.63	14269195.46	39°17'40.512"N	81°00'42.195"W	6251.66	170.714
12562.00	89.570	157.860	6408.30	6211.52	-6257.41	1045.38	1637127.16	14269107.80	39°17'39.645"N	81°00'41.730"W	6344.13	170.516
12656.00	89.600	158.510	6408.98	6305.51	-6344.68	1080.31	1637172.07	14269020.57	39°17'38.783"N	81°00'41.286"W	6435.99	170.337
12750.00	89.570	159.880	6399.50	6399.50	-6432.54	1113.69	1637205.44	14268932.74	39°17'37.914"N	81°00'40.861"W	6528.24	170.177
12845.00	89.570	161.690	6410.38	6494.44	-6522.24	1144.96	1637236.70	14268843.08	39°17'37.028"N	81°00'40.463"W	6621.98	170.043
12939.00	89.570	169.130	6411.08	6588.39	-6610.79	1176.47	1637268.20	14268754.66	39°17'36.163"N	81°00'40.062"W	6714.66	169.909
13033.00	89.570	169.170	6411.79	6682.38	-6698.63	1209.93	1637301.64	14268666.76	39°17'35.284"N	81°00'39.636"W	6807.03	169.761
13127.00	89.540	159.860	6412.52	6776.37	-6786.69	1242.82	1637334.52	14268578.74	39°17'34.414"N	81°00'39.218"W	6899.55	169.623
13221.00	89.540	161.080	6413.27	6870.33	-6875.27	1274.25	1637365.93	14268490.19	39°17'33.539"N	81°00'38.818"W	6992.36	169.500
13315.00	89.690	161.490	6413.90	6964.23	-6964.30	1304.41	1637396.08	14268401.19	39°17'32.659"N	81°00'38.434"W	7085.41	169.391
13410.00	90.220	169.950	6413.98	7059.06	-7054.76	1333.41	1637425.08	14268310.77	39°17'31.765"N	81°00'38.065"W	7179.67	169.297
13504.00	89.660	161.230	6414.08	7152.90	-7144.20	1362.32	1637453.97	14268221.37	39°17'30.881"N	81°00'37.697"W	7272.93	169.204
13599.00	89.570	163.460	6414.72	7247.80	-7231.80	1398.88	1637490.52	14268133.80	39°17'30.015"N	81°00'37.232"W	7365.86	169.052
13694.00	89.480	165.680	6415.50	7342.13	-7315.73	1443.37	1637534.99	14268049.91	39°17'29.186"N	81°00'36.666"W	7456.75	168.839
13788.00	89.570	157.260	6416.28	7435.75	-7400.14	1484.60	1637576.20	14267965.53	39°17'28.351"N	81°00'36.142"W	7547.59	168.656
13882.00	89.600	167.830	6416.96	7529.72	-7487.01	1520.50	1637612.09	14267878.69	39°17'27.493"N	81°00'35.685"W	7639.85	168.520
13976.00	89.570	156.710	6417.65	7623.69	-7573.71	1556.82	1637648.40	14267792.03	39°17'26.636"N	81°00'35.223"W	7732.06	168.384
14071.00	89.540	158.610	6418.38	7718.66	-7661.63	1592.78	1637684.33	14267704.14	39°17'25.767"N	81°00'34.766"W	7825.44	168.256
14165.00	89.480	161.420	6419.19	7812.62	-7750.02	1624.75	1637716.29	14267615.79	39°17'24.893"N	81°00'34.359"W	7918.50	168.160
14259.00	89.540	162.260	6419.99	7906.49	-7839.33	1654.04	1637745.57	14267526.52	39°17'24.011"N	81°00'33.986"W	8011.93	168.086
14353.00	89.660	169.110	6420.65	8000.40	-7928.30	1684.36	1637775.88	14267437.58	39°17'23.131"N	81°00'33.600"W	8105.25	168.006
14447.00	90.400	159.250	6420.60	8094.38	-8016.45	1717.00	1637808.50	14267349.47	39°17'22.260"N	81°00'33.185"W	8198.27	167.911
14541.00	89.630	158.150	6420.57	8188.38	-8104.03	1751.14	1637842.64	14267261.93	39°17'21.395"N	81°00'32.751"W	8291.07	167.807
14635.00	89.630	157.380	6421.18	8282.36	-8191.04	1786.71	1637878.19	14267174.95	39°17'20.535"N	81°00'32.298"W	8383.64	167.695
14729.00	89.600	155.730	6421.81	8376.29	-8277.27	1824.11	1637915.57	14267088.75	39°17'19.682"N	81°00'31.823"W	8475.88	167.572
14823.00	89.570	155.540	6422.49	8470.14	-8362.90	1862.89	1637954.34	14267003.16	39°17'18.836"N	81°00'31.329"W	8567.87	167.442

RECEIVED
Office of Oil and Gas
JUL 2 2018
WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'

Page 8 of 10



REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #01
Area	Ritchie County, WV		Well	Raines Unit 1H
Field	Ritchie		Wellbore	Raines Unit 1H AWP
Facility	Bachelor Pad			

WELLPATH DATA (202 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
14917.00	89.540	156.590	6423.22	8564.03	-8448.81	1901.02	1637992.45	14266917.29	39°17'17.987"N	81°00'30.844"W	8660.04	167.319	1.12	-0.03	1.12	
15012.00	89.660	160.310	6423.89	8659.01	-8537.15	1935.91	1638027.33	14266828.98	39°17'17.114"N	81°00'30.400"W	8753.89	167.224	3.92	0.13	3.92	
15106.00	89.540	155.250	6424.54	8752.97	-8624.14	1971.44	1638062.85	14266742.03	39°17'16.254"N	81°00'29.948"W	8846.60	167.124	5.38	-0.13	-5.38	
15201.00	89.540	153.630	6425.31	8847.69	-8709.84	2012.43	1638103.82	14266656.36	39°17'15.407"N	81°00'29.427"W	8939.30	166.990	1.71	0.00	-1.71	
15295.00	89.230	156.790	6426.32	8941.49	-8795.16	2051.84	1638143.21	14266571.07	39°17'14.564"N	81°00'28.926"W	9031.33	166.868	3.38	-0.33	3.36	
15389.00	89.660	161.380	6427.23	9035.46	-8882.94	2085.38	1638176.74	14266483.33	39°17'13.696"N	81°00'28.499"W	9124.44	166.788	4.90	0.46	4.88	
15483.00	89.600	159.770	6427.83	9129.40	-8971.58	2116.64	1638207.99	14266394.72	39°17'12.820"N	81°00'28.101"W	9217.89	166.725	1.71	-0.06	-1.71	
15577.00	89.510	158.920	6428.56	9223.40	-9059.54	2149.80	1638241.13	14266306.80	39°17'11.951"N	81°00'27.679"W	9311.11	166.651	0.91	-0.10	-0.90	
15672.00	89.480	158.700	6429.40	9318.39	-9148.11	2184.14	1638275.46	14266218.27	39°17'11.075"N	81°00'27.243"W	9405.23	166.572	0.23	-0.03	-0.23	
15766.00	89.480	161.750	6430.25	9412.35	-9236.55	2215.93	1638307.24	14266129.86	39°17'10.201"N	81°00'26.838"W	9498.64	166.509	3.24	0.00	3.24	
15860.00	89.450	164.650	6431.13	9506.05	-9326.53	2243.10	1638334.39	14266039.92	39°17'09.312"N	81°00'26.493"W	9592.48	166.477	3.09	-0.03	3.09	
15955.00	89.630	160.690	6431.89	9600.81	-9417.19	2271.39	1638362.67	14265949.29	39°17'08.416"N	81°00'26.133"W	9687.25	166.439	4.17	0.19	-4.17	
16049.00	89.600	158.410	6432.53	9694.80	-9505.26	2304.23	1638395.50	14265861.26	39°17'07.546"N	81°00'25.715"W	9780.57	166.373	2.43	-0.03	-2.43	
16143.00	89.570	159.560	6433.21	9788.79	-9593.00	2337.94	1638429.20	14265773.55	39°17'06.678"N	81°00'25.286"W	9873.79	166.303	1.22	-0.03	1.22	
16237.00	89.600	158.460	6433.89	9882.79	-9680.76	2371.61	1638462.85	14265685.83	39°17'05.811"N	81°00'24.858"W	9967.03	166.235	1.17	0.03	-1.17	
16331.00	89.570	159.750	6434.57	9976.78	-9768.58	2405.13	1638496.36	14265598.05	39°17'04.943"N	81°00'24.431"W	10060.31	166.168	1.37	-0.03	1.37	
16426.00	89.630	160.750	6435.23	10071.75	-9857.99	2437.23	1638528.45	14265508.67	39°17'04.059"N	81°00'24.023"W	10154.80	166.113	1.05	0.06	1.05	
16520.00	89.540	159.830	6435.91	10165.71	-9946.48	2468.93	1638560.14	14265420.22	39°17'03.185"N	81°00'23.620"W	10248.32	166.060	0.98	-0.10	-0.98	
16615.00	89.570	156.210	6436.65	10260.68	-10034.55	2504.48	1638595.67	14265332.18	39°17'02.314"N	81°00'23.168"W	10342.37	165.986	3.81	0.03	-3.81	
16709.00	89.570	153.910	6437.36	10354.48	-10119.78	2544.12	1638635.29	14265246.99	39°17'01.472"N	81°00'22.664"W	10434.68	165.888	2.45	0.00	-2.45	
16779.00	89.600	153.330	6437.86	10424.19	-10182.49	2575.22	1638666.38	14265184.30	39°17'00.852"N	81°00'22.268"W	10503.09	165.807	0.83	0.04	-0.83	
16804.00	89.600	153.330	6438.04	10449.08	-10204.83	2586.44	1638677.60	14265161.97	39°17'00.631"N	81°00'22.125"W	10527.50	165.778	0.00	0.00	0.00	Projected MD at TD: 16804'

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'

Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Ritchie County, WV	Well	Raines Unit 1H
Field	Ritchie	Wellbore	Raines Unit 1H AWB
Facility	Bachelor Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Raines Unit 1H AWB Ref Wellpath: Raines Unit 1H AWP Proj: 16804'									
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	105.00	80.00	25.00	105.00	0.00	0.00	-0.06	0.39
17.5in Open Hole	105.00	627.60	522.60	105.00	627.59	-0.06	0.39	-0.90	2.08
13.375in Casing Surface	25.00	627.60	602.60	25.00	627.59	0.00	0.00	-0.90	2.08
12.25in Open Hole	627.60	2572.80	1945.20	627.59	2530.20	-0.90	2.08	-92.23	-369.35
9.625in Casing Intermediate	25.00	2572.80	2547.80	25.00	2530.20	0.00	0.00	-92.23	-369.35
8.75in Open Hole	2572.80	6475.00	3902.20	2530.20	6231.88	-92.23	-369.35	-623.59	-1137.23
8.5in Open Hole	6475.00	16804.00	10329.00	6231.88	6438.04	-623.59	-1137.23	-10204.83	2586.44
5.5in Casing Production	25.00	16804.00	16779.00	25.00	6438.04	0.00	0.00	-10204.83	2586.44

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Raines Unit 1H BHL Rev-2	6393.00	-10199.19	2567.69	1638658.86	14265167.61	39°17'00.687"N	81°00'22.364"W	point
Raines Unit 1H LP Rev-1	6393.00	-1029.33	-992.97	1635099.63	14274333.78	39°18'31.315"N	81°01'07.670"W	point

WELLPATH COMPOSITION - Ref Wellbore: Raines Unit 1H AWB Ref Wellpath: Raines Unit 1H AWP Proj: 16804'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	605.00	Gyrodata standard - Single-shot	01 Gyrodata SS Gyro <17-1/2">(100'-595')	Raines Unit 1H AWB
605.00	787.00	Gyrodata standard - Single-shot	02 Gyrodata SS Gyro <12-1/4">(595')(686'-777')	Raines Unit 1H AWB
787.00	2543.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4">(777')(833'-2533')	Raines Unit 1H AWB
2543.00	6392.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <8-3/4">(2533')(2606'-6382')	Raines Unit 1H AWB
6392.00	16779.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(6392')(6437'-16779')	Raines Unit 1H AWB
16779.00	16804.00	Blind Drilling (std)	Projection to bit	Raines Unit 1H AWB

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection



Actual Wellpath Report

Raines Unit 1H AWP Proj: 16804'

Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Ritchie County, WV	Well	Raines Unit 1H
Field	Ritchie	Wellbore	Raines Unit 1H AWB
Facility	Bachelor Pad		

COMMENTS
<p>Wellpath general comments API: 47-085-10311-0000 BHI Job #: 8794344 Rig: Patterson 342 Duration: 10/09/2017-10/12/2017 Gyrodatta SS Gyro <17-1/2"> (100'-595') Gyrodatta SS Gyro <12-1/4"> (595')(686'-777') Directional ONE MWD <12-1/4"> (777')(823'-2533') Directional ONE MWD <8-3/4"> (2533')(2606'-6382') BHI AT Curve <8-1/2"> (6392')(6437'-16779') Middlesex: 6472' MD Burkett: 6637' MD Marcellus POE: 6685' MD Projected MD at TD: 16804'</p>

RECEIVED
Office of Oil and Gas

JUL 2 2018

WV Department of
Environmental Protection