



ANTERO RESOURCES CORPORATION



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

Slot: Slot #14
 Well: Hex Unit 1H
 Wellbore: Hex Unit 1H PWB

Plot reference wellbore is Hex Unit 1H PWB Rev-A-0	Grid System: NAD27 / UTM Zone 17 North, US Feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level: 1274.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot Slot #14): -1250 feet	Created by: dalaen on 2018-08-27
Coordinates are in feet referenced to Slot	Database: VA_MPL_EasternUS_Dein

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Hichman Pad	1673097.617	14295267.299	39°20'19.220"N	80°53'03.890"W
Slot	Local N (ft)	Grid East (US ft)	Latitude	Longitude
Slot #14	-125.50	-1673094.006	39°20'17.980"N	80°53'04.320"W
Frontier 22 (RKB) to Ground level (At Slot Slot #14)			24.5ft	
Mean Sea Level to Ground level (At Slot Slot #14)			-1250ft	
Frontier 22 (RKB) to Mean Sea Level			1274.5ft	

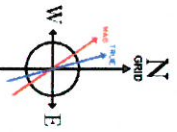
Well Data

Slot	Well	Wellbore	Wellpath
Slot #14	Hex Unit 1H	Hex Unit 1H AWP	Hex Unit 1H AWP Pool: 18299
Slot #14	Hex Unit 1H	Hex Unit 1H PWB	Hex Unit 1H PWB Rev-A-0

API: 47-085-103332-0000
 BHI Job #: 10324353
 Rig: Frontier 22
 Duration: 08/22/2018-08/25/2018

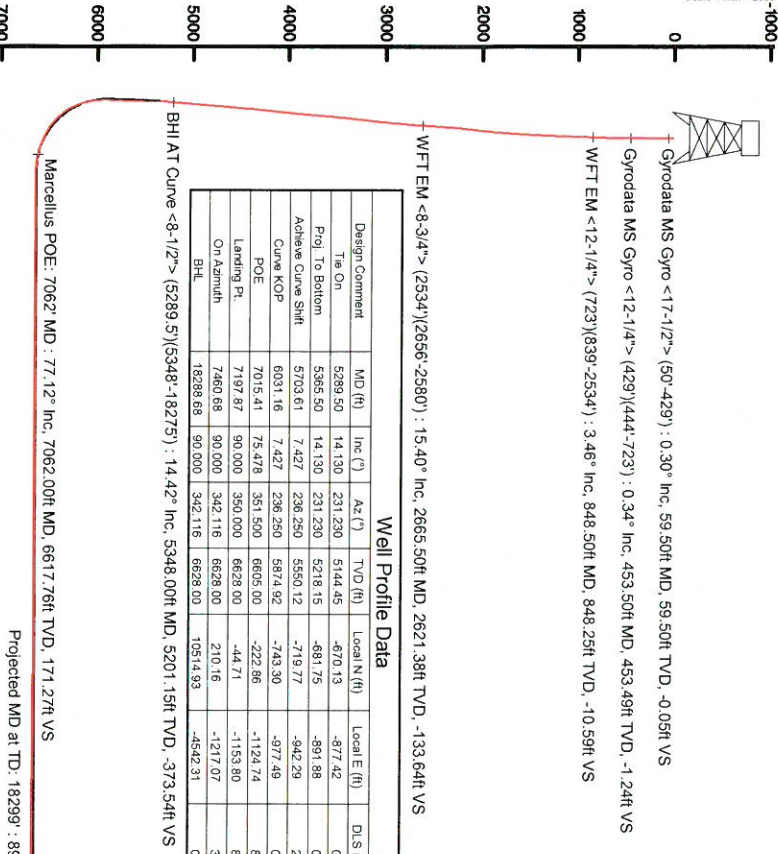
Projected MD at TD: 18299' : 6657.55ft TVD, 10500.65ft N, 4536.93ft W

User specified (HDGM) Dip: 66.49° Field: 51890 nT
 Magnetic North is 7.65 degrees West of True North (at 21/Aug/2018)
 Grid North is 0.07 degrees East of True North
 To correct azimuth from Magnetic to Grid subtract 7.72 degrees
 To correct azimuth from Magnetic to Grid subtract 7.72 degrees



True Vertical Depth (ft)

Scale 1 inch = 2000



Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (7/100ft)	VS (ft)
The On	5289.50	14.130	231.230	5144.45	-670.13	-877.42	0.89	-368.37
Proj To Bottom	5365.50	14.130	231.230	5218.15	-681.75	-891.88	0.00	-374.99
Adhesive Curve Shift	5703.61	7.427	236.250	5550.12	-719.77	-942.29	2.00	-395.71
Curve KOP	6031.16	7.427	236.250	5874.92	-743.30	-977.49	0.00	-407.28
POE	7015.41	75.478	351.500	6605.00	-222.86	-1124.74	8.00	133.23
Landing Pt.	7197.87	90.000	350.000	6628.00	-44.71	-1153.80	8.00	311.70
On Azimuth	7460.68	90.000	342.116	6628.00	210.16	-1217.07	3.00	573.68
BHL	18288.68	90.000	342.116	6628.00	10514.93	-4542.31	0.00	11407.68



Scale 1 inch = 2500

Scale 1 inch = 2000



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWB
Facility	Hichman Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	27/Aug/2018 at 14:32
Convergence at slot	0.07° East	Database/Source file	WA_MPL_EasternUS_Defm/Hex_Unit_1H_AWP_Proj_18299_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North(ft)	East(ft)	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-125.50	-33.63	1673064.01	14285141.84	39°20'17.980"N	80°53'04.320"W
Facility Reference Pt			1673097.62	14285267.29	39°20'19.220"N	80°53'03.890"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature		
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mean Sea Level	1274.50ft
MD Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Ground Level at Slot (Slot #14)	24.50ft
Field Vertical Reference	Mean Sea Level	Section Origin	N 0.00, E 0.00 ft
		Section Azimuth	342.12°



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWB
Facility	Hichman Pad		

WELLPATH DATA (226 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
ftH	°	°	ftH	ftH	ftH	ftH	US ftH	US ftH			ftH	°	ft/100ftH	ft/100ftH	ft/100ftH	
0.00	0.000	107.010	0.00	0.00	0.00	0.00	1673064.01	14285141.84	39°20'17.980"N	80°53'04.320"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	107.010	24.50	0.00	0.00	0.00	1673064.01	14285141.84	39°20'17.980"N	80°53'04.320"W	0.00	0.000	0.00	0.00	0.00	
59.50	0.300	107.010	59.50	-0.05	-0.03	0.09	1673064.09	14285141.81	39°20'17.980"N	80°53'04.319"W	0.09	107.010	0.86	0.86	305.74	Gyrodatta MS Gyro <17-1/2"> (50'-429')
84.50	0.280	102.120	84.50	-0.12	-0.06	0.21	1673064.22	14285141.78	39°20'17.979"N	80°53'04.317"W	0.22	105.641	0.13	-0.08	-19.56	
109.50	0.250	82.790	109.50	-0.16	-0.06	0.32	1673064.33	14285141.77	39°20'17.979"N	80°53'04.316"W	0.33	101.311	0.38	-0.12	-77.32	
134.50	0.300	98.440	134.50	-0.20	-0.07	0.44	1673064.45	14285141.77	39°20'17.979"N	80°53'04.314"W	0.45	98.673	0.36	0.20	62.60	
159.50	0.420	104.140	159.50	-0.28	-0.10	0.60	1673064.60	14285141.74	39°20'17.979"N	80°53'04.312"W	0.60	99.475	0.50	0.48	22.80	
184.50	0.430	89.750	184.50	-0.35	-0.12	0.78	1673064.78	14285141.71	39°20'17.979"N	80°53'04.310"W	0.79	98.865	0.43	0.04	-57.56	
209.50	0.540	92.450	209.50	-0.42	-0.13	0.99	1673065.00	14285141.71	39°20'17.979"N	80°53'04.307"W	1.00	97.257	0.45	0.44	10.80	
234.50	0.580	98.910	234.50	-0.52	-0.15	1.23	1673065.24	14285141.69	39°20'17.978"N	80°53'04.304"W	1.24	96.970	0.30	0.16	25.84	
259.50	0.280	111.830	259.49	-0.62	-0.19	1.41	1673065.42	14285141.64	39°20'17.978"N	80°53'04.302"W	1.43	97.770	1.25	-1.20	51.68	
284.50	0.170	135.680	284.49	-0.69	-0.24	1.50	1673065.50	14285141.59	39°20'17.978"N	80°53'04.301"W	1.52	99.192	0.57	-0.44	95.40	
309.50	0.120	145.310	309.49	-0.75	-0.29	1.54	1673065.54	14285141.55	39°20'17.977"N	80°53'04.300"W	1.57	100.690	0.22	-0.20	38.52	
334.50	0.170	141.030	334.49	-0.81	-0.34	1.58	1673065.58	14285141.50	39°20'17.977"N	80°53'04.300"W	1.61	102.196	0.20	0.20	-17.12	
359.50	0.190	137.390	359.49	-0.88	-0.40	1.63	1673065.63	14285141.44	39°20'17.976"N	80°53'04.299"W	1.68	103.808	0.09	0.08	-14.56	
384.50	0.250	146.910	384.49	-0.97	-0.48	1.69	1673065.69	14285141.36	39°20'17.975"N	80°53'04.299"W	1.75	105.777	0.28	0.24	38.08	
409.50	0.210	149.630	409.49	-1.07	-0.56	1.74	1673065.74	14285141.27	39°20'17.974"N	80°53'04.298"W	1.83	107.898	0.17	-0.16	10.88	
438.50	0.200	159.500	438.49	-1.17	-0.65	1.78	1673065.79	14285141.18	39°20'17.974"N	80°53'04.297"W	1.90	110.162	0.13	-0.03	34.03	
453.50	0.340	153.660	453.49	-1.24	-0.72	1.81	1673065.82	14285141.12	39°20'17.973"N	80°53'04.297"W	1.95	111.646	0.95	0.93	-35.93	Gyrodatta MS Gyro <12-1/4"> (429')(444'-723')
547.50	0.820	180.290	547.49	-2.16	-1.64	1.93	1673065.94	14285140.20	39°20'17.964"N	80°53'04.295"W	2.54	130.350	0.57	0.51	28.33	
639.50	1.610	198.470	639.47	-3.82	-3.53	1.52	1673065.52	14285138.31	39°20'17.945"N	80°53'04.301"W	3.84	156.884	0.95	0.86	19.76	
732.50	2.450	202.310	732.41	-6.39	-6.60	0.35	1673064.36	14285135.23	39°20'17.915"N	80°53'04.316"W	6.61	176.956	0.91	0.90	4.13	
848.50	3.460	210.880	848.25	-10.59	-11.90	-2.39	1673061.62	14285129.94	39°20'17.862"N	80°53'04.351"W	12.14	191.339	0.95	0.87	7.39	WFT EM <12-1/4"> (723')(839'-2534')
944.50	4.340	223.660	944.03	-14.24	-17.02	-6.38	1673057.63	14285124.83	39°20'17.812"N	80°53'04.407"W	18.17	200.556	1.28	0.92	13.31	
1039.50	5.240	230.550	1038.70	-17.54	-22.37	-12.21	1673051.80	14285119.47	39°20'17.759"N	80°53'04.476"W	25.49	208.628	1.12	0.95	7.25	
1134.50	6.760	233.970	1133.18	-20.88	-28.42	-20.08	1673043.93	14285113.43	39°20'17.699"N	80°53'04.576"W	34.80	215.250	1.64	1.60	3.60	
1229.50	8.490	236.720	1227.33	-24.48	-35.56	-30.47	1673033.55	14285106.29	39°20'17.629"N	80°53'04.708"W	46.83	220.595	1.86	1.82	2.89	
1324.50	9.740	236.080	1321.13	-28.57	-43.89	-43.00	1673021.02	14285097.96	39°20'17.547"N	80°53'04.868"W	61.44	224.414	1.32	1.32	-0.67	
1419.50	11.010	235.270	1414.58	-33.42	-53.54	-57.13	1673006.90	14285088.32	39°20'17.452"N	80°53'05.048"W	78.30	226.855	1.35	1.34	-0.85	
1513.50	12.010	236.950	1506.69	-38.58	-63.99	-72.70	1672991.33	14285077.87	39°20'17.348"N	80°53'05.246"W	96.85	228.646	1.12	1.06	1.79	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION									
Operator	ANTERO RESOURCES CORPORATION								
Area	Ritchie County, WV								
Field	Ritchie								
Facility	Hichman Pad								
Slot	Slot #14								
Well	Wellbore								
Hex Unit 1H	Hex Unit 1H AWP								

WELLPATH DATA (226 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	US ft	US ft			ft	°	°/100ft	°/100ft	°/100ft	
1608.50	13.060	237.180	1599.42	-43.93	-75.20	-90.01	1672974.04	14285066.67	39°20'17.238"N	80°53'05.467"W	117.29	230.122	1.11	1.11	0.24	
1703.50	14.220	236.510	1691.74	-49.84	-87.45	-108.76	1672955.29	14285054.42	39°20'17.117"N	80°53'05.706"W	139.56	231.196	1.23	1.22	-0.71	
1798.50	14.970	234.120	1783.67	-56.77	-101.08	-128.43	1672935.63	14285040.79	39°20'16.983"N	80°53'05.956"W	163.44	231.795	1.01	0.79	-2.52	
1893.50	15.230	229.590	1875.40	-65.35	-116.37	-147.87	1672916.20	14285025.51	39°20'16.832"N	80°53'06.204"W	188.17	231.797	1.28	0.27	-4.81	
1987.50	15.910	226.800	1965.95	-75.60	-133.20	-166.66	1672897.42	14285008.69	39°20'16.666"N	80°53'06.443"W	213.35	231.366	1.07	0.72	-2.93	
2082.50	15.610	226.050	2057.38	-86.79	-150.99	-186.35	1672878.73	14284990.91	39°20'16.490"N	80°53'06.681"W	239.07	230.834	0.38	-0.32	-0.79	
2177.50	15.740	228.830	2148.85	-97.50	-168.34	-204.25	1672859.83	14284973.56	39°20'16.319"N	80°53'06.922"W	264.68	230.505	0.80	0.14	2.93	
2272.50	16.150	234.930	2240.20	-106.50	-184.42	-224.77	1672839.33	14284957.49	39°20'16.160"N	80°53'07.184"W	290.74	230.632	1.82	0.43	6.42	
2367.50	16.620	235.490	2331.79	-113.84	-198.80	-245.46	1672818.64	14284943.12	39°20'16.018"N	80°53'07.447"W	315.87	230.966	1.62	-1.61	0.59	
2462.50	12.900	233.840	2424.06	-120.59	-211.85	-263.90	1672800.21	14284930.07	39°20'15.889"N	80°53'07.682"W	338.42	231.244	1.86	-1.81	-1.74	
2543.50	12.730	234.540	2503.04	-126.13	-222.36	-278.47	1672785.64	14284919.56	39°20'15.786"N	80°53'07.868"W	356.36	231.392	0.28	-0.21	0.86	
2665.50	15.400	239.830	2621.38	-133.64	-238.31	-303.43	1672760.69	14284903.63	39°20'15.628"N	80°53'08.186"W	385.83	231.855	2.43	2.19	4.34	WFT EM -8-3/4" (2534)(2656-2680)
2760.50	16.680	238.510	2712.68	-139.53	-251.77	-325.96	1672738.17	14284890.17	39°20'15.496"N	80°53'08.473"W	411.87	232.318	1.40	1.35	-1.39	
2855.50	17.450	235.880	2803.50	-146.72	-266.88	-349.38	1672714.76	14284875.06	39°20'15.347"N	80°53'08.771"W	439.65	232.625	1.15	0.81	-2.77	
2949.50	17.310	234.700	2893.21	-154.85	-282.87	-372.46	1672691.69	14284859.08	39°20'15.189"N	80°53'09.065"W	467.70	232.785	0.40	-0.15	-1.26	
3044.50	17.220	233.290	2983.93	-163.62	-299.44	-395.27	1672668.89	14284842.52	39°20'15.025"N	80°53'09.356"W	495.89	232.854	0.45	-0.09	-1.48	
3139.50	17.310	232.580	3074.65	-172.88	-316.43	-417.77	1672646.40	14284825.53	39°20'14.858"N	80°53'09.642"W	524.08	232.859	0.24	0.09	-0.75	
3234.50	17.140	231.460	3165.38	-182.55	-333.74	-439.94	1672624.24	14284808.23	39°20'14.687"N	80°53'09.925"W	552.21	232.816	0.39	-0.18	-1.18	
3329.50	17.170	230.290	3256.16	-192.70	-351.42	-461.68	1672602.51	14284790.55	39°20'14.512"N	80°53'10.202"W	580.21	232.722	0.36	0.03	-1.23	
3423.50	17.240	228.690	3346.95	-203.40	-369.48	-482.82	1672581.38	14284772.50	39°20'14.334"N	80°53'10.477"W	607.97	232.574	0.51	0.07	-1.70	
3518.50	16.890	230.800	3436.77	-214.02	-387.50	-504.09	1672560.12	14284754.49	39°20'14.156"N	80°53'10.742"W	635.82	232.450	0.75	-0.37	2.22	
3613.50	16.890	236.070	3527.68	-222.85	-403.93	-526.23	1672537.98	14284738.07	39°20'13.994"N	80°53'11.024"W	663.38	232.491	1.61	0.00	5.55	
3708.50	16.960	235.310	3618.56	-230.67	-419.52	-549.08	1672515.15	14284722.49	39°20'13.841"N	80°53'11.315"W	691.00	232.619	0.24	0.07	-0.80	
3803.50	16.810	233.580	3709.47	-239.05	-435.56	-571.52	1672492.71	14284706.45	39°20'13.682"N	80°53'11.607"W	718.58	232.689	0.55	-0.16	-1.82	
3898.50	15.710	233.690	3800.67	-247.50	-451.34	-592.94	1672471.31	14284690.68	39°20'13.527"N	80°53'11.874"W	745.17	232.722	1.16	-1.16	0.05	
3992.50	15.530	233.010	3891.20	-255.65	-466.46	-613.23	1672451.02	14284675.57	39°20'13.377"N	80°53'12.132"W	770.48	232.741	0.26	-0.19	-0.66	
4087.50	15.390	231.300	3982.76	-264.30	-481.99	-633.23	1672431.03	14284660.04	39°20'13.224"N	80°53'12.387"W	795.80	232.723	0.50	-0.15	-1.80	
4182.50	15.470	229.370	4074.35	-273.66	-498.09	-652.65	1672411.62	14284643.94	39°20'13.065"N	80°53'12.634"W	821.00	232.650	0.54	0.02	-2.03	
4277.50	15.500	228.060	4165.91	-283.78	-514.80	-671.67	1672392.61	14284627.25	39°20'12.900"N	80°53'12.877"W	846.26	232.532	0.38	0.09	-1.38	
4372.50	15.430	231.790	4257.48	-293.28	-531.10	-691.04	1672373.24	14284610.95	39°20'12.739"N	80°53'13.124"W	871.55	232.456	1.05	-0.07	3.93	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Sic1	Sic1 #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWP
Facility	Hichman Pad		

WELLPATH DATA (226 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	US ft	US ft			ft	°	ft/100ft	ft/100ft	ft/100ft	
4466.50	15.480	232.400	4348.08	-309.88	-546.49	-710.81	1672353.48	14284595.57	39°20'12.588"N	80°53'13.375"W	896.60	232.446	0.18	0.05	0.65	
4561.50	14.790	234.140	4439.78	-309.88	-561.32	-730.68	1672333.62	14284580.74	39°20'12.441"N	80°53'13.628"W	921.40	232.468	0.87	-0.73	1.83	
4656.50	15.030	234.100	4531.58	-317.43	-575.65	-750.48	1672313.82	14284566.42	39°20'12.300"N	80°53'13.881"W	945.83	232.510	0.25	0.25	-0.04	
4751.50	15.410	232.300	4623.25	-325.52	-590.59	-770.45	1672293.87	14284551.48	39°20'12.152"N	80°53'14.135"W	970.77	232.528	0.64	0.40	-1.89	
4846.50	14.390	233.380	4715.06	-333.59	-605.35	-789.91	1672274.41	14284536.73	39°20'12.007"N	80°53'14.383"W	995.19	232.535	1.11	-1.07	1.14	
4941.50	14.530	233.930	4807.05	-341.11	-619.41	-809.02	1672255.31	14284522.67	39°20'11.868"N	80°53'14.626"W	1018.91	232.561	0.21	0.15	0.58	
5035.50	15.050	233.410	4897.93	-348.70	-633.63	-828.35	1672235.99	14284508.46	39°20'11.728"N	80°53'14.873"W	1042.90	232.587	0.57	0.55	-0.55	
5130.50	13.500	234.540	4990.00	-356.01	-647.41	-847.28	1672217.06	14284494.68	39°20'11.592"N	80°53'15.114"W	1066.32	232.616	1.66	-1.63	1.19	
5225.50	13.710	232.810	5082.33	-366.08	-660.65	-865.28	1672199.07	14284481.45	39°20'11.461"N	80°53'15.343"W	1088.66	232.638	0.48	0.22	-1.92	
5289.50	14.130	231.230	5144.45	-368.37	-670.13	-877.42	1672186.94	14284471.98	39°20'11.368"N	80°53'15.498"W	1104.05	232.629	0.89	0.66	-2.47	
5348.00	14.420	231.010	5201.15	-373.54	-679.18	-888.65	1672175.72	14284462.92	39°20'11.278"N	80°53'15.641"W	1118.47	232.610	0.50	0.50	-0.38	BH AT Curve <8-1/2"> (5289.5),(5348--18275)
5358.00	14.580	229.620	5302.83	-374.43	-680.75	-890.60	1672173.76	14284461.36	39°20'11.263"N	80°53'15.666"W	1120.98	232.607	2.21	1.60	6.10	
5452.00	8.610	229.620	5302.87	-381.28	-692.66	-905.25	1672159.12	14284448.45	39°20'11.145"N	80°53'15.852"W	1139.85	232.678	6.36	-6.35	-2.13	
5546.00	8.580	249.260	5395.83	-384.32	-699.71	-917.17	1672147.20	14284442.41	39°20'11.076"N	80°53'16.004"W	1153.60	232.660	3.11	-0.03	20.89	
5641.00	8.670	251.480	5489.76	-384.75	-704.49	-930.59	1672133.79	14284437.63	39°20'11.029"N	80°53'16.175"W	1167.17	232.873	0.36	0.09	2.34	
5735.00	8.990	240.910	5582.65	-386.26	-710.31	-943.72	1672120.66	14284431.81	39°20'10.971"N	80°53'16.342"W	1181.17	233.032	1.76	0.34	-11.24	
5830.00	8.960	242.890	5676.49	-388.89	-717.29	-956.79	1672107.60	14284424.83	39°20'10.902"N	80°53'16.509"W	1195.81	233.142	0.33	-0.03	2.08	
5924.00	8.970	230.890	5769.35	-392.72	-725.25	-969.00	1672095.40	14284416.88	39°20'10.824"N	80°53'16.664"W	1210.35	233.187	1.99	0.01	-12.77	
6018.00	8.890	235.380	5862.21	-397.46	-734.00	-980.66	1672083.74	14284408.13	39°20'10.738"N	80°53'16.813"W	1224.93	233.186	0.75	-0.09	4.78	
6065.00	8.960	241.180	5908.64	-399.20	-737.83	-986.86	1672077.55	14284404.30	39°20'10.700"N	80°53'16.892"W	1232.18	233.216	1.92	0.15	12.94	
6113.00	8.990	259.790	5956.08	-399.77	-739.64	-993.88	1672070.52	14284402.49	39°20'10.682"N	80°53'16.981"W	1238.90	233.344	9.20	0.06	59.60	
6160.00	8.910	282.720	6002.52	-395.29	-738.25	-1000.92	1672063.49	14284403.88	39°20'10.666"N	80°53'17.071"W	1243.72	233.588	7.54	-0.17	48.79	
6208.00	12.130	311.330	6049.72	-388.53	-733.48	-1008.14	1672056.27	14284408.65	39°20'10.743"N	80°53'17.162"W	1246.73	233.962	9.67	6.71	38.77	
6302.00	12.860	329.320	6095.62	-379.19	-725.72	-1014.52	1672049.90	14284416.41	39°20'10.820"N	80°53'17.243"W	1247.36	234.422	8.39	1.55	38.28	
6349.00	16.880	335.160	6141.04	-367.31	-715.02	-1020.05	1672044.36	14284427.10	39°20'10.926"N	80°53'17.314"W	1245.70	234.971	9.12	8.55	12.43	
6398.00	18.290	336.990	6185.85	-363.19	-702.04	-1025.80	1672038.61	14284440.07	39°20'11.054"N	80°53'17.387"W	1243.04	235.613	3.22	3.00	3.89	
6445.00	22.920	340.510	6231.70	-335.98	-665.96	-1032.00	1672032.42	14284456.15	39°20'11.213"N	80°53'17.465"W	1239.18	236.388	9.78	9.45	7.18	
6492.00	27.810	343.080	6274.16	-315.86	-666.83	-1038.24	1672026.18	14284475.27	39°20'11.402"N	80°53'17.545"W	1233.94	237.289	10.66	10.40	5.47	
6549.00	32.410	345.550	6314.81	-292.31	-644.13	-1044.58	1672019.84	14284497.96	39°20'11.627"N	80°53'17.625"W	1227.22	238.340	10.13	9.79	5.26	
6539.00	35.930	347.300	6353.69	-266.00	-618.48	-1050.76	1672013.67	14284523.61	39°20'11.880"N	80°53'17.703"W	1219.26	239.519	7.78	7.49	3.72	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299'
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REFERENCE WELLPATH IDENTIFICATION									
Operator	ANTERO RESOURCES CORPORATION								
Area	Ritchie County, WV								
Field	Ritchie								
Facility	Hichman Pad								

WELLPATH DATA (226 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	°	ft/100ft	ft/100ft	ft/100ft	
6587.00	40.650	346.910	6391.35	-236.37	-589.49	-1057.40	1672007.03	14284552.58	39°20'12.167"N	80°53'17.787"W	1210.62	240.861	9.85	9.83	-0.81	
6634.00	45.060	346.770	6425.80	-204.52	-558.37	-1064.68	1671999.76	14284583.69	39°20'12.474"N	80°53'17.879"W	1202.21	242.325	9.39	9.38	-0.30	
6663.00+	48.256	346.658	6445.70	-183.50	-537.85	-1069.52	1671994.91	14284604.20	39°20'12.677"N	80°53'17.941"W	1197.15	243.303	11.02	11.02	-0.39	Middlesex: 6663' MD
6662.00	50.350	346.590	6458.09	-169.14	-523.84	-1072.86	1671991.58	14284618.21	39°20'12.816"N	80°53'17.983"W	1193.91	243.975	11.02	11.02	-0.36	
6729.00	55.340	346.610	6486.47	-131.81	-487.44	-1081.53	1671982.91	14284664.62	39°20'13.176"N	80°53'18.093"W	1186.29	245.741	10.62	10.62	0.04	
6777.00	58.920	346.210	6512.51	-91.61	-448.23	-1091.01	1671973.44	14284693.79	39°20'13.563"N	80°53'18.213"W	1179.49	247.665	7.49	7.46	-0.83	
6824.00	63.240	345.320	6535.24	-50.57	-408.37	-1101.13	1671963.32	14284733.63	39°20'13.958"N	80°53'18.341"W	1174.41	249.652	9.34	9.19	-1.89	
6868.00+	66.670	345.752	6553.86	-10.78	-369.77	-1111.08	1671953.37	14284772.21	39°20'14.339"N	80°53'18.467"W	1171.00	251.592	7.85	7.80	0.95	Burkett: 6868' MD
6873.00	67.060	345.800	6555.82	-6.19	-365.31	-1112.21	1671952.24	14284776.67	39°20'14.802"N	80°53'18.481"W	1170.67	251.817	7.85	7.80	0.95	
6920.00	69.050	346.970	6573.39	37.28	-322.95	-1122.47	1671941.99	14284819.02	39°20'15.090"N	80°53'18.611"W	1168.00	253.949	4.82	4.23	2.49	Fully: 6952' MD
6967.00	69.190	346.780	6590.14	81.04	-280.18	-1132.44	1671932.02	14284861.77	39°20'15.654"N	80°53'18.697"W	1166.84	255.415	0.48	0.30	-0.40	
7014.00	72.970	348.430	6605.38	125.28	-236.76	-1141.97	1671922.49	14284905.17	39°20'16.105"N	80°53'18.737"W	1166.59	256.103	0.48	0.30	-0.40	
7062.00	77.120	350.480	6617.76	171.27	-191.18	-1150.45	1671914.02	14284950.73	39°20'16.555"N	80°53'19.058"W	1166.26	258.287	8.70	8.04	3.51	
7109.00	81.670	351.200	6628.41	216.92	-145.59	-1157.80	1671906.67	14284996.31	39°20'16.555"N	80°53'19.058"W	1166.92	262.833	9.80	9.68	1.53	Marcellus POE: 7062' MD
7156.00	85.410	352.300	6631.70	262.95	-99.38	-1164.50	1671899.97	14285042.50	39°20'17.012"N	80°53'19.143"W	1168.73	265.122	8.29	7.96	2.34	
7203.00	85.380	352.090	6635.47	309.08	-52.97	-1170.86	1671893.61	14285088.89	39°20'17.471"N	80°53'19.223"W	1172.06	267.410	0.45	-0.06	-0.45	
7251.00	88.780	352.630	6637.50	356.26	-5.45	-1177.24	1671887.24	14285136.39	39°20'17.941"N	80°53'19.303"W	1177.25	269.735	9.24	9.17	1.12	
7346.00	90.060	351.040	6637.63	449.89	88.59	-1190.73	1671873.76	14285230.39	39°20'18.870"N	80°53'19.473"W	1194.02	274.255	1.70	0.29	-1.67	
7441.00	90.120	348.580	6637.48	544.03	182.08	-1207.53	1671856.96	14285323.85	39°20'19.795"N	80°53'19.686"W	1221.18	278.575	2.59	0.06	-2.59	
7535.00	89.880	345.960	6637.48	637.64	273.76	-1228.25	1671836.25	14285415.49	39°20'20.701"N	80°53'19.948"W	1258.38	282.565	2.80	-0.26	-2.79	
7630.00	89.970	341.610	6637.61	732.58	364.96	-1254.77	1671809.74	14285506.65	39°20'21.603"N	80°53'20.284"W	1306.77	286.218	4.58	0.09	-4.58	
7725.00	89.970	338.320	6637.66	827.50	454.20	-1287.31	1671777.21	14285595.86	39°20'22.485"N	80°53'20.697"W	1365.09	289.434	3.46	0.00	-3.46	
7820.00	89.970	338.160	6637.70	922.28	542.43	-1322.53	1671742.01	14285684.05	39°20'23.356"N	80°53'21.144"W	1429.44	292.301	0.17	0.00	-0.17	
7915.00	89.940	338.980	6637.78	1017.10	630.86	-1357.24	1671707.31	14285772.45	39°20'24.232"N	80°53'22.006"W	1496.69	294.930	0.86	-0.03	-0.86	
8009.00	89.780	339.620	6638.01	1110.98	718.79	-1390.46	1671674.10	14285860.34	39°20'25.101"N	80°53'22.844"W	1565.26	297.337	0.70	-0.17	-0.68	
8103.00	90.000	337.210	6638.19	1204.78	806.20	-1425.04	1671639.54	14285947.71	39°20'25.966"N	80°53'22.444"W	1637.28	299.498	2.57	0.23	-2.56	
8198.00	89.940	336.650	6638.24	1299.39	893.60	-1462.27	1671602.32	14286035.08	39°20'26.830"N	80°53'22.917"W	1713.69	301.429	0.59	-0.06	-0.59	
8282.00	90.250	340.060	6638.17	1393.17	980.96	-1496.93	1671567.67	14286122.40	39°20'27.694"N	80°53'23.357"W	1789.72	303.237	3.64	0.33	3.63	
8386.00	90.090	340.990	6637.80	1487.14	1069.58	-1528.27	1671536.35	14286210.99	39°20'28.570"N	80°53'23.754"W	1865.37	304.987	1.00	-0.17	0.99	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299'
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REFERENCE WELLPATH IDENTIFICATION									
Operator	ANTERO RESOURCES CORPORATION								
Area	Ritchie County, WV								
Field	Ritchie								
Facility	Hichman Pad								
Slot	Slot #14								
Well	Wellbore								
Hex Unit 1H AWP	Hex Unit 1H AWP								

WELLPATH DATA (226 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	US ft	US ft			ft	°	°/100ft	°/100ft	°/100ft	
8481.00	90.060	341.430	6637.68	1582.12	1159.51	-1558.87	1671505.76	14286300.89	39°20'29.459"N	80°53'24.142"W	1942.82	306.642	0.46	-0.03	0.46	
8575.00	90.120	340.740	6637.53	1676.11	1248.44	-1589.34	1671475.30	14286389.77	39°20'30.339"N	80°53'24.529"W	2021.04	308.150	0.74	0.06	-0.73	
8670.00	90.090	340.200	6637.36	1771.07	1337.97	-1621.10	1671443.55	14286479.27	39°20'31.224"N	80°53'24.932"W	2101.94	309.534	0.57	-0.03	-0.57	
8766.00	90.150	339.450	6637.16	1866.99	1428.08	-1654.21	1671410.46	14286569.34	39°20'32.115"N	80°53'25.352"W	2185.37	310.804	0.78	0.06	-0.78	
8860.00	90.150	341.850	6636.91	1960.95	1516.76	-1686.35	1671379.33	14286667.99	39°20'32.982"N	80°53'25.747"W	2267.38	311.986	2.55	0.00	2.55	
8954.00	89.910	345.700	6636.86	2054.89	1607.00	-1711.61	1671353.08	14286748.20	39°20'33.824"N	80°53'26.079"W	2347.78	313.194	4.10	-0.26	4.10	
9049.00	90.180	346.940	6636.79	2149.64	1699.31	-1734.08	1671330.62	14286840.46	39°20'34.797"N	80°53'26.364"W	2427.90	314.420	1.34	0.28	1.31	
9145.00	90.030	348.600	6636.61	2245.17	1793.12	-1754.42	1671310.29	14286934.24	39°20'35.724"N	80°53'26.621"W	2508.64	315.625	1.74	-0.16	1.73	
9239.00	89.750	350.380	6636.79	2338.39	1885.54	-1771.55	1671293.16	14287026.62	39°20'36.638"N	80°53'26.838"W	2587.21	316.785	1.93	-0.30	1.90	
9334.00	89.940	349.770	6637.05	2432.47	1979.12	-1787.92	1671276.80	14287120.17	39°20'37.563"N	80°53'27.045"W	2667.13	317.906	0.88	0.20	-0.65	
9429.00	89.780	345.770	6637.28	2526.99	2071.95	-1808.04	1671256.69	14287212.95	39°20'38.481"N	80°53'27.300"W	2749.90	318.891	4.21	-0.17	-4.21	
9523.00	89.690	344.160	6637.72	2620.87	2162.73	-1832.42	1671232.32	14287303.70	39°20'39.378"N	80°53'27.609"W	2834.64	319.726	1.72	-0.10	-1.71	
9619.00	89.820	344.820	6638.13	2716.79	2255.23	-1858.09	1671206.66	14287396.16	39°20'40.293"N	80°53'27.934"W	2922.08	320.515	0.70	0.14	0.69	
9713.00	89.970	344.160	6638.30	2810.70	2345.80	-1883.23	1671181.53	14287486.70	39°20'41.188"N	80°53'28.252"W	3008.21	321.242	0.72	0.16	-0.70	
9806.00	89.880	341.220	6638.42	2903.69	2434.58	-1910.90	1671153.87	14287575.44	39°20'42.066"N	80°53'28.603"W	3094.95	321.872	3.16	-0.10	-3.16	
9900.00	90.030	338.670	6638.49	2997.61	2522.88	-1943.13	1671121.65	14287663.70	39°20'42.939"N	80°53'29.012"W	3184.44	322.396	2.72	0.16	-2.71	
9995.00	89.780	337.700	6638.65	3092.39	2611.07	-1978.43	1671086.37	14287751.86	39°20'43.811"N	80°53'29.460"W	3275.96	322.848	1.05	-0.26	-1.02	
10090.00	89.720	335.280	6639.07	3186.92	2698.18	-2016.33	1671048.49	14287838.93	39°20'44.672"N	80°53'29.941"W	3368.34	323.230	2.55	-0.06	-2.55	
10184.00	89.750	335.860	6639.50	3280.31	2783.76	-2055.20	1671009.63	14287924.48	39°20'45.519"N	80°53'30.435"W	3460.23	323.562	0.62	0.03	0.62	
10279.00	89.750	341.860	6639.92	3375.11	2872.33	-2089.45	1670975.40	14288013.01	39°20'46.395"N	80°53'30.869"W	3551.91	323.966	6.32	0.00	6.32	
10373.00	90.220	344.680	6639.94	3469.08	2962.34	-2116.50	1670948.35	14288102.99	39°20'47.285"N	80°53'31.212"W	3640.75	324.455	3.04	0.50	3.00	
10468.00	90.060	344.320	6639.71	3564.00	3053.88	-2141.89	1670922.97	14288194.49	39°20'48.190"N	80°53'31.534"W	3730.13	324.955	0.41	-0.17	-0.38	
10562.00	90.120	342.920	6639.56	3657.96	3144.07	-2168.40	1670896.48	14288284.64	39°20'49.081"N	80°53'31.870"W	3819.31	325.407	1.49	0.06	-1.49	
10657.00	90.150	338.720	6639.34	3752.92	3233.77	-2199.60	1670865.28	14288374.31	39°20'49.968"N	80°53'32.266"W	3910.95	325.777	4.42	0.03	-4.42	
10753.00	90.120	336.590	6639.11	3848.62	3322.56	-2236.10	1670828.80	14288463.06	39°20'50.846"N	80°53'32.729"W	4004.94	326.059	2.22	-0.03	-2.22	
10848.00	90.030	337.580	6638.99	3943.25	3410.06	-2273.09	1670791.83	14288550.53	39°20'51.711"N	80°53'33.199"W	4098.22	326.313	1.05	-0.09	1.04	
10943.00	90.090	340.510	6638.89	4038.11	3498.77	-2307.06	1670757.87	14288639.20	39°20'52.589"N	80°53'33.630"W	4190.93	326.599	3.08	0.06	3.08	
11038.00	90.120	342.980	6638.71	4133.10	3588.98	-2336.82	1670728.13	14288729.38	39°20'53.481"N	80°53'34.007"W	4282.69	326.931	2.60	0.03	2.60	
11132.00	90.030	344.430	6638.59	4227.06	3679.20	-2363.19	1670701.76	14288819.56	39°20'54.373"N	80°53'34.342"W	4372.78	327.287	1.55	-0.10	1.54	
11227.00	90.120	345.500	6638.47	4321.94	3770.95	-2387.83	1670677.13	14288911.27	39°20'55.280"N	80°53'34.654"W	4463.38	327.657	1.13	0.09	1.13	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWP
Facility	Hichman Pad		

WELLPATH DATA (226 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
11321.00	90.220	346.090	6638.19	4415.74	3862.07	-2410.90	1670654.07	14289002.36	39°20'56.181"N	80°53'34.946"W	4552.80	328.026	0.64	0.11	0.63	
11416.00	90.220	343.790	6637.82	4510.62	3993.80	-2435.58	1670629.40	14289094.05	39°20'57.087"N	80°53'35.259"W	4643.77	328.367	2.42	0.00	-2.42	
11511.00	90.120	342.230	6637.54	4605.61	4044.65	-2463.34	1670601.65	14289184.87	39°20'57.986"N	80°53'35.611"W	4735.74	328.657	1.65	-0.11	-1.64	
11606.00	90.060	342.740	6637.39	4700.61	4135.25	-2491.93	1670573.07	14289275.43	39°20'58.881"N	80°53'35.973"W	4828.04	328.927	0.54	-0.06	0.54	
11701.00	90.030	344.710	6637.32	4795.56	4226.44	-2518.55	1670546.46	14289366.58	39°20'59.783"N	80°53'36.311"W	4919.95	329.209	2.07	-0.03	-2.07	
11796.00	90.150	345.390	6637.17	4889.44	4317.25	-2542.80	1670522.22	14289457.36	39°21'00.681"N	80°53'36.618"W	5010.44	329.503	0.73	0.13	0.72	
11890.00	90.150	346.810	6636.92	4984.21	4409.47	-2566.62	1670499.41	14289549.54	39°21'01.593"N	80°53'36.907"W	5101.55	329.807	1.49	0.00	1.49	
11984.00	90.030	345.340	6636.77	5077.98	4500.70	-2588.24	1670476.80	14289640.74	39°21'02.496"N	80°53'37.194"W	5191.85	330.098	1.57	-0.13	-1.56	
12078.00	89.880	342.230	6636.85	5171.93	4590.95	-2614.49	1670450.56	14289730.93	39°21'03.378"N	80°53'37.527"W	5283.22	330.399	3.31	-0.16	-3.31	
12172.00	89.690	341.460	6637.20	5265.93	4680.27	-2643.78	1670421.29	14289820.23	39°21'04.270"N	80°53'37.898"W	5375.36	330.539	0.84	-0.20	-0.82	
12266.00	89.600	342.320	6637.78	5359.92	4769.61	-2673.00	1670392.08	14289909.54	39°21'05.153"N	80°53'38.269"W	5467.55	330.733	0.92	-0.10	-0.91	
12360.00	88.460	343.530	6639.37	5453.90	4859.45	-2700.59	1670364.50	14289999.34	39°21'06.042"N	80°53'38.619"W	5559.45	330.937	1.77	-1.21	-1.29	
12455.00	89.600	344.260	6640.98	5548.84	4950.71	-2726.94	1670338.16	14290090.56	39°21'06.944"N	80°53'38.985"W	5652.06	331.153	1.42	1.20	0.77	
12551.00	89.720	344.030	6641.55	5644.77	5043.06	-2753.17	1670311.94	14290182.87	39°21'07.857"N	80°53'39.285"W	5745.64	331.368	0.27	0.13	-0.24	
12645.00	89.690	343.430	6642.03	5738.74	5133.29	-2779.50	1670285.62	14290273.07	39°21'08.749"N	80°53'39.619"W	5837.49	331.566	0.64	-0.03	-0.64	
12740.00	89.630	342.800	6642.60	5833.72	5224.19	-2807.10	1670258.04	14290363.94	39°21'09.648"N	80°53'39.969"W	5930.60	331.750	0.67	-0.06	-0.66	
12835.00	89.600	342.430	6643.24	5928.71	5314.85	-2835.48	1670229.66	14290454.56	39°21'10.544"N	80°53'40.329"W	6023.92	331.920	0.39	-0.03	-0.39	
12930.00	89.720	342.210	6643.80	6023.71	5405.36	-2864.33	1670200.82	14290545.03	39°21'11.439"N	80°53'40.695"W	6117.38	332.081	0.26	0.13	-0.23	
13025.00	89.600	341.340	6644.36	6118.71	5495.59	-2894.04	1670171.12	14290635.23	39°21'12.331"N	80°53'41.072"W	6211.04	332.228	0.92	-0.13	-0.92	
13119.00	89.660	341.380	6644.97	6212.70	5584.66	-2924.08	1670141.09	14290724.26	39°21'13.212"N	80°53'41.453"W	6303.87	332.364	0.08	0.06	0.04	
13214.00	89.660	339.970	6645.53	6307.66	5674.30	-2955.52	1670109.67	14290813.87	39°21'14.098"N	80°53'41.852"W	6397.88	332.487	1.48	0.00	-1.48	
13309.00	89.630	339.600	6646.12	6402.58	5763.45	-2988.35	1670076.86	14290902.98	39°21'14.980"N	80°53'42.268"W	6492.12	332.593	0.39	-0.03	-0.39	
13404.00	89.600	339.230	6646.76	6497.47	5852.38	-3021.75	1670043.47	14290991.87	39°21'15.859"N	80°53'42.692"W	6586.45	332.691	0.39	-0.03	-0.39	
13499.00	89.630	338.100	6647.40	6592.30	5940.87	-3056.31	1670008.92	14291080.32	39°21'16.734"N	80°53'43.131"W	6680.94	332.776	1.19	0.03	-1.19	
13593.00	89.660	335.620	6647.98	6685.88	6027.27	-3093.32	1669971.92	14291166.69	39°21'17.588"N	80°53'43.601"W	6774.70	332.832	2.74	0.03	-2.74	
13688.00	89.450	335.350	6648.72	6780.24	6113.66	-3132.81	1669932.45	14291253.05	39°21'18.443"N	80°53'44.102"W	6869.60	332.868	0.28	-0.22	-0.18	
13782.00	89.480	335.460	6649.60	6873.59	6199.13	-3171.94	1669893.34	14291338.48	39°21'19.288"N	80°53'44.599"W	6963.51	332.902	0.12	0.03	0.12	
13877.00	89.390	340.410	6650.54	6968.30	6287.14	-3207.61	1669857.68	14291426.46	39°21'20.156"N	80°53'45.052"W	7058.11	332.970	5.21	-0.09	5.21	
13972.00	89.410	342.690	6651.53	7063.28	6377.25	-3237.67	1669827.63	14291516.53	39°21'21.049"N	80°53'45.433"W	7152.05	333.044	2.40	0.02	2.40	
14066.00	89.660	344.720	6652.29	7157.24	6467.47	-3264.04	1669801.27	14291606.71	39°21'21.941"N	80°53'45.766"W	7244.45	333.221	2.18	0.27	2.16	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Sicr	Sicr #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWP
Facility	Hichman Pad		

WELLPATH DATA (226 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	US ft	US ft			ft	°	ft/100ft	ft/100ft	ft/100ft	
14161.00	89.690	345.080	6652.83	7252.13	6559.18	-3288.79	1669776.53	14291698.39	39°21'22.848"N	80°53'46.082"W	7337.51	333.371	0.38	0.03	0.38	
14256.00	89.880	342.660	6653.19	7347.07	6650.44	-3315.18	1669750.15	14291789.61	39°21'23.750"N	80°53'46.416"W	7430.93	333.504	2.56	0.20	-2.55	
14350.00	89.780	341.850	6653.47	7441.07	6739.96	-3343.83	1669721.51	14291879.10	39°21'24.635"N	80°53'46.780"W	7523.85	333.613	0.87	-0.11	-0.86	
14444.00	89.780	341.220	6653.83	7536.07	6830.07	-3373.92	1669691.44	14291969.17	39°21'25.526"N	80°53'47.161"W	7617.95	333.712	0.66	0.00	-0.66	
14540.00	89.660	341.680	6654.30	7631.06	6920.13	-3404.14	1669661.23	14292059.20	39°21'26.417"N	80°53'47.545"W	7712.10	333.807	0.50	-0.13	-0.48	
14633.00	89.780	343.090	6654.76	7726.05	7010.68	-3432.89	1669632.49	14292149.70	39°21'27.312"N	80°53'47.909"W	7806.04	333.911	1.49	0.13	1.48	
14730.00	89.660	344.100	6655.23	7821.02	7101.81	-3459.72	1669605.67	14292240.80	39°21'28.213"N	80°53'48.250"W	7899.70	334.026	1.07	-0.13	1.06	
14824.00	90.000	346.040	6655.50	7914.89	7192.63	-3483.94	1669581.47	14292331.58	39°21'29.111"N	80°53'48.557"W	7991.98	334.156	2.10	0.36	2.06	
14920.00	90.030	345.890	6655.48	8010.67	7285.76	-3507.22	1669558.19	14292424.64	39°21'30.032"N	80°53'48.852"W	8085.97	334.295	0.16	0.03	-0.16	
15015.00	90.030	343.840	6655.43	8105.56	7377.46	-3532.02	1669533.40	14292516.34	39°21'30.938"N	80°53'49.166"W	8179.37	334.417	2.16	0.00	-2.16	
15109.00	89.970	341.560	6655.43	8199.55	7467.20	-3559.97	1669505.46	14292606.05	39°21'31.825"N	80°53'49.521"W	8272.40	334.511	2.43	-0.06	-2.43	
15203.00	90.000	340.770	6655.45	8293.53	7556.17	-3590.32	1669475.13	14292694.98	39°21'32.705"N	80°53'49.906"W	8365.77	334.585	0.84	0.03	-0.84	
15296.00	90.000	340.070	6655.45	8388.49	7645.68	-3622.16	1669443.30	14292784.45	39°21'33.590"N	80°53'50.310"W	8460.28	334.651	0.74	0.00	-0.74	
15392.00	90.060	339.770	6655.40	8482.42	7733.96	-3654.43	1669411.04	14292872.70	39°21'34.463"N	80°53'50.719"W	8553.89	334.708	0.33	0.06	-0.32	
15487.00	90.000	340.820	6655.35	8577.37	7823.40	-3686.46	1669379.02	14292962.10	39°21'35.347"N	80°53'51.126"W	8648.44	334.770	1.11	-0.06	-1.11	
15581.00	89.970	342.590	6655.38	8671.37	7912.64	-3715.97	1669349.53	14293051.31	39°21'36.230"N	80°53'51.500"W	8741.76	334.844	1.88	-0.03	1.88	
15675.00	89.940	343.110	6655.45	8765.36	8002.46	-3743.68	1669321.82	14293141.09	39°21'37.118"N	80°53'51.882"W	8834.85	334.929	0.55	-0.03	0.55	
15770.00	89.940	344.520	6655.55	8860.32	8093.69	-3770.16	1669295.35	14293232.29	39°21'38.020"N	80°53'52.188"W	8928.72	335.023	1.48	0.00	1.48	
15864.00	90.220	344.860	6655.42	8954.22	8184.36	-3794.98	1669270.54	14293322.91	39°21'38.916"N	80°53'52.502"W	9021.40	335.123	0.47	0.30	0.36	
15959.00	90.180	346.020	6655.09	9049.06	8276.31	-3818.87	1669246.67	14293414.82	39°21'39.825"N	80°53'52.805"W	9114.88	335.230	1.22	-0.04	1.22	
16053.00	90.340	346.410	6654.66	9142.82	8367.60	-3841.26	1669224.28	14293506.08	39°21'40.728"N	80°53'53.089"W	9207.17	335.342	0.45	0.17	0.41	
16148.00	90.460	342.860	6654.00	9237.71	8459.18	-3866.43	1669199.12	14293597.63	39°21'41.633"N	80°53'53.408"W	9300.92	335.436	3.74	0.13	-3.74	
16243.00	90.250	337.750	6653.41	9332.63	8548.60	-3898.44	1669167.13	14293687.01	39°21'42.517"N	80°53'53.814"W	9395.55	335.485	5.38	-0.22	-5.38	
16337.00	90.220	337.000	6653.03	9426.30	8635.36	-3934.60	1669130.99	14293773.74	39°21'43.375"N	80°53'54.273"W	9489.49	335.504	0.80	-0.03	-0.80	
16432.00	90.090	339.230	6652.77	9521.07	8723.51	-3970.01	1669095.59	14293861.85	39°21'44.247"N	80°53'54.723"W	9584.39	335.530	2.35	-0.14	2.35	
16527.00	89.880	340.100	6652.79	9615.98	8812.59	-4003.02	1669062.59	14293950.89	39°21'45.128"N	80°53'55.142"W	9679.14	335.571	0.94	-0.22	0.92	
16622.00	90.060	340.550	6652.84	9710.93	8902.04	-4035.00	1669030.62	14294040.31	39°21'46.012"N	80°53'55.548"W	9773.82	335.617	0.51	0.19	0.47	
16717.00	89.910	340.800	6652.87	9805.90	8991.69	-4066.44	1668999.19	14294129.92	39°21'46.899"N	80°53'55.947"W	9868.45	335.665	0.31	-0.16	0.26	
16812.00	89.970	343.760	6652.97	9900.89	9082.17	-4096.35	1668970.29	14294220.37	39°21'47.793"N	80°53'56.314"W	9962.82	335.728	3.12	0.06	3.12	
16907.00	89.880	344.040	6653.09	9995.84	9173.44	-4121.70	1668943.96	14294311.60	39°21'48.696"N	80°53'56.648"W	10056.86	335.805	0.31	-0.09	0.29	



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWB
Facility	Hichman Pad		

WELLPATH DATA (226 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
17001.00	90.000	344.660	6653.19	10089.77	9263.96	-4147.05	1668918.61	14294402.08	39°21'49.590"N	80°53'56.969"W	10149.83	335.884	0.67	0.13	0.66	
17095.00	89.970	344.880	6653.21	10183.67	9354.66	-4171.75	1668893.93	14294492.74	39°21'50.487"N	80°53'57.282"W	10242.71	335.965	0.24	-0.03	0.23	
17191.00	89.970	344.710	6653.27	10279.57	9447.30	-4196.93	1668868.76	14294485.35	39°21'51.403"N	80°53'57.602"W	10337.58	336.047	0.18	0.00	-0.18	
17286.00	89.970	343.710	6653.36	10374.50	9538.71	-4222.78	1668842.92	14294476.72	39°21'52.307"N	80°53'57.929"W	10431.63	336.121	1.05	-0.06	-1.05	
17380.00	89.910	344.280	6653.51	10468.45	9629.07	-4248.68	1668817.01	14294467.04	39°21'53.200"N	80°53'58.258"W	10524.75	336.191	0.61	0.00	0.61	
17475.00	89.940	344.300	6653.54	10563.38	9720.52	-4274.42	1668791.30	14294458.46	39°21'54.104"N	80°53'58.584"W	10618.81	336.263	0.04	0.00	0.02	
17570.00	89.940	344.290	6653.74	10658.31	9811.97	-4300.13	1668765.60	14294449.87	39°21'55.008"N	80°53'58.910"W	10712.88	336.334	0.01	0.00	-0.01	
17665.00	89.940	345.330	6653.84	10753.21	9903.65	-4325.02	1668740.72	14295041.52	39°21'55.915"N	80°53'59.226"W	10806.86	336.409	1.09	0.00	1.09	
17760.00	90.000	343.700	6653.89	10848.12	9995.20	-4350.39	1668715.36	14295133.03	39°21'56.820"N	80°53'59.548"W	10900.91	336.479	1.72	0.06	-1.72	
17855.00	90.090	340.860	6653.81	10943.11	10085.68	-4379.30	1668686.46	14295223.48	39°21'57.715"N	80°53'59.915"W	10995.42	336.529	2.99	0.09	-2.99	
17949.00	89.570	339.960	6654.09	11037.07	10174.24	-4410.81	1668654.96	14295312.00	39°21'58.590"N	80°54'00.315"W	11089.20	336.562	1.11	-0.55	-0.96	
18044.00	88.860	337.170	6655.39	11131.87	10262.65	-4445.53	1668620.26	14295400.37	39°21'59.464"N	80°54'00.755"W	11184.13	336.579	3.03	-0.75	-2.94	
18139.00	89.630	338.560	6656.64	11226.59	10350.64	-4481.32	1668584.49	14295488.33	39°22'00.334"N	80°54'01.210"W	11279.09	336.590	1.67	0.81	1.46	
18233.00	89.510	340.080	6657.35	11320.48	10438.58	-4514.51	1668551.31	14295576.23	39°22'01.204"N	80°54'01.631"W	11372.98	336.612	1.62	-0.13	1.62	
18275.00	89.970	340.170	6657.54	11362.45	10478.07	-4528.79	1668537.03	14295615.71	39°22'01.594"N	80°54'01.812"W	11414.90	336.625	1.12	1.10	0.21	
18299.00	89.970	340.170	6657.55	11386.44	10500.65	-4536.93	1668528.89	14295638.28	39°22'01.818"N	80°54'01.916"W	11438.86	336.633	0.00	0.00	0.00	Projected MD at TD: 18299'



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWP
Facility	Hichman Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Hex Unit 1H AWP Ret Wellpath: Hex Unit 1H AWP Proj: 18299'											
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]	Shape	
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.07	0.30	point	
17.5in Open Hole	104.50	454.50	350.00	104.50	454.49	-0.07	0.30	-0.72	1.81	point	
13.375in Casing Surface	24.50	454.50	430.00	24.50	454.49	0.00	0.00	-0.72	1.81	point	
12.25in Open Hole	454.50	2625.50	2171.00	454.49	2582.73	-0.72	1.81	-233.00	-294.58	point	
9.625in Casing Intermediate	24.50	2625.50	2601.00	24.50	2582.73	0.00	0.00	-233.00	-294.58	point	
8.75in Open Hole	2625.50	5365.50	2740.00	2582.73	5218.09	-233.00	-294.58	-681.90	-892.06	point	
8.5in Open Hole	5365.50	18299.00	12933.50	5218.09	6657.55	-681.90	-892.06	10500.65	-4536.93	point	
5.5in Casing Production	24.50	18299.00	18274.50	24.50	6657.55	0.00	0.00	10500.65	-4536.93	point	

TARGETS											
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape			
Hex Unit 1H POE Rev-2	6605.00	-222.86	-1124.74	1671939.72	14284919.07	39°20'15.791"N	80°53'18.638"W	point			
Hex Unit 1H BHL Rev-2	6628.00	10514.93	-4542.31	1668523.51	14295652.55	39°22'01.959"N	80°54'01.984"W	point			
Hex Unit 1H LP Rev-2	6628.00	-44.71	-1153.80	1671910.67	14285097.15	39°20'17.552"N	80°53'19.005"W	point			



Actual Wellpath Report

Hex Unit 1H AWP Proj: 18299'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWP
Facility	Hichman Pad		

WELLPATH COMPOSITION - Ref Wellbore: Hex Unit 1H AWP Ref Wellpath: Hex Unit 1H AWP Proj: 18299'			
Start MD	End MD	Log Name/Comment	
[ft]	[ft]		Wellbore
24.50	438.50	01 Gyrodatta MS Gyro <17-1/2">(50'-429')	Hex Unit 1H AWP
438.50	732.50	02 Gyrodatta MS Gyro <12-1/4">(429')(444'-723')	Hex Unit 1H AWP
732.50	2543.50	03 WFT EM <12-1/4">(723')(839'-2534')	Hex Unit 1H AWP
2543.50	5289.50	04 WFT EM <8-3/4">(2534')(2666'-5280')	Hex Unit 1H AWP
5289.50	18275.00	05 BH AT Curve <8-1/2">(5289.50')(5348'-18275')	Hex Unit 1H AWP
18275.00	18299.00	Blind Drilling (std)	Hex Unit 1H AWP
		Projection to bit	Hex Unit 1H AWP



Actual Wellpath Report

Hex Unit 1H AWP Proji: 18299'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #14
Area	Ritchie County, WV	Well	Hex Unit 1H
Field	Ritchie	Wellbore	Hex Unit 1H AWB
Facility	Hichman Pad		

COMMENTS
<p>Wellpath general comments</p> <p>API: 47-085-10332-0000</p> <p>BHI Job #: 10324353</p> <p>Rig: Frontier 22</p> <p>Duration: 08/22/2018-08/25/2018</p> <p>Gyrodatta MS Gyro <17-1/2"> (50-429)</p> <p>Gyrodatta MS Gyro <12-1/4"> (429)(444-723)</p> <p>WFT EM <12-1/4"> (723)(839-2534)</p> <p>WFT EM <8-3/4"> (2534)(2656-2580)</p> <p>BHI AT Curve <8-1/2"> (5289.5)(5348-18275)</p> <p>Middlesex: 6663' MD</p> <p>Burkett: 6868' MD</p> <p>Tully: 6952' MD</p> <p>Marcellus POE: 7062' MD</p> <p>Projected MD at TD: 18299'</p>