

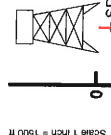


# ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV  
 Field: Ritchie  
 Facility: Buck Run Pad

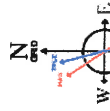
Slot: Slot #03  
 Well: Jackknife Unit 1H  
 Wellbore: Jackknife Unit 1H PWB

Plot reference wellpath is Jackknife Unit 1H 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: Slot #03): -1127 feet
Coordinates are in feet referenced to Slot
Grid System: NAD27 / UTM Zone 17 North, US feet
North Reference: Grid north
Scale: True distance
Depths are in feet
Created by: hareluk on 22/Mar/2016



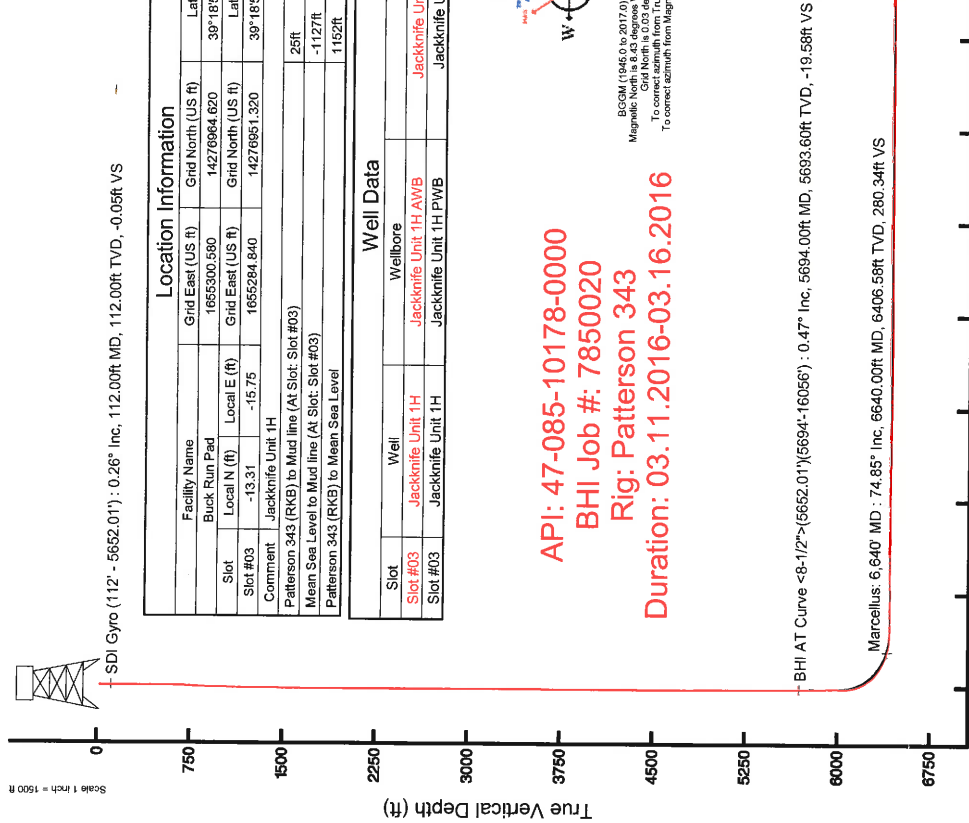
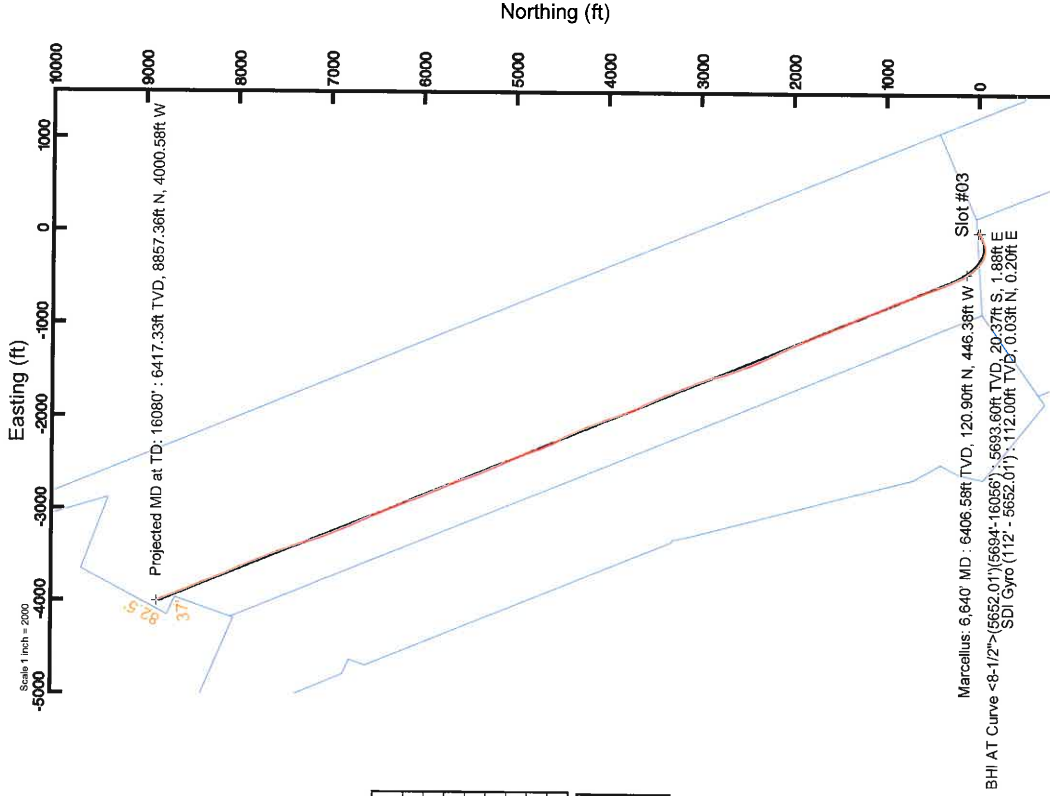
SDI Gyro (112° - 5652.01°) : 0.26° Inc, 112.00ft MD, 112.00ft TVD, -0.05ft VS

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Buck Run Pad	1655300.580	14278964.620	80°56'50.552"W
Slot	Local N (ft)	Local E (ft)	Grid North (US ft)
Slot #03	-13.31	-15.75	14278951.320
Comment	Jackknife Unit 1H		80°56'50.753"W
Patterson 343 (RKB) to Mud line (At Slot: Slot #03)			25ft
Mean Sea Level to Mud line (At Slot: Slot #03)			-1127ft
Patterson 343 (RKB) to Mean Sea Level			1152ft
Well Data			
Slot	Well	Wellbore	Wellpath
Slot #03	Jackknife Unit 1H	Jackknife Unit 1H AWB	Jackknife Unit 1H AWP Proj: 16080°
Slot #03	Jackknife Unit 1H	Jackknife Unit 1H PWB	Jackknife Unit 1H PWP Rev-A.0



BGGM (1946.0 to 2017.0) Dip: 66.73° Field: 52008.4 mT  
 Magnetic North is 8.46 degrees West of True North (at 04/Mar/2016)  
 To correct azimuth from True to Grid subtract 0.03 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.46 degrees

API: 47-085-10178-0000  
 BHI Job #: 7850020  
 Rig: Patterson 343  
 Duration: 03.11.2016-03.16.2016



Vertical Section (ft)  
 Azimuth 337.84° with reference 0.00 N, 0.00 E

05/26/2017





# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Buck Run Pad
Slot	Slot #03
Well	Jackknife Unit 1H
Wellbore	Jackknife Unit 1H 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	22/Mar/2016 at 15:01
Database/Source file	WA_MPL_EASTERNUS_Defn/Jackknife_Unit_1H_AWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North [ft]	East [ft]	Easting [US ft]	Northing [US ft]	Latitude	Longitude
Slot Location	-13.31	-15.75	1655284.84	14276951.32	39°18'57.159"N	80°56'50.753"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 #03)	25.00ft
	Section Origin	N 0.00, E 0.00 ft
	Section Azimuth	337.84°



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj.:16080'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #03
Area	Ritchie County, WV	Jackknife Unit 1H
Field	Ritchie	Jackknife Unit 1H AWB
Facility	Buck Run Pad	
	Well	
	Wellbore	

## WELLPATH DATA (353 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 (ft/100ft)	Comments
0.00	0.000	81.300	0.00	0.00	0.00	0.00	1655284.84	14276951.32	39°18'57.159"N	80°56'50.753"W	0.00	0.000	0.00	
25.00	0.000	81.300	25.00	0.00	0.00	0.00	1655284.84	14276951.32	39°18'57.159"N	80°56'50.753"W	0.00	0.000	0.00	
112.00	0.260	81.300	112.00	-0.05	0.03	0.20	1655285.04	14276951.35	39°18'57.159"N	80°56'50.750"W	0.20	81.300	0.30	SDI Gyro (112' - 5652.01')
137.00	0.280	70.260	137.00	-0.06	0.06	0.31	1655285.15	14276951.38	39°18'57.159"N	80°56'50.749"W	0.31	79.167	0.22	
162.00	0.340	100.800	162.00	-0.10	0.07	0.44	1655285.28	14276951.39	39°18'57.159"N	80°56'50.747"W	0.44	81.476	0.69	
187.00	0.310	76.580	187.00	-0.16	0.07	0.58	1655285.42	14276951.39	39°18'57.159"N	80°56'50.745"W	0.58	83.326	0.56	
212.00	0.340	92.270	212.00	-0.20	0.08	0.72	1655285.56	14276951.40	39°18'57.159"N	80°56'50.743"W	0.72	83.610	0.37	
237.00	0.250	78.190	237.00	-0.24	0.09	0.85	1655285.68	14276951.41	39°18'57.160"N	80°56'50.740"W	0.85	84.016	0.46	
262.00	0.280	107.240	262.00	-0.29	0.08	0.96	1655285.80	14276951.40	39°18'57.159"N	80°56'50.740"W	0.96	85.123	0.54	
287.00	0.110	63.460	287.00	-0.32	0.07	1.04	1655285.88	14276951.39	39°18'57.159"N	80°56'50.739"W	1.04	85.903	0.86	
312.00	0.130	131.170	312.00	-0.35	0.07	1.08	1655285.92	14276951.39	39°18'57.159"N	80°56'50.739"W	1.08	86.485	0.54	
337.00	0.040	133.930	337.00	-0.38	0.04	1.11	1655285.95	14276951.36	39°18'57.159"N	80°56'50.738"W	1.11	87.849	0.36	
362.00	0.180	138.740	362.00	-0.42	0.01	1.14	1655285.98	14276951.33	39°18'57.159"N	80°56'50.738"W	1.14	88.698	0.56	
387.00	0.080	111.360	387.00	-0.47	-0.03	1.18	1655286.02	14276951.29	39°18'57.158"N	80°56'50.737"W	1.18	91.448	0.46	
412.00	0.120	86.280	412.00	-0.49	-0.03	1.22	1655286.06	14276951.29	39°18'57.158"N	80°56'50.737"W	1.22	91.616	0.23	
437.00	0.120	53.990	437.00	-0.50	-0.02	1.27	1655286.11	14276951.30	39°18'57.158"N	80°56'50.736"W	1.27	90.786	0.27	
462.00	0.210	107.270	462.00	-0.52	-0.02	1.34	1655286.18	14276951.30	39°18'57.158"N	80°56'50.736"W	1.34	90.671	0.67	
487.00	0.170	109.150	487.00	-0.57	-0.04	1.41	1655286.25	14276951.28	39°18'57.158"N	80°56'50.735"W	1.42	91.676	0.16	
512.00	0.150	99.470	512.00	-0.61	-0.06	1.48	1655286.32	14276951.26	39°18'57.158"N	80°56'50.734"W	1.48	92.278	0.13	
537.00	0.140	89.410	537.00	-0.64	-0.06	1.54	1655286.38	14276951.26	39°18'57.158"N	80°56'50.733"W	1.55	92.373	0.11	
562.00	0.210	99.690	562.00	-0.68	-0.07	1.62	1655286.46	14276951.25	39°18'57.158"N	80°56'50.732"W	1.62	92.524	0.31	
587.00	0.290	120.530	587.00	-0.75	-0.11	1.72	1655286.56	14276951.21	39°18'57.158"N	80°56'50.731"W	1.72	93.701	0.48	
612.00	0.770	148.070	612.00	-0.97	-0.29	1.86	1655286.70	14276951.03	39°18'57.156"N	80°56'50.729"W	1.89	98.724	2.12	
637.00	1.150	151.780	637.00	-1.38	-0.65	2.07	1655286.91	14276950.67	39°18'57.152"N	80°56'50.726"W	2.17	107.414	1.54	
662.00	1.290	151.220	662.00	-1.91	-1.12	2.33	1655287.16	14276950.20	39°18'57.148"N	80°56'50.723"W	2.58	115.665	0.56	
687.00	1.670	151.790	687.00	-2.55	-1.68	2.63	1655287.47	14276949.64	39°18'57.142"N	80°56'50.719"W	3.13	122.618	1.52	
712.00	2.460	150.290	712.00	-3.45	-2.47	3.07	1655287.91	14276948.85	39°18'57.134"N	80°56'50.713"W	3.94	128.832	3.17	
737.00	2.670	148.890	737.00	-4.55	-3.44	3.64	1655288.48	14276947.88	39°18'57.125"N	80°56'50.706"W	5.00	133.370	0.88	
762.00	2.660	148.800	762.00	-5.70	-4.43	4.24	1655289.08	14276946.89	39°18'57.115"N	80°56'50.699"W	6.13	136.269	0.04	
787.00	2.780	148.030	786.88	-6.87	-5.44	4.86	1655289.70	14276945.88	39°18'57.105"N	80°56'50.691"W	7.30	138.228	0.50	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj: 16080'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #03
Area	Ritchie County, WV	Jackknife Unit 1H
Field	Ritchie	Jackknife Unit 1H AWB
Facility	Buck Run Pad	

## WELLPATH DATA (353 stations)

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 (ft/100ft)	Comments
812.00	2.790	149.310	811.85	-8.07	-6.48	5.49	1655290.33	14276944.84	39°18'57.095"N	80°56'50.683"W	8.49	139.714	0.25	
837.00	2.640	149.470	836.82	-9.24	-7.50	6.10	1655290.93	14276943.82	39°18'57.084"N	80°56'50.675"W	9.66	140.894	0.60	
862.00	2.510	148.850	861.80	-10.35	-8.46	6.67	1655291.51	14276942.86	39°18'57.075"N	80°56'50.668"W	10.78	141.753	0.53	
887.00	2.250	146.970	886.78	-11.38	-9.34	7.22	1655292.06	14276941.98	39°18'57.066"N	80°56'50.661"W	11.81	142.298	1.09	
912.00	2.000	145.910	911.76	-12.29	-10.12	7.73	1655292.57	14276941.21	39°18'57.059"N	80°56'50.654"W	12.73	142.601	1.01	
937.00	1.740	143.500	936.75	-13.08	-10.78	8.20	1655293.04	14276940.54	39°18'57.052"N	80°56'50.648"W	13.55	142.733	1.09	
962.00	1.670	138.220	961.74	-13.79	-11.36	8.67	1655293.51	14276939.97	39°18'57.046"N	80°56'50.642"W	14.29	142.638	0.69	
987.00	1.640	138.310	986.72	-14.47	-11.90	9.15	1655293.99	14276939.43	39°18'57.041"N	80°56'50.636"W	15.01	142.428	0.12	
1012.00	1.500	139.650	1011.72	-15.12	-12.41	9.60	1655294.44	14276938.91	39°18'57.036"N	80°56'50.630"W	15.69	142.276	0.58	
1037.00	1.380	140.340	1036.71	-15.72	-12.90	10.01	1655294.84	14276938.43	39°18'57.031"N	80°56'50.625"W	16.32	142.188	0.48	
1062.00	1.260	141.940	1061.70	-16.27	-13.34	10.37	1655295.20	14276937.98	39°18'57.027"N	80°56'50.621"W	16.90	142.151	0.50	
1087.00	0.990	136.110	1086.70	-16.73	-13.72	10.69	1655295.52	14276937.61	39°18'57.023"N	80°56'50.617"W	17.39	142.073	1.17	
1112.00	0.980	133.270	1111.69	-17.13	-14.02	10.99	1655295.83	14276937.31	39°18'57.020"N	80°56'50.613"W	17.81	141.896	0.20	
1137.00	0.850	129.680	1136.69	-17.49	-14.28	11.29	1655296.13	14276937.04	39°18'57.017"N	80°56'50.609"W	18.21	141.671	0.57	
1162.00	0.820	130.290	1161.69	-17.81	-14.52	11.57	1655296.41	14276936.81	39°18'57.015"N	80°56'50.605"W	18.56	141.443	0.13	
1187.00	0.890	139.260	1186.68	-18.15	-14.78	11.83	1655296.67	14276936.55	39°18'57.012"N	80°56'50.602"W	18.93	141.316	0.60	
1212.00	0.660	137.530	1211.68	-18.47	-15.03	12.06	1655296.89	14276936.29	39°18'57.010"N	80°56'50.599"W	19.27	141.267	0.92	
1237.00	0.570	142.320	1236.68	-18.73	-15.24	12.23	1655297.07	14276936.09	39°18'57.008"N	80°56'50.597"W	19.54	141.246	0.41	
1262.00	0.600	144.920	1261.68	-18.97	-15.44	12.38	1655297.22	14276935.88	39°18'57.006"N	80°56'50.595"W	19.79	141.277	0.16	
1287.00	0.600	133.720	1286.68	-19.22	-15.64	12.55	1655297.39	14276935.69	39°18'57.004"N	80°56'50.593"W	20.05	141.252	0.47	
1312.00	0.720	136.130	1311.68	-19.49	-15.84	12.76	1655297.59	14276935.48	39°18'57.002"N	80°56'50.590"W	20.34	141.164	0.49	
1337.00	0.640	141.540	1336.67	-19.77	-16.07	12.95	1655297.79	14276935.26	39°18'57.000"N	80°56'50.588"W	20.64	141.128	0.41	
1362.00	0.710	141.210	1361.67	-20.05	-16.30	13.13	1655297.97	14276935.03	39°18'56.997"N	80°56'50.586"W	20.93	141.132	0.28	
1387.00	0.610	144.080	1386.67	-20.33	-16.53	13.31	1655298.14	14276934.80	39°18'56.995"N	80°56'50.583"W	21.22	141.151	0.42	
1412.00	0.410	157.240	1411.67	-20.54	-16.72	13.42	1655298.26	14276934.61	39°18'56.993"N	80°56'50.582"W	21.44	141.235	0.92	
1437.00	0.400	150.440	1436.67	-20.72	-16.87	13.50	1655298.33	14276934.45	39°18'56.992"N	80°56'50.581"W	21.61	141.338	0.20	
1462.00	0.440	150.180	1461.67	-20.90	-17.03	13.59	1655298.43	14276934.29	39°18'56.990"N	80°56'50.580"W	21.79	141.413	0.16	
1487.00	0.490	150.720	1486.67	-21.10	-17.21	13.69	1655298.53	14276934.12	39°18'56.988"N	80°56'50.578"W	21.99	141.496	0.20	
1512.00	0.380	152.680	1511.67	-21.29	-17.38	13.78	1655298.62	14276933.95	39°18'56.987"N	80°56'50.577"W	22.18	141.582	0.44	
1537.00	0.590	169.640	1536.67	-21.50	-17.58	13.84	1655298.68	14276933.75	39°18'56.985"N	80°56'50.577"W	22.37	141.778	1.01	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #03
Operator:	ANTERO RESOURCES CORPORATION		Jackknife Unit 1H
Area:	Ritchie County, WV		Jackknife Unit 1H AWB
Field:	Ritchie		
Facility:	Buck Run Pad		

WELLPATH DATA (353 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)	
1562.00	0.390	176.710	1561.66	-21.71	-17.79	13.87	1655298.71	14276933.54	39°18'56.983"N	80°56'50.576"W	22.56	142.054	0.83	
1587.00	0.410	165.600	1586.66	-21.88	-17.96	13.90	1655298.73	14276933.37	39°18'56.981"N	80°56'50.576"W	22.71	142.266	0.32	
1612.00	0.290	161.250	1611.66	-22.03	-18.11	13.94	1655298.77	14276933.22	39°18'56.980"N	80°56'50.575"W	22.85	142.407	0.49	
1637.00	0.370	163.630	1636.66	-22.17	-18.24	13.98	1655298.82	14276933.08	39°18'56.978"N	80°56'50.575"W	22.99	142.531	0.32	
1662.00	0.400	155.120	1661.66	-22.34	-18.40	14.04	1655298.88	14276932.93	39°18'56.977"N	80°56'50.574"W	23.15	142.650	0.26	
1687.00	0.370	154.360	1686.66	-22.51	-18.55	14.11	1655298.95	14276932.78	39°18'56.975"N	80°56'50.573"W	23.31	142.736	0.12	
1712.00	0.530	159.390	1711.66	-22.70	-18.73	14.19	1655299.02	14276932.59	39°18'56.973"N	80°56'50.572"W	23.50	142.857	0.66	
1737.00	0.440	172.690	1736.66	-22.91	-18.94	14.24	1655299.08	14276932.39	39°18'56.971"N	80°56'50.571"W	23.70	143.052	0.57	
1762.00	0.410	194.130	1761.66	-23.08	-19.12	14.23	1655299.07	14276932.21	39°18'56.970"N	80°56'50.572"W	23.84	143.333	0.64	
1787.00	0.320	197.510	1786.66	-23.20	-19.27	14.19	1655299.03	14276932.06	39°18'56.968"N	80°56'50.572"W	23.93	143.635	0.37	
1812.00	0.290	198.830	1811.66	-23.30	-19.40	14.15	1655298.98	14276931.93	39°18'56.967"N	80°56'50.573"W	24.01	143.893	0.12	
1837.00	0.290	213.060	1836.66	-23.39	-19.51	14.09	1655298.93	14276931.82	39°18'56.966"N	80°56'50.573"W	24.07	144.157	0.29	
1862.00	0.240	217.830	1861.66	-23.45	-19.61	14.03	1655298.86	14276931.72	39°18'56.965"N	80°56'50.574"W	24.11	144.417	0.22	
1887.00	0.280	203.790	1886.66	-23.52	-19.70	13.97	1655298.81	14276931.62	39°18'56.964"N	80°56'50.575"W	24.15	144.661	0.30	
1912.00	0.300	227.670	1911.66	-23.58	-19.80	13.90	1655298.73	14276931.52	39°18'56.963"N	80°56'50.576"W	24.19	144.939	0.49	
1937.00	0.280	230.960	1936.66	-23.62	-19.89	13.80	1655298.64	14276931.44	39°18'56.962"N	80°56'50.577"W	24.21	145.236	0.10	
1962.00	0.270	224.090	1961.66	-23.66	-19.97	13.71	1655298.55	14276931.36	39°18'56.961"N	80°56'50.578"W	24.22	145.517	0.14	
1987.00	0.290	204.780	1986.66	-23.73	-20.07	13.65	1655298.48	14276931.26	39°18'56.960"N	80°56'50.579"W	24.27	145.782	0.38	
2012.00	0.320	216.040	2011.66	-23.81	-20.18	13.58	1655298.41	14276931.15	39°18'56.959"N	80°56'50.580"W	24.32	146.065	0.27	
2037.00	0.360	208.860	2036.66	-23.90	-20.31	13.50	1655298.33	14276931.02	39°18'56.958"N	80°56'50.581"W	24.38	146.383	0.23	
2062.00	0.450	221.410	2061.66	-23.99	-20.45	13.40	1655298.23	14276930.88	39°18'56.956"N	80°56'50.582"W	24.45	146.768	0.50	
2087.00	0.360	239.930	2086.65	-24.05	-20.56	13.26	1655298.10	14276930.77	39°18'56.955"N	80°56'50.584"W	24.47	147.174	0.63	
2112.00	0.400	236.810	2111.65	-24.07	-20.65	13.12	1655297.96	14276930.68	39°18'56.954"N	80°56'50.586"W	24.47	147.562	0.18	
2137.00	0.260	234.140	2136.65	-24.10	-20.73	13.00	1655297.84	14276930.60	39°18'56.954"N	80°56'50.587"W	24.47	147.899	0.56	
2162.00	0.230	216.110	2161.65	-24.14	-20.80	12.93	1655297.76	14276930.53	39°18'56.953"N	80°56'50.588"W	24.49	148.140	0.33	
2187.00	0.290	226.110	2186.65	-24.19	-20.89	12.85	1655297.69	14276930.44	39°18'56.952"N	80°56'50.589"W	24.52	148.393	0.30	
2212.00	0.390	198.840	2211.65	-24.28	-21.01	12.78	1655297.61	14276930.32	39°18'56.951"N	80°56'50.590"W	24.59	148.690	0.75	
2237.00	0.290	202.380	2236.65	-24.39	-21.15	12.73	1655297.56	14276930.18	39°18'56.950"N	80°56'50.591"W	24.69	148.960	0.41	
2262.00	0.230	191.040	2261.65	-24.48	-21.26	12.69	1655297.53	14276930.07	39°18'56.948"N	80°56'50.591"W	24.76	149.155	0.32	
2287.00	0.220	207.450	2286.65	-24.55	-21.35	12.66	1655297.50	14276929.98	39°18'56.948"N	80°56'50.592"W	24.82	149.327	0.26	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

## WELLPATH DATA (353 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 P/100ft	Comments
2312.00	0.280	208.150	2311.65	-24.62	-21.45	12.61	1655297.45	14276929.88	39°18'56.947"N	80°56'50.592"W	24.88	149.541	0.24	
2337.00	0.240	216.720	2336.65	-24.69	-21.54	12.55	1655297.39	14276929.79	39°18'56.946"N	80°56'50.593"W	24.93	149.772	0.22	
2362.00	0.270	180.830	2361.65	-24.77	-21.64	12.52	1655297.35	14276929.69	39°18'56.945"N	80°56'50.593"W	25.00	149.952	0.64	
2387.00	0.180	207.290	2386.65	-24.85	-21.74	12.50	1655297.34	14276929.59	39°18'56.944"N	80°56'50.594"W	25.08	150.097	0.94	
2412.00	0.250	203.750	2411.65	-24.91	-21.82	12.46	1655297.30	14276929.51	39°18'56.943"N	80°56'50.594"W	25.13	150.272	0.28	
2437.00	0.230	232.510	2436.65	-24.96	-21.90	12.40	1655297.23	14276929.43	39°18'56.942"N	80°56'50.595"W	25.17	150.485	0.48	
2462.00	0.180	238.960	2461.65	-24.98	-21.95	12.33	1655297.16	14276929.38	39°18'56.942"N	80°56'50.596"W	25.18	150.687	0.22	
2487.00	0.140	255.320	2486.66	-24.98	-21.98	12.26	1655297.10	14276929.35	39°18'56.941"N	80°56'50.597"W	25.17	150.844	0.24	
2512.01	0.150	227.330	2511.66	-24.99	-22.01	12.21	1655297.04	14276929.32	39°18'56.941"N	80°56'50.597"W	25.17	150.984	0.28	
2537.01	0.080	200.000	2536.66	-25.01	-22.05	12.18	1655297.01	14276929.28	39°18'56.941"N	80°56'50.598"W	25.19	151.086	0.35	
2562.01	0.130	189.930	2561.66	-25.05	-22.09	12.17	1655297.00	14276929.23	39°18'56.940"N	80°56'50.598"W	25.22	151.166	0.21	
2587.01	0.210	216.650	2586.66	-25.10	-22.16	12.14	1655296.97	14276929.17	39°18'56.940"N	80°56'50.599"W	25.26	151.291	0.44	
2612.01	0.190	220.330	2611.66	-25.14	-22.23	12.08	1655296.92	14276929.10	39°18'56.939"N	80°56'50.599"W	25.30	151.473	0.10	
2637.01	0.180	238.610	2636.66	-25.17	-22.28	12.02	1655296.86	14276929.05	39°18'56.938"N	80°56'50.600"W	25.32	151.650	0.24	
2662.01	0.260	241.720	2661.66	-25.18	-22.33	11.94	1655296.77	14276929.00	39°18'56.938"N	80°56'50.601"W	25.32	151.867	0.32	
2687.01	0.190	261.380	2686.66	-25.18	-22.36	11.85	1655296.68	14276928.97	39°18'56.938"N	80°56'50.602"W	25.30	152.084	0.41	
2712.01	0.160	234.380	2711.66	-25.17	-22.39	11.78	1655296.61	14276928.94	39°18'56.937"N	80°56'50.603"W	25.30	152.251	0.35	
2737.01	0.060	190.300	2736.66	-25.19	-22.42	11.75	1655296.58	14276928.91	39°18'56.937"N	80°56'50.603"W	25.31	152.347	0.50	
2762.01	0.090	183.190	2761.66	-25.22	-22.45	11.74	1655296.58	14276928.88	39°18'56.937"N	80°56'50.603"W	25.34	152.388	0.13	
2787.01	0.180	219.780	2786.66	-25.26	-22.50	11.72	1655296.55	14276928.83	39°18'56.936"N	80°56'50.604"W	25.37	152.493	0.48	
2812.01	0.190	213.740	2811.66	-25.30	-22.57	11.67	1655296.50	14276928.76	39°18'56.936"N	80°56'50.604"W	25.40	152.656	0.09	
2837.01	0.160	217.990	2836.66	-25.34	-22.63	11.62	1655296.46	14276928.70	39°18'56.935"N	80°56'50.605"W	25.44	152.809	0.13	
2862.01	0.170	225.090	2861.66	-25.37	-22.68	11.58	1655296.41	14276928.65	39°18'56.934"N	80°56'50.606"W	25.47	152.960	0.09	
2887.01	0.190	228.080	2886.66	-25.40	-22.74	11.52	1655296.36	14276928.59	39°18'56.934"N	80°56'50.606"W	25.49	153.130	0.09	
2912.01	0.240	232.900	2911.66	-25.43	-22.79	11.45	1655296.28	14276928.53	39°18'56.933"N	80°56'50.607"W	25.51	153.335	0.21	
2937.01	0.190	234.180	2936.66	-25.45	-22.85	11.37	1655296.21	14276928.48	39°18'56.933"N	80°56'50.608"W	25.52	153.543	0.20	
2962.01	0.180	246.700	2961.66	-25.46	-22.89	11.30	1655296.14	14276928.44	39°18'56.932"N	80°56'50.609"W	25.53	153.723	0.17	
2987.01	0.180	238.170	2986.66	-25.47	-22.93	11.23	1655296.07	14276928.40	39°18'56.932"N	80°56'50.610"W	25.53	153.898	0.11	
3012.01	0.210	255.540	3011.66	-25.47	-22.96	11.15	1655295.99	14276928.37	39°18'56.932"N	80°56'50.611"W	25.53	154.087	0.26	
3037.01	0.190	253.450	3036.66	-25.46	-22.98	11.07	1655295.91	14276928.35	39°18'56.931"N	80°56'50.612"W	25.51	154.279	0.09	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj: 16080'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #03
Operator	ANTERO RESOURCES CORPORATION		Jackknife Unit 1H
Area	Ritchie County, WV		Jackknife Unit 1H AWP
Field	Ritchie		
Facility	Buck Run Pad		

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
	[°]	[°]	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)	[°]	[°]	(ft)	[°]	(#/100ft)	
3062.01	0.080	225.110	3061.66	-25.46	-23.01	11.02	1655295.85	14276928.32	39°18'56.931"N	80°56'50.612"W	25.51	154.408	0.50	
3087.01	0.230	230.410	3086.66	-25.48	-23.05	10.97	1655295.80	14276928.28	39°18'56.931"N	80°56'50.613"W	25.53	154.555	0.60	
3112.01	0.180	227.870	3111.66	-25.51	-23.11	10.90	1655295.74	14276928.22	39°18'56.930"N	80°56'50.614"W	25.55	154.748	0.20	
3137.01	0.290	239.320	3136.66	-25.54	-23.17	10.82	1655295.65	14276928.16	39°18'56.930"N	80°56'50.615"W	25.57	154.973	0.48	
3162.01	0.210	248.800	3161.66	-25.54	-23.22	10.72	1655295.55	14276928.11	39°18'56.929"N	80°56'50.616"W	25.57	155.217	0.36	
3187.01	0.260	251.090	3186.66	-25.54	-23.25	10.62	1655295.46	14276928.08	39°18'56.929"N	80°56'50.618"W	25.56	155.446	0.20	
3212.01	0.200	243.980	3211.66	-25.54	-23.29	10.53	1655295.37	14276928.04	39°18'56.928"N	80°56'50.619"W	25.56	155.670	0.27	
3237.01	0.120	205.870	3236.66	-25.56	-23.33	10.48	1655295.32	14276928.00	39°18'56.928"N	80°56'50.619"W	25.58	155.813	0.52	
3262.01	0.150	213.800	3261.66	-25.60	-23.38	10.45	1655295.29	14276927.95	39°18'56.927"N	80°56'50.620"W	25.61	155.920	0.14	
3287.01	0.160	160.410	3286.66	-25.65	-23.44	10.44	1655295.28	14276927.89	39°18'56.927"N	80°56'50.620"W	25.66	155.988	0.56	
3312.01	0.200	205.720	3311.66	-25.71	-23.51	10.44	1655295.27	14276927.81	39°18'56.926"N	80°56'50.620"W	25.73	156.088	0.57	
3337.01	0.260	215.820	3336.66	-25.77	-23.60	10.38	1655295.22	14276927.73	39°18'56.925"N	80°56'50.621"W	25.78	156.251	0.29	
3362.01	0.310	232.780	3361.66	-25.82	-23.69	10.30	1655295.13	14276927.64	39°18'56.924"N	80°56'50.622"W	25.83	156.505	0.39	
3387.01	0.150	183.110	3386.66	-25.87	-23.76	10.24	1655295.08	14276927.57	39°18'56.924"N	80°56'50.622"W	25.87	156.683	0.97	
3412.01	0.120	217.030	3411.66	-25.91	-23.81	10.22	1655295.06	14276927.52	39°18'56.923"N	80°56'50.623"W	25.92	156.765	0.34	
3437.01	0.060	216.210	3436.66	-25.93	-23.85	10.20	1655295.04	14276927.48	39°18'56.923"N	80°56'50.623"W	25.94	156.841	0.24	
3462.01	0.050	229.340	3461.66	-25.94	-23.86	10.18	1655295.02	14276927.47	39°18'56.923"N	80°56'50.623"W	25.95	156.888	0.06	
3487.01	0.040	149.090	3486.66	-25.95	-23.88	10.18	1655295.02	14276927.45	39°18'56.923"N	80°56'50.623"W	25.96	156.909	0.23	
3512.01	0.020	190.420	3511.66	-25.97	-23.89	10.18	1655295.02	14276927.44	39°18'56.922"N	80°56'50.623"W	25.97	156.911	0.11	
3537.01	0.060	137.290	3536.66	-25.98	-23.90	10.19	1655295.03	14276927.43	39°18'56.922"N	80°56'50.623"W	25.99	156.907	0.20	
3562.01	0.080	143.840	3561.66	-26.01	-23.93	10.21	1655295.05	14276927.40	39°18'56.922"N	80°56'50.623"W	26.02	156.889	0.09	
3587.01	0.050	161.560	3586.66	-26.04	-23.95	10.23	1655295.06	14276927.38	39°18'56.922"N	80°56'50.623"W	26.04	156.882	0.14	
3612.01	0.130	157.560	3611.66	-26.08	-23.99	10.24	1655295.08	14276927.34	39°18'56.921"N	80°56'50.622"W	26.08	156.885	0.32	
3637.01	0.130	146.160	3636.66	-26.13	-24.04	10.27	1655295.10	14276927.29	39°18'56.921"N	80°56'50.622"W	26.14	156.874	0.10	
3662.01	0.100	144.670	3661.66	-26.18	-24.08	10.29	1655295.13	14276927.25	39°18'56.921"N	80°56'50.622"W	26.19	156.852	0.12	
3687.01	0.110	167.840	3686.66	-26.23	-24.12	10.31	1655295.15	14276927.21	39°18'56.920"N	80°56'50.621"W	26.23	156.852	0.17	
3712.01	0.150	130.380	3711.66	-26.28	-24.17	10.34	1655295.18	14276927.16	39°18'56.920"N	80°56'50.621"W	26.29	156.830	0.37	
3737.01	0.120	153.330	3736.66	-26.34	-24.21	10.38	1655295.21	14276927.12	39°18'56.919"N	80°56'50.621"W	26.34	156.795	0.24	
3762.01	0.140	110.040	3761.66	-26.38	-24.24	10.42	1655295.26	14276927.09	39°18'56.919"N	80°56'50.620"W	26.39	156.743	0.39	
3787.01	0.100	181.380	3786.66	-26.42	-24.28	10.45	1655295.28	14276927.05	39°18'56.919"N	80°56'50.620"W	26.43	156.715	0.58	



# Actual Wellpath Report

Jackknife Unit 1HAWP Proj: 16080'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

WELLPATH DATA (353 stations)														
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 (ft/100ft)	Comments
3812.01	0.090	183.540	3811.66	-26.46	-24.32	10.45	1655295.28	14276927.01	39°18'56.918"N	80°56'50.620"W	26.47	156.754	0.04	
3837.01	0.090	221.510	3836.65	-26.49	-24.35	10.43	1655295.27	14276926.98	39°18'56.918"N	80°56'50.620"W	26.49	156.812	0.23	
3862.01	0.080	216.990	3861.65	-26.51	-24.38	10.41	1655295.24	14276926.95	39°18'56.918"N	80°56'50.620"W	26.51	156.883	0.05	
3887.01	0.120	214.280	3886.65	-26.53	-24.42	10.38	1655295.22	14276926.91	39°18'56.917"N	80°56'50.621"W	26.53	156.963	0.16	
3912.01	0.110	263.030	3911.65	-26.54	-24.44	10.34	1655295.18	14276926.89	39°18'56.917"N	80°56'50.621"W	26.54	157.060	0.38	
3937.01	0.090	228.710	3936.65	-26.54	-24.46	10.31	1655295.14	14276926.87	39°18'56.917"N	80°56'50.622"W	26.54	157.150	0.23	
3962.01	0.090	220.140	3961.65	-26.55	-24.48	10.28	1655295.11	14276926.85	39°18'56.917"N	80°56'50.622"W	26.55	157.228	0.05	
3987.01	0.040	273.620	3986.65	-26.56	-24.50	10.26	1655295.09	14276926.83	39°18'56.916"N	80°56'50.622"W	26.56	157.283	0.29	
4012.01	0.080	326.110	4011.65	-26.54	-24.48	10.24	1655295.07	14276926.85	39°18'56.917"N	80°56'50.622"W	26.54	157.307	0.26	
4037.01	0.060	211.680	4036.65	-26.53	-24.48	10.22	1655295.06	14276926.85	39°18'56.917"N	80°56'50.623"W	26.53	157.337	0.47	
4062.01	0.020	330.290	4061.65	-26.53	-24.49	10.21	1655295.05	14276926.84	39°18'56.917"N	80°56'50.623"W	26.53	157.362	0.29	
4087.01	0.010	226.350	4086.65	-26.53	-24.49	10.21	1655295.04	14276926.84	39°18'56.917"N	80°56'50.623"W	26.53	157.367	0.10	
4112.01	0.110	170.120	4111.65	-26.55	-24.51	10.21	1655295.05	14276926.82	39°18'56.916"N	80°56'50.623"W	26.55	157.383	0.42	
4137.01	0.030	179.230	4136.65	-26.58	-24.54	10.22	1655295.05	14276926.79	39°18'56.916"N	80°56'50.623"W	26.58	157.400	0.32	
4162.01	0.020	83.350	4161.65	-26.59	-24.55	10.22	1655295.06	14276926.78	39°18'56.916"N	80°56'50.623"W	26.59	157.396	0.15	
4187.01	0.130	160.570	4186.65	-26.62	-24.57	10.23	1655295.07	14276926.76	39°18'56.916"N	80°56'50.622"W	26.62	157.390	0.51	
4212.01	0.070	211.600	4211.65	-26.66	-24.61	10.24	1655295.07	14276926.72	39°18'56.915"N	80°56'50.622"W	26.66	157.420	0.41	
4237.01	0.090	175.230	4236.65	-26.68	-24.65	10.23	1655295.06	14276926.68	39°18'56.915"N	80°56'50.622"W	26.68	157.460	0.21	
4262.01	0.090	210.950	4261.65	-26.71	-24.68	10.22	1655295.06	14276926.65	39°18'56.915"N	80°56'50.623"W	26.71	157.506	0.22	
4287.01	0.120	186.010	4286.65	-26.75	-24.72	10.21	1655295.04	14276926.61	39°18'56.914"N	80°56'50.623"W	26.75	157.567	0.22	
4312.01	0.120	195.880	4311.65	-26.79	-24.78	10.20	1655295.03	14276926.55	39°18'56.914"N	80°56'50.623"W	26.79	157.628	0.08	
4337.01	0.120	217.550	4336.65	-26.83	-24.82	10.17	1655295.01	14276926.51	39°18'56.913"N	80°56'50.623"W	26.83	157.711	0.18	
4362.01	0.080	208.670	4361.65	-26.85	-24.86	10.15	1655294.99	14276926.47	39°18'56.913"N	80°56'50.624"W	26.85	157.788	0.17	
4387.01	0.060	270.020	4386.65	-26.86	-24.87	10.13	1655294.96	14276926.46	39°18'56.913"N	80°56'50.624"W	26.86	157.843	0.29	
4412.01	0.030	284.800	4411.65	-26.85	-24.87	10.11	1655294.95	14276926.46	39°18'56.913"N	80°56'50.624"W	26.85	157.880	0.13	
4437.01	0.070	304.550	4436.65	-26.83	-24.86	10.09	1655294.93	14276926.47	39°18'56.913"N	80°56'50.624"W	26.83	157.909	0.17	
4462.01	0.020	321.660	4461.65	-26.81	-24.85	10.08	1655294.91	14276926.48	39°18'56.913"N	80°56'50.624"W	26.81	157.930	0.20	
4487.01	0.090	289.290	4486.65	-26.80	-24.84	10.05	1655294.89	14276926.49	39°18'56.913"N	80°56'50.625"W	26.80	157.964	0.30	
4512.01	0.100	242.830	4511.65	-26.79	-24.84	10.02	1655294.85	14276926.49	39°18'56.913"N	80°56'50.625"W	26.79	158.042	0.30	
4537.01	0.080	305.680	4536.65	-26.77	-24.84	9.98	1655294.82	14276926.49	39°18'56.913"N	80°56'50.626"W	26.77	158.109	0.38	





# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

WELLPATH DATA (353 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
4562.01	0.160	282.300	4561.65	-26.74	-24.82	9.93	1655294.77	14276926.51	39°18'56.913"N	80°56'50.626"W	26.74	158.190	0.37	
4587.01	0.090	288.710	4586.65	-26.71	-24.82	9.88	1655294.72	14276926.51	39°18'56.913"N	80°56'50.627"W	26.71	158.292	0.30	
4612.01	0.100	259.290	4611.65	-26.70	-24.82	9.84	1655294.68	14276926.51	39°18'56.913"N	80°56'50.627"W	26.70	158.377	0.07	
4637.01	0.140	265.670	4636.65	-26.69	-24.83	9.79	1655294.62	14276926.50	39°18'56.913"N	80°56'50.628"W	26.69	158.486	0.17	
4662.01	0.180	291.830	4661.65	-26.65	-24.82	9.72	1655294.56	14276926.51	39°18'56.913"N	80°56'50.629"W	26.65	158.610	0.33	
4687.01	0.280	277.410	4686.65	-26.59	-24.79	9.62	1655294.46	14276926.54	39°18'56.914"N	80°56'50.630"W	26.60	158.787	0.46	
4712.01	0.280	281.400	4711.65	-26.53	-24.77	9.50	1655294.34	14276926.56	39°18'56.914"N	80°56'50.632"W	26.53	159.014	0.08	
4737.01	0.240	280.190	4736.65	-26.47	-24.75	9.39	1655294.23	14276926.58	39°18'56.914"N	80°56'50.633"W	26.47	159.222	0.16	
4762.01	0.270	286.800	4761.65	-26.40	-24.73	9.28	1655294.12	14276926.60	39°18'56.914"N	80°56'50.635"W	26.41	159.421	0.17	
4787.01	0.270	299.970	4786.65	-26.32	-24.68	9.18	1655294.01	14276926.65	39°18'56.915"N	80°56'50.636"W	26.33	159.604	0.25	
4812.01	0.280	317.770	4811.65	-26.21	-24.61	9.08	1655293.92	14276926.72	39°18'56.915"N	80°56'50.637"W	26.23	159.736	0.34	
4837.01	0.280	310.300	4836.65	-26.10	-24.52	9.00	1655293.83	14276926.81	39°18'56.916"N	80°56'50.638"W	26.12	159.852	0.15	
4862.01	0.270	309.000	4861.65	-26.00	-24.44	8.90	1655293.74	14276926.89	39°18'56.917"N	80°56'50.639"W	26.02	159.985	0.05	
4887.01	0.320	306.580	4886.65	-25.89	-24.37	8.80	1655293.64	14276926.96	39°18'56.918"N	80°56'50.641"W	25.91	160.137	0.21	
4912.01	0.290	308.740	4911.65	-25.77	-24.28	8.70	1655293.53	14276927.05	39°18'56.919"N	80°56'50.642"W	25.79	160.296	0.13	
4937.01	0.300	317.530	4936.65	-25.65	-24.20	8.60	1655293.44	14276927.13	39°18'56.919"N	80°56'50.643"W	25.68	160.426	0.19	
4962.01	0.320	303.890	4961.65	-25.53	-24.11	8.50	1655293.34	14276927.22	39°18'56.920"N	80°56'50.645"W	25.56	160.577	0.31	
4987.01	0.260	313.860	4986.65	-25.42	-24.03	8.40	1655293.24	14276927.30	39°18'56.921"N	80°56'50.646"W	25.46	160.728	0.31	
5012.01	0.320	300.020	5011.65	-25.32	-23.96	8.30	1655293.14	14276927.37	39°18'56.922"N	80°56'50.647"W	25.35	160.889	0.37	
5037.01	0.300	302.390	5036.65	-25.21	-23.89	8.19	1655293.02	14276927.44	39°18'56.923"N	80°56'50.649"W	25.25	161.085	0.10	
5062.01	0.370	298.860	5061.65	-25.09	-23.81	8.06	1655292.90	14276927.52	39°18'56.923"N	80°56'50.650"W	25.14	161.302	0.29	
5087.01	0.300	285.140	5086.65	-24.99	-23.76	7.93	1655292.76	14276927.57	39°18'56.924"N	80°56'50.652"W	25.04	161.551	0.42	
5112.01	0.370	299.370	5111.65	-24.89	-23.70	7.79	1655292.63	14276927.63	39°18'56.924"N	80°56'50.654"W	24.95	161.800	0.43	
5137.01	0.500	311.580	5136.65	-24.73	-23.59	7.64	1655292.48	14276927.74	39°18'56.925"N	80°56'50.655"W	24.79	162.053	0.64	
5162.01	0.430	309.980	5161.65	-24.55	-23.46	7.49	1655292.32	14276927.87	39°18'56.927"N	80°56'50.657"W	24.62	162.298	0.28	
5187.01	0.410	306.800	5186.65	-24.39	-23.34	7.34	1655292.18	14276927.99	39°18'56.928"N	80°56'50.659"W	24.47	162.537	0.12	
5212.01	0.470	302.330	5211.65	-24.23	-23.23	7.18	1655292.02	14276928.10	39°18'56.929"N	80°56'50.661"W	24.32	162.816	0.28	
5237.01	0.430	322.710	5236.64	-24.05	-23.10	7.04	1655291.88	14276928.23	39°18'56.930"N	80°56'50.663"W	24.15	163.050	0.66	
5262.01	0.600	301.820	5261.64	-23.86	-22.96	6.87	1655291.71	14276928.37	39°18'56.932"N	80°56'50.665"W	23.97	163.335	1.00	
5287.01	0.440	295.990	5286.64	-23.68	-22.85	6.68	1655291.51	14276928.48	39°18'56.933"N	80°56'50.668"W	23.80	163.713	0.67	

# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #03
Operator	ANTERO RESOURCES CORPORATION	Well	Jackknife Unit 1H
Area	Ritchie County, WV	Wellbore	Jackknife Unit 1H AWB
Field	Ritchie		
Facility	Buck Run Pad		

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect			Grid North			Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Comments
				North (ft)	East (ft)	Interpolated/extrapolated station	US ft	US ft							
5312.01	0.610	290.920	5311.64	-23.52	-22.76	6.47	1655291.30	14276928.57	39°18'56.934"N	80°56'50.670"W	23.66	164.142	0.70		
5337.01	0.670	300.990	5336.64	-23.31	-22.64	6.22	1655291.05	14276928.69	39°18'56.935"N	80°56'50.674"W	23.47	164.646	0.51		
5362.01	0.880	296.070	5361.64	-23.05	-22.48	5.92	1655290.76	14276928.85	39°18'56.936"N	80°56'50.677"W	23.24	165.250	0.88		
5387.01	0.790	299.100	5386.63	-22.77	-22.31	5.59	1655290.43	14276929.02	39°18'56.938"N	80°56'50.681"W	23.00	165.921	0.40		
5412.01	0.810	293.310	5411.63	-22.51	-22.15	5.28	1655290.12	14276929.17	39°18'56.940"N	80°56'50.685"W	22.78	166.591	0.33		
5437.01	0.860	303.010	5436.63	-22.23	-21.98	4.96	1655289.80	14276929.35	39°18'56.941"N	80°56'50.690"W	22.54	167.280	0.60		
5462.01	0.900	294.250	5461.63	-21.93	-21.80	4.63	1655289.46	14276929.53	39°18'56.943"N	80°56'50.694"W	22.29	168.020	0.56		
5487.01	0.900	299.900	5486.62	-21.64	-21.62	4.28	1655289.11	14276929.71	39°18'56.945"N	80°56'50.698"W	22.04	168.812	0.35		
5512.01	0.850	295.420	5511.62	-21.35	-21.44	3.94	1655288.78	14276929.88	39°18'56.947"N	80°56'50.703"W	21.80	169.592	0.34		
5537.01	0.820	307.630	5536.62	-21.05	-21.25	3.63	1655288.47	14276930.07	39°18'56.949"N	80°56'50.706"W	21.56	170.309	0.72		
5562.01	0.730	295.760	5561.62	-20.78	-21.08	3.34	1655288.18	14276930.25	39°18'56.951"N	80°56'50.710"W	21.34	170.983	0.73		
5587.01	0.780	294.700	5586.61	-20.54	-20.94	3.05	1655287.89	14276930.39	39°18'56.952"N	80°56'50.714"W	21.16	171.721	0.21		
5612.01	0.780	301.960	5611.61	-20.28	-20.77	2.75	1655287.59	14276930.55	39°18'56.953"N	80°56'50.718"W	20.96	172.466	0.40		
5637.01	0.690	293.590	5636.61	-20.03	-20.62	2.47	1655287.30	14276930.70	39°18'56.955"N	80°56'50.721"W	20.77	173.184	0.56		
5662.01	0.760	298.130	5661.61	-19.89	-20.54	2.29	1655287.13	14276930.79	39°18'56.956"N	80°56'50.723"W	20.67	173.626	0.60		
5684.00	0.470	282.940	5683.60	-19.58	-20.37	1.88	1655286.72	14276930.96	39°18'56.957"N	80°56'50.729"W	20.46	174.724	0.79	BH AT Curve <-8-1/2'> (5652.01') (5694'-16056')	
5728.00	1.790	251.950	5727.59	-19.46	-20.51	1.24	1655286.08	14276930.82	39°18'56.956"N	80°56'50.737"W	20.54	176.538	4.14		
5777.00	6.510	254.770	5776.45	-19.07	-21.47	-2.17	1655282.67	14276929.86	39°18'56.946"N	80°56'50.780"W	21.58	185.769	9.64		
5823.00	11.190	254.690	5821.89	-18.22	-23.34	-8.99	1655275.85	14276927.99	39°18'56.928"N	80°56'50.867"W	25.01	201.077	10.17		
5870.00	15.910	252.820	5867.57	-17.12	-26.45	-19.55	1655265.29	14276924.88	39°18'56.897"N	80°56'51.001"W	32.89	216.478	10.08		
5918.00	21.070	250.690	5913.07	-16.12	-31.25	-33.99	1655250.86	14276920.09	39°18'56.850"N	80°56'51.185"W	46.17	227.410	10.84		
5966.00	25.550	248.280	5957.14	-15.61	-37.93	-51.76	1655233.10	14276913.40	39°18'56.784"N	80°56'51.411"W	64.17	233.764	9.54		
6013.00	29.990	246.460	5998.72	-15.81	-46.38	-71.96	1655212.91	14276904.96	39°18'56.701"N	80°56'51.668"W	85.61	237.196	9.62		
6060.00	34.280	247.020	6038.51	-16.29	-56.24	-94.92	1655189.96	14276895.10	39°18'56.603"N	80°56'51.961"W	110.33	239.352	9.15		
6108.00	36.580	252.030	6077.63	-15.43	-65.94	-120.98	1655163.91	14276885.41	39°18'56.508"N	80°56'52.292"W	137.78	241.409	7.72		
6155.00	36.860	260.940	6115.33	-11.21	-72.48	-148.24	1655136.66	14276878.87	39°18'56.443"N	80°56'52.639"W	165.01	243.944	11.34		
6202.00	37.820	270.620	6152.73	-2.43	-74.55	-176.60	1655108.31	14276876.80	39°18'56.423"N	80°56'53.000"W	191.69	247.114	12.65		
6249.00	39.330	279.700	6189.50	11.02	-71.88	-205.71	1655079.21	14276879.47	39°18'56.449"N	80°56'53.370"W	217.91	250.740	12.46		
6297.00	41.290	287.770	6226.13	29.23	-64.48	-235.81	1655049.12	14276886.87	39°18'56.523"N	80°56'53.753"W	244.47	254.707	11.61		
6330.00	43.977	293.227	6250.41	44.38	-56.63	-256.72	1655028.22	14276884.71	39°18'56.600"N	80°56'54.019"W	262.89	257.560	13.84	Middlesex 6.330 MD	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #03
Area	Ritchie County, WV	Jackknife Unit 1H
Field	Ritchie	Jackknife Unit 1H 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 (ft/100ft)	Comments
6344.00	45.190	295.380	6280.38	51.51	-52.59	-265.67	1655019.27	14270898.75	39°18'56.640"N	80°56'54.133"W	270.83	258.804	13.84	
6391.00	49.690	302.380	6292.19	78.44	-35.82	-295.91	1654989.05	14270915.51	39°18'56.806"N	80°56'54.518"W	298.07	263.097	14.55	
6438.00	54.330	308.080	6321.12	109.64	-14.43	-326.10	1654958.87	14270936.90	39°18'57.018"N	80°56'54.902"W	326.42	267.466	13.73	
6486.00	59.280	313.440	6347.41	145.39	11.81	-356.46	1654928.52	14270963.13	39°18'57.277"N	80°56'55.288"W	356.66	271.898	13.91	
6505.00†	61.251	315.488	6356.83	160.54	23.37	-368.23	1654916.76	14270974.68	39°18'57.392"N	80°56'55.437"W	368.97	273.631	13.97	Burkett, 6.505' MD
6533.00	64.210	318.370	6369.66	183.78	41.55	-385.22	1654899.78	14270992.85	39°18'57.571"N	80°56'55.653"W	387.45	276.156	13.97	
6575.00†	68.728	321.564	6386.43	220.42	71.03	-409.96	1654875.04	14277022.33	39°18'57.863"N	80°56'55.968"W	416.07	279.830	12.82	Fully: 6.575' MD
6580.00	69.270	321.930	6388.22	224.91	74.70	-412.85	1654872.15	14277025.99	39°18'57.899"N	80°56'56.005"W	419.56	280.256	12.82	
6627.00	73.880	325.140	6403.08	268.10	110.56	-439.33	1654845.69	14277061.83	39°18'58.254"N	80°56'56.341"W	453.03	284.125	11.75	
6640.00†	74.847	326.279	6406.58	280.34	120.90	-446.38	1654838.64	14277072.17	39°18'58.356"N	80°56'56.431"W	462.46	285.154		Marcellus, 6.640' MD
6674.00	77.400	329.210	6414.74	312.83	148.81	-463.99	1654821.04	14277100.07	39°18'58.632"N	80°56'56.655"W	487.27	287.782	11.24	
6722.00	81.290	333.090	6423.61	359.67	190.11	-486.73	1654798.30	14277141.36	39°18'59.040"N	80°56'56.944"W	522.55	291.335	11.35	
6769.00	86.550	336.500	6428.59	406.31	232.38	-506.62	1654778.42	14277183.61	39°18'59.458"N	80°56'57.197"W	557.37	294.640	13.31	
6864.00	89.850	337.890	6431.57	501.24	319.90	-543.42	1654741.64	14277271.09	39°19'00.323"N	80°56'57.664"W	630.59	300.484	3.77	
6958.00	90.120	338.970	6431.60	595.24	407.31	-577.97	1654707.10	14277338.47	39°19'01.188"N	80°56'58.103"W	707.08	305.173	1.18	
7053.00	89.630	339.060	6431.81	690.22	496.01	-612.00	1654673.09	14277447.13	39°19'02.065"N	80°56'58.536"W	787.76	309.024	0.52	
7147.00	90.180	338.920	6431.96	784.20	583.65	-646.00	1654639.10	14277534.73	39°19'02.931"N	80°56'58.968"W	870.61	312.097	0.82	
7241.00	90.310	338.060	6431.56	878.20	670.98	-680.78	1654604.34	14277622.03	39°19'03.794"N	80°56'59.409"W	955.86	314.585	0.51	
7336.00	90.220	339.290	6431.12	973.19	759.47	-715.32	1654569.81	14277710.48	39°19'04.669"N	80°56'59.848"W	1043.30	316.715	1.30	
7430.00	91.450	340.470	6429.75	1067.11	847.72	-747.65	1654537.49	14277798.70	39°19'05.541"N	80°57'00.259"W	1130.32	318.589	1.81	
7525.00	90.000	336.330	6428.55	1162.08	936.02	-782.61	1654502.54	14277886.96	39°19'06.414"N	80°57'00.703"W	1220.09	320.101	4.62	
7619.00	89.080	335.280	6429.30	1256.01	1021.76	-821.14	1654464.03	14277972.67	39°19'07.262"N	80°57'01.193"W	1310.82	321.213	1.49	
7714.00	89.910	339.940	6430.14	1350.98	1109.57	-857.31	1654427.87	14278060.44	39°19'08.130"N	80°57'01.653"W	1402.18	322.308	4.98	
7808.00	89.880	339.770	6430.31	1444.92	1197.82	-889.68	1654395.51	14278148.66	39°19'09.002"N	80°57'02.064"W	1492.08	323.397	0.18	
7903.00	90.120	335.490	6430.31	1539.90	1285.65	-925.83	1654359.38	14278236.45	39°19'09.871"N	80°57'02.523"W	1584.31	324.241	4.51	
7997.00	89.910	335.460	6430.29	1633.82	1371.20	-964.77	1654320.45	14278321.97	39°19'10.717"N	80°57'03.018"W	1676.60	324.870	0.24	
8091.00	89.230	337.200	6430.99	1727.79	1457.32	-1002.44	1654282.81	14278408.05	39°19'11.568"N	80°57'03.497"W	1768.80	325.477	1.89	
8186.00	89.230	337.300	6432.27	1822.77	1544.92	-1039.17	1654246.09	14278495.62	39°19'12.434"N	80°57'03.963"W	1861.90	326.074	0.11	
8280.00	90.000	338.690	6432.90	1916.77	1632.07	-1074.39	1654210.88	14278582.73	39°19'13.295"N	80°57'04.411"W	1953.96	326.643	1.69	
8375.00	89.140	338.310	6433.61	2011.76	1720.45	-1109.20	1654176.08	14278671.08	39°19'14.169"N	80°57'04.853"W	2047.02	327.189	0.99	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritche County, WV
Field	Ritche
Facility	Buck Run Pad
Slot	Slot #03
Well	Jackknife Unit 1H
Wellbore	Jackknife Unit 1HAWB

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
8469.00	90.090	337.880	6434.25	2105.75	1807.67	-1144.27	1654141.03	14278788.26	39°19'15.031"N	80°57'05.239"W	2139.39	327.666	1.11	
8564.00	89.420	337.290	6434.65	2200.75	1895.49	-1180.50	1654104.82	14278846.04	39°19'15.900"N	80°57'05.759"W	2233.03	328.086	0.94	
8658.00	89.510	336.300	6435.53	2294.73	1981.88	-1217.53	1654067.80	14278932.40	39°19'16.754"N	80°57'06.230"W	2325.99	328.436	1.06	
8753.00	89.480	335.760	6436.37	2389.68	2068.68	-1256.12	1654029.22	14279019.17	39°19'17.612"N	80°57'06.720"W	2420.18	328.733	0.57	
8847.00	89.420	334.620	6437.27	2483.57	2154.00	-1295.17	1653989.80	14279104.45	39°19'18.455"N	80°57'07.222"W	2513.60	328.974	1.21	
8942.00	89.290	335.100	6438.34	2578.44	2239.99	-1335.92	1653949.46	14279190.41	39°19'19.305"N	80°57'07.735"W	2608.11	329.188	0.52	
9036.00	90.060	333.860	6438.87	2672.27	2324.82	-1376.42	1653908.98	14279275.21	39°19'20.144"N	80°57'08.249"W	2701.72	329.372	1.55	
9130.00	90.000	337.910	6438.82	2766.20	2410.60	-1414.81	1653870.59	14279360.95	39°19'20.992"N	80°57'08.737"W	2795.12	329.591	4.31	
9225.00	90.280	342.280	6438.59	2861.10	2499.90	-1447.15	1653838.27	14279450.22	39°19'21.875"N	80°57'09.148"W	2888.55	329.934	4.61	
9319.00	90.740	338.090	6437.75	2955.00	2588.31	-1479.01	1653806.43	14279538.59	39°19'22.749"N	80°57'09.553"W	2981.08	330.256	4.48	
9414.00	90.120	340.890	6437.07	3049.94	2677.28	-1512.29	1653773.16	14279627.52	39°19'23.628"N	80°57'09.976"W	3074.87	330.540	3.03	
9508.00	90.120	343.180	6436.89	3143.69	2766.69	-1541.28	1653744.18	14279716.90	39°19'24.512"N	80°57'10.344"W	3167.03	330.879	2.44	
9603.00	89.970	343.280	6436.82	3238.27	2857.65	-1568.69	1653716.78	14279807.82	39°19'25.411"N	80°57'10.692"W	3259.90	331.236	0.19	
9698.00	90.030	340.440	6436.82	3333.02	2947.92	-1598.26	1653687.22	14279898.05	39°19'26.304"N	80°57'11.068"W	3353.31	331.535	2.99	
9792.00	90.220	338.030	6436.61	3426.99	3035.80	-1631.59	1653653.91	14279985.90	39°19'27.172"N	80°57'11.492"W	3446.47	331.744	2.57	
9887.00	90.000	338.400	6436.43	3521.99	3124.02	-1666.84	1653618.67	14280074.08	39°19'28.044"N	80°57'11.940"W	3540.88	331.918	0.45	
9981.00	90.120	337.630	6436.33	3615.98	3211.18	-1702.03	1653583.49	14280161.21	39°19'28.906"N	80°57'12.387"W	3634.37	332.075	0.83	
10076.00	90.150	338.940	6436.11	3710.98	3299.44	-1737.18	1653548.36	14280249.43	39°19'29.779"N	80°57'12.834"W	3728.82	332.233	1.38	
10170.00	89.940	338.150	6436.03	3804.97	3386.93	-1771.56	1653513.99	14280336.88	39°19'30.643"N	80°57'13.270"W	3822.26	332.388	0.87	
10265.00	89.820	336.540	6436.23	3899.96	3474.59	-1808.15	1653477.41	14280424.52	39°19'31.510"N	80°57'13.736"W	3916.91	332.508	1.70	
10359.00	89.910	334.890	6436.46	3993.90	3560.27	-1846.81	1653443.77	14280510.16	39°19'32.357"N	80°57'14.227"W	4010.77	332.583	1.76	
10454.00	90.650	335.020	6435.99	4088.77	3646.34	-1887.03	1653398.57	14280596.19	39°19'33.208"N	80°57'14.738"W	4105.69	332.638	0.79	
10548.00	90.180	337.230	6435.31	4182.72	3732.29	-1925.07	1653360.54	14280682.11	39°19'34.058"N	80°57'15.222"W	4199.51	332.716	2.40	
10643.00	89.780	340.140	6435.34	4277.70	3820.78	-1959.60	1653326.03	14280770.56	39°19'34.932"N	80°57'15.660"W	4293.99	332.848	3.09	
10737.00	90.030	340.310	6435.50	4371.62	3909.23	-1991.40	1653294.24	14280858.98	39°19'35.807"N	80°57'16.065"W	4387.23	333.005	0.32	
10831.00	89.780	339.020	6435.65	4465.57	3997.37	-2024.07	1653261.59	14280947.09	39°19'36.678"N	80°57'16.480"W	4480.61	333.145	1.40	
10926.00	89.910	340.240	6435.91	4560.52	4086.43	-2057.13	1653228.53	14281036.11	39°19'37.559"N	80°57'16.900"W	4575.01	333.279	1.29	
11020.00	89.940	338.660	6436.03	4654.48	4174.45	-2090.13	1653195.55	14281124.09	39°19'38.429"N	80°57'17.319"W	4668.47	333.403	1.68	
11115.00	89.940	336.530	6436.13	4749.48	4262.27	-2126.34	1653159.36	14281211.88	39°19'39.297"N	80°57'17.779"W	4763.22	333.487	2.24	
11210.00	89.940	337.540	6436.23	4844.46	4349.74	-2163.40	1653122.31	14281299.31	39°19'40.162"N	80°57'18.250"W	4858.04	333.556	1.06	



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj.:16080  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

## WELLPATH DATA (353 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
11304.00	90.000	334.580	6436.28	4938.41	4435.64	-2201.54	1653084.18	14281385.18	39°19'41.011"N	80°57'18.735"W	4951.94	333.603	3.15	
11399.00	89.970	331.980	6436.31	5033.10	4520.49	-2244.25	1653041.49	14281469.99	39°19'41.850"N	80°57'19.278"W	5046.93	333.597	2.74	
11493.00	89.880	334.850	6436.43	5126.81	4604.54	-2286.32	1652999.44	14281554.01	39°19'42.681"N	80°57'19.813"W	5140.92	333.594	3.05	
11588.00	90.310	338.870	6436.27	5221.78	4691.88	-2323.64	1652962.13	14281641.32	39°19'43.544"N	80°57'20.287"W	5235.75	333.653	4.26	
11682.00	90.310	341.170	6435.76	5315.70	4780.22	-2355.76	1652930.03	14281729.62	39°19'44.417"N	80°57'20.696"W	5329.17	333.765	2.45	
11777.00	90.250	338.540	6435.30	5410.63	4869.40	-2388.47	1652897.33	14281818.76	39°19'45.299"N	80°57'21.111"W	5423.64	333.872	2.77	
11871.00	90.550	337.480	6434.64	5504.63	4956.55	-2423.67	1652862.15	14281905.88	39°19'46.160"N	80°57'21.559"W	5517.39	333.942	1.17	
11966.00	90.650	336.920	6433.65	5599.62	5044.13	-2460.48	1652825.35	14281993.42	39°19'47.026"N	80°57'22.027"W	5612.23	333.997	0.60	
12060.00	90.340	335.840	6432.84	5693.58	5130.25	-2498.14	1652787.70	14282079.51	39°19'47.877"N	80°57'22.505"W	5706.15	334.037	1.20	
12155.00	90.400	336.220	6432.30	5788.53	5217.05	-2536.73	1652749.12	14282166.28	39°19'48.736"N	80°57'22.996"W	5801.09	334.069	0.40	
12249.00	90.400	336.600	6431.72	5882.50	5303.20	-2574.35	1652711.52	14282252.38	39°19'49.587"N	80°57'23.474"W	5895.01	334.106	0.42	
12344.00	90.340	338.560	6431.10	5977.49	5391.01	-2610.58	1652675.31	14282340.16	39°19'50.455"N	80°57'23.935"W	5989.83	334.162	2.06	
12438.00	90.460	340.830	6430.45	6071.44	5479.16	-2643.20	1652642.70	14282428.28	39°19'51.327"N	80°57'24.349"W	6083.39	334.247	2.42	
12533.00	90.400	339.570	6429.73	6166.35	5568.54	-2675.38	1652610.54	14282517.62	39°19'52.210"N	80°57'24.758"W	6177.88	334.338	1.33	
12627.00	90.340	337.230	6429.13	6260.84	5655.93	-2709.98	1652575.95	14282604.98	39°19'53.074"N	80°57'25.198"W	6271.64	334.399	2.49	
12722.00	90.280	336.830	6428.61	6355.33	5743.40	-2747.05	1652538.89	14282692.41	39°19'53.939"N	80°57'25.669"W	6366.54	334.438	0.43	
12816.00	90.620	337.110	6427.87	6449.31	5829.90	-2783.82	1652502.14	14282778.88	39°19'54.794"N	80°57'26.137"W	6460.45	334.475	0.47	
12911.00	90.520	337.250	6426.93	6544.30	5917.46	-2820.67	1652465.31	14282866.40	39°19'55.659"N	80°57'26.605"W	6555.34	334.514	0.18	
13005.00	90.650	338.050	6425.97	6638.30	6004.39	-2856.41	1652429.58	14282953.30	39°19'56.519"N	80°57'27.059"W	6649.20	334.559	0.86	
13100.00	90.620	338.810	6424.92	6733.28	6092.73	-2891.33	1652394.67	14283041.61	39°19'57.392"N	80°57'27.503"W	6743.98	334.613	0.80	
13194.00	90.580	338.840	6423.93	6827.26	6180.38	-2925.28	1652360.73	14283129.22	39°19'58.259"N	80°57'27.935"W	6837.72	334.671	0.05	
13288.00	90.550	338.340	6423.00	6921.25	6267.89	-2959.60	1652326.43	14283216.69	39°19'59.124"N	80°57'28.371"W	6931.50	334.724	0.53	
13383.00	90.520	337.990	6422.12	7016.25	6355.95	-2995.24	1652290.81	14283304.71	39°19'59.994"N	80°57'28.824"W	7026.34	334.768	0.79	
13477.00	90.460	336.880	6421.31	7110.24	6442.62	-3031.61	1652254.45	14283391.35	39°20'00.851"N	80°57'29.286"W	7120.25	334.800	0.76	
13572.00	90.680	337.750	6420.37	7205.23	6530.27	-3068.24	1652217.83	14283478.96	39°20'01.717"N	80°57'29.752"W	7215.16	334.834	0.94	
13665.00	90.620	336.290	6419.31	7298.21	6615.88	-3104.55	1652181.54	14283564.54	39°20'02.564"N	80°57'30.214"W	7308.08	334.861	1.57	
13761.00	90.550	333.850	6418.33	7394.09	6702.92	-3145.01	1652141.10	14283651.55	39°20'03.424"N	80°57'30.728"W	7404.07	334.864	2.54	
13855.00	90.550	337.130	6417.43	7487.99	6788.44	-3184.00	1652102.12	14283737.03	39°20'04.270"N	80°57'31.224"W	7498.05	334.872	3.49	
13950.00	90.460	337.820	6416.59	7582.98	6876.19	-3220.39	1652065.74	14283824.74	39°20'05.137"N	80°57'31.686"W	7592.95	334.904	0.73	
14044.00	90.520	338.350	6415.79	7676.98	6963.39	-3255.47	1652030.68	14283911.91	39°20'05.999"N	80°57'32.132"W	7686.80	334.943	0.57	



# Actual Wellpath Report

Jackknife Unit 1HAWP Proj:16080'  
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REFERENCE WELL PATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Buck Run Pad
Slot	Slot #03
Well	Jackknife Unit 1H
Wellbore	Jackknife Unit 1H 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
14139.00	90.620	339.860	6414.84	7771.95	7052.14	-3289.35	1651996.81	14284000.62	39°20'06.876"N	80°57'32.563"W	7781.54	334.994	1.59	
14233.00	90.550	340.450	6413.88	7865.87	7140.55	-3321.26	1651964.91	14284089.00	39°20'07.750"N	80°57'32.969"W	7875.16	335.056	0.63	
14328.00	90.650	342.600	6412.89	7960.66	7230.64	-3351.36	1651934.83	14284179.06	39°20'08.641"N	80°57'33.351"W	7969.55	335.133	2.27	
14423.00	90.220	340.860	6412.17	8055.43	7320.85	-3381.14	1651905.06	14284269.23	39°20'09.533"N	80°57'33.730"W	8063.93	335.210	1.89	
14517.00	90.120	340.080	6411.89	8149.33	7409.44	-3412.56	1651873.65	14284357.78	39°20'10.408"N	80°57'34.129"W	8157.53	335.271	0.84	
14612.00	90.090	339.970	6411.72	8244.26	7498.72	-3445.02	1651841.21	14284447.03	39°20'11.291"N	80°57'34.542"W	8252.21	335.325	0.12	
14706.00	90.120	338.420	6411.54	8338.23	7586.59	-3478.40	1651807.83	14284534.86	39°20'12.160"N	80°57'34.966"W	8346.00	335.369	1.65	
14801.00	90.060	337.730	6411.39	8433.23	7674.72	-3513.88	1651772.38	14284622.95	39°20'13.031"N	80°57'35.417"W	8440.89	335.399	0.73	
14895.00	89.940	337.720	6411.39	8527.23	7761.70	-3549.51	1651736.76	14284709.91	39°20'13.891"N	80°57'35.870"W	8534.81	335.425	0.13	
14990.00	89.970	338.300	6411.47	8622.23	7849.79	-3585.08	1651701.20	14284797.96	39°20'14.761"N	80°57'36.322"W	8629.72	335.453	0.61	
15084.00	89.850	337.160	6411.62	8716.23	7936.78	-3620.70	1651665.59	14284884.91	39°20'15.621"N	80°57'36.775"W	8723.64	335.478	1.22	
15179.00	89.880	336.100	6411.84	8811.21	8023.98	-3658.38	1651627.92	14284972.08	39°20'16.483"N	80°57'37.254"W	8818.62	335.490	1.12	
15273.00	89.910	336.830	6412.01	8905.18	8110.16	-3695.92	1651590.41	14285058.23	39°20'17.335"N	80°57'37.731"W	8912.61	335.501	0.78	
15368.00	89.420	337.290	6412.57	9000.17	8197.65	-3732.95	1651553.39	14285145.67	39°20'18.200"N	80°57'38.202"W	9007.57	335.517	0.71	
15462.00	89.480	338.840	6413.47	9094.16	8284.84	-3768.06	1651518.30	14285232.83	39°20'19.062"N	80°57'38.649"W	9101.47	335.543	1.65	
15557.00	89.450	337.780	6414.36	9189.15	8373.11	-3803.17	1651483.20	14285321.06	39°20'19.935"N	80°57'39.095"W	9196.36	335.572	1.12	
15651.00	89.320	336.510	6415.37	9283.14	8459.72	-3839.67	1651446.71	14285407.64	39°20'20.791"N	80°57'39.559"W	9290.31	335.588	1.36	
15746.00	89.630	337.930	6416.24	9378.13	8547.30	-3876.45	1651409.94	14285495.19	39°20'21.657"N	80°57'40.027"W	9385.27	335.604	1.53	
15840.00	89.880	338.760	6416.64	9472.12	8634.67	-3911.14	1651375.27	14285582.52	39°20'22.520"N	80°57'40.468"W	9479.16	335.631	0.92	
15934.00	89.850	338.700	6416.86	9566.11	8722.26	-3945.24	1651341.18	14285670.08	39°20'23.386"N	80°57'40.901"W	9573.02	335.662	0.07	
16029.00	89.850	337.650	6417.11	9661.10	8810.45	-3980.56	1651305.88	14285758.23	39°20'24.258"N	80°57'41.350"W	9667.93	335.687	1.11	
16056.00	89.720	336.610	6417.21	9688.10	8835.33	-3991.05	1651295.39	14285783.10	39°20'24.504"N	80°57'41.484"W	9694.92	335.691	3.88	
16080.00	89.720	336.610	6417.33	9712.10	8857.36	-4000.58	1651285.87	14285805.12	39°20'24.722"N	80°57'41.605"W	9718.92	335.693	0.00	Projected MD at TD: 16080'



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj:16080'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Jackknife Unit 1H AWB Ref Wellpath: Jackknife Unit 1H AWP Proj:16080'									
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 Casing Production	25.00	65.00	40.00	25.00	65.00	0.00	0.00	0.01	0.04
13.373in Casing Surface	25.00	591.00	566.00	25.00	591.00	0.00	0.00	-0.12	1.74
9.6256in Casing Intermediate	25.00	2522.00	2497.00	25.00	2521.65	0.00	0.00	-22.03	12.19

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Jackknife Unit 1H POE Rev-1		6416.00	216.37	-493.51	1654791.53	14277167.61	39°18'59.300"N	80°56'57.030"W	point
Jackknife Unit 1H BHL Rev-2		6429.00	8823.81	-3998.61	1651287.84	14285771.58	39°20'24.390"N	80°57'41.580"W	point
Jackknife Unit 1H Landing Pt. Rev-2		6429.00	286.75	-522.17	1654762.88	14277237.96	39°19'00.000"N	80°56'57.394"W	point
Jackknife Unit 1H BHL Rev-1		6440.00	8823.81	-3998.61	1651287.84	14285771.58	39°20'24.390"N	80°57'41.580"W	point

WELLPATH COMPOSITION - Ref Wellbore: Jackknife Unit 1H AWB Ref Wellpath: Jackknife Unit 1H AWP Proj:16080'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
25.00	5652.01	Generic gyro - northseeking (Standard)	
5652.01	16056.00	Navitrak (AT Curve Short Spaced)	Jackknife Unit 1H AWB
16056.00	16080.00	Blind Drilling (std)	Jackknife Unit 1H AWB
			Jackknife Unit 1H AWB



# Actual Wellpath Report

Jackknife Unit 1H AWP Proj: 16080'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Jackknife Unit 1H
Field	Ritchie	Wellbore	Jackknife Unit 1H AWB
Facility	Buck Run Pad		

WELLPATH COMMENTS				
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment
112.00	0.260	81.300	112.00	SDI Gyro (112' - 5652.01')
5694.00	0.470	282.940	5693.60	BHI AT Curve <8-1/2" > (5652.01') (5694' - 16056')
6330.00	43.977	293.227	6250.41	Middlesex: 6.330' MD
6505.00	61.251	315.488	6356.83	Burkett: 6.505' MD
6575.00	68.728	321.564	6386.43	Tully: 6.575' MD
6640.00	74.847	326.279	6406.58	Marcellus: 6.640' MD
16080.00	89.720	336.610	6417.33	Projected MD at TD: 16080'

COMMENTS
Wellpath general comments
API: 47-085-10178-0000
BHI Job #: 7850020
Rig: Patterson 343
Duration: 03.11.2016-03.16.2016
SDI Gyro (112' - 5652.01')
BHI AT Curve <8-1/2" > (5652.01') (5694' - 16056')
Middlesex: 6.330' MD
Burkett: 6.505' MD
Tully: 6.575' MD
Marcellus: 6.640' MD
Projected MD at TD: 16080'