



# ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV  
 Facility: Ritchie  
 Slot: #04  
 Well: Charleston Unit 3H  
 Wellbore: Charleston Unit 3H PWB

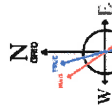


Plot reference wellpath is Charleston Unit 3H PWP Rev-A.0  
 True vertical depths are referenced to Patterson 343 (RKB)  
 Measured depths are referenced to Patterson 343 (RKB)  
 Patterson 343 (RKB) to Mean Sea Level: 1152 feet  
 Mean Sea Level to Mud line (At Slot: #04): -1127 feet  
 Coordinates are in feet referenced to Slot

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Buck Run Pad	1665300.580	1427864.820	80°56'50.552"W
Slot	Local E (ft)	Grid North (US ft)	Longitude
Slot #04	-19.43	1665277.940	80°56'50.840"W
Comment	Charleston Unit 3H		
Patterson 343 (RKB) to Mud line (At Slot: #04)	25ft		
Mean Sea Level to Mud line (At Slot: #04)	-1127ft		
Patterson 343 (RKB) to Mean Sea Level	1152ft		

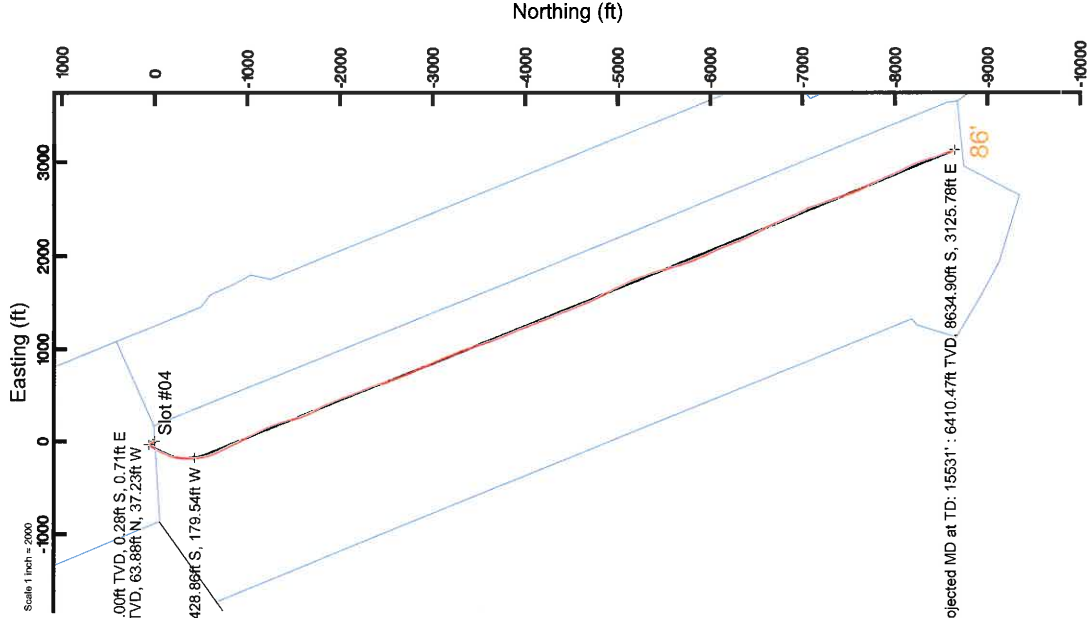
SDI Gyro (112° - 5654.01') : 1.00° Inc, 112.00ft TVD, 0.52ft VS  
 BHI AT Curve <math>-8-1/2^{\circ}</math> (5664.01') (5695-15506') : 0.87° Inc, 5695.00ft MD, 5692.86ft TVD, -73.18ft VS  
 Marcellus: 6.670° MD : 76.20° Inc, 6670.00ft MD, 6402.93ft TVD, 330.32ft VS

Well Data	
Slot	Wellbore
Slot #04	Charleston Unit 3H AWB
Slot #04	Charleston Unit 3H PWB



BGCM (1945.0 to 2017.0) Dip: 66.73° Field: 52004.6 mT  
 Magnetic North is 8.45 degrees West of True North. (at 16Mar2016)  
 To correct azimuth from True to Grid subtract 0.03 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.46 degrees

API: 47-085-10244-0000  
 BHI Job #: 7863383  
 Rig: Patterson 343  
 Duration: 3.21.2016 - 3.26.2016



BHI AT Curve <math>-8-1/2^{\circ}</math> (5664.01') (5695-15506') : 0.87° Inc, 5695.00ft MD, 5692.86ft TVD, -73.18ft VS

Marcellus: 6.670° MD : 76.20° Inc, 6670.00ft MD, 6402.93ft TVD, 330.32ft VS

Projected MD at TD: 15531' : 90.98° Inc, 15531.00ft MD, 6410.47ft TVD, 9177.02ft VS

10/26/2017



Azimuth 157.99° with reference 0.00 N, 0.00 E



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Buck Run Pad
Slot	Slot #04
Well	Charleston Unit 3H
Wellbore	Charleston Unit 3H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.9996
Convergence at slot	0.03° East
Software System	WellArchitect® 4.0.1
User	Hareluk
Report Generated	29/Mar/2016 at 13:54
Database/Source file	WA_MPL_EASTERNUS_Defn/Charleston_Unit_3H_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-19.43	-22.65	1655277.94	14276945.20	39° 18'57.098"N	80° 56'50.840"W
Facility Reference Pt			1655300.58	14276964.62	39° 18'57.290"N	80° 56'50.552"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	
Vertical Reference Pt	Patterson 343 (RKB)	
MD Reference Pt	Patterson 343 (RKB)	
Field Vertical Reference	Mean Sea Level	
	Patterson 343 (RKB) to Facility Vertical Datum	25.00ft
	Patterson 343 (RKB) to Mean Sea Level	1152.00ft
	Patterson 343 (RKB) to Mud Line at Slot (Slot #04)	25.00ft
	Section Origin	N 0.00, E 0.00 ft
	Section Azimuth	157.99°



# Actual Wellpath Report

Charleston Unit 3H AWP Proj.: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H AWB
Facility	Buck Run Pad		

## WELLPATH DATA (347 stations) † = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (1/100ft)	Comments
0.00†	0.00	111.520	0.00	0.00	0.00	0.00	1655277.94	14276945.20	39°18'57.098"N	80°56'50.840"W	0.00	0.000	0.00	
25.00	0.00	111.520	25.00	0.00	0.00	0.00	1655277.94	14276945.20	39°18'57.098"N	80°56'50.840"W	0.00	0.000	0.00	
112.00	1.000	111.520	112.00	0.52	-0.28	0.71	1655278.65	14276944.92	39°18'57.095"N	80°56'50.831"W	0.76	111.520	1.15	SDI Gyro (112' - 5654.01)
137.00	0.990	110.600	136.99	0.82	-0.43	1.11	1655279.05	14276944.77	39°18'57.094"N	80°56'50.826"W	1.19	111.353	0.08	
162.00	0.910	113.220	161.99	1.11	-0.59	1.50	1655279.44	14276944.61	39°18'57.092"N	80°56'50.821"W	1.61	111.483	0.36	
187.00	0.840	117.170	186.99	1.39	-0.75	1.84	1655279.78	14276944.45	39°18'57.091"N	80°56'50.817"W	1.99	112.179	0.37	
212.00	0.560	128.530	211.98	1.63	-0.91	2.10	1655280.04	14276944.29	39°18'57.089"N	80°56'50.814"W	2.29	113.439	1.24	
237.00	0.390	137.370	236.98	1.82	-1.05	2.25	1655280.19	14276944.15	39°18'57.088"N	80°56'50.812"W	2.49	114.968	0.74	
262.00	0.240	164.260	261.98	1.95	-1.16	2.33	1655280.26	14276944.04	39°18'57.087"N	80°56'50.811"W	2.60	116.558	0.83	
287.00	0.150	176.070	286.98	2.03	-1.25	2.34	1655280.28	14276943.96	39°18'57.086"N	80°56'50.811"W	2.65	118.004	0.39	
312.00	0.130	204.470	311.98	2.08	-1.30	2.33	1655280.27	14276943.90	39°18'57.085"N	80°56'50.811"W	2.67	119.207	0.29	
337.00	0.230	184.170	336.98	2.15	-1.38	2.32	1655280.26	14276943.82	39°18'57.085"N	80°56'50.811"W	2.70	120.774	0.47	
362.00	0.190	183.380	361.98	2.23	-1.47	2.31	1655280.25	14276943.73	39°18'57.084"N	80°56'50.811"W	2.74	122.482	0.16	
387.00	0.210	195.350	386.98	2.30	-1.56	2.30	1655280.24	14276943.64	39°18'57.083"N	80°56'50.811"W	2.77	124.135	0.18	
412.00	0.160	199.200	411.98	2.37	-1.63	2.27	1655280.21	14276943.57	39°18'57.082"N	80°56'50.811"W	2.80	125.714	0.21	
437.00	0.130	174.110	436.98	2.42	-1.69	2.26	1655280.20	14276943.51	39°18'57.081"N	80°56'50.812"W	2.83	126.822	0.28	
462.00	0.170	177.460	461.98	2.48	-1.76	2.27	1655280.21	14276943.44	39°18'57.081"N	80°56'50.812"W	2.87	127.810	0.16	
487.00	0.160	165.420	486.98	2.55	-1.83	2.28	1655280.22	14276943.37	39°18'57.080"N	80°56'50.811"W	2.92	128.781	0.14	
512.00	0.150	165.490	511.98	2.62	-1.90	2.30	1655280.23	14276943.30	39°18'57.079"N	80°56'50.811"W	2.98	129.559	0.04	
537.00	0.200	170.980	536.98	2.69	-1.97	2.31	1655280.25	14276943.23	39°18'57.079"N	80°56'50.811"W	3.04	130.465	0.21	
562.00	0.160	154.220	561.98	2.77	-2.05	2.33	1655280.27	14276943.16	39°18'57.078"N	80°56'50.811"W	3.10	131.249	0.26	
587.00	0.320	10.190	586.98	2.75	-2.01	2.36	1655280.30	14276943.19	39°18'57.078"N	80°56'50.810"W	3.10	130.395	1.84	
612.00	0.880	22.110	611.98	2.55	-1.76	2.44	1655280.38	14276943.44	39°18'57.081"N	80°56'50.809"W	3.01	125.777	2.28	
637.00	1.180	18.990	636.98	2.22	-1.34	2.60	1655280.54	14276943.86	39°18'57.085"N	80°56'50.807"W	2.93	117.268	1.22	
662.00	1.540	11.250	661.97	1.74	-0.77	2.75	1655280.69	14276944.43	39°18'57.091"N	80°56'50.805"W	2.86	105.597	1.61	
687.00	2.120	0.730	686.96	1.04	0.02	2.82	1655280.76	14276945.22	39°18'57.098"N	80°56'50.804"W	2.82	89.510	2.67	
712.00	2.840	351.420	711.93	0.01	1.10	2.74	1655280.67	14276946.30	39°18'57.109"N	80°56'50.806"W	2.95	68.111	3.29	
737.00	3.420	346.610	736.89	-1.33	2.44	2.47	1655280.41	14276947.64	39°18'57.122"N	80°56'50.809"W	3.47	45.390	2.54	
762.00	4.080	342.150	761.84	-2.96	4.01	2.02	1655279.96	14276949.21	39°18'57.138"N	80°56'50.815"W	4.49	26.798	2.88	
787.00	4.760	338.000	786.77	-4.88	5.82	1.36	1655279.30	14276951.01	39°18'57.156"N	80°56'50.823"W	5.97	13.193	3.00	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj.: 15531  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H AWB
Facility	Back Run Pad		

## WELLPATH DATA (347 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[°]	[°]	[ft]	[°]	["/100ft]	
812.00	5.380	333.890	811.67	-7.09	7.83	0.46	1655278.40	14276953.03	39°18'57.176"N	80°56'50.834"W	7.84	3.356	2.87	
837.00	5.580	333.790	836.55	-9.47	9.97	-0.59	1655277.35	14276955.17	39°18'57.197"N	80°56'50.848"W	9.99	356.596	0.80	
862.00	5.520	333.270	861.44	-11.88	12.14	-1.67	1655276.27	14276957.33	39°18'57.218"N	80°56'50.862"W	12.25	352.162	0.31	
887.00	5.600	333.440	886.32	-14.29	14.30	-2.76	1655275.18	14276959.50	39°18'57.240"N	80°56'50.875"W	14.57	349.089	0.33	
912.00	5.670	333.640	911.20	-16.74	16.50	-3.85	1655274.09	14276961.69	39°18'57.261"N	80°56'50.889"W	16.94	346.864	0.29	
937.00	5.690	334.070	936.08	-19.21	18.72	-4.94	1655273.00	14276963.91	39°18'57.283"N	80°56'50.903"W	19.36	345.215	0.19	
962.00	5.570	333.250	960.96	-21.66	20.92	-6.03	1655271.91	14276966.11	39°18'57.305"N	80°56'50.917"W	21.77	343.923	0.58	
987.00	5.110	332.460	1010.74	-26.31	23.05	-7.10	1655270.85	14276968.24	39°18'57.326"N	80°56'50.930"W	24.12	342.891	0.81	
1012.00	4.860	332.100	1035.64	-28.47	27.01	-9.14	1655268.80	14276970.28	39°18'57.346"N	80°56'50.944"W	26.37	342.042	1.12	
1037.00	4.610	333.240	1060.56	-30.52	28.84	-10.09	1655267.86	14276972.20	39°18'57.365"N	80°56'50.956"W	28.51	341.302	1.01	
1062.00	4.350	334.110	1085.48	-32.47	30.59	-10.96	1655266.99	14276974.03	39°18'57.383"N	80°56'50.969"W	30.56	340.720	1.07	
1112.00	4.000	333.230	1110.41	-34.29	32.24	-11.73	1655266.21	14276977.42	39°18'57.417"N	80°56'50.989"W	34.31	339.998	1.44	
1137.00	3.790	333.890	1135.36	-35.98	33.78	-12.44	1655265.51	14276978.97	39°18'57.432"N	80°56'50.998"W	36.00	339.788	0.86	
1162.00	3.490	336.080	1160.31	-37.57	35.23	-13.08	1655264.86	14276980.42	39°18'57.446"N	80°56'51.007"W	37.58	339.628	1.20	
1187.00	3.280	336.320	1185.26	-39.04	36.58	-13.68	1655264.27	14276981.77	39°18'57.460"N	80°56'51.014"W	39.06	339.498	0.84	
1212.00	3.090	337.120	1210.22	-40.43	37.86	-14.23	1655263.72	14276983.04	39°18'57.472"N	80°56'51.021"W	40.44	339.402	0.78	
1237.00	2.790	338.410	1235.19	-41.71	39.05	-14.71	1655263.23	14276984.23	39°18'57.484"N	80°56'51.027"W	41.73	339.351	1.23	
1262.00	2.520	338.100	1260.16	-42.87	40.12	-15.14	1655262.80	14276985.31	39°18'57.495"N	80°56'51.033"W	42.88	339.322	1.08	
1287.00	2.330	338.590	1285.14	-43.93	41.10	-15.53	1655262.41	14276986.29	39°18'57.505"N	80°56'51.038"W	43.94	339.298	0.76	
1312.00	2.160	336.610	1310.12	-44.91	42.01	-15.91	1655262.04	14276987.19	39°18'57.513"N	80°56'51.042"W	44.92	339.262	0.75	
1337.00	1.990	336.210	1335.11	-45.81	42.84	-16.27	1655261.68	14276988.02	39°18'57.522"N	80°56'51.047"W	45.82	339.206	0.68	
1362.00	1.900	334.920	1360.09	-46.66	43.61	-16.62	1655261.33	14276988.79	39°18'57.529"N	80°56'51.052"W	46.67	339.140	0.40	
1387.00	1.830	333.300	1385.08	-47.47	44.34	-16.97	1655260.97	14276989.53	39°18'57.537"N	80°56'51.056"W	47.48	339.054	0.35	
1412.00	1.520	334.190	1410.07	-48.20	45.00	-17.30	1655260.65	14276990.18	39°18'57.543"N	80°56'51.060"W	48.21	338.973	1.24	
1437.00	1.580	332.740	1435.06	-48.88	45.60	-17.60	1655260.35	14276990.79	39°18'57.549"N	80°56'51.064"W	48.88	338.897	0.29	
1462.00	1.550	330.990	1460.05	-49.56	46.21	-17.92	1655260.03	14276991.39	39°18'57.555"N	80°56'51.068"W	49.56	338.800	0.23	
1487.00	1.430	330.410	1485.04	-50.20	46.77	-18.24	1655259.71	14276991.95	39°18'57.561"N	80°56'51.072"W	50.20	338.696	0.48	
1512.00	1.350	332.360	1510.03	-50.80	47.31	-18.53	1655259.42	14276992.49	39°18'57.566"N	80°56'51.076"W	50.81	338.608	0.37	
1537.00	1.450	331.420	1535.03	-51.41	47.84	-18.82	1655259.13	14276993.02	39°18'57.571"N	80°56'51.079"W	51.41	338.529	0.41	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj.: 15531  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #04
Operator	ANTERO RESOURCES CORPORATION		
Area	Ritchie County, WV		
Field	Ritchie		
Facility	Buck Run Pad		
	Well	Charleston Unit 3H	
	Wellbore	Charleston Unit 3H AWB	

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]	Comments
1562.00	1.300	331.590	1560.02	-52.01	48.37	-19.10	1655258.84	14276993.55	39°18'57.576"N	80°56'51.083"W	52.01	338.448	0.60	
1587.00	1.170	329.520	1585.01	-52.54	48.84	-19.37	1655258.58	14276994.02	39°18'57.581"N	80°56'51.086"W	52.54	338.368	0.55	
1612.00	1.220	328.640	1610.01	-53.06	49.29	-19.64	1655258.31	14276994.47	39°18'57.585"N	80°56'51.090"W	53.06	338.277	0.21	
1637.00	1.220	329.400	1635.00	-53.58	49.74	-19.91	1655258.04	14276994.92	39°18'57.590"N	80°56'51.093"W	53.58	338.185	0.06	
1662.00	1.100	328.020	1660.00	-54.08	50.18	-20.17	1655257.77	14276995.36	39°18'57.594"N	80°56'51.097"W	54.08	338.097	0.49	
1687.00	1.100	324.840	1684.99	-54.55	50.58	-20.44	1655257.51	14276995.76	39°18'57.598"N	80°56'51.100"W	54.55	337.995	0.24	
1712.00	0.970	324.500	1709.99	-54.99	50.94	-20.70	1655257.25	14276996.12	39°18'57.602"N	80°56'51.103"W	54.99	337.887	0.52	
1737.00	0.860	321.750	1734.98	-55.38	51.26	-20.94	1655257.01	14276996.44	39°18'57.605"N	80°56'51.106"W	55.38	337.782	0.47	
1762.00	0.890	324.010	1759.98	-55.74	51.57	-21.17	1655256.78	14276996.75	39°18'57.608"N	80°56'51.109"W	55.75	337.681	0.18	
1787.00	0.780	320.580	1784.98	-56.10	51.86	-21.39	1655256.56	14276997.04	39°18'57.611"N	80°56'51.112"W	56.10	337.583	0.48	
1812.00	0.830	318.920	1809.98	-56.43	52.13	-21.62	1655256.33	14276997.30	39°18'57.613"N	80°56'51.115"W	56.43	337.474	0.22	
1837.00	0.710	320.700	1834.97	-56.75	52.38	-21.84	1655256.11	14276997.56	39°18'57.616"N	80°56'51.118"W	56.75	337.371	0.49	
1862.00	0.870	319.160	1859.97	-57.08	52.65	-22.06	1655255.89	14276997.82	39°18'57.619"N	80°56'51.121"W	57.08	337.267	0.65	
1887.00	0.680	316.830	1884.97	-57.39	52.90	-22.28	1655255.67	14276998.08	39°18'57.621"N	80°56'51.124"W	57.40	337.156	0.77	
1912.00	0.810	322.320	1909.97	-57.70	53.15	-22.49	1655255.46	14276998.32	39°18'57.624"N	80°56'51.126"W	57.71	337.060	0.59	
1937.00	0.650	319.810	1934.97	-58.01	53.39	-22.69	1655255.26	14276998.57	39°18'57.626"N	80°56'51.129"W	58.02	336.974	0.65	
1962.00	0.750	317.060	1959.96	-58.29	53.62	-22.90	1655255.05	14276998.80	39°18'57.628"N	80°56'51.131"W	58.30	336.878	0.42	
1987.00	0.570	316.730	1984.96	-58.56	53.83	-23.09	1655254.86	14276999.01	39°18'57.630"N	80°56'51.134"W	58.58	336.782	0.72	
2012.00	0.620	325.070	2009.96	-58.81	54.03	-23.25	1655254.69	14276999.21	39°18'57.632"N	80°56'51.136"W	58.83	336.714	0.40	
2037.00	0.540	319.410	2034.96	-59.05	54.23	-23.41	1655254.54	14276999.41	39°18'57.634"N	80°56'51.138"W	59.07	336.653	0.39	
2062.00	0.580	318.640	2059.96	-59.28	54.42	-23.57	1655254.38	14276999.60	39°18'57.636"N	80°56'51.140"W	59.30	336.582	0.16	
2087.00	0.580	310.780	2084.96	-59.52	54.60	-23.75	1655254.20	14276999.77	39°18'57.638"N	80°56'51.142"W	59.54	336.491	0.32	
2112.00	0.520	319.250	2109.96	-59.74	54.76	-23.92	1655254.03	14276999.94	39°18'57.640"N	80°56'51.144"W	59.76	336.406	0.40	
2137.00	0.440	326.550	2134.96	-59.94	54.93	-24.05	1655253.90	14277000.11	39°18'57.641"N	80°56'51.146"W	59.96	336.359	0.40	
2162.00	0.570	322.170	2159.95	-60.15	55.11	-24.17	1655253.77	14277000.29	39°18'57.643"N	80°56'51.148"W	60.18	336.314	0.54	
2187.00	0.430	322.190	2184.95	-60.36	55.28	-24.31	1655253.64	14277000.46	39°18'57.645"N	80°56'51.149"W	60.39	336.264	0.56	
2212.00	0.390	305.060	2209.95	-60.52	55.40	-24.44	1655253.51	14277000.58	39°18'57.646"N	80°56'51.151"W	60.55	336.200	0.51	
2237.00	0.300	324.340	2234.95	-60.66	55.51	-24.54	1655253.41	14277000.68	39°18'57.647"N	80°56'51.152"W	60.69	336.146	0.58	
2262.00	0.280	334.910	2259.95	-60.78	55.61	-24.61	1655253.34	14277000.79	39°18'57.648"N	80°56'51.153"W	60.82	336.132	0.23	
2287.00	0.300	324.790	2284.95	-60.91	55.72	-24.67	1655253.28	14277000.90	39°18'57.649"N	80°56'51.154"W	60.94	336.119	0.22	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H AWB
Facility	Buck Run Pad		

## WELLPATH DATA (347 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 [°]	D.L.S. ["/100ft]	Comments
2312.00	0.290	322.160	2309.95	-61.03	55.83	-24.75	165253.20	1427001.00	39°18'57.650"N	80°56'51.155"W	61.07	336.092	0.07	
2337.00	0.290	325.110	2334.95	-61.16	55.93	-24.82	165253.13	1427001.11	39°18'57.651"N	80°56'51.156"W	61.19	336.067	0.06	
2362.00	0.200	315.790	2359.95	-61.26	56.01	-24.89	165253.06	1427001.19	39°18'57.652"N	80°56'51.157"W	61.29	336.042	0.39	
2387.00	0.380	314.720	2384.95	-61.37	56.10	-24.98	165252.97	1427001.28	39°18'57.653"N	80°56'51.158"W	61.41	335.999	0.72	
2412.00	0.230	325.140	2409.95	-61.50	56.20	-25.07	165252.88	1427001.38	39°18'57.654"N	80°56'51.159"W	61.54	335.962	0.64	
2437.00	0.210	333.050	2434.95	-61.59	56.28	-25.12	165252.83	1427001.46	39°18'57.655"N	80°56'51.160"W	61.63	335.952	0.15	
2462.00	0.270	320.050	2459.95	-61.70	56.37	-25.17	165252.78	1427001.55	39°18'57.655"N	80°56'51.160"W	61.73	335.934	0.32	
2487.00	0.310	311.130	2484.95	-61.81	56.46	-25.26	165252.69	1427001.64	39°18'57.656"N	80°56'51.161"W	61.85	335.893	0.24	
2512.01	0.270	302.710	2509.96	-61.92	56.53	-25.36	165252.59	1427001.71	39°18'57.657"N	80°56'51.163"W	61.96	335.837	0.23	
2537.01	0.220	316.100	2534.96	-62.01	56.60	-25.45	165252.50	1427001.78	39°18'57.658"N	80°56'51.164"W	62.06	335.793	0.30	
2562.01	0.190	315.170	2559.96	-62.10	56.67	-25.51	165252.44	1427001.84	39°18'57.658"N	80°56'51.165"W	62.14	335.764	0.12	
2587.01	0.180	316.370	2584.96	-62.17	56.72	-25.57	165252.38	1427001.90	39°18'57.659"N	80°56'51.165"W	62.22	335.739	0.04	
2612.01	0.150	319.020	2609.96	-62.24	56.78	-25.61	165252.34	1427001.95	39°18'57.659"N	80°56'51.166"W	62.29	335.718	0.12	
2637.01	0.110	283.400	2634.96	-62.28	56.81	-25.66	165252.29	1427001.98	39°18'57.660"N	80°56'51.166"W	62.33	335.692	0.35	
2662.01	0.050	278.560	2659.96	-62.30	56.81	-25.69	165252.26	1427001.99	39°18'57.660"N	80°56'51.167"W	62.35	335.666	0.24	
2687.01	0.190	257.100	2684.96	-62.31	56.81	-25.74	165252.21	1427001.98	39°18'57.660"N	80°56'51.167"W	62.37	335.620	0.58	
2712.01	0.200	258.000	2709.96	-62.33	56.79	-25.83	165252.12	1427001.96	39°18'57.660"N	80°56'51.169"W	62.38	335.544	0.04	
2737.01	0.210	279.800	2734.96	-62.36	56.79	-25.91	165252.04	1427001.96	39°18'57.660"N	80°56'51.170"W	62.42	335.470	0.31	
2762.01	0.230	303.810	2759.96	-62.43	56.82	-26.00	165251.95	1427002.00	39°18'57.660"N	80°56'51.171"W	62.49	335.411	0.37	
2787.01	0.210	308.520	2784.96	-62.51	56.88	-26.08	165251.87	1427002.06	39°18'57.660"N	80°56'51.172"W	62.57	335.368	0.11	
2812.01	0.190	327.400	2809.96	-62.59	56.94	-26.14	165251.81	1427002.12	39°18'57.661"N	80°56'51.173"W	62.65	335.344	0.27	
2837.01	0.120	334.950	2834.96	-62.65	57.00	-26.17	165251.78	1427002.18	39°18'57.662"N	80°56'51.173"W	62.72	335.339	0.29	
2862.01	0.080	299.200	2859.96	-62.69	57.03	-26.20	165251.75	1427002.21	39°18'57.662"N	80°56'51.173"W	62.76	335.329	0.29	
2887.01	0.160	257.180	2884.96	-62.71	57.03	-26.25	165251.70	1427002.21	39°18'57.662"N	80°56'51.174"W	62.78	335.288	0.46	
2912.01	0.150	258.120	2909.96	-62.72	57.02	-26.31	165251.64	1427002.20	39°18'57.662"N	80°56'51.175"W	62.80	335.228	0.04	
2937.01	0.170	260.370	2934.96	-62.74	57.01	-26.38	165251.57	1427002.18	39°18'57.662"N	80°56'51.176"W	62.81	335.166	0.08	
2962.01	0.190	258.980	2959.96	-62.75	56.99	-26.46	165251.49	1427002.17	39°18'57.662"N	80°56'51.177"W	62.83	335.097	0.08	
2987.01	0.260	250.110	2984.96	-62.76	56.96	-26.55	165251.40	1427002.14	39°18'57.661"N	80°56'51.178"W	62.85	335.009	0.31	
3012.01	0.230	264.220	3009.96	-62.78	56.94	-26.66	165251.30	1427002.12	39°18'57.661"N	80°56'51.179"W	62.87	334.914	0.27	
3037.01	0.200	275.480	3034.96	-62.81	56.94	-26.75	165251.20	1427002.12	39°18'57.661"N	80°56'51.180"W	62.91	334.837	0.21	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #04
ANTERO RESOURCES CORPORATION	Charleston Unit 3H
Area	Well
Field	Wellbore
Facility	Buck Run Pad

## WELLPATH DATA (347 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]	Comments
3062.01	0.260	275.830	3059.96	-62.86	56.95	-26.85	1655251.10	14277002.13	39°18'57.661"N	80°56'51.182"W	62.96	334.758	0.24	
3087.01	0.180	287.940	3084.96	-62.91	56.97	-26.94	1655251.01	14277002.14	39°18'57.661"N	80°56'51.183"W	63.02	334.688	0.37	
3112.01	0.180	322.900	3109.96	-62.98	57.01	-27.00	1655250.95	14277002.19	39°18'57.662"N	80°56'51.184"W	63.08	334.655	0.43	
3137.01	0.200	291.300	3134.96	-63.04	57.06	-27.07	1655250.88	14277002.24	39°18'57.662"N	80°56'51.184"W	63.15	334.621	0.42	
3162.01	0.240	288.250	3159.96	-63.11	57.09	-27.16	1655250.79	14277002.27	39°18'57.663"N	80°56'51.185"W	63.22	334.539	0.17	
3187.01	0.190	305.920	3184.96	-63.18	57.13	-27.24	1655250.71	14277002.31	39°18'57.663"N	80°56'51.187"W	63.29	334.507	0.33	
3212.01	0.130	344.850	3209.96	-63.24	57.18	-27.28	1655250.67	14277002.36	39°18'57.663"N	80°56'51.187"W	63.36	334.493	0.48	
3237.01	0.040	26.860	3234.96	-63.27	57.22	-27.29	1655250.66	14277002.39	39°18'57.664"N	80°56'51.187"W	63.39	334.504	0.42	
3262.01	0.090	210.350	3259.96	-63.27	57.21	-27.29	1655250.66	14277002.39	39°18'57.664"N	80°56'51.187"W	63.39	334.496	0.52	
3287.01	0.080	179.160	3284.96	-63.24	57.17	-27.30	1655250.65	14277002.35	39°18'57.663"N	80°56'51.187"W	63.36	334.476	0.22	
3312.01	0.100	181.500	3309.96	-63.20	57.14	-27.30	1655250.65	14277002.31	39°18'57.663"N	80°56'51.187"W	63.32	334.462	0.10	
3337.01	0.120	199.660	3334.95	-63.16	57.09	-27.31	1655250.64	14277002.27	39°18'57.663"N	80°56'51.187"W	63.28	334.436	0.16	
3362.01	0.180	221.430	3359.95	-63.13	57.03	-27.34	1655250.61	14277002.21	39°18'57.662"N	80°56'51.188"W	63.25	334.387	0.33	
3387.01	0.170	241.940	3384.95	-63.10	56.99	-27.40	1655250.55	14277002.16	39°18'57.662"N	80°56'51.189"W	63.23	334.320	0.25	
3412.01	0.160	266.500	3409.95	-63.11	56.97	-27.47	1655250.48	14277002.15	39°18'57.661"N	80°56'51.189"W	63.24	334.258	0.28	
3437.01	0.180	279.660	3434.95	-63.14	56.97	-27.54	1655250.41	14277002.15	39°18'57.661"N	80°56'51.190"W	63.28	334.199	0.17	
3462.01	0.160	284.300	3459.95	-63.18	56.99	-27.62	1655250.34	14277002.17	39°18'57.662"N	80°56'51.191"W	63.33	334.146	0.10	
3487.01	0.070	327.680	3484.95	-63.22	57.01	-27.66	1655250.29	14277002.19	39°18'57.662"N	80°56'51.192"W	63.36	334.121	0.48	
3512.01	0.060	0.540	3509.95	-63.25	57.04	-27.67	1655250.29	14277002.21	39°18'57.662"N	80°56'51.192"W	63.39	334.124	0.15	
3537.01	0.080	125.180	3534.95	-63.24	57.04	-27.65	1655250.30	14277002.22	39°18'57.662"N	80°56'51.192"W	63.39	334.137	0.50	
3562.01	0.070	205.640	3559.95	-63.22	57.01	-27.64	1655250.31	14277002.19	39°18'57.662"N	80°56'51.192"W	63.36	334.134	0.39	
3587.01	0.110	190.790	3584.95	-63.19	56.98	-27.65	1655250.30	14277002.15	39°18'57.661"N	80°56'51.192"W	63.33	334.110	0.18	
3612.01	0.160	209.760	3609.95	-63.15	56.92	-27.68	1655250.28	14277002.10	39°18'57.661"N	80°56'51.192"W	63.29	334.071	0.27	
3637.01	0.220	231.060	3634.95	-63.11	56.86	-27.73	1655250.22	14277002.04	39°18'57.660"N	80°56'51.193"W	63.26	334.003	0.37	
3662.01	0.190	258.940	3659.95	-63.11	56.82	-27.81	1655250.14	14277002.00	39°18'57.660"N	80°56'51.194"W	63.26	333.924	0.41	
3687.01	0.150	264.860	3684.95	-63.12	56.81	-27.88	1655250.07	14277001.99	39°18'57.660"N	80°56'51.195"W	63.29	333.860	0.17	
3712.01	0.160	276.990	3709.95	-63.15	56.82	-27.95	1655250.00	14277001.99	39°18'57.660"N	80°56'51.196"W	63.32	333.806	0.14	
3737.01	0.110	307.860	3734.95	-63.19	56.83	-28.00	1655249.95	14277002.01	39°18'57.660"N	80°56'51.196"W	63.36	333.770	0.35	
3762.01	0.060	327.860	3759.95	-63.22	56.86	-28.03	1655249.92	14277002.04	39°18'57.660"N	80°56'51.197"W	63.39	333.759	0.23	
3787.01	0.080	325.430	3784.95	-63.25	56.89	-28.05	1655249.91	14277002.06	39°18'57.661"N	80°56'51.197"W	63.42	333.756	0.08	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Charleston Unit 3H
Area	Wellbore	Charleston Unit 3H AWP
Field		
Facility		

## WELLPATH DATA (347 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 [r/100ft]	Comments
3812.01	0.060	45.060	3809.95	-63.27	56.91	-28.03	1655249.91	14277002.09	39°18'57.661"N	80°56'51.197"W	63.44	333.765	0.36	
3837.01	0.020	128.420	3834.95	-63.27	56.92	-28.03	1655249.92	14277002.09	39°18'57.661"N	80°56'51.197"W	63.44	333.778	0.24	
3862.01	0.120	203.430	3859.95	-63.25	56.89	-28.04	1655249.91	14277002.07	39°18'57.661"N	80°56'51.197"W	63.42	333.761	0.47	
3887.01	0.180	235.220	3884.95	-63.22	56.84	-28.08	1655249.87	14277002.02	39°18'57.660"N	80°56'51.197"W	63.40	333.708	0.40	
3912.01	0.140	235.980	3909.95	-63.21	56.80	-28.14	1655249.81	14277001.98	39°18'57.660"N	80°56'51.198"W	63.39	333.646	0.16	
3937.01	0.180	265.050	3934.95	-63.21	56.78	-28.21	1655249.75	14277001.96	39°18'57.660"N	80°56'51.199"W	63.40	333.585	0.36	
3962.01	0.150	294.260	3959.95	-63.25	56.79	-28.27	1655249.68	14277001.97	39°18'57.660"N	80°56'51.200"W	63.44	333.534	0.35	
3987.01	0.130	279.410	3984.95	-63.29	56.81	-28.33	1655249.62	14277001.99	39°18'57.660"N	80°56'51.200"W	63.48	333.494	0.17	
4012.01	0.120	344.800	4009.95	-63.33	56.84	-28.37	1655249.58	14277002.02	39°18'57.660"N	80°56'51.201"W	63.53	333.478	0.54	
4037.01	0.070	349.040	4034.95	-63.37	56.88	-28.38	1655249.57	14277002.06	39°18'57.661"N	80°56'51.201"W	63.57	333.486	0.20	
4062.01	0.020	32.540	4059.95	-63.39	56.90	-28.38	1655249.57	14277002.08	39°18'57.661"N	80°56'51.201"W	63.58	333.494	0.23	
4087.01	0.040	19.100	4084.95	-63.40	56.91	-28.37	1655249.58	14277002.09	39°18'57.661"N	80°56'51.201"W	63.59	333.503	0.08	
4112.01	0.070	183.840	4109.95	-63.39	56.90	-28.37	1655249.58	14277002.08	39°18'57.661"N	80°56'51.201"W	63.58	333.501	0.44	
4137.01	0.070	222.770	4134.95	-63.37	56.88	-28.38	1655249.57	14277002.06	39°18'57.660"N	80°56'51.201"W	63.57	333.481	0.19	
4162.01	0.120	245.800	4159.95	-63.36	56.86	-28.42	1655249.54	14277002.03	39°18'57.660"N	80°56'51.201"W	63.56	333.445	0.25	
4187.01	0.220	255.910	4184.95	-63.37	56.83	-28.49	1655249.47	14277002.01	39°18'57.660"N	80°56'51.202"W	63.57	333.379	0.42	
4212.01	0.150	264.260	4209.95	-63.38	56.82	-28.57	1655249.39	14277002.00	39°18'57.660"N	80°56'51.203"W	63.60	333.309	0.30	
4237.01	0.120	342.940	4234.95	-63.42	56.84	-28.61	1655249.35	14277002.02	39°18'57.660"N	80°56'51.204"W	63.63	333.286	0.69	
4262.01	0.150	323.240	4259.95	-63.48	56.89	-28.63	1655249.32	14277002.07	39°18'57.661"N	80°56'51.204"W	63.69	333.285	0.22	
4287.01	0.160	311.130	4284.95	-63.54	56.94	-28.68	1655249.27	14277002.12	39°18'57.661"N	80°56'51.205"W	63.76	333.268	0.14	
4312.01	0.160	300.230	4309.95	-63.60	56.98	-28.74	1655249.22	14277002.16	39°18'57.662"N	80°56'51.206"W	63.82	333.239	0.12	
4337.01	0.070	23.820	4334.95	-63.64	57.01	-28.76	1655249.19	14277002.19	39°18'57.662"N	80°56'51.206"W	63.86	333.232	0.67	
4362.01	0.110	21.650	4359.95	-63.66	57.05	-28.74	1655249.21	14277002.23	39°18'57.662"N	80°56'51.206"W	63.88	333.259	0.16	
4387.01	0.030	117.820	4384.95	-63.68	57.07	-28.73	1655249.22	14277002.25	39°18'57.662"N	80°56'51.205"W	63.89	333.278	0.47	
4412.01	0.060	152.040	4409.95	-63.66	57.05	-28.72	1655249.23	14277002.23	39°18'57.662"N	80°56'51.205"W	63.87	333.282	0.16	
4437.01	0.050	185.730	4434.95	-63.64	57.03	-28.71	1655249.24	14277002.21	39°18'57.662"N	80°56'51.205"W	63.85	333.277	0.13	
4462.01	0.070	196.550	4459.95	-63.61	57.01	-28.72	1655249.23	14277002.18	39°18'57.662"N	80°56'51.205"W	63.83	333.262	0.09	
4487.01	0.060	200.020	4484.95	-63.59	56.98	-28.73	1655249.22	14277002.16	39°18'57.661"N	80°56'51.205"W	63.81	333.244	0.04	
4512.01	0.120	212.070	4509.95	-63.57	56.94	-28.75	1655249.21	14277002.12	39°18'57.661"N	80°56'51.206"W	63.79	333.216	0.25	
4537.01	0.100	201.870	4534.95	-63.54	56.90	-28.77	1655249.18	14277002.08	39°18'57.661"N	80°56'51.206"W	63.76	333.181	0.11	





# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #04
Operator	ANTERO RESOURCES CORPORATION		
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H.AWB
Facility	Buck Run Pad		

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 (1/100ft)	Comments
4562.01	0.130	226.560	4559.95	-63.51	56.86	-28.80	1655249.16	14277002.04	39°18'57.660"N	80°56'51.206"W	63.74	333.142	0.23	
4587.01	0.140	245.330	4584.95	-63.50	56.83	-28.84	1655249.11	14277002.01	39°18'57.660"N	80°56'51.207"W	63.73	333.090	0.18	
4612.01	0.170	273.720	4609.95	-63.51	56.82	-28.91	1655249.04	14277002.00	39°18'57.660"N	80°56'51.208"W	63.75	333.034	0.33	
4637.01	0.230	281.940	4634.95	-63.56	56.83	-29.00	1655248.96	14277002.01	39°18'57.660"N	80°56'51.209"W	63.80	332.970	0.27	
4662.01	0.310	278.420	4659.95	-63.62	56.85	-29.11	1655248.84	14277002.03	39°18'57.660"N	80°56'51.210"W	63.87	332.886	0.33	
4687.01	0.230	294.980	4684.95	-63.69	56.88	-29.22	1655248.73	14277002.06	39°18'57.661"N	80°56'51.212"W	63.95	332.809	0.44	
4712.01	0.260	304.520	4709.95	-63.77	56.94	-29.32	1655248.64	14277002.11	39°18'57.661"N	80°56'51.213"W	64.04	332.757	0.20	
4737.01	0.250	298.210	4734.95	-63.86	57.00	-29.41	1655248.54	14277002.17	39°18'57.662"N	80°56'51.214"W	64.14	332.706	0.12	
4762.01	0.280	301.620	4759.95	-63.95	57.05	-29.51	1655248.44	14277002.23	39°18'57.662"N	80°56'51.215"W	64.23	332.650	0.14	
4787.01	0.250	306.640	4784.95	-64.05	57.12	-29.61	1655248.35	14277002.29	39°18'57.663"N	80°56'51.217"W	64.33	332.601	0.15	
4812.01	0.130	302.160	4809.95	-64.12	57.17	-29.67	1655248.28	14277002.34	39°18'57.663"N	80°56'51.218"W	64.41	332.566	0.48	
4837.01	0.180	315.940	4834.95	-64.18	57.21	-29.73	1655248.23	14277002.39	39°18'57.664"N	80°56'51.218"W	64.47	332.544	0.25	
4862.01	0.250	313.230	4859.95	-64.27	57.27	-29.79	1655248.16	14277002.45	39°18'57.664"N	80°56'51.219"W	64.56	332.518	0.28	
4887.01	0.200	326.620	4884.95	-64.36	57.35	-29.86	1655248.10	14277002.52	39°18'57.665"N	80°56'51.220"W	64.65	332.498	0.29	
4912.01	0.270	324.700	4909.95	-64.46	57.43	-29.91	1655248.04	14277002.61	39°18'57.666"N	80°56'51.221"W	64.76	332.487	0.28	
4937.01	0.250	323.670	4934.95	-64.57	57.52	-29.98	1655247.97	14277002.70	39°18'57.667"N	80°56'51.221"W	64.87	332.472	0.08	
4962.01	0.220	304.120	4959.95	-64.66	57.60	-30.05	1655247.90	14277002.77	39°18'57.668"N	80°56'51.222"W	64.96	332.445	0.34	
4987.01	0.150	335.740	4984.95	-64.73	57.65	-30.11	1655247.85	14277002.83	39°18'57.668"N	80°56'51.223"W	65.04	332.427	0.48	
5012.01	0.130	320.240	5009.95	-64.79	57.70	-30.14	1655247.81	14277002.88	39°18'57.669"N	80°56'51.223"W	65.10	332.423	0.17	
5037.01	0.150	289.490	5034.95	-64.84	57.74	-30.19	1655247.77	14277002.91	39°18'57.669"N	80°56'51.224"W	65.15	332.398	0.31	
5062.01	0.270	268.270	5059.95	-64.88	57.75	-30.28	1655247.68	14277002.92	39°18'57.669"N	80°56'51.225"W	65.20	332.332	0.56	
5087.01	0.220	279.010	5084.95	-64.93	57.75	-30.38	1655247.57	14277002.93	39°18'57.669"N	80°56'51.227"W	65.26	332.252	0.27	
5112.01	0.230	293.940	5109.95	-64.99	57.78	-30.48	1655247.48	14277002.96	39°18'57.669"N	80°56'51.228"W	65.32	332.191	0.24	
5137.01	0.270	288.540	5134.95	-65.06	57.82	-30.58	1655247.37	14277003.00	39°18'57.670"N	80°56'51.229"W	65.41	332.128	0.19	
5162.01	0.460	289.960	5159.95	-65.17	57.87	-30.73	1655247.22	14277003.05	39°18'57.670"N	80°56'51.231"W	65.52	332.033	0.76	
5187.01	0.540	286.570	5184.95	-65.31	57.94	-30.93	1655247.02	14277003.12	39°18'57.671"N	80°56'51.234"W	65.68	331.901	0.34	
5212.01	0.490	289.440	5209.95	-65.45	58.01	-31.15	1655246.80	14277003.18	39°18'57.672"N	80°56'51.236"W	65.84	331.766	0.22	
5237.01	0.650	294.000	5234.94	-65.63	58.10	-31.38	1655246.57	14277003.28	39°18'57.673"N	80°56'51.239"W	66.03	331.628	0.66	
5262.01	0.610	303.880	5259.94	-65.84	58.23	-31.62	1655246.33	14277003.41	39°18'57.674"N	80°56'51.242"W	66.26	331.499	0.46	
5287.01	0.750	302.190	5284.94	-66.08	58.39	-31.87	1655246.08	14277003.57	39°18'57.676"N	80°56'51.245"W	66.52	331.377	0.57	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H AWB
Facility	Buck Run Pad		

## WELLPATH DATA (347 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 [1/1000H]	Comments
5312.01	0.910	308.350	5309.94	-66.39	58.61	-32.16	1655245.79	14277003.78	39°18'57.678"N	80°56'51.249"W	66.85	331.242	0.73	
5337.01	0.900	307.290	5334.94	-66.73	58.85	-32.47	1655245.48	14277004.02	39°18'57.680"N	80°56'51.253"W	67.21	331.109	0.08	
5362.01	1.090	314.240	5359.93	-67.11	59.13	-32.80	1655245.15	14277004.31	39°18'57.683"N	80°56'51.257"W	67.62	330.983	0.90	
5387.01	1.130	314.360	5384.93	-67.56	59.47	-33.15	1655244.81	14277004.65	39°18'57.686"N	80°56'51.262"W	68.08	330.866	0.16	
5412.01	1.190	315.470	5409.92	-68.02	59.83	-33.51	1655244.45	14277005.00	39°18'57.690"N	80°56'51.266"W	68.57	330.750	0.26	
5437.01	1.130	313.140	5434.92	-68.49	60.18	-33.87	1655244.09	14277005.36	39°18'57.693"N	80°56'51.271"W	69.06	330.631	0.31	
5462.01	1.250	314.090	5459.91	-68.96	60.54	-34.24	1655243.71	14277005.72	39°18'57.697"N	80°56'51.276"W	69.55	330.506	0.46	
5487.01	1.230	319.320	5484.91	-69.46	60.93	-34.61	1655243.34	14277006.11	39°18'57.701"N	80°56'51.280"W	70.08	330.401	0.46	
5512.01	1.200	314.860	5509.90	-69.96	61.32	-34.97	1655242.98	14277006.50	39°18'57.704"N	80°56'51.285"W	70.59	330.302	0.40	
5537.01	1.120	318.620	5534.89	-70.43	61.69	-35.32	1655242.63	14277006.86	39°18'57.708"N	80°56'51.289"W	71.09	330.206	0.44	
5562.01	1.020	318.680	5559.89	-70.87	62.04	-35.63	1655242.32	14277007.21	39°18'57.712"N	80°56'51.293"W	71.54	330.131	0.40	
5587.01	0.980	319.200	5584.89	-71.28	62.37	-35.92	1655242.04	14277007.54	39°18'57.715"N	80°56'51.297"W	71.97	330.063	0.16	
5612.01	0.950	319.970	5609.88	-71.68	62.69	-36.19	1655241.77	14277007.86	39°18'57.718"N	80°56'51.300"W	72.38	330.003	0.13	
5637.01	1.150	320.090	5634.88	-72.12	63.04	-36.48	1655241.47	14277008.21	39°18'57.721"N	80°56'51.304"W	72.84	329.940	0.80	
5654.01	1.270	317.650	5651.87	-72.46	63.31	-36.72	1655241.23	14277008.48	39°18'57.724"N	80°56'51.307"W	73.19	329.886	0.77	
5695.00	0.870	319.790	5692.86	-73.18	63.88	-37.23	1655240.73	14277009.06	39°18'57.730"N	80°56'51.314"W	73.94	329.769	0.98	BHT A.T Curve <-8-1/2"> [5654.01] [5695-15506']
5790.00	0.630	281.020	5787.85	-74.15	64.53	-38.21	1655239.75	14277009.71	39°18'57.736"N	80°56'51.326"W	75.00	329.374	0.58	
5839.00	4.840	214.230	5836.79	-73.15	62.88	-39.63	1655238.32	14277008.05	39°18'57.720"N	80°56'51.344"W	74.32	327.775	9.44	
5884.00	9.920	214.380	5881.40	-69.94	58.10	-42.89	1655235.07	14277003.28	39°18'57.673"N	80°56'51.386"W	72.22	323.565	11.29	
5932.00	13.610	212.090	5928.38	-64.34	49.90	-48.23	1655229.73	14276995.08	39°18'57.592"N	80°56'51.454"W	69.40	315.978	7.75	
5979.00	17.130	211.010	5973.70	-56.93	39.28	-54.73	1655223.23	14276984.47	39°18'57.487"N	80°56'51.536"W	67.37	305.667	7.51	
6026.00	21.730	211.510	6018.01	-47.59	25.93	-62.85	1655215.11	14276971.12	39°18'57.355"N	80°56'51.640"W	67.99	292.416	9.79	
6073.00	24.990	209.470	6061.15	-36.23	9.86	-72.29	1655205.68	14276955.06	39°18'57.196"N	80°56'51.760"W	72.96	277.768	7.15	
6118.00	28.850	208.220	6101.27	-23.36	-7.99	-82.10	1655195.87	14276937.22	39°18'57.020"N	80°56'51.885"W	82.49	264.443	8.67	
6168.00	33.910	207.180	6143.94	-6.52	-31.04	-94.18	1655183.79	14276914.17	39°18'56.792"N	80°56'52.039"W	99.17	251.760	10.18	
6215.00	38.220	205.550	6181.92	11.87	-55.83	-106.45	1655171.53	14276889.39	39°18'56.547"N	80°56'52.195"W	120.20	242.323	9.39	
6262.00	43.080	204.770	6217.57	32.68	-83.54	-119.45	1655158.54	14276861.69	39°18'56.273"N	80°56'52.361"W	145.77	235.033	10.40	
6307.00†	47.766	204.241	6249.15	54.74	-112.70	-132.74	1655145.26	14276832.54	39°18'55.983"N	80°56'52.530"W	174.13	229.667	10.45	Middlesex: 6.307' MD
6308.00	47.870	204.230	6249.82	55.25	-113.38	-133.04	1655144.95	14276831.87	39°18'55.978"N	80°56'52.534"W	174.80	229.563	10.45	
6337.00	52.100	203.040	6281.32	81.49	-147.75	-148.07	1655129.93	14276797.51	39°18'55.639"N	80°56'52.725"W	209.18	225.062	8.83	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #04
Operator	ANTERO RESOURCES CORPORATION	Well	Charleston Unit 3H
Area	Ritchie County, WV	Wellbore	Charleston Unit 3H AWB
Field	Ritchie		
Facility	Buck Run Pad		

WELLPATH DATA (347 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 P/1000'	Comments
6401.00	56.420	198.110	6307.02	107.79	-181.18	-160.57	1655117.43	14276764.10	39°18'55.308"N	80°56'52.885"W	242.09	221.550	13.38	
6451.00	62.500	190.930	6332.44	142.40	-222.83	-171.27	1655106.73	14276722.46	39°18'54.897"N	80°56'53.021"W	281.04	217.548	17.33	
6500.00	67.630	186.060	6353.11	180.67	-266.74	-177.79	1655100.22	14276678.56	39°18'54.463"N	80°56'53.104"W	320.57	213.685	13.81	
6508.00†	68.361	185.585	6356.10	187.23	-274.12	-178.55	1655099.47	14276671.19	39°18'54.390"N	80°56'53.114"W	327.14	213.078	10.67	Burkett: 6,508' MD
6546.00	71.850	183.390	6369.03	219.21	-309.74	-181.33	1655096.68	14276635.59	39°18'54.038"N	80°56'53.150"W	358.91	210.347	10.67	
6592.00	73.980	180.310	6382.55	259.41	-353.68	-182.75	1655095.27	14276591.97	39°18'53.604"N	80°56'53.168"W	398.10	207.326	7.90	
6594.00†	74.016	180.169	6383.10	261.19	-355.60	-182.75	1655095.26	14276589.74	39°18'53.585"N	80°56'53.168"W	399.81	207.200	6.99	July: 6,594' MD
6640.00	74.870	176.950	6395.44	302.68	-399.89	-181.64	1655096.37	14276545.47	39°18'53.147"N	80°56'53.154"W	439.21	204.428	6.99	
6670.00†	76.205	174.773	6402.93	330.32	-428.86	-179.54	1655098.47	14276516.51	39°18'52.860"N	80°56'53.128"W	464.93	202.716	8.32	Marcellus: 6,670' MD
6687.00	76.970	173.550	6406.88	346.20	-445.31	-177.86	1655100.15	14276500.07	39°18'52.698"N	80°56'53.107"W	479.32	201.772	8.32	
6733.00	79.950	170.200	6416.08	389.95	-489.92	-171.48	1655106.53	14276455.48	39°18'52.257"N	80°56'53.026"W	519.06	199.291	9.64	
6782.00	83.590	165.440	6423.10	437.71	-537.30	-161.25	1655116.76	14276408.12	39°18'51.789"N	80°56'52.896"W	560.97	196.705	12.15	
6829.00	87.020	161.510	6426.95	484.32	-582.19	-147.92	1655130.08	14276363.25	39°18'51.345"N	80°56'52.727"W	600.69	194.256	11.08	
6879.00	90.710	158.400	6427.94	534.27	-629.14	-130.79	1655147.20	14276316.32	39°18'50.881"N	80°56'52.509"W	642.59	191.744	9.65	
6924.00	90.550	155.080	6427.44	579.25	-670.47	-113.03	1655164.96	14276275.00	39°18'50.472"N	80°56'52.283"W	679.93	189.569	7.39	
7019.00	90.550	153.950	6426.53	674.07	-756.22	-72.15	1655205.82	14276189.28	39°18'49.624"N	80°56'51.764"W	759.66	185.450	1.19	
7113.00	89.940	154.790	6426.13	767.88	-840.97	-31.49	1655246.46	14276104.57	39°18'48.786"N	80°56'51.247"W	841.56	182.145	1.10	
7207.00	90.430	156.270	6425.82	861.79	-926.52	7.44	1655285.38	14276019.05	39°18'47.941"N	80°56'50.753"W	926.55	179.540	1.66	
7302.00	89.880	154.070	6425.57	956.67	-1012.74	47.33	1655325.25	14275932.87	39°18'47.088"N	80°56'50.246"W	1013.84	177.324	2.39	
7396.00	90.460	154.310	6425.29	1050.46	-1097.36	88.26	1655366.16	14275848.28	39°18'46.252"N	80°56'49.726"W	1100.90	175.402	0.67	
7491.00	90.520	154.110	6424.48	1145.25	-1182.89	129.59	1655407.48	14275762.78	39°18'45.406"N	80°56'49.200"W	1189.97	173.748	0.22	
7585.00	90.340	158.510	6423.77	1239.18	-1268.95	167.35	1655445.22	14275676.76	39°18'44.555"N	80°56'48.721"W	1279.94	172.487	4.68	
7680.00	90.680	162.510	6422.92	1334.07	-1358.48	199.03	1655476.89	14275587.26	39°18'43.670"N	80°56'48.318"W	1372.99	171.665	4.23	
7774.00	90.580	164.280	6421.89	1427.64	-1448.55	225.89	1655503.74	14275497.23	39°18'42.780"N	80°56'47.977"W	1466.06	171.136	1.89	
7868.00	91.080	161.980	6420.53	1521.24	-1538.49	253.17	1655531.01	14275407.33	39°18'41.891"N	80°56'47.631"W	1559.18	170.655	2.50	
7963.00	91.020	156.630	6418.79	1616.17	-1627.32	286.72	1655564.55	14275318.54	39°18'41.013"N	80°56'47.205"W	1652.38	170.007	5.63	
8057.00	90.180	152.990	6417.80	1710.00	-1712.36	326.72	1655604.53	14275233.53	39°18'40.172"N	80°56'46.696"W	1743.25	169.198	3.97	
8152.00	90.120	155.400	6417.55	1804.79	-1797.88	368.07	1655645.87	14275148.05	39°18'39.326"N	80°56'46.171"W	1835.17	168.430	2.54	
8246.00	90.000	156.740	6417.45	1898.73	-1883.79	406.20	1655683.98	14275062.16	39°18'38.477"N	80°56'45.686"W	1927.09	167.832	1.43	
8341.00	89.880	158.250	6417.55	1993.73	-1971.56	442.56	1655720.32	14274974.43	39°18'37.609"N	80°56'45.225"W	2020.62	167.348	1.59	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Charleston Unit 3H
Ritchie County, WV	Wellbore	Charleston Unit 3H AWB
Ritchie		
Buck Run Pad		

## WELLPATH DATA (347 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 (1/100ft)	Comments
8435.00	90.090	159.420	6417.58	2087.71	-2059.21	476.50	1655754.25	14274886.81	39°18'36.743"N	80°56'44.793"W	2113.63	166.971	1.26	
8530.00	90.120	158.930	6417.40	2182.69	-2148.01	510.27	1655788.01	14274798.05	39°18'35.865"N	80°56'44.364"W	2207.79	166.637	0.52	
8624.00	90.150	157.810	6417.18	2276.69	-2235.39	544.92	1655822.64	14274710.71	39°18'35.001"N	80°56'43.924"W	2300.85	166.300	1.19	
8719.00	90.000	158.270	6417.06	2371.69	-2323.49	580.45	1655858.16	14274622.64	39°18'34.130"N	80°56'43.473"W	2394.90	165.974	0.51	
8813.00	90.060	160.320	6417.01	2465.66	-2411.42	613.68	1655891.38	14274534.75	39°18'33.261"N	80°56'43.051"W	2488.28	165.722	2.18	
8908.00	90.030	160.210	6416.94	2560.58	-2500.84	645.76	1655923.44	14274445.37	39°18'32.377"N	80°56'42.643"W	2582.87	165.521	0.12	
9002.00	90.250	160.010	6416.71	2654.52	-2589.23	677.74	1655955.41	14274357.01	39°18'31.503"N	80°56'42.237"W	2676.46	165.332	0.32	
9096.00	89.850	158.690	6416.62	2748.49	-2677.19	710.89	1655988.54	14274269.09	39°18'30.633"N	80°56'41.816"W	2769.97	165.129	1.47	
9191.00	90.280	156.820	6416.52	2843.49	-2765.11	746.85	1656024.49	14274181.20	39°18'29.764"N	80°56'41.359"W	2864.20	164.885	2.02	
9285.00	90.030	155.850	6416.26	2937.44	-2851.21	784.58	1656062.21	14274095.14	39°18'28.913"N	80°56'40.880"W	2957.19	164.614	1.07	
9379.00	90.280	155.480	6416.01	3031.37	-2936.86	823.32	1656100.93	14274009.52	39°18'28.066"N	80°56'40.388"W	3050.08	164.340	0.48	
9474.00	90.060	157.180	6415.73	3126.32	-3023.86	861.45	1656139.05	14273922.55	39°18'27.206"N	80°56'39.904"W	3144.17	164.099	1.80	
9569.00	90.400	158.220	6415.34	3221.32	-3111.75	897.50	1656175.08	14273834.70	39°18'26.337"N	80°56'39.446"W	3238.60	163.911	1.15	
9663.00	89.910	157.640	6415.09	3315.32	-3198.86	932.82	1656210.39	14273747.62	39°18'25.476"N	80°56'38.997"W	3332.10	163.743	0.81	
9758.00	89.880	158.120	6415.26	3410.32	-3286.87	968.59	1656246.14	14273659.65	39°18'24.606"N	80°56'38.543"W	3426.62	163.581	0.51	
9852.00	90.180	159.600	6415.21	3504.30	-3374.54	1002.49	1656280.03	14273572.01	39°18'23.739"N	80°56'38.112"W	3520.30	163.455	1.61	
9947.00	89.750	161.470	6415.27	3599.21	-3464.11	1034.15	1656311.67	14273482.48	39°18'22.854"N	80°56'37.710"W	3615.18	163.378	2.02	
10042.00	89.780	161.850	6415.66	3694.01	-3554.28	1064.04	1656341.55	14273392.34	39°18'22.962"N	80°56'37.330"W	3710.14	163.334	0.40	
10136.00	90.000	158.510	6415.84	3787.93	-3642.70	1095.91	1656373.41	14273303.96	39°18'21.088"N	80°56'36.926"W	3803.98	163.256	3.56	
10231.00	89.690	157.110	6416.10	3882.92	-3730.66	1131.79	1656409.27	14273216.04	39°18'20.219"N	80°56'36.470"W	3898.56	163.124	1.51	
10325.00	90.030	157.270	6416.33	3976.92	-3817.31	1168.23	1656445.70	14273129.42	39°18'19.362"N	80°56'36.007"W	3992.07	162.984	0.40	
10420.00	89.850	159.470	6416.43	4071.91	-3904.97	1204.84	1656482.30	14273041.80	39°18'18.495"N	80°56'35.542"W	4086.62	162.853	0.23	
10514.00	90.830	159.400	6415.87	4165.90	-3992.38	1239.40	1656516.84	14272954.42	39°18'17.631"N	80°56'35.103"W	4180.34	162.724	2.45	
10609.00	89.660	158.580	6415.46	4260.88	-4081.08	1273.40	1656550.83	14272865.76	39°18'16.754"N	80°56'34.671"W	4275.14	162.671	1.55	
10703.00	89.660	158.420	6416.02	4354.87	-4168.54	1307.85	1656585.27	14272778.33	39°18'15.890"N	80°56'34.234"W	4368.89	162.581	0.17	
10797.00	89.630	158.080	6416.60	4448.87	-4255.85	1342.69	1656620.09	14272691.06	39°18'15.027"N	80°56'33.791"W	4462.63	162.490	0.36	
10892.00	89.660	158.360	6417.19	4543.87	-4344.06	1377.93	1656655.32	14272602.88	39°18'14.155"N	80°56'33.344"W	4557.37	162.401	0.30	
10986.00	89.820	158.200	6417.62	4637.87	-4431.39	1412.72	1656690.09	14272515.59	39°18'13.291"N	80°56'32.902"W	4651.13	162.318	0.24	
11081.00	89.690	158.300	6418.03	4732.86	-4519.63	1447.92	1656725.28	14272427.39	39°18'12.419"N	80°56'32.455"W	4745.89	162.236	0.17	
11175.00	89.600	157.470	6418.61	4826.86	-4606.71	1483.31	1656760.65	14272340.34	39°18'11.568"N	80°56'32.005"W	4839.62	162.152	0.89	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #04
Operator	ANTERO RESOURCES CORPORATION		Well
Area	Ritchie County, WV		Wellbore
Field	Ritchie		
Facility	Buck Run Pad		

WELLPATH DATA (347 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 [1/7100ft]	Comments
11270.00	89.780	156.360	6419.12	4921.84	-4694.10	1520.56	1656797.89	14272252.99	39°18'10.694"N	80°56'31.532"W	4934.23	162.051	1.18	
11365.00	89.780	154.420	6419.49	5016.74	-4780.46	1560.12	1656837.43	14272166.66	39°18'09.840"N	80°56'31.030"W	5028.60	161.926	2.04	
11459.00	89.720	154.040	6419.90	5110.53	-4865.11	1600.98	1656878.28	14272082.04	39°18'09.003"N	80°56'30.510"W	5121.77	161.785	0.41	
11554.00	89.750	154.150	6420.34	5205.31	-4950.57	1642.49	1656919.77	14271996.62	39°18'08.158"N	80°56'29.983"W	5215.93	161.645	0.12	
11648.00	89.720	153.930	6420.77	5299.09	-5035.08	1683.63	1656960.90	14271912.14	39°18'07.323"N	80°56'29.461"W	5309.11	161.511	0.24	
11743.00	89.630	155.940	6421.31	5393.95	-5121.13	1723.88	1657001.13	14271826.13	39°18'06.472"N	80°56'28.949"W	5403.49	161.396	2.12	
11837.00	89.660	158.600	6421.89	5487.93	-5207.82	1760.19	1657037.43	14271739.47	39°18'05.615"N	80°56'28.488"W	5497.24	161.235	2.83	
11932.00	89.630	160.270	6422.48	5582.90	-5296.76	1793.56	1657070.78	14271650.57	39°18'04.736"N	80°56'28.064"W	5592.19	161.293	1.76	
12026.00	89.720	162.160	6423.02	5676.73	-5385.83	1823.60	1657100.81	14271561.54	39°18'03.855"N	80°56'27.683"W	5686.18	161.294	2.33	
12121.00	89.720	162.750	6423.48	5771.42	-5476.48	1852.00	1657129.19	14271470.92	39°18'02.959"N	80°56'27.322"W	5781.15	161.316	0.31	
12215.00	89.780	162.260	6423.89	5865.12	-5566.13	1880.26	1657157.44	14271381.31	39°18'02.073"N	80°56'26.964"W	5875.13	161.335	0.53	
12309.00	89.750	163.320	6424.28	5958.79	-5655.92	1908.07	1657185.24	14271291.55	39°18'01.185"N	80°56'26.611"W	5969.10	161.358	1.13	
12404.00	89.690	162.600	6424.74	6053.43	-5746.75	1935.91	1657213.07	14271200.76	39°18'00.287"N	80°56'26.257"W	6064.06	161.383	0.76	
12499.00	89.780	159.010	6425.18	6148.30	-5836.45	1967.14	1657244.29	14271111.09	39°17'59.400"N	80°56'25.861"W	6159.04	161.374	3.78	
12593.00	89.750	154.980	6425.56	6242.27	-5922.96	2003.86	1657281.00	14271024.62	39°17'58.545"N	80°56'25.394"W	6252.75	161.308	4.29	
12688.00	89.690	154.400	6426.03	6337.11	-6008.84	2044.48	1657321.60	14270938.78	39°17'57.696"N	80°56'24.879"W	6347.12	161.209	0.61	
12782.00	89.780	156.010	6426.46	6430.99	-6094.17	2083.90	1657361.00	14270853.48	39°17'56.853"N	80°56'24.378"W	6440.61	161.122	1.72	
12877.00	90.370	160.090	6426.34	6525.97	-6182.26	2119.40	1657396.49	14270765.42	39°17'55.982"N	80°56'23.927"W	6535.46	161.077	4.34	
12971.00	89.820	158.800	6426.18	6619.94	-6270.27	2152.40	1657429.48	14270677.44	39°17'55.111"N	80°56'23.508"W	6629.42	161.054	1.49	
13066.00	89.570	156.200	6426.69	6714.93	-6358.03	2188.75	1657465.81	14270589.72	39°17'54.244"N	80°56'23.046"W	6724.23	161.004	2.75	
13160.00	89.720	154.880	6427.27	6808.84	-6443.59	2227.67	1657504.72	14270504.19	39°17'53.398"N	80°56'22.552"W	6817.80	160.929	1.41	
13254.00	89.200	153.320	6428.16	6902.61	-6528.15	2268.73	1657545.76	14270419.68	39°17'52.562"N	80°56'22.030"W	6911.14	160.836	1.75	
13349.00	90.400	155.240	6428.49	6997.41	-6613.73	2309.95	1657586.97	14270334.13	39°17'51.716"N	80°56'21.507"W	7005.52	160.747	2.38	
13443.00	92.090	156.800	6428.45	7091.32	-6699.59	2348.15	1657625.14	14270248.30	39°17'50.867"N	80°56'21.022"W	7099.17	160.685	2.45	
13537.00	90.950	157.510	6428.95	7185.28	-6786.18	2384.63	1657661.61	14270161.74	39°17'50.011"N	80°56'20.558"W	7192.96	160.639	1.43	
13632.00	89.970	157.530	6429.19	7280.27	-6873.96	2420.95	1657697.92	14270074.00	39°17'49.143"N	80°56'20.097"W	7287.82	160.598	1.03	
13727.00	89.570	153.940	6429.57	7375.18	-6960.55	2459.98	1657736.94	14269987.44	39°17'48.287"N	80°56'19.601"W	7382.47	160.536	3.80	
13821.00	89.660	154.530	6424.20	7468.98	-7045.20	2500.84	1657777.78	14269902.83	39°17'47.450"N	80°56'19.082"W	7475.90	160.457	0.63	
13916.00	89.750	163.190	6424.69	7563.87	-7133.73	2535.07	1657811.99	14269814.34	39°17'46.575"N	80°56'18.648"W	7570.77	160.437	9.12	
14010.00	89.910	160.050	6424.97	7657.67	-7222.92	2584.71	1657841.62	14269725.18	39°17'45.693"N	80°56'18.272"W	7664.74	160.451	3.34	



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Charleston Unit 3H
Ritchie County, WV	Wellbore	Charleston Unit 3H AWB
Ritchie		
Buck Run Pad		

## WELLPATH DATA (347 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (P/100ft)	Comments
14105.00	89.940	159.960	6425.10	7752.61	-7312.19	2597.19	1657874.09	14269635.95	39°17'44.810"N	80°56'17.859"W	7759.74	160.446	0.10	
14199.00	89.880	160.150	6425.24	7846.55	-7400.55	2629.26	1657906.14	14269547.62	39°17'43.937"N	80°56'17.432"W	7853.74	160.441	0.21	
14294.00	89.970	161.400	6425.37	7941.44	-7490.25	2660.54	1657937.41	14269457.96	39°17'43.050"N	80°56'17.055"W	7948.73	160.445	1.32	
14388.00	89.970	157.040	6425.42	8035.39	-7578.12	2693.88	1657970.74	14269370.13	39°17'42.182"N	80°56'16.632"W	8042.69	160.431	4.64	
14483.00	89.850	154.720	6425.57	8130.32	-7664.82	2732.70	1658009.54	14269283.46	39°17'41.324"N	80°56'16.139"W	8137.39	160.378	2.45	
14578.00	90.060	156.380	6425.64	8225.23	-7751.30	2772.02	1658048.84	14269197.02	39°17'40.469"N	80°56'15.639"W	8232.05	160.322	1.76	
14672.00	90.520	156.020	6425.17	8319.19	-7837.30	2809.95	1658086.76	14269111.05	39°17'39.619"N	80°56'15.138"W	8325.81	160.275	0.62	
14766.00	90.740	157.670	6424.13	8413.16	-7923.72	2846.91	1658123.70	14269024.66	39°17'38.765"N	80°56'14.688"W	8419.63	160.237	1.77	
14861.00	90.490	157.810	6423.11	8508.15	-8011.03	2882.89	1658159.67	14268936.78	39°17'37.895"N	80°56'14.231"W	8514.54	160.209	0.30	
14956.00	91.510	151.420	6421.45	8602.92	-8097.40	2923.59	1658200.36	14268851.05	39°17'37.047"N	80°56'13.714"W	8609.03	160.148	6.81	
15050.00	91.050	156.440	6419.35	8696.63	-8181.79	2964.88	1658241.63	14268766.70	39°17'36.213"N	80°56'13.190"W	8702.43	160.081	5.36	
15145.00	91.080	160.740	6417.59	8791.59	-8270.20	2999.54	1658276.28	14268678.32	39°17'35.339"N	80°56'12.750"W	8797.36	160.065	4.53	
15239.00	91.110	161.540	6415.79	8885.43	-8359.14	3029.92	1658306.64	14268589.42	39°17'34.460"N	80°56'12.364"W	8891.32	160.076	0.85	
15333.00	91.170	160.430	6413.92	8979.28	-8447.99	3060.54	1658337.25	14268500.61	39°17'33.581"N	80°56'11.976"W	8985.29	160.086	1.18	
15428.00	90.920	161.050	6412.19	9074.15	-8537.66	3091.87	1658368.57	14268410.97	39°17'32.695"N	80°56'11.578"W	9080.27	160.092	0.70	
15506.00	90.980	160.610	6410.89	9152.05	-8611.32	3117.48	1658394.17	14268337.34	39°17'31.967"N	80°56'11.253"W	9158.25	160.099	0.57	
15531.00	90.980	160.610	6410.47	9177.02	-8634.90	3125.78	1658402.47	14268313.77	39°17'31.734"N	80°56'11.148"W	9183.24	160.100	0.00	Projected MD at TD: 15531'

## HOLE & CASING SECTIONS - Ref Wellbore: Charleston Unit 3H AWB Ref Wellpath: Charleston Unit 3H AWP Proj: 15531'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start E/W (ft)	End N/S (ft)	End E/W (ft)
20in Conductor	25.00	65.00	40.00	25.00	65.00	0.00	0.00	0.00	0.00
13.375in Casing Surface	25.00	572.00	547.00	25.00	571.98	0.00	0.00	0.00	0.00
9.625in Casing Intermediate	25.00	2531.00	2506.00	25.00	2528.95	0.00	0.00	56.58	-25.43



# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Charleston Unit 3H
Area Ritchie County, WV	Wellbore	Charleston Unit 3H AWB
Field Ritchie		
Facility Buck Run Pad		

## TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Charleston Unit 3H BHL Rev-2		6428.00	-8623.13	3120.86	1658397.55	14268325.54	39°17'31.850"N	80°56'11.210"W	point
Charleston Unit 3H Landing Pt. Rev-2		6428.00	-571.26	-134.39	1655143.60	14276374.17	39°18'51.453"N	80°56'52.554"W	point
Charleston Unit 3H BHL Rev-1		6436.00	-8623.13	3120.86	1658397.55	14268325.54	39°17'31.850"N	80°56'11.210"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Charleston Unit 3H AWB Ref Wellpath: Charleston Unit 3H AWP Proj: 15531'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
25.00	5654.01	Generic gyro - northseeking (Standard)	01_SDI Gyro (100' - 5642.01')
5654.01	15506.00	Navitrak (AT Curve Short Spaced)	02_BH AT Curve <8-1/2"> (5654.01) (5695' - 15506')
15506.00	15531.00	Blind Drilling (std)	Projection to bit
			Wellbore
			Charleston Unit 3H AWB
			Charleston Unit 3H AWB
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# Actual Wellpath Report

Charleston Unit 3H AWP Proj: 15531'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Charleston Unit 3H
Field	Ritchie	Wellbore	Charleston Unit 3H AWB
Facility	Buck Run Pad		

## WELLPATH COMMENTS

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
112.00	1.000	111.520	112.00	SDI Gyro (112' - 5654.01')
5695.00	0.870	319.790	5692.86	BHI AT Curve <8-1/2" > (5654.01') (5695'-15506')
6307.00	47.766	204.241	6249.15	Middlesex: 6.307' MD
6508.00	68.361	185.585	6356.10	Burkett: 6.508' MD
6594.00	74.016	180.169	6383.10	Tully: 6.594' MD
6670.00	76.205	174.773	6402.93	Marcellus: 6.670' MD
15531.00	90.980	160.610	6410.47	Projected MD at TD: 15531'

## COMMENTS

Wellpath general comments  
 API: 47-085-10244-0000  
 BHI Job #: 7863383  
 Rig: Patterson 343  
 Duration: 3.21.2016 - 3.26.2016  
 SDI Gyro (112' - 5654.01')  
 BHI AT Curve <8-1/2" > (5654.01') (5695'-15506')  
 Middlesex: 6.307' MD  
 Burkett: 6.508' MD  
 Tully: 6.594' MD  
 Marcellus: 6.670' MD  
 Projected MD at TD: 15531'