



# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp 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	5/29/2019 at 11:34:05 AM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EasternUS_Defn/Buzzard_Run_Unit_3H_AWP_Proj_18273_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-13.16	-7.86	1655916.36	14239812.90	39°12'49.940"N	80°56'43.000"W
Facility Reference Pt			1655924.22	14239826.05	39°12'50.070"N	80°56'42.900"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	1174.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Ground Level at Slot (Slot #03)	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	341.10°

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Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

WELLPATH DATA (229 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	0.00	167.800	0.00	0.00	0.00	0.00	1655916.36	14239812.90	39°12'49.940"N	80°56'43.000"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.00	167.800	25.00	0.00	0.00	0.00	1655916.36	14239812.90	39°12'49.940"N	80°56'43.000"W	0.00	0.000	0.00	0.00	0.00	
110.00	0.260	167.800	110.00	-0.19	-0.19	0.04	1655916.40	14239812.71	39°12'49.938"N	80°56'42.999"W	0.19	167.800	0.31	0.31	197.41	Gyrodata MS Gyro <17-1/2">(100'-627')
135.00	0.270	200.470	135.00	-0.29	-0.30	0.03	1655916.39	14239812.60	39°12'49.937"N	80°56'43.000"W	0.30	173.867	0.60	0.04	130.68	
160.00	0.320	176.780	160.00	-0.41	-0.42	0.02	1655916.38	14239812.47	39°12'49.936"N	80°56'43.000"W	0.42	177.911	0.52	0.20	-94.76	
185.00	0.320	205.000	185.00	-0.52	-0.56	-0.01	1655916.35	14239812.34	39°12'49.934"N	80°56'43.000"W	0.56	181.041	0.62	0.00	112.88	
210.00	0.200	191.220	210.00	-0.61	-0.66	-0.05	1655916.31	14239812.23	39°12'49.933"N	80°56'43.001"W	0.66	184.150	0.54	-0.48	-55.12	
235.00	0.150	207.790	235.00	-0.67	-0.73	-0.07	1655916.29	14239812.16	39°12'49.933"N	80°56'43.001"W	0.74	185.585	0.28	-0.20	66.28	
260.00	0.190	205.160	260.00	-0.72	-0.80	-0.10	1655916.26	14239812.10	39°12'49.932"N	80°56'43.001"W	0.81	187.447	0.16	0.16	-10.52	
285.00	0.110	254.960	285.00	-0.75	-0.85	-0.15	1655916.22	14239812.05	39°12'49.932"N	80°56'43.002"W	0.86	189.772	0.58	-0.32	199.20	
310.00	0.190	272.590	310.00	-0.74	-0.85	-0.21	1655916.15	14239812.05	39°12'49.932"N	80°56'43.003"W	0.87	193.895	0.37	0.32	70.52	
335.00	0.110	82.560	335.00	-0.73	-0.84	-0.23	1655916.13	14239812.05	39°12'49.932"N	80°56'43.003"W	0.87	195.094	1.20	-0.32	679.88	
360.00	0.070	71.110	360.00	-0.73	-0.84	-0.19	1655916.17	14239812.06	39°12'49.932"N	80°56'43.002"W	0.86	192.766	0.17	-0.16	-45.80	
385.00	0.070	244.520	385.00	-0.73	-0.84	-0.19	1655916.17	14239812.06	39°12'49.932"N	80°56'43.002"W	0.86	192.699	0.56	0.00	693.64	
410.00	0.070	316.620	410.00	-0.72	-0.83	-0.21	1655916.15	14239812.06	39°12'49.932"N	80°56'43.003"W	0.86	194.343	0.33	0.00	288.40	
435.00	0.110	301.380	435.00	-0.69	-0.81	-0.24	1655916.12	14239812.09	39°12'49.932"N	80°56'43.003"W	0.85	196.772	0.19	0.16	-60.96	
460.00	0.070	40.090	460.00	-0.66	-0.79	-0.25	1655916.11	14239812.11	39°12'49.932"N	80°56'43.003"W	0.83	197.964	0.56	-0.16	394.84	
485.00	0.030	56.520	485.00	-0.65	-0.77	-0.24	1655916.12	14239812.13	39°12'49.932"N	80°56'43.003"W	0.81	197.266	0.17	-0.16	65.72	
510.00	0.100	48.610	510.00	-0.64	-0.75	-0.22	1655916.15	14239812.14	39°12'49.933"N	80°56'43.003"W	0.78	196.133	0.28	0.28	-31.64	
535.00	0.090	121.420	535.00	-0.65	-0.75	-0.18	1655916.18	14239812.15	39°12'49.933"N	80°56'43.002"W	0.77	193.853	0.45	-0.04	291.24	
558.00	0.150	152.000	558.00	-0.69	-0.78	-0.15	1655916.21	14239812.11	39°12'49.932"N	80°56'43.002"W	0.80	191.177	0.37	0.26	132.96	
637.00	0.160	100.940	637.00	-0.85	-0.90	0.00	1655916.36	14239812.00	39°12'49.931"N	80°56'43.000"W	0.90	179.878	0.17	0.01	-64.63	
752.00	3.110	76.840	751.94	-1.24	-0.22	3.20	1655919.56	14239812.68	39°12'49.938"N	80°56'42.959"W	3.21	93.873	2.58	2.57	-20.96	WFT EM <12-1/4">(627')(742'-2623')
843.00	6.290	72.170	842.62	-1.58	1.87	10.35	1655926.71	14239814.77	39°12'49.958"N	80°56'42.869"W	10.52	79.744	3.52	3.49	-5.13	
941.00	9.550	74.920	939.67	-2.22	5.63	23.31	1655939.67	14239818.53	39°12'49.996"N	80°56'42.704"W	23.98	76.418	3.35	3.33	2.81	
1036.00	11.130	81.840	1033.13	-4.46	8.98	40.00	1655956.35	14239821.88	39°12'50.029"N	80°56'42.492"W	41.00	77.341	2.11	1.66	7.28	
1130.00	13.390	85.890	1124.98	-8.93	11.05	59.84	1655976.18	14239823.94	39°12'50.049"N	80°56'42.240"W	60.85	79.535	2.57	2.40	4.31	
1225.00	16.510	84.620	1216.76	-14.89	13.11	84.26	1656000.59	14239826.00	39°12'50.069"N	80°56'41.929"W	85.27	81.158	3.30	3.28	-1.34	
1320.00	20.040	86.020	1306.95	-22.24	15.50	113.94	1656030.26	14239828.39	39°12'50.093"N	80°56'41.552"W	114.99	82.252	3.74	3.72	1.47	
1414.00	22.840	87.240	1394.44	-31.46	17.50	148.24	1656064.54	14239830.39	39°12'50.112"N	80°56'41.117"W	149.27	83.267	3.02	2.98	1.30	

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Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #03
Area	Ritchie County, WV		Well	Buzzard Run Unit 3H
Field	Ritchie		Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad			

WELLPATH DATA (229 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	
1509.00	25.470	85.310	1481.13	-41.59	20.05	186.98	1656103.26	14239832.94	39°12'50.137"N	80°56'40.624"W	188.05	83.878	2.83	2.71	-2.03		
1604.00	27.470	82.930	1566.20	-51.09	24.42	229.04	1656145.31	14239837.31	39°12'50.180"N	80°56'40.090"W	230.34	83.914	2.44	2.17	-2.51		
1698.00	28.450	81.990	1649.22	-59.76	30.21	272.73	1656188.98	14239843.09	39°12'50.237"N	80°56'39.535"W	274.40	83.680	1.14	1.04	-1.00		
1793.00	27.630	81.980	1733.07	-68.20	36.43	316.95	1656233.19	14239849.32	39°12'50.298"N	80°56'38.973"W	319.04	83.443	0.86	-0.86	-0.01		
1887.00	28.160	83.160	1816.15	-76.94	42.12	360.56	1656276.78	14239855.00	39°12'50.354"N	80°56'38.419"W	363.01	83.337	0.81	0.56	1.26		
1982.00	29.440	83.740	1899.40	-86.74	47.33	406.03	1656322.22	14239860.21	39°12'50.405"N	80°56'37.841"W	408.77	83.351	1.38	1.35	0.61		
2077.00	28.700	83.950	1982.43	-96.92	52.28	451.92	1656368.10	14239865.16	39°12'50.454"N	80°56'37.258"W	454.93	83.401	0.79	-0.78	0.22		
2172.00	29.360	86.210	2065.50	-108.06	56.23	497.84	1656414.00	14239869.10	39°12'50.493"N	80°56'36.675"W	501.01	83.556	1.35	0.69	2.38		
2266.00	30.050	86.460	2147.14	-120.31	59.20	544.33	1656460.47	14239872.08	39°12'50.522"N	80°56'36.084"W	547.54	83.793	0.75	0.73	0.27		
2361.00	27.860	84.890	2230.26	-131.90	62.65	590.18	1656506.31	14239875.52	39°12'50.556"N	80°56'35.501"W	593.50	83.941	2.44	2.31	-1.65		
2456.00	26.980	83.980	2314.59	-141.99	66.89	633.72	1656549.83	14239879.76	39°12'50.597"N	80°56'34.948"W	637.24	83.975	1.03	-0.93	-0.96		
2551.00	27.620	84.450	2399.01	-151.88	71.28	677.07	1656593.16	14239884.14	39°12'50.640"N	80°56'34.397"W	680.81	83.991	0.71	0.67	0.49		
2633.00	26.800	83.720	2471.93	-160.31	75.14	714.37	1656630.44	14239888.00	39°12'50.678"N	80°56'33.924"W	718.31	83.996	1.08	-1.00	-0.89		
2754.00	25.530	81.530	2580.53	-170.99	81.96	767.27	1656683.33	14239894.83	39°12'50.745"N	80°56'33.251"W	771.64	83.903	1.32	-1.05	-1.81	WFT EM <8-3/4">(2623')(2744'-6188')	
2817.00	26.820	83.340	2637.07	-176.46	85.61	794.82	1656710.86	14239898.47	39°12'50.781"N	80°56'32.901"W	799.42	83.852	2.41	2.05	2.87		
2912.00	28.210	83.430	2721.33	-185.80	90.66	838.42	1656754.44	14239903.52	39°12'50.831"N	80°56'32.347"W	843.30	83.828	1.46	1.46	0.09		
3006.00	27.780	81.400	2804.33	-194.46	96.48	882.15	1656798.16	14239909.34	39°12'50.888"N	80°56'31.792"W	887.41	83.758	1.11	-0.46	-2.16		
3101.00	27.740	80.630	2888.40	-202.08	103.39	925.85	1656841.84	14239916.25	39°12'50.956"N	80°56'31.236"W	931.61	83.628	0.38	-0.04	-0.81		
3196.00	28.460	82.070	2972.20	-210.05	110.12	970.09	1656886.06	14239922.97	39°12'51.022"N	80°56'30.674"W	976.32	83.524	1.04	0.76	1.52		
3292.00	28.780	82.280	3056.47	-218.88	116.38	1015.64	1656931.60	14239929.23	39°12'51.084"N	80°56'30.096"W	1022.29	83.463	0.35	0.33	0.22		
3386.00	28.200	84.100	3139.09	-228.27	121.70	1060.16	1656976.10	14239934.55	39°12'51.136"N	80°56'29.530"W	1067.12	83.452	1.11	-0.62	1.94		
3481.00	28.250	84.900	3222.79	-238.68	126.00	1104.88	1657020.80	14239938.85	39°12'51.179"N	80°56'28.962"W	1112.04	83.494	0.40	0.05	0.84		
3576.00	28.560	83.030	3306.35	-248.74	130.76	1149.82	1657065.72	14239943.60	39°12'51.225"N	80°56'28.391"W	1157.23	83.512	0.99	0.33	-1.97		
3670.00	27.220	84.240	3389.44	-258.27	135.64	1193.51	1657109.39	14239948.49	39°12'51.273"N	80°56'27.836"W	1201.19	83.516	1.55	-1.43	1.29		
3765.00	27.400	83.750	3473.85	-268.00	140.20	1236.86	1657152.72	14239953.04	39°12'51.318"N	80°56'27.285"W	1244.78	83.533	0.30	0.19	-0.52		
3860.00	26.740	84.240	3558.44	-277.64	144.73	1279.85	1657195.70	14239957.57	39°12'51.363"N	80°56'26.739"W	1288.01	83.548	0.73	-0.69	0.52		
3954.00	26.440	82.290	3642.50	-286.51	149.66	1321.63	1657237.46	14239962.49	39°12'51.411"N	80°56'26.208"W	1330.08	83.539	0.98	-0.32	-2.07		
4049.00	25.810	84.060	3727.79	-295.25	154.64	1363.16	1657278.98	14239967.47	39°12'51.460"N	80°56'25.680"W	1371.90	83.528	1.05	-0.66	1.86		
4144.00	26.720	84.930	3812.98	-305.00	158.66	1405.01	1657320.80	14239971.50	39°12'51.499"N	80°56'25.148"W	1413.94	83.557	1.04	0.96	0.92		
4238.00	27.270	86.140	3896.74	-315.64	161.98	1447.54	1657363.32	14239974.81	39°12'51.532"N	80°56'24.608"W	1456.58	83.615	0.83	0.59	1.29		

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Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

WELLPATH DATA (229 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
4335.00	28.220	84.810	3982.59	-326.84	165.55	1492.55	1657408.32	14239978.38	39°12'51.567"N	80°56'24.036"W	1501.71	83.671	1.17	0.98	-1.37	
4430.00	29.090	84.320	4065.96	-337.44	169.87	1537.90	1657453.65	14239982.70	39°12'51.609"N	80°56'23.460"W	1547.26	83.697	0.95	0.92	-0.52	
4525.00	28.790	84.740	4149.09	-348.12	174.25	1583.67	1657499.39	14239987.08	39°12'51.652"N	80°56'22.878"W	1593.22	83.721	0.38	-0.32	0.44	
4619.00	28.410	84.080	4231.62	-358.48	178.63	1628.45	1657544.16	14239991.46	39°12'51.695"N	80°56'22.309"W	1638.22	83.740	0.53	-0.40	-0.70	
4714.00	28.040	82.670	4315.33	-368.03	183.81	1673.07	1657588.76	14239996.64	39°12'51.746"N	80°56'21.742"W	1683.14	83.730	0.80	-0.39	-1.48	
4808.00	27.070	84.080	4398.66	-377.27	188.84	1716.26	1657631.94	14240001.66	39°12'51.796"N	80°56'21.194"W	1726.62	83.721	1.24	-1.03	1.50	
4903.00	26.300	83.160	4483.55	-386.52	193.57	1758.66	1657674.32	14240006.39	39°12'51.842"N	80°56'20.655"W	1769.28	83.719	0.92	-0.81	-0.97	
4997.00	26.570	84.040	4567.72	-395.58	198.24	1800.25	1657715.89	14240011.05	39°12'51.888"N	80°56'20.127"W	1811.13	83.716	0.51	0.29	0.94	
5092.00	26.340	83.440	4652.77	-404.84	202.85	1842.32	1657757.94	14240015.67	39°12'51.933"N	80°56'19.592"W	1853.45	83.717	0.37	-0.24	-0.63	
5187.00	27.300	83.140	4737.55	-413.89	207.86	1884.88	1657800.49	14240020.67	39°12'51.983"N	80°56'19.051"W	1896.31	83.707	1.02	1.01	-0.32	
5282.00	28.080	84.850	4821.67	-423.75	212.47	1928.78	1657844.37	14240025.28	39°12'52.028"N	80°56'18.493"W	1940.45	83.714	1.17	0.82	1.80	
5377.00	27.640	84.960	4905.66	-434.34	216.41	1973.00	1657888.57	14240029.22	39°12'52.066"N	80°56'17.931"W	1984.84	83.740	0.47	-0.46	0.12	
5471.00	29.060	84.810	4988.38	-444.98	220.39	2017.46	1657933.01	14240033.20	39°12'52.106"N	80°56'17.367"W	2029.46	83.766	1.51	1.51	-0.16	
5566.00	28.800	84.500	5071.53	-455.75	224.67	2063.22	1657978.75	14240037.48	39°12'52.146"N	80°56'16.785"W	2075.41	83.785	0.32	-0.27	-0.33	
5661.00	28.730	84.100	5154.81	-466.19	229.22	2108.71	1658024.22	14240042.02	39°12'52.192"N	80°56'16.207"W	2121.13	83.796	0.22	-0.07	-0.42	
5756.00	29.060	83.650	5237.98	-476.34	234.11	2154.35	1658069.84	14240046.92	39°12'52.240"N	80°56'15.627"W	2167.03	83.798	0.42	0.35	-0.47	
5850.00	28.290	83.950	5320.45	-486.25	238.99	2199.19	1658114.67	14240051.79	39°12'52.288"N	80°56'15.058"W	2212.14	83.798	0.83	-0.82	0.32	
5945.00	27.580	82.500	5404.38	-495.61	244.23	2243.38	1658158.84	14240057.03	39°12'52.340"N	80°56'14.496"W	2256.63	83.787	1.03	-0.75	-1.53	
6040.00	27.350	81.730	5488.67	-503.98	250.24	2286.78	1658202.22	14240063.04	39°12'52.399"N	80°56'13.945"W	2300.43	83.755	0.45	-0.24	-0.81	
6135.00	27.100	80.890	5573.15	-511.68	256.80	2329.74	1658245.17	14240069.60	39°12'52.463"N	80°56'13.399"W	2343.85	83.710	0.48	-0.26	-0.88	
6166.00	26.800	77.310	5600.78	-513.64	259.46	2343.53	1658258.95	14240072.25	39°12'52.489"N	80°56'13.224"W	2357.85	83.682	5.32	-0.97	-11.55	
6198.00	26.890	72.320	5629.34	-514.58	263.24	2357.47	1658272.88	14240076.03	39°12'52.527"N	80°56'13.047"W	2372.12	83.629	7.05	0.28	-15.59	
6283.00	26.830	60.710	5705.22	-511.52	278.47	2392.53	1658307.94	14240091.26	39°12'52.677"N	80°56'12.601"W	2408.69	83.361	6.16	-0.07	-13.66	BH AT Curve <8-1/2">(6198')(6283'-18248')
6330.00	27.400	50.140	5747.08	-505.74	290.60	2410.10	1658325.49	14240103.38	39°12'52.797"N	80°56'12.378"W	2427.55	83.125	10.31	1.21	-22.49	
6377.00	28.430	39.350	5788.64	-495.98	306.19	2425.50	1658340.89	14240118.97	39°12'52.951"N	80°56'12.182"W	2444.75	82.805	10.96	2.19	-22.96	
6424.00	29.930	31.440	5829.69	-482.60	324.86	2438.72	1658354.10	14240137.62	39°12'53.135"N	80°56'12.014"W	2460.26	82.412	8.80	3.19	-16.83	
6472.00	31.190	26.180	5871.03	-466.18	346.23	2450.45	1658365.83	14240158.99	39°12'53.346"N	80°56'11.864"W	2474.79	81.958	6.16	2.63	-10.96	
6519.00	33.260	20.010	5910.80	-447.55	369.27	2460.23	1658375.61	14240182.02	39°12'53.574"N	80°56'11.740"W	2487.79	81.464	8.27	4.40	-13.13	
6566.00	35.790	14.110	5949.53	-425.98	394.72	2468.00	1658383.37	14240207.46	39°12'53.825"N	80°56'11.641"W	2499.36	80.913	8.92	5.38	-12.55	
6613.00	38.370	9.740	5987.03	-401.65	422.44	2473.82	1658389.19	14240235.17	39°12'54.099"N	80°56'11.567"W	2509.63	80.309	7.84	5.49	-9.30	

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

WELLPATH DATA (229 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)	
6661.00	41.700	5.910	6023.78	-374.07	453.02	2477.98	1658393.35	14240265.73	39°12'54.402"N	80°56'11.514"W	2519.05	79.640	8.63	6.94	-7.98	
6708.00	45.060	3.030	6057.94	-344.44	485.19	2480.47	1658395.84	14240297.89	39°12'54.720"N	80°56'11.482"W	2527.48	78.932	8.29	7.15	-6.13	
6755.00	48.190	1.090	6090.21	-312.54	519.32	2481.69	1658397.05	14240332.01	39°12'55.057"N	80°56'11.466"W	2535.44	78.181	7.30	6.66	-4.13	
6802.00	51.370	359.480	6120.56	-278.64	555.20	2481.85	1658397.22	14240367.88	39°12'55.412"N	80°56'11.464"W	2543.20	77.390	7.25	6.77	-3.43	
6850.00	54.960	358.910	6149.33	-242.13	593.61	2481.31	1658396.67	14240406.27	39°12'55.791"N	80°56'11.470"W	2551.33	76.546	7.54	7.48	-1.19	
6897.00	56.690	358.260	6175.73	-205.05	632.48	2480.35	1658395.71	14240445.12	39°12'56.175"N	80°56'11.482"W	2559.72	75.695	3.85	3.68	-1.38	
6945.00	55.650	356.780	6202.45	-166.80	672.32	2478.62	1658393.99	14240484.94	39°12'56.569"N	80°56'11.504"W	2568.19	74.824	3.35	-2.17	-3.08	
6992.00	55.620	355.890	6228.98	-129.37	711.03	2476.14	1658391.51	14240523.64	39°12'56.952"N	80°56'11.535"W	2576.21	73.978	1.56	-0.06	-1.89	
7040.00	55.670	356.130	6256.07	-91.08	750.56	2473.39	1658388.76	14240563.16	39°12'57.343"N	80°56'11.569"W	2584.76	73.119	0.43	0.10	0.50	
7042.00†	55.672	356.148	6257.20	-89.48	752.21	2473.28	1658388.64	14240564.81	39°12'57.359"N	80°56'11.571"W	2585.13	73.084	0.76	0.08	0.92	Middlesex: 7042' MD
7087.00	55.710	356.560	6282.56	-53.62	789.31	2470.91	1658386.28	14240601.89	39°12'57.725"N	80°56'11.601"W	2593.92	72.284	0.76	0.09	0.91	
7135.00	56.800	357.490	6309.23	-15.24	829.16	2468.84	1658384.21	14240641.73	39°12'58.119"N	80°56'11.626"W	2604.36	71.435	2.78	2.27	1.94	
7182.00	60.970	356.860	6333.51	23.42	869.34	2466.86	1658382.23	14240681.89	39°12'58.517"N	80°56'11.651"W	2615.56	70.587	8.95	8.87	-1.34	
7229.00	64.210	352.540	6355.15	63.96	910.87	2462.98	1658378.35	14240723.40	39°12'58.927"N	80°56'11.700"W	2626.01	69.704	10.68	6.89	-9.19	
7238.00†	64.827	351.641	6359.02	71.93	918.91	2461.86	1658377.24	14240731.44	39°12'59.007"N	80°56'11.714"W	2627.77	69.531	11.33	6.86	-9.99	Burkett: 7238' MD
7276.00	67.490	347.940	6374.39	106.28	953.11	2455.69	1658371.07	14240765.62	39°12'59.345"N	80°56'11.792"W	2634.17	68.788	11.33	7.01	-9.74	
7311.00†	69.999	345.424	6387.08	138.74	984.84	2448.17	1658363.55	14240797.34	39°12'59.658"N	80°56'11.888"W	2638.84	68.086	9.81	7.17	-7.19	Tully: 7311' MD
7324.00	70.940	344.510	6391.42	150.96	996.67	2444.99	1658360.38	14240809.17	39°12'59.775"N	80°56'11.928"W	2640.33	67.822	9.81	7.24	-7.03	
7371.00	74.010	341.430	6405.58	195.75	1039.51	2431.86	1658347.25	14240851.99	39°13'00.199"N	80°56'12.094"W	2644.72	66.855	9.04	6.53	-6.55	
7375.00†	74.253	341.398	6406.67	199.59	1043.16	2430.64	1658346.02	14240855.64	39°13'00.235"N	80°56'12.110"W	2645.03	66.772	6.13	6.08	-0.80	Marcellus POE: 7375' MD
7418.00	76.870	341.060	6417.39	241.23	1082.58	2417.24	1658332.63	14240895.05	39°13'00.625"N	80°56'12.280"W	2648.59	65.874	6.13	6.09	-0.79	
7465.00	80.820	340.850	6426.48	287.33	1126.16	2402.19	1658317.59	14240938.61	39°13'01.055"N	80°56'12.471"W	2653.07	64.883	8.42	8.40	-0.45	
7513.00	85.810	340.660	6432.07	334.99	1171.16	2386.48	1658301.89	14240983.58	39°13'01.500"N	80°56'12.670"W	2658.37	63.861	10.40	10.40	-0.40	
7560.00	90.710	340.760	6433.49	381.96	1215.49	2370.97	1658286.38	14241027.89	39°13'01.938"N	80°56'12.867"W	2664.38	62.858	10.43	10.43	0.21	
7607.00	90.860	340.100	6432.85	428.95	1259.77	2355.23	1658270.64	14241072.16	39°13'02.376"N	80°56'13.066"W	2670.98	61.859	1.44	0.32	-1.40	
7702.00	90.920	337.790	6431.38	523.86	1348.41	2321.10	1658236.53	14241160.76	39°13'03.253"N	80°56'13.499"W	2684.35	59.846	2.43	0.06	-2.43	
7797.00	91.320	336.240	6429.52	618.60	1435.85	2284.02	1658199.46	14241248.17	39°13'04.117"N	80°56'13.969"W	2697.85	57.844	1.68	0.42	-1.63	
7892.00	91.570	334.600	6427.12	713.10	1522.21	2244.51	1658159.97	14241334.49	39°13'04.971"N	80°56'14.471"W	2712.00	55.855	1.75	0.26	-1.73	
7986.00	91.390	333.030	6424.69	806.31	1606.53	2203.05	1658118.53	14241418.78	39°13'05.805"N	80°56'14.997"W	2726.60	53.899	1.68	-0.19	-1.67	
8080.00	91.050	336.160	6422.69	899.67	1691.41	2162.74	1658078.23	14241503.63	39°13'06.644"N	80°56'15.508"W	2745.59	51.972	3.35	-0.36	3.33	

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #03
Area	Ritchie County, WV		Well	Buzzard Run Unit 3H
Field	Ritchie		Wellbore	Buzzard Run Unit 3H AWP
Facility	Lynn Camp Pad			

WELLPATH DATA (229 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
8174.00	90.340	340.040	6421.55	993.51	1778.60	2127.68	1658043.19	14241590.78	39°13'07.506"N	80°56'15.953"W	2773.17	50.107	4.20	-0.76	4.13	
8269.00	90.990	344.030	6420.45	1088.48	1868.95	2098.39	1658013.91	14241681.09	39°13'08.399"N	80°56'16.324"W	2810.02	48.310	4.26	0.68	4.20	
8363.00	91.230	345.990	6418.63	1182.24	1959.72	2074.08	1657989.61	14241771.83	39°13'09.296"N	80°56'16.632"W	2853.48	46.624	2.10	0.26	2.09	
8458.00	91.290	345.170	6416.54	1276.92	2051.71	2050.43	1657965.97	14241863.78	39°13'10.206"N	80°56'16.932"W	2900.65	44.982	0.87	0.06	-0.86	
8553.00	91.200	343.660	6414.47	1371.74	2143.19	2024.92	1657940.46	14241955.23	39°13'11.110"N	80°56'17.255"W	2948.48	43.375	1.59	-0.09	-1.59	
8648.00	89.600	341.240	6413.81	1466.70	2233.76	1996.27	1657911.83	14242045.76	39°13'12.005"N	80°56'17.618"W	2995.79	41.787	3.05	-1.68	-2.55	
8742.00	90.060	343.360	6414.09	1560.67	2323.30	1967.70	1657883.27	14242135.27	39°13'12.891"N	80°56'17.981"W	3044.60	40.263	2.31	0.49	2.26	
8836.00	89.630	346.050	6414.34	1654.48	2413.96	1942.90	1657858.48	14242225.89	39°13'13.787"N	80°56'18.295"W	3098.72	38.829	2.90	-0.46	2.86	
8931.00	89.880	349.870	6414.75	1748.78	2506.86	1923.09	1657838.68	14242318.75	39°13'14.705"N	80°56'18.546"W	3159.53	37.493	4.03	0.26	4.02	
9025.00	90.310	349.780	6414.59	1841.69	2599.38	1906.48	1657822.08	14242411.23	39°13'15.620"N	80°56'18.756"W	3223.58	36.258	0.47	0.46	-0.10	
9119.00	90.370	344.170	6414.04	1935.16	2690.92	1885.31	1657800.91	14242502.74	39°13'16.525"N	80°56'19.024"W	3285.64	35.016	5.97	0.06	-5.97	
9214.00	90.090	341.040	6413.66	2030.11	2781.56	1856.91	1657772.53	14242593.34	39°13'17.421"N	80°56'19.384"W	3344.43	33.726	3.31	-0.29	-3.29	
9308.00	90.150	341.150	6413.46	2124.11	2870.49	1826.45	1657742.08	14242682.24	39°13'18.300"N	80°56'19.771"W	3402.30	32.468	0.13	0.06	0.12	
9402.00	90.220	339.830	6413.15	2218.10	2959.09	1795.06	1657710.70	14242770.80	39°13'19.176"N	80°56'20.169"W	3460.99	31.242	1.41	0.07	-1.40	
9496.00	90.220	337.750	6412.79	2312.02	3046.72	1761.06	1657676.71	14242858.39	39°13'20.042"N	80°56'20.600"W	3519.07	30.029	2.21	0.00	-2.21	
9592.00	90.180	337.890	6412.46	2407.86	3135.62	1724.81	1657640.48	14242947.25	39°13'20.921"N	80°56'21.060"W	3578.70	28.814	0.15	-0.04	0.15	
9688.00	90.620	337.860	6411.79	2503.71	3224.54	1688.66	1657604.34	14243036.15	39°13'21.800"N	80°56'21.518"W	3639.95	27.641	0.46	0.46	-0.03	
9780.00	90.950	335.810	6410.53	2595.44	3309.11	1652.47	1657568.17	14243120.68	39°13'22.636"N	80°56'21.978"W	3698.77	26.536	2.26	0.36	-2.23	
9875.00	90.250	333.070	6409.53	2689.78	3394.80	1611.49	1657527.21	14243206.34	39°13'23.484"N	80°56'22.498"W	3757.87	25.393	2.98	-0.74	-2.88	
9969.00	90.150	334.500	6409.20	2783.02	3479.13	1569.97	1657485.70	14243290.63	39°13'24.317"N	80°56'23.024"W	3816.96	24.287	1.52	-0.11	1.52	
10063.00	89.850	338.090	6409.20	2876.67	3565.19	1532.18	1657447.93	14243376.65	39°13'25.168"N	80°56'23.504"W	3880.48	23.256	3.83	-0.32	3.82	
10157.00	89.380	340.880	6409.84	2970.62	3653.22	1499.25	1657415.01	14243464.64	39°13'26.038"N	80°56'23.922"W	3948.89	22.313	3.01	-0.50	2.97	
10252.00	88.520	343.480	6411.58	3065.58	3743.63	1470.18	1657385.95	14243555.03	39°13'26.932"N	80°56'24.290"W	4021.97	21.441	2.88	-0.91	2.74	
10346.00	90.800	347.830	6412.14	3159.25	3834.67	1446.90	1657362.68	14243646.03	39°13'27.832"N	80°56'24.585"W	4098.57	20.672	5.22	2.43	4.63	
10441.00	90.980	347.650	6410.66	3253.60	3927.50	1426.73	1657342.52	14243738.81	39°13'28.750"N	80°56'24.841"W	4178.61	19.964	0.27	0.19	-0.19	
10536.00	91.600	346.720	6408.52	3348.04	4020.10	1405.66	1657321.46	14243831.39	39°13'29.665"N	80°56'25.108"W	4258.77	19.273	1.18	0.65	-0.98	
10631.00	91.450	343.020	6405.99	3442.79	4111.76	1380.88	1657296.69	14243923.01	39°13'30.571"N	80°56'25.422"W	4337.44	18.564	3.90	-0.16	-3.89	
10725.00	91.020	339.680	6403.97	3536.75	4200.79	1350.83	1657266.65	14244012.00	39°13'31.452"N	80°56'25.803"W	4412.64	17.826	3.58	-0.46	-3.55	
10820.00	91.140	337.280	6402.17	3631.63	4289.15	1315.99	1657231.83	14244100.32	39°13'32.325"N	80°56'26.245"W	4486.49	17.057	2.53	0.13	-2.53	
10916.00	91.290	334.930	6400.14	3727.24	4376.89	1277.12	1657192.97	14244188.03	39°13'33.193"N	80°56'26.738"W	4559.41	16.267	2.45	0.16	-2.45	

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #03
Area	Ritchie County, WV		Well	Buzzard Run Unit 3H
Field	Ritchie		Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad			

WELLPATH DATA (229 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
11010.00	90.650	333.350	6398.55	3820.53	4461.47	1236.12	1657151.99	14244272.57	39°13'34.029"N	80°56'27.258"W	4629.54	15.486	1.81	-0.68	-1.68	
11104.00	89.970	332.850	6398.04	3913.61	4545.29	1193.60	1657109.48	14244356.36	39°13'34.858"N	80°56'27.798"W	4699.40	14.714	0.90	-0.72	-0.53	
11199.00	89.970	336.500	6398.09	4008.00	4631.15	1152.97	1657068.87	14244442.18	39°13'35.706"N	80°56'28.314"W	4772.51	13.980	3.84	0.00	3.84	
11294.00	90.030	341.960	6398.09	4102.91	4719.94	1119.29	1657035.20	14244530.94	39°13'36.584"N	80°56'28.741"W	4850.84	13.341	5.75	0.06	5.75	
11389.00	90.340	344.980	6397.78	4197.82	4811.00	1092.26	1657008.19	14244621.97	39°13'37.484"N	80°56'29.083"W	4933.44	12.791	3.20	0.33	3.18	
11484.00	90.250	342.750	6397.29	4292.70	4902.25	1065.87	1656981.80	14244713.18	39°13'38.387"N	80°56'29.418"W	5016.79	12.267	2.35	-0.09	-2.35	
11578.00	90.280	342.580	6396.86	4386.66	4991.98	1037.86	1656953.80	14244802.88	39°13'39.274"N	80°56'29.773"W	5098.73	11.745	0.18	0.03	-0.18	
11673.00	90.550	341.980	6396.17	4481.64	5082.47	1008.94	1656924.90	14244893.33	39°13'40.168"N	80°56'30.140"W	5181.65	11.228	0.69	0.28	-0.63	
11767.00	90.860	338.740	6395.01	4575.61	5170.99	977.36	1656893.33	14244981.81	39°13'41.043"N	80°56'30.541"W	5262.54	10.703	3.46	0.33	-3.45	
11862.00	90.490	336.500	6393.89	4670.42	5258.82	941.19	1656857.18	14245069.60	39°13'41.912"N	80°56'31.000"W	5342.38	10.147	2.39	-0.39	-2.36	
11958.00	90.250	337.400	6393.27	4766.17	5347.15	903.60	1656819.60	14245157.90	39°13'42.785"N	80°56'31.476"W	5422.96	9.592	0.97	-0.25	0.94	
12052.00	89.970	340.640	6393.09	4860.09	5434.91	869.95	1656785.97	14245245.62	39°13'43.652"N	80°56'31.903"W	5504.09	9.094	3.46	-0.30	3.45	
12147.00	89.970	343.800	6393.14	4955.06	5525.36	840.95	1656756.97	14245336.04	39°13'44.547"N	80°56'32.271"W	5588.99	8.654	3.33	0.00	3.33	
12242.00	90.280	345.480	6392.94	5049.88	5616.96	815.78	1656731.82	14245427.60	39°13'45.452"N	80°56'32.590"W	5675.89	8.264	1.80	0.33	1.77	
12337.00	90.370	343.540	6392.40	5144.71	5708.51	790.41	1656706.46	14245519.11	39°13'46.357"N	80°56'32.912"W	5762.97	7.883	2.04	0.09	-2.04	
12432.00	90.220	343.090	6391.91	5239.63	5799.51	763.14	1656679.20	14245610.07	39°13'47.257"N	80°56'33.258"W	5849.50	7.496	0.50	-0.16	-0.47	
12526.00	90.340	341.060	6391.45	5333.61	5888.94	734.21	1656650.28	14245699.47	39°13'48.141"N	80°56'33.625"W	5934.53	7.107	2.16	0.13	-2.16	
12621.00	89.540	340.350	6391.55	5428.61	5978.60	702.82	1656618.90	14245789.09	39°13'49.027"N	80°56'34.023"W	6019.77	6.705	1.13	-0.84	-0.75	
12715.00	88.770	343.120	6392.93	5522.58	6067.84	673.37	1656589.46	14245878.30	39°13'49.909"N	80°56'34.396"W	6105.09	6.332	3.06	-0.82	2.95	
12810.00	89.820	346.910	6394.10	5617.34	6159.59	648.81	1656564.91	14245970.01	39°13'50.816"N	80°56'34.708"W	6193.66	6.013	4.14	1.11	3.99	
12904.00	90.490	349.710	6393.85	5710.58	6251.63	629.77	1656545.87	14246062.01	39°13'51.726"N	80°56'34.949"W	6283.27	5.752	3.06	0.71	2.98	
12999.00	90.620	351.760	6392.93	5804.23	6345.38	614.47	1656530.59	14246155.73	39°13'52.653"N	80°56'35.143"W	6375.06	5.531	2.16	0.14	2.16	
13093.00	90.280	347.670	6392.19	5897.15	6437.85	597.69	1656513.81	14246248.16	39°13'53.567"N	80°56'35.355"W	6465.53	5.304	4.37	-0.36	-4.35	
13188.00	90.150	344.890	6391.83	5991.75	6530.13	575.16	1656491.29	14246340.40	39°13'54.479"N	80°56'35.641"W	6555.41	5.034	2.93	-0.14	-2.93	
13282.00	90.370	343.860	6391.41	6085.60	6620.65	549.85	1656465.99	14246430.89	39°13'55.374"N	80°56'35.962"W	6643.44	4.748	1.12	0.23	-1.10	
13376.00	90.310	339.310	6390.85	6179.57	6709.81	520.16	1656436.31	14246520.01	39°13'56.256"N	80°56'36.338"W	6729.94	4.433	4.84	-0.06	-4.84	
13471.00	90.370	335.320	6390.29	6274.34	6797.44	483.53	1656399.70	14246607.61	39°13'57.122"N	80°56'36.803"W	6814.62	4.069	4.20	0.06	-4.20	
13565.00	90.030	336.910	6389.96	6367.98	6883.39	445.47	1656361.65	14246693.52	39°13'57.972"N	80°56'37.286"W	6897.79	3.703	1.73	-0.36	1.69	
13660.00	88.980	340.380	6390.78	6462.87	6971.85	410.88	1656327.08	14246781.95	39°13'58.846"N	80°56'37.725"W	6983.95	3.373	3.82	-1.11	3.65	
13754.00	89.420	343.030	6392.09	6556.85	7061.08	381.38	1656297.59	14246871.14	39°13'59.728"N	80°56'38.099"W	7071.37	3.092	2.86	0.47	2.82	

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

WELLPATH DATA (229 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
13848.00	89.910	342.060	6392.64	6650.82	7150.75	353.19	1656269.41	14246960.77	39°14'00.615"N	80°56'38.457"W	7159.47	2.828	1.16	0.52	-1.03	
13943.00	89.880	338.470	6392.81	6745.79	7240.16	321.11	1656237.35	14247050.14	39°14'01.499"N	80°56'38.864"W	7247.27	2.539	3.78	-0.03	-3.78	
14038.00	89.050	337.560	6393.70	6840.65	7328.24	285.55	1656201.80	14247138.19	39°14'02.369"N	80°56'39.315"W	7333.80	2.231	1.30	-0.87	-0.96	
14133.00	89.170	338.100	6395.18	6935.48	7416.21	249.71	1656165.97	14247226.12	39°14'03.239"N	80°56'39.770"W	7420.41	1.928	0.58	0.13	0.57	
14227.00	89.540	340.170	6396.24	7029.41	7504.03	216.23	1656132.51	14247313.91	39°14'04.107"N	80°56'40.194"W	7507.15	1.651	2.24	0.39	2.20	
14322.00	89.540	340.970	6397.00	7124.41	7593.62	184.63	1656100.92	14247403.46	39°14'04.993"N	80°56'40.595"W	7595.86	1.393	0.84	0.00	0.84	
14417.00	89.570	340.530	6397.74	7219.40	7683.30	153.31	1656069.61	14247493.11	39°14'05.880"N	80°56'40.993"W	7684.83	1.143	0.46	0.03	-0.46	
14511.00	89.780	341.220	6398.27	7313.40	7772.11	122.51	1656038.83	14247581.89	39°14'06.758"N	80°56'41.383"W	7773.08	0.903	0.77	0.22	0.73	
14606.00	89.910	338.200	6398.53	7408.36	7861.21	89.57	1656005.90	14247670.95	39°14'07.638"N	80°56'41.801"W	7861.72	0.653	3.18	0.14	-3.18	
14700.00	89.450	335.370	6399.05	7502.08	7947.59	52.53	1655968.87	14247757.29	39°14'08.492"N	80°56'42.271"W	7947.76	0.379	3.05	-0.49	-3.01	
14794.00	89.380	334.950	6400.01	7595.57	8032.89	13.04	1655929.40	14247842.56	39°14'09.336"N	80°56'42.773"W	8032.90	0.093	0.45	-0.07	-0.45	
14889.00	89.480	332.960	6400.96	7689.82	8118.23	-28.67	1655887.71	14247927.86	39°14'10.179"N	80°56'43.302"W	8118.28	359.798	2.10	0.11	-2.09	
14984.00	89.850	330.410	6401.51	7783.54	8201.85	-73.72	1655842.67	14248011.46	39°14'11.006"N	80°56'43.874"W	8202.19	359.485	2.71	0.39	-2.68	
15079.00	89.880	334.420	6401.74	7877.43	8286.04	-117.71	1655798.70	14248095.61	39°14'11.839"N	80°56'44.432"W	8286.87	359.186	4.22	0.03	4.22	
15173.00	90.370	344.410	6401.53	7971.27	8373.92	-150.71	1655765.71	14248183.46	39°14'12.707"N	80°56'44.851"W	8375.28	358.969	10.64	0.52	10.63	
15268.00	89.720	344.020	6401.46	8066.13	8465.34	-176.56	1655739.88	14248274.84	39°14'13.611"N	80°56'45.179"W	8467.18	358.805	0.80	-0.68	-0.41	
15362.00	89.850	344.830	6401.81	8159.97	8555.89	-201.80	1655714.65	14248365.35	39°14'14.506"N	80°56'45.499"W	8558.27	358.649	0.87	0.14	0.86	
15456.00	89.690	345.980	6402.19	8253.70	8646.85	-225.48	1655690.97	14248456.28	39°14'15.405"N	80°56'45.799"W	8649.79	358.506	1.24	-0.17	1.22	
15551.00	89.510	343.860	6402.85	8348.48	8738.57	-250.20	1655666.27	14248547.96	39°14'16.312"N	80°56'46.113"W	8742.15	358.360	2.24	-0.19	-2.23	
15645.00	89.660	341.590	6403.53	8442.43	8828.33	-278.11	1655638.37	14248637.68	39°14'17.199"N	80°56'46.467"W	8832.70	358.196	2.42	0.16	-2.41	
15740.00	89.690	337.980	6404.07	8537.39	8917.46	-310.93	1655605.56	14248726.77	39°14'18.080"N	80°56'46.883"W	8922.88	358.003	3.80	0.03	-3.80	
15835.00	90.150	339.090	6404.20	8632.29	9005.87	-345.69	1655570.81	14248815.15	39°14'18.954"N	80°56'47.324"W	9012.50	357.802	1.26	0.48	1.17	
15929.00	89.940	344.140	6404.13	8726.26	9095.04	-375.33	1655541.18	14248904.28	39°14'19.836"N	80°56'47.700"W	9102.78	357.637	5.38	-0.22	5.37	
16024.00	90.180	349.230	6404.03	8820.78	9187.48	-397.20	1655519.32	14248996.66	39°14'20.750"N	80°56'47.978"W	9196.04	357.524	5.36	0.25	5.36	
16117.00	90.120	347.380	6403.78	8913.04	9278.52	-416.05	1655500.48	14249087.69	39°14'21.650"N	80°56'48.217"W	9287.84	357.433	1.99	-0.06	-1.99	
16212.00	90.520	347.050	6403.25	9007.50	9371.16	-437.07	1655479.47	14249180.30	39°14'22.566"N	80°56'48.483"W	9381.35	357.330	0.55	0.42	-0.35	
16306.00	90.030	345.100	6402.80	9101.14	9462.40	-459.69	1655456.85	14249271.49	39°14'23.467"N	80°56'48.770"W	9473.55	357.219	2.14	-0.52	-2.07	
16401.00	90.680	342.670	6402.21	9196.01	9553.65	-486.06	1655430.50	14249362.71	39°14'24.370"N	80°56'49.104"W	9566.01	357.087	2.65	0.68	-2.56	
16496.00	89.820	339.850	6401.80	9291.00	9643.61	-516.58	1655399.99	14249452.63	39°14'25.259"N	80°56'49.491"W	9657.43	356.934	3.10	-0.91	-2.97	
16590.00	89.820	338.780	6402.09	9384.96	9731.54	-549.78	1655366.80	14249540.53	39°14'26.128"N	80°56'49.913"W	9747.06	356.767	1.14	0.00	-1.14	

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #03
Area	Ritchie County, WV		Well	Buzzard Run Unit 3H
Field	Ritchie		Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad			

WELLPATH DATA (229 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
16684.00	89.690	336.440	6402.50	9478.77	9818.45	-585.58	1655331.02	14249627.40	39°14'26.987"N	80°56'50.367"W	9835.90	356.587	2.49	-0.14	-2.49	
16779.00	89.200	336.100	6403.42	9573.43	9905.41	-623.81	1655292.80	14249714.33	39°14'27.847"N	80°56'50.852"W	9925.04	356.396	0.63	-0.52	-0.36	
16874.00	90.250	335.900	6403.87	9668.05	9992.20	-662.45	1655254.18	14249801.08	39°14'28.705"N	80°56'51.343"W	10014.13	356.207	1.13	1.11	-0.21	
16969.00	89.570	334.330	6404.02	9762.53	10078.38	-702.42	1655214.22	14249887.22	39°14'29.557"N	80°56'51.850"W	10102.82	356.013	1.80	-0.72	-1.65	
17063.00	89.480	332.580	6404.80	9855.69	10162.46	-744.43	1655172.23	14249971.27	39°14'30.388"N	80°56'52.384"W	10189.69	355.810	1.86	-0.10	-1.86	
17158.00	88.920	333.670	6406.13	9949.76	10247.19	-787.37	1655129.31	14250055.97	39°14'31.226"N	80°56'52.929"W	10277.40	355.606	1.29	-0.59	1.16	
17253.00	88.980	338.900	6407.87	10044.37	10334.12	-825.56	1655091.14	14250142.87	39°14'32.085"N	80°56'53.413"W	10367.05	355.433	5.50	0.06	5.51	
17347.00	88.120	343.110	6410.25	10138.32	10422.96	-856.14	1655060.57	14250231.66	39°14'32.964"N	80°56'53.801"W	10458.06	355.304	4.57	-0.91	4.48	
17441.00	88.460	346.810	6413.06	10232.06	10513.64	-880.67	1655036.04	14250322.31	39°14'33.860"N	80°56'54.113"W	10550.46	355.212	3.74	0.36	3.72	
17536.00	89.110	349.370	6415.07	10326.35	10606.53	-900.43	1655016.29	14250415.16	39°14'34.778"N	80°56'54.363"W	10644.68	355.148	2.98	0.68	2.91	
17631.00	89.690	348.730	6416.07	10420.43	10699.79	-918.48	1654998.25	14250508.39	39°14'35.700"N	80°56'54.592"W	10739.14	355.094	0.91	0.61	-0.67	
17725.00	89.540	346.810	6416.70	10513.80	10791.62	-938.55	1654978.19	14250600.18	39°14'36.608"N	80°56'54.846"W	10832.35	355.029	2.26	-0.16	-2.26	
17820.00	89.540	342.680	6417.46	10608.60	10883.20	-963.70	1654953.05	14250691.73	39°14'37.513"N	80°56'55.165"W	10925.79	354.940	4.14	0.00	-4.14	
17915.00	89.510	339.330	6418.25	10703.58	10973.02	-994.61	1654922.15	14250781.50	39°14'38.401"N	80°56'55.558"W	11018.00	354.821	3.53	-0.03	-3.53	
18009.00	89.570	340.210	6419.00	10797.55	11061.21	-1027.12	1654889.66	14250869.67	39°14'39.273"N	80°56'55.970"W	11108.80	354.695	0.94	0.06	0.94	
18104.00	89.660	342.400	6419.64	10892.54	11151.19	-1057.57	1654859.22	14250959.61	39°14'40.163"N	80°56'56.356"W	11201.23	354.582	2.31	0.09	2.31	
18199.00	89.690	341.510	6420.18	10987.53	11241.52	-1086.99	1654829.81	14251049.90	39°14'41.055"N	80°56'56.730"W	11293.95	354.477	0.94	0.03	-0.94	
18248.00	89.940	340.270	6420.34	11036.53	11287.82	-1103.03	1654813.77	14251096.18	39°14'41.513"N	80°56'56.933"W	11341.58	354.419	2.58	0.51	-2.53	
18273.00	89.940	340.270	6420.36	11061.53	11311.35	-1111.47	1654805.34	14251119.70	39°14'41.746"N	80°56'57.040"W	11365.83	354.388	0.00	0.00	0.00	Projected MD at TD: 18273'

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Buzzard Run Unit 3H AWB      Ref Wellpath: Buzzard Run Unit 3H AWP Proj: 18273'									
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	-0.17	0.04
17.5in Open Hole	105.00	584.00	479.00	105.00	584.00	-0.17	0.04	-0.84	-0.12
13.375in Casing Surface	25.00	584.00	559.00	25.00	584.00	0.00	0.00	-0.84	-0.12
12.25in Open Hole	584.00	2682.90	2098.90	584.00	2516.58	-0.84	-0.12	77.74	736.51
9.625in Casing Intermediate	25.00	2682.90	2657.90	25.00	2516.58	0.00	0.00	77.74	736.51
8.75in Open Hole	2682.90	6271.00	3588.10	2516.58	5694.51	77.74	736.51	275.89	2387.78
8.5in Open Hole	6271.00	18273.00	12002.00	5694.51	6420.36	275.89	2387.78	11311.35	-1111.47
5.5in Casing Production	25.00	18273.00	18248.00	25.00	6420.36	0.00	0.00	11311.35	-1111.47

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Buzzard Run Unit 3H - POE - Rev-2	6409.00	1032.67	2439.88	1658355.26	14240845.15	39°13'00.131"N	80°56'11.993"W	point
Buzzard Run Unit 3H - LP - Rev-2	6434.00	1184.39	2369.13	1658284.54	14240996.81	39°13'01.631"N	80°56'12.890"W	point
Buzzard Run Unit 3H - On Azi - Rev-1	6434.00	1372.93	2293.15	1658208.59	14241185.27	39°13'03.495"N	80°56'13.854"W	point
Buzzard Run Unit 3H - BHL - Rev-1	6434.00	11318.65	-1111.81	1654805.00	14251127.00	39°14'41.818"N	80°56'57.045"W	point

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# Actual Wellpath Report

Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
Field	Ritchie	Wellbore	Buzzard Run Unit 3H AWB
Facility	Lynn Camp Pad		

WELLPATH COMPOSITION - Ref Wellbore: Buzzard Run Unit 3H AWB Ref Wellpath: Buzzard Run Unit 3H AWP Proj: 18273'				
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	637.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-627')	Buzzard Run Unit 3H AWB
637.00	2633.00	OWSG MWD rev2 + HRGM	02 WFT EM <12-1/4">(627')(742'-2623')	Buzzard Run Unit 3H AWB
2633.00	6198.00	OWSG MWD rev2 + HRGM	03 WFT EM <8-3/4">(2623')(2744'-6188')	Buzzard Run Unit 3H AWB
6198.00	18248.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2">(6198')(6283'-18248')	Buzzard Run Unit 3H AWB
18248.00	18273.00	Blind Drilling (std)	Projection to bit	Buzzard Run Unit 3H AWB

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Buzzard Run Unit 3H AWP Proj: 18273'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Buzzard Run Unit 3H
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Facility	Lynn Camp Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-085-10381-0000 BHI Job #: 109806161 Rig: Patterson 342 Duration: 05/15/2019-05/18/2019 Gyrodata MS Gyro &lt;17-1/2"&gt;(100'-627') WFT EM &lt;12-1/4"&gt;(627')(742'-2623') WFT EM &lt;8-3/4"&gt;(2623')(2744'-6188') BH AT Curve &lt;8-1/2"&gt;(6198')(6283'-18248') Middlesex: 7042' MD Burkett: 7238' MD Tully: 7311' MD Marcellus POE: 7375' MD Projected MD at TD: 18273'</p>

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