



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #11
Area	Ritchie County, WV	Penny Unit 1H
Field	Ritchie	Penny Unit 1H AWB
Facility	Mulvay Pad	

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WeilArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	25/Jul/2017 at 15:36
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defm/Penny_Unit_1H_AWP_Proj_17087_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-48.55	11.06	1668955.80	14279330.66	39°19'20.570"N	80°53'56.710"W
Facility Reference Pt			1668944.75	14279379.20	39°19'21.050"N	80°53'56.850"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1053.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #11)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	156.53°

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Ritchie County, WV	Well	Penny Unit 1H
Field	Ritchie	Wellbore	Penny Unit 1H AWB
Facility	Mulvay Pad		

WELLPATH DATA (193 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)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
0.00	0.00	54.580	0.00	0.00	0.00	0.00	1668955.80	14279330.66	39°19'20.570"N	80°53'56.710"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.00	54.580	24.50	0.00	0.00	0.00	1668955.80	14279330.66	39°19'20.570"N	80°53'56.710"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.360	54.580	109.50	-0.06	0.15	0.22	1668956.01	14279330.82	39°19'20.572"N	80°53'56.707"W	0.27	54.580	0.42	0.42	64.21	Syrodata MS Gyro <-8.3/4"> (100'-6251')
209.50	0.380	57.810	209.50	-0.17	0.51	0.75	1668956.55	14279331.18	39°19'20.575"N	80°53'56.700"W	0.91	55.753	0.03	0.02	0.12	3.23
309.50	0.260	120.270	309.50	-0.04	0.58	1.23	1668957.03	14279331.24	39°19'20.576"N	80°53'56.694"W	1.36	64.930	0.35	0.02	0.02	62.46
409.50	0.240	120.830	409.50	0.32	0.35	1.61	1668957.40	14279331.02	39°19'20.573"N	80°53'56.690"W	1.65	77.572	0.02	-0.02	0.56	
509.50	0.190	130.340	509.49	0.63	0.14	1.91	1668957.71	14279330.80	39°19'20.571"N	80°53'56.686"W	1.92	85.832	0.06	-0.05	9.51	
609.50	1.740	132.100	609.48	2.17	-0.99	3.17	1668958.96	14279329.68	39°19'20.560"N	80°53'56.679"W	3.32	107.297	1.55	1.55	1.76	
709.50	4.730	149.800	709.31	7.94	-5.57	6.37	1668962.16	14279328.10	39°19'20.515"N	80°53'56.620"W	8.46	131.171	3.12	2.99	17.70	
809.50	5.540	159.550	808.91	16.56	-13.65	10.13	1668965.92	14279317.01	39°19'20.435"N	80°53'56.581"W	17.00	143.436	1.19	0.81	9.75	
909.50	5.210	169.360	908.47	25.81	-22.64	12.65	1668968.44	14279308.03	39°19'20.346"N	80°53'56.549"W	25.94	150.801	0.97	-0.33	9.81	
1009.50	4.340	181.180	1008.12	33.67	-30.89	13.41	1668969.20	14279299.79	39°19'20.265"N	80°53'56.540"W	33.67	156.526	1.31	-0.87	11.82	
1109.50	1.820	176.970	1107.97	38.60	-36.26	13.42	1668969.21	14279294.42	39°19'20.212"N	80°53'56.540"W	38.66	159.689	2.53	-2.52	-4.21	
1209.50	1.510	165.880	1207.93	41.39	-39.12	13.82	1668969.62	14279291.56	39°19'20.183"N	80°53'56.535"W	41.49	160.537	0.45	-0.31	-11.09	
1309.50	1.320	157.740	1307.90	43.84	-41.46	14.58	1668970.37	14279289.22	39°19'20.160"N	80°53'56.525"W	43.95	160.624	0.28	-0.19	-8.14	
1409.50	0.350	155.370	1407.89	45.30	-42.81	15.15	1668970.94	14279287.87	39°19'20.147"N	80°53'56.518"W	45.41	160.515	0.97	-0.97	-2.37	
1509.50	0.460	298.800	1507.89	45.28	-42.89	14.92	1668970.71	14279287.79	39°19'20.146"N	80°53'56.521"W	45.41	160.818	0.77	0.11	143.43	
1609.50	0.640	277.490	1607.88	44.68	-42.82	14.02	1668969.81	14279288.06	39°19'20.149"N	80°53'56.532"W	44.87	161.798	0.27	0.18	-21.31	
1709.50	0.820	269.680	1707.87	44.11	-42.56	12.75	1668968.54	14279288.12	39°19'20.149"N	80°53'56.548"W	44.42	163.326	0.21	0.18	-7.81	
1809.50	1.030	267.300	1807.86	43.51	-42.60	11.13	1668966.93	14279288.08	39°19'20.149"N	80°53'56.569"W	44.03	165.354	0.21	0.21	-2.38	
1909.50	1.190	263.880	1907.84	42.88	-42.75	9.20	1668965.00	14279287.93	39°19'20.147"N	80°53'56.594"W	43.73	167.853	0.17	0.16	-3.42	
2009.50	0.650	151.000	2007.83	43.14	-43.36	8.45	1668964.24	14279287.32	39°19'20.141"N	80°53'56.603"W	44.18	168.979	1.56	-0.54	-112.88	
2109.50	0.780	132.190	2107.83	43.42	-44.31	9.22	1668965.02	14279286.37	39°19'20.132"N	80°53'56.593"W	45.26	168.241	0.27	0.13	-18.81	
2209.50	0.730	116.980	2207.82	45.43	-45.06	10.30	1668966.09	14279285.62	39°19'20.125"N	80°53'56.580"W	46.22	167.129	0.21	-0.05	-15.21	
2309.50	0.940	282.860	2307.81	45.44	-45.17	10.06	1668965.86	14279285.51	39°19'20.123"N	80°53'56.583"W	46.28	167.438	1.66	0.21	165.88	
2409.50	1.160	278.940	2407.80	44.41	-44.83	8.26	1668964.06	14279285.85	39°19'20.127"N	80°53'56.605"W	45.58	169.554	0.23	0.22	-3.92	
2509.50	1.220	276.130	2507.78	43.34	-44.56	6.21	1668962.00	14279286.12	39°19'20.130"N	80°53'56.632"W	44.99	172.070	0.08	0.06	-2.81	
2609.50	1.160	274.940	2607.75	42.33	-44.36	4.14	1668959.93	14279286.33	39°19'20.132"N	80°53'56.656"W	44.55	174.668	0.06	-0.06	-1.19	
2709.50	1.480	29.730	2707.74	41.08	-43.15	3.77	1668959.57	14279287.53	39°19'20.144"N	80°53'56.663"W	43.31	175.004	2.23	0.32	114.79	
2809.50	7.740	47.280	2807.37	38.08	-37.45	9.36	1668965.16	14279293.23	39°19'20.200"N	80°53'56.591"W	38.60	165.961	6.34	6.26	17.55	



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Operator	Slot	Slot #11
ANTERO RESOURCES CORPORATION	Well	Penny Unit 1H
Ritchie County, WV	Wellbore	Penny Unit 1H AWB
Ritchie		
Mulvay Pad		

WELLPATH DATA (193 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert. Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
2909.50	8.900	45.270	2906.32	33.06	-27.44	19.81	1668975.60	14279303.24	39°19'20.299"N	80°53'56.458"W	33.84	144.174	1.20	1.16	-2.01	
3009.50	11.380	50.930	3004.75	27.60	-15.77	32.97	1668988.75	14279314.90	39°19'20.414"N	80°53'56.291"W	36.55	115.572	2.67	2.48	5.66	
3109.50	12.880	50.180	3102.51	21.81	-2.42	49.19	1669004.96	14279328.25	39°19'20.546"N	80°53'56.084"W	49.25	92.815	1.51	1.50	-0.75	
3209.50	13.690	44.880	3199.84	14.31	13.10	66.10	1669021.87	14279343.76	39°19'20.699"N	80°53'55.869"W	67.38	78.786	1.46	0.81	-5.30	
3309.50	13.180	40.640	3297.11	4.96	30.14	81.87	1669037.64	14279360.79	39°19'20.867"N	80°53'55.668"W	87.25	69.789	1.11	-0.51	-4.24	
3409.50	14.530	42.260	3394.19	-5.17	48.08	97.74	1669053.49	14279378.72	39°19'21.044"N	80°53'55.466"W	108.92	63.807	1.40	1.35	1.62	
3509.50	15.920	43.880	3490.88	-15.61	67.25	115.68	1669071.43	14279397.88	39°19'21.233"N	80°53'55.237"W	133.81	59.829	1.45	1.39	1.62	
3609.50	15.680	42.720	3586.90	-26.35	87.06	134.35	1669090.10	14279417.69	39°19'21.429"N	80°53'54.999"W	160.09	57.057	0.40	-0.24	-1.16	
3709.50	14.920	46.320	3683.36	-36.25	105.88	152.83	1669108.57	14279436.50	39°19'21.615"N	80°53'54.764"W	185.93	55.286	1.22	-0.76	3.60	
3809.50	15.010	47.120	3779.97	-45.00	123.58	171.63	1669127.36	14279454.20	39°19'21.790"N	80°53'54.524"W	211.49	54.244	0.23	0.09	0.80	
3909.50	15.280	48.080	3876.50	-53.47	141.20	190.92	1669146.64	14279471.80	39°19'21.963"N	80°53'54.019"W	264.45	53.037	0.94	0.27	0.96	
4009.50	16.130	49.560	3972.76	-61.70	159.01	211.30	1669167.01	14279489.61	39°19'22.139"N	80°53'53.763"W	291.81	52.460	1.51	-0.30	-5.36	
4109.50	15.830	44.200	4068.90	-70.93	177.80	231.38	1669187.09	14279508.39	39°19'22.325"N	80°53'53.530"W	318.63	51.605	0.99	-0.07	-3.63	
4209.50	15.760	40.570	4165.13	-82.06	197.90	249.73	1669205.42	14279528.48	39°19'22.523"N	80°53'53.295"W	346.86	50.623	2.02	1.96	-1.65	
4309.50	15.580	33.770	4260.89	-95.06	220.05	268.12	1669223.81	14279550.63	39°19'22.742"N	80°53'53.078"W	374.68	49.556	2.60	-2.14	-5.15	
4409.50	15.580	33.770	4356.70	-109.38	243.06	285.15	1669240.83	14279573.63	39°19'22.969"N	80°53'52.876"W	401.46	48.574	1.14	0.88	2.63	
4509.50	16.460	36.400	4452.81	-123.76	265.63	301.02	1669256.70	14279596.19	39°19'23.192"N	80°53'52.635"W	429.52	48.150	3.23	0.03	11.40	
4609.50	16.490	47.800	4548.73	-135.43	286.57	319.95	1669275.62	14279617.12	39°19'23.399"N	80°53'52.366"W	457.94	48.139	0.11	0.04	0.35	
4709.50	16.530	48.150	4644.61	-144.47	305.60	341.06	1669296.72	14279636.14	39°19'23.587"N	80°53'52.121"W	484.90	47.991	2.29	-1.71	-5.62	
4809.50	14.820	42.530	4740.89	-154.16	324.51	360.30	1669315.95	14279655.05	39°19'23.773"N	80°53'51.891"W	511.06	47.760	0.93	0.79	1.86	
4909.50	15.610	44.390	4837.39	-164.43	343.55	375.36	1669334.00	14279674.08	39°19'23.961"N	80°53'51.624"W	539.27	47.668	2.48	1.60	6.71	
5009.50	17.210	51.100	4933.32	-173.44	362.46	399.29	1669354.92	14279692.98	39°19'24.148"N	80°53'51.345"W	568.50	47.808	1.56	-0.39	-5.17	
5109.50	16.820	45.930	5028.95	-182.44	381.82	421.20	1669376.83	14279712.33	39°19'24.339"N	80°53'51.093"W	597.14	47.599	1.45	-0.23	-4.98	
5209.50	16.590	40.950	5124.73	-193.72	402.66	440.95	1669396.57	14279733.16	39°19'24.545"N	80°53'50.869"W	624.57	47.235	1.35	-1.00	-3.26	
5309.50	15.590	37.690	5220.82	-206.37	424.08	458.52	1669414.14	14279754.57	39°19'24.756"N	80°53'50.660"W	650.79	46.867	0.48	-0.40	0.98	
5409.50	15.190	38.670	5317.23	-218.97	444.94	474.92	1669430.53	14279775.43	39°19'24.962"N	80°53'50.449"W	677.51	46.509	1.09	1.00	-1.59	
5509.50	16.190	37.080	5413.50	-231.95	466.29	491.52	1669447.12	14279796.77	39°19'25.173"N	80°53'50.251"W	704.46	46.039	1.53	-0.37	-5.40	
5609.50	15.820	31.680	5509.63	-246.59	489.02	507.08	1669462.68	14279819.48	39°19'25.398"N	80°53'50.038"W	731.93	45.694	2.95	0.77	10.23	
5709.50	16.590	41.910	5605.68	-260.33	511.25	525.78	1669479.37	14279841.70	39°19'25.617"N	80°53'49.796"W	759.77	45.594	1.00	-0.80	2.17	
5809.50	15.790	44.080	5701.71	-271.47	531.64	542.78	1669498.36	14279862.09	39°19'25.819"N	80°53'49.594"W						



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Operator	ANTERO RESOURCES CORPORATION	Well	Penny Unit 1H
Area	Ritchie County, WV	Wellbore	Penny Unit 1H AWB
Field	Ritchie		
Facility	Multivay Pad		

WELLPATH DATA (193 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)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
5909.50	15.130	73.270	5798.24	-275.14	545.20	564.78	1669520.35	14279875.64	39°19'25.952"N	80°53'49.516"W	784.99	46.011	7.73	-0.66	29.19	
6009.50	18.170	103.660	5894.21	-264.18	545.27	592.48	1669548.04	14279875.71	39°19'25.953"N	80°53'49.163"W	805.21	47.376	9.10	3.04	30.39	
6109.50	24.880	125.430	5987.33	-236.68	529.35	624.86	1669580.41	14279859.80	39°19'25.795"N	80°53'48.751"W	818.94	49.731	10.33	6.71	21.77	
6209.50	32.540	140.350	6075.09	-192.71	496.36	659.26	1669614.79	14279826.82	39°19'25.468"N	80°53'48.314"W	825.22	53.024	10.44	7.66	14.92	
6227.50†	34.038	141.280	6090.13	-183.20	488.70	665.50	1669621.03	14279819.17	39°19'25.393"N	80°53'48.235"W	825.66	53.709	8.79	8.32	5.17	Directional ONE MWD <-8-3/4"> (6251')(6268'-6356')
6260.50	36.800	142.810	6117.02	-164.69	473.62	677.26	1669632.78	14279804.09	39°19'25.243"N	80°53'48.085"W	826.43	55.034	8.79	8.37	4.64	
6277.50	37.590	141.990	6130.57	-154.72	465.47	683.53	1669639.05	14279795.95	39°19'25.163"N	80°53'48.006"W	826.97	55.746	5.49	4.65	-4.82	
6321.50	40.360	142.370	6164.77	-127.91	443.61	700.49	1669656.01	14279774.10	39°19'24.947"N	80°53'47.790"W	829.15	57.655	6.32	6.30	0.86	
6365.50	43.430	143.170	6197.52	-99.38	420.22	718.26	1669673.77	14279750.71	39°19'24.715"N	80°53'47.564"W	832.16	59.670	7.08	6.98	1.82	
6396.00†	45.879	144.130	6219.21	-78.48	402.95	730.96	1669686.47	14279733.45	39°19'24.544"N	80°53'47.403"W	834.67	61.134	8.33	8.03	3.15	Middlesex: 6396' MD
6434.00	48.940	145.220	6244.93	-51.10	380.13	747.13	1669702.63	14279710.64	39°19'24.319"N	80°53'47.198"W	838.27	63.034	8.33	8.06	2.87	BHI AT Curve <-8-1/2"> (6365.5')(6434'-17063')
6484.00	53.100	145.410	6276.37	-12.99	348.17	769.24	1669724.73	14279678.69	39°19'24.003"N	80°53'46.917"W	844.37	65.648	8.33	8.32	0.38	
6531.00	57.600	145.680	6303.09	24.96	316.30	791.11	1669745.59	14279646.83	39°19'23.687"N	80°53'46.639"W	852.00	68.208	9.59	9.57	0.57	
6579.00	62.150	145.480	6327.17	65.71	282.06	814.57	1669770.04	14279612.61	39°19'23.349"N	80°53'46.341"W	862.02	70.901	9.49	9.48	-0.42	
6583.00†	62.501	145.510	6329.03	69.19	279.14	816.58	1669772.05	14279609.69	39°19'23.320"N	80°53'46.315"W	862.97	71.128	8.79	8.77	0.75	Burket: 6583' MD
6626.00	66.270	145.820	6347.62	107.26	247.13	838.44	1669793.90	14279577.69	39°19'23.003"N	80°53'46.038"W	874.11	73.577	8.79	8.77	0.72	
6664.00†	69.047	147.220	6362.06	141.87	217.81	857.83	1669813.28	14279548.39	39°19'22.713"N	80°53'45.791"W	885.05	75.753	8.06	7.31	3.69	Tully: 6664' MD
6674.00	69.780	147.580	6365.58	151.11	209.93	862.87	1669818.32	14279540.50	39°19'22.635"N	80°53'45.727"W	888.04	76.326	8.06	7.33	3.60	
6721.00	73.370	150.250	6380.43	195.30	171.74	885.88	1669841.32	14279502.34	39°19'22.258"N	80°53'45.435"W	902.37	79.028	9.35	7.64	5.68	
6767.00†	75.871	152.589	6392.63	239.47	132.80	907.08	1669862.52	14279463.41	39°19'21.872"N	80°53'45.166"W	916.75	81.671	7.33	5.44	5.11	Marcellus POE: 6767' MD
6769.00	75.980	152.700	6393.12	241.40	131.07	907.98	1669863.41	14279461.68	39°19'21.855"N	80°53'45.155"W	917.39	81.786	7.33	5.46	5.04	
6816.00	78.260	154.150	6403.59	287.15	90.10	928.47	1669883.89	14279420.73	39°19'21.450"N	80°53'44.894"W	932.83	84.457	5.71	4.85	3.09	
6864.00	83.460	155.840	6411.22	334.51	47.16	948.49	1669903.90	14279377.81	39°19'21.026"N	80°53'44.640"W	949.66	87.153	11.38	10.83	3.52	
6911.00	87.480	157.900	6414.93	381.35	4.11	966.93	1669922.34	14279334.77	39°19'20.600"N	80°53'44.406"W	966.94	89.757	9.50	8.55	4.15	
6958.00	89.750	159.140	6416.06	428.30	-39.60	984.17	1669939.58	14279291.08	39°19'20.168"N	80°53'44.188"W	984.97	92.304	5.62	4.83	2.87	
7052.00	89.600	156.830	6416.60	522.26	-126.74	1019.41	1669974.79	14279203.98	39°19'19.306"N	80°53'43.741"W	1027.25	97.087	2.46	-0.16	-2.46	
7147.00	89.720	156.980	6417.16	617.26	-214.12	1056.67	1670012.04	14279116.63	39°19'18.442"N	80°53'43.268"W	1078.15	101.455	0.20	0.13	0.16	
7242.00	89.780	159.160	6417.58	712.22	-302.24	1092.15	1670047.51	14279028.54	39°19'17.570"N	80°53'42.818"W	1133.20	105.469	2.30	0.06	2.29	
7337.00	90.090	163.430	6417.68	806.87	-352.20	1122.61	1670077.95	14278938.62	39°19'16.881"N	80°53'42.431"W	1189.15	109.258	4.51	0.33	4.49	
7432.00	90.060	164.500	6417.56	901.07	-483.50	1148.85	1670104.78	14278847.35	39°19'15.778"N	80°53'42.099"W	1246.44	112.824	1.13	-0.03	1.13	



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #11
ANTERO RESOURCES CORPORATION	Well	Penny Unit 1H
Ritchie County, WV	Wellbore	Penny Unit 1H AWB
Ritchie		
Mulvay Pad		

WELLPATH DATA (193 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
7526.00	90.120	164.300	6417.41	994.18	-574.04	1174.13	1670129.45	14278756.85	39°19'14.883"N	80°53'41.778"W	1306.94	116.054	0.22	0.06	-0.21	
7621.00	89.970	162.180	6417.34	1088.53	-665.00	1201.52	1670156.83	14278665.93	39°19'13.984"N	80°53'41.431"W	1373.27	118.963	2.24	-0.16	-2.23	
7716.00	90.000	158.510	6417.36	1183.30	-754.45	1233.47	1670188.77	14278576.52	39°19'13.099"N	80°53'41.026"W	1445.90	121.452	3.86	0.03	-3.86	
7811.00	90.090	158.060	6417.29	1278.25	-842.71	1268.82	1670223.90	14278488.29	39°19'12.227"N	80°53'40.580"W	1523.00	123.595	0.48	0.09	-0.47	
7905.00	89.940	158.260	6417.26	1372.22	-929.96	1303.58	1670258.86	14278401.08	39°19'11.364"N	80°53'40.136"W	1601.30	125.504	0.27	-0.16	0.21	
8000.00	89.880	160.120	6417.41	1467.11	-1018.76	1337.33	1670292.59	14278312.31	39°19'10.486"N	80°53'39.708"W	1681.17	127.300	1.96	-0.06	1.96	
8095.00	90.000	162.700	6417.51	1561.76	-1108.80	1367.62	1670322.87	14278222.31	39°19'09.596"N	80°53'39.324"W	1760.63	129.033	2.72	0.13	2.72	
8189.00	89.910	164.520	6417.59	1655.04	-1198.97	1394.14	1670349.38	14278132.17	39°19'08.704"N	80°53'38.988"W	1838.79	130.696	1.94	-0.10	1.94	
8284.00	89.780	166.110	6417.84	1748.92	-1290.86	1418.22	1670373.45	14278040.32	39°19'07.795"N	80°53'38.683"W	1917.73	132.308	1.68	-0.14	1.67	
8380.00	89.940	164.670	6418.08	1843.77	-1383.76	1442.44	1670397.65	14277947.46	39°19'06.877"N	80°53'38.376"W	1998.85	133.811	1.51	0.17	-1.50	
8474.00	90.030	166.810	6418.10	1936.55	-1474.86	1465.59	1670420.80	14277856.40	39°19'05.976"N	80°53'38.083"W	2079.22	135.181	2.28	0.10	2.28	
8569.00	89.940	166.460	6418.13	2030.08	-1567.28	1487.55	1670442.75	14277764.01	39°19'05.063"N	80°53'37.805"W	2160.83	136.495	0.38	-0.09	-0.37	
8663.00	89.750	166.690	6418.38	2122.64	-1658.71	1509.37	1670464.56	14277672.61	39°19'04.159"N	80°53'37.529"W	2242.66	137.699	0.32	-0.20	0.24	
8759.00	90.030	165.080	6418.57	2217.36	-1751.81	1532.78	1670487.97	14277579.55	39°19'03.238"N	80°53'37.232"W	2327.72	138.815	1.70	0.29	-1.68	
8853.00	89.780	160.650	6418.72	2310.76	-1841.62	1560.47	1670515.64	14277489.78	39°19'02.350"N	80°53'36.881"W	2413.84	139.724	4.72	-0.27	-4.71	
8949.00	89.850	156.360	6419.03	2406.58	-1930.92	1595.64	1670550.80	14277400.52	39°19'01.467"N	80°53'36.435"W	2504.90	140.431	4.47	0.07	-4.47	
9044.00	88.860	157.360	6420.10	2501.67	-2018.27	1632.97	1670588.11	14277313.20	39°19'00.604"N	80°53'35.962"W	2596.15	141.024	1.48	-1.04	1.05	
9139.00	89.380	160.660	6421.56	2596.55	-2106.94	1666.99	1670622.12	14277224.57	39°18'59.727"N	80°53'35.530"W	2686.64	141.649	3.52	0.55	3.47	
9233.00	89.320	161.640	6422.63	2690.24	-2195.89	1697.36	1670652.47	14277135.65	39°18'58.847"N	80°53'35.145"W	2775.42	142.297	1.04	-0.06	1.04	
9329.00	89.510	161.530	6423.61	2785.86	-2286.97	1727.68	1670682.79	14277044.61	39°18'57.947"N	80°53'34.761"W	2866.21	142.931	0.23	0.20	-0.11	
9423.00	90.000	159.780	6424.01	2879.61	-2375.66	1758.62	1670713.91	14276955.95	39°18'57.070"N	80°53'34.366"W	2955.88	143.486	1.93	0.52	-1.86	
9518.00	89.850	157.880	6424.13	2974.53	-2464.25	1793.13	1670748.20	14276867.41	39°18'56.194"N	80°53'33.931"W	3047.59	143.958	2.01	-0.16	-2.00	
9612.00	89.820	156.940	6424.40	3068.52	-2551.03	1829.23	1670784.30	14276780.65	39°18'55.336"N	80°53'33.473"W	3139.09	144.357	1.00	-0.03	1.00	
9707.00	89.880	157.590	6424.65	3163.51	-2638.65	1865.95	1670821.00	14276693.07	39°18'54.469"N	80°53'33.007"W	3231.75	144.734	0.69	0.06	0.68	
9802.00	89.820	159.560	6424.90	3258.45	-2727.08	1900.65	1670855.68	14276604.68	39°18'53.595"N	80°53'32.567"W	3324.07	145.125	2.07	-0.06	2.07	
9898.00	89.910	161.120	6425.13	3354.23	-2817.48	1932.94	1670887.97	14276514.31	39°18'52.701"N	80°53'32.157"W	3416.79	145.548	1.63	0.09	1.63	
9993.00	89.850	161.870	6425.33	3448.87	-2907.57	1963.10	1670918.11	14276424.26	39°18'51.810"N	80°53'31.775"W	3508.23	145.974	0.79	-0.06	0.79	
10087.00	89.940	164.470	6425.50	3542.23	-2997.53	1990.31	1670945.31	14276334.33	39°18'50.921"N	80°53'31.430"W	3598.13	146.417	2.77	0.10	2.77	
10182.00	89.880	162.060	6425.65	3636.57	-3088.50	2017.66	1670972.65	14276243.40	39°18'50.021"N	80°53'31.083"W	3689.15	146.844	2.54	-0.06	-2.54	
10277.00	89.230	159.460	6426.39	3731.30	-3178.19	2048.96	1671003.94	14276153.75	39°18'49.134"N	80°53'30.687"W	3781.42	147.190	2.82	-0.68	-2.74	



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #11
Operator	ANTERO RESOURCES CORPORATION	Well	Penny Unit 1H
Area	Ritchie County, WV	Wellbore	Penny Unit 1H AWB
Field	Ritchie		
Facility	Mulvay Pad		

WELLPATH DATA (193 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)	Buidl Rate (°/100ft)	Turn Rate (°/100ft)	Comments
10372.00	89.910	159.200	6427.10	3826.18	-3267.07	2082.50	1671037.46	14276064.90	39°18'48.256"N	80°53'30.261"W	3874.34	147.486	0.77	0.72	-0.27	
10488.00	89.910	161.920	6427.25	3921.94	-3357.59	2114.44	1671069.39	14275974.42	39°18'47.361"N	80°53'29.856"W	3967.90	147.799	2.83	0.00	2.83	
10562.00	89.940	164.840	6427.37	4015.26	-3447.65	2141.33	1671096.26	14275884.40	39°18'46.470"N	80°53'29.515"W	4058.52	148.156	3.11	0.03	3.11	
10656.00	89.720	163.280	6427.65	4108.44	-3538.03	2167.14	1671122.07	14275794.05	39°18'45.576"N	80°53'29.188"W	4149.00	148.511	1.68	-0.23	-1.68	
10751.00	89.970	159.670	6427.91	4203.07	-3628.10	2197.32	1671152.23	14275704.02	39°18'44.686"N	80°53'28.806"W	4241.61	148.799	3.81	0.26	-3.80	
10846.00	89.850	156.880	6428.06	4298.02	-3716.34	2232.48	1671187.38	14275615.81	39°18'43.813"N	80°53'28.360"W	4335.34	149.006	2.94	-0.13	-2.94	
10941.00	89.260	154.350	6428.80	4393.00	-3802.85	2271.70	1671226.58	14275529.33	39°18'42.958"N	80°53'27.862"W	4429.71	149.147	2.73	-0.62	-2.66	
11131.00	89.880	164.090	6429.87	4582.62	-3979.68	2340.57	1671295.43	14275352.58	39°18'41.209"N	80°53'27.378"W	4523.97	149.297	4.11	0.55	4.07	
11225.00	89.940	166.520	6430.02	4675.51	-4070.60	2364.41	1671319.26	14275261.70	39°18'40.310"N	80°53'26.989"W	4616.94	149.539	6.18	0.11	6.18	
11321.00	90.000	168.120	6430.07	4769.81	-4164.25	2385.48	1671340.32	14275168.08	39°18'39.384"N	80°53'26.420"W	4707.46	149.850	2.59	0.06	2.59	
11415.00	89.940	167.440	6430.12	4862.01	-4256.12	2405.38	1671360.21	14275076.25	39°18'38.476"N	80°53'26.168"W	4799.12	150.194	1.67	0.06	1.67	
11509.00	89.970	164.410	6430.20	4954.73	-4347.29	2428.24	1671383.06	14274985.12	39°18'37.575"N	80°53'25.879"W	4888.81	150.527	0.73	-0.06	-0.72	
11603.00	89.850	160.180	6430.34	5048.24	-4436.82	2456.82	1671411.63	14274895.62	39°18'36.690"N	80°53'25.517"W	5071.62	151.025	4.50	-0.13	-4.50	
11698.00	89.970	158.740	6430.49	5143.11	-4525.78	2490.15	1671444.95	14274806.70	39°18'35.810"N	80°53'25.094"W	5165.61	151.180	1.52	0.13	-1.52	
11793.00	89.880	160.110	6430.62	5237.99	-4614.71	2523.53	1671478.32	14274717.80	39°18'34.931"N	80°53'24.671"W	5259.64	151.328	1.45	-0.09	-1.44	
11888.00	89.910	161.400	6430.79	5332.73	-4704.40	2554.85	1671509.62	14274628.15	39°18'34.044"N	80°53'24.274"W	5353.38	151.495	1.36	0.03	1.36	
11984.00	89.660	159.070	6431.15	5428.52	-4794.74	2587.31	1671542.07	14274537.85	39°18'33.151"N	80°53'23.862"W	5448.28	151.648	2.44	-0.26	-2.43	
12079.00	89.850	159.970	6431.56	5523.39	-4883.73	2620.55	1671575.29	14274448.89	39°18'32.271"N	80°53'23.441"W	5542.39	151.783	0.97	0.20	0.95	
12174.00	89.880	164.860	6431.78	5617.86	-4974.27	2649.24	1671603.97	14274358.39	39°18'31.375"N	80°53'23.077"W	5635.76	151.961	5.15	0.03	5.15	
12269.00	90.030	168.010	6431.86	5711.43	-5066.61	2671.52	1671626.24	14274266.09	39°18'30.462"N	80°53'22.795"W	5727.78	152.198	3.32	0.16	3.32	
12364.00	89.750	167.400	6432.04	5804.63	-5159.43	2691.75	1671646.47	14274173.31	39°18'29.545"N	80°53'22.539"W	5819.38	152.448	0.71	-0.29	-0.64	
12459.00	89.540	164.480	6432.63	5898.34	-5251.57	2714.82	1671669.53	14274081.20	39°18'28.634"N	80°53'22.247"W	5911.79	152.663	3.08	-0.22	-3.07	
12554.00	89.970	162.180	6433.03	5992.66	-5342.57	2742.07	1671696.77	14273990.52	39°18'27.734"N	80°53'21.902"W	6005.16	152.831	2.46	0.45	-2.42	
12649.00	89.720	159.570	6433.29	6087.38	-5432.32	2773.20	1671727.88	14273900.24	39°18'26.847"N	80°53'21.507"W	6099.24	152.956	2.76	-0.26	-2.75	
12744.00	90.030	160.900	6433.50	6182.18	-5521.72	2805.32	1671759.99	14273811.16	39°18'25.963"N	80°53'21.100"W	6193.48	153.087	1.44	0.33	1.40	
12840.00	90.000	162.190	6433.47	6277.81	-5612.78	2835.71	1671790.37	14273720.14	39°18'25.062"N	80°53'20.715"W	6288.44	153.196	1.34	-0.03	1.34	
12934.00	89.910	162.560	6433.55	6371.32	-5702.37	2864.17	1671818.82	14273630.58	39°18'24.177"N	80°53'20.354"W	6381.26	153.331	0.41	-0.10	0.39	
13029.00	90.000	162.950	6433.62	6465.76	-5793.10	2892.33	1671846.97	14273539.89	39°18'23.279"N	80°53'19.997"W	6474.99	153.468	0.42	0.09	0.41	
13124.00	89.600	162.340	6433.95	6560.22	-5883.77	2920.67	1671875.30	14273449.25	39°18'22.383"N	80°53'19.638"W	6568.79	153.600	0.77	-0.42	-0.64	



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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #11
ANTERO RESOURCES CORPORATION	Well	Penny Unit 1H
Area	Wellbore	Penny Unit 1H AWB
Field		
Facility		

WELLPATH DATA (193 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
13220.00	89.720	162.810	6434.52	6655.68	-5975.36	2949.42	1671904.03	14273357.70	39°18'21.472"N	80°53'19.274"W	6663.63	153.729	0.51	0.13	0.49	
13314.00	89.690	161.640	6435.01	6749.21	-6064.87	2978.11	1671932.72	14273268.22	39°18'20.592"N	80°53'18.910"W	6756.61	153.847	0.51	-0.03	-1.24	
13408.00	89.690	161.460	6435.51	6842.85	-6154.04	3007.86	1671962.45	14273179.09	39°18'19.711"N	80°53'18.533"W	6849.78	153.952	0.19	0.00	-0.19	
13503.00	89.600	160.890	6436.10	6937.54	-6243.96	3038.52	1671993.09	14273089.21	39°18'18.821"N	80°53'18.145"W	6944.03	154.051	0.61	-0.09	-0.60	
13598.00	89.570	158.600	6436.79	7032.38	-6333.07	3071.40	1672025.97	14273000.13	39°18'17.940"N	80°53'17.728"W	7038.56	154.128	2.41	-0.03	-2.41	
13693.00	89.690	157.470	6437.40	7127.34	-6421.17	3106.93	1672061.49	14272912.07	39°18'17.069"N	80°53'17.277"W	7133.34	154.180	1.20	0.13	-1.19	
13787.00	89.630	158.260	6437.96	7221.31	-6508.24	3142.35	1672096.89	14272825.03	39°18'16.208"N	80°53'16.828"W	7227.14	154.228	0.84	-0.06	0.84	
13882.00	89.660	158.860	6438.55	7316.25	-6596.67	3177.08	1672131.60	14272736.64	39°18'15.334"N	80°53'16.388"W	7321.87	154.284	0.63	0.00	0.63	
13977.00	89.660	158.940	6439.11	7411.17	-6685.30	3211.28	1672165.78	14272648.05	39°18'14.457"N	80°53'15.954"W	7416.57	154.343	0.08	0.00	0.08	
14072.00	89.690	162.130	6439.65	7505.92	-6774.85	3242.93	1672201.42	14272558.53	39°18'13.572"N	80°53'15.553"W	7511.01	154.421	3.36	0.03	3.36	
14168.00	89.660	166.690	6440.20	7600.99	-6867.30	3268.72	1672237.21	14272466.12	39°18'12.658"N	80°53'15.226"W	7605.54	154.546	4.75	-0.03	4.75	
14263.00	89.750	168.820	6440.69	7694.17	-6960.13	3288.87	1672273.35	14272373.33	39°18'11.740"N	80°53'14.971"W	7698.05	154.708	2.24	0.09	2.24	
14359.00	89.850	170.800	6441.02	7787.59	-7054.61	3305.95	1672309.32	14272278.98	39°18'10.806"N	80°53'14.757"W	7790.77	154.892	2.07	0.10	2.06	
14454.00	90.490	169.480	6440.74	7879.92	-7148.20	3322.12	1672345.68	14272185.33	39°18'09.881"N	80°53'14.551"W	7882.47	155.073	1.54	0.67	-1.39	
14549.00	89.630	162.850	6440.64	7973.53	-7240.39	3344.82	1672382.28	14272093.17	39°18'08.969"N	80°53'14.294"W	7975.66	155.205	7.04	-0.91	-6.98	
14644.00	89.720	162.700	6441.18	8067.96	-7331.13	3372.95	1672418.73	14272002.47	39°18'08.072"N	80°53'13.907"W	8069.84	155.293	0.18	0.09	-0.16	
14738.00	89.690	160.570	6441.66	8161.58	-7420.34	3402.57	1672455.00	14271913.30	39°18'07.190"N	80°53'13.532"W	8163.26	155.366	2.27	-0.03	-2.27	
14833.00	89.780	157.690	6442.10	8256.47	-7509.09	3436.41	1672491.83	14271824.58	39°18'06.312"N	80°53'13.103"W	8258.05	155.410	3.03	0.09	-3.03	
14927.00	89.780	155.770	6442.46	8350.47	-7595.44	3473.54	1672528.95	14271738.27	39°18'05.458"N	80°53'12.632"W	8352.02	155.424	2.04	0.00	-2.04	
15023.00	89.630	159.290	6442.96	8446.44	-7684.14	3510.23	1672566.62	14271649.61	39°18'04.581"N	80°53'12.167"W	8447.94	155.448	3.67	-0.16	3.67	
15117.00	89.630	156.340	6443.57	8540.40	-7771.17	3545.72	1672604.09	14271562.61	39°18'03.721"N	80°53'11.717"W	8541.85	155.474	3.14	0.00	-3.14	
15212.00	89.540	156.020	6444.25	8635.40	-7858.07	3584.08	1672641.44	14271475.74	39°18'02.861"N	80°53'11.230"W	8636.84	155.482	0.35	-0.09	-0.34	
15307.00	89.630	155.100	6444.94	8730.38	-7944.56	3623.39	1672678.73	14271389.29	39°18'02.006"N	80°53'10.732"W	8731.84	155.483	0.97	0.09	-0.97	
15402.00	89.630	157.200	6445.56	8825.37	-8031.44	3661.80	1672716.12	14271302.44	39°18'01.147"N	80°53'10.244"W	8826.82	155.490	2.21	0.00	2.21	
15496.00	89.660	158.060	6446.14	8919.35	-8118.36	3697.57	1672651.88	14271215.56	39°18'00.287"N	80°53'09.791"W	8920.75	155.513	0.92	0.03	0.91	
15591.00	89.720	156.830	6446.65	9014.34	-8206.09	3734.01	1672688.31	14271127.86	39°17'59.420"N	80°53'09.329"W	9015.70	155.533	1.30	0.06	-1.29	
15686.00	89.540	159.750	6447.27	9109.28	-8294.34	3769.14	1672725.43	14271039.65	39°17'58.547"N	80°53'08.863"W	9110.58	155.562	3.08	-0.19	3.07	
15781.00	89.720	161.210	6447.88	9204.05	-8383.88	3800.89	1672762.16	14270950.15	39°17'57.662"N	80°53'08.481"W	9205.23	155.613	1.55	0.19	1.54	
15876.00	89.570	159.430	6448.47	9298.83	-8473.33	3832.88	1672798.74	14270860.74	39°17'56.777"N	80°53'08.075"W	9299.90	155.661	1.88	-0.16	-1.87	
15971.00	89.630	166.440	6449.13	9393.18	-8564.08	3860.74	1672835.99	14270770.01	39°17'55.880"N	80°53'07.722"W	9394.08	155.734	7.38	0.06	7.38	



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Ritchie County, WV	Well	Penny Unit 1H
Field	Ritchie	Wellbore	Penny Unit 1H AWB
Facility	Multivay Pad		

WELLPATH DATA (193 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [F/100ft]	Build Rate [F/100ft]	Turn Rate [°/100ft]	Comments
16066.00	89.720	172.190	6449.67	9485.78	-8657.40	3878.34	1672832.59	14270676.74	39°17'54.957"N	80°53'07.500"W	9486.41	155.869	6.05	0.09	6.05	
16161.00	89.690	172.980	6450.16	9577.08	-8751.60	3890.60	1672844.84	14270682.57	39°17'54.026"N	80°53'07.345"W	9577.44	156.032	0.83	-0.03	0.83	
16256.00	89.690	166.970	6450.68	9669.43	-8845.10	3907.13	1672861.36	14270489.11	39°17'53.102"N	80°53'07.137"W	9669.62	156.168	6.33	0.00	-6.33	
16351.00	89.780	182.500	6451.12	9763.43	-8936.73	3932.14	1672886.36	14270397.52	39°17'52.196"N	80°53'06.820"W	9763.55	156.251	4.71	0.09	-4.71	
16446.00	89.820	164.630	6451.45	9857.71	-9027.84	3959.01	1672913.22	14270306.44	39°17'51.295"N	80°53'06.480"W	9857.77	156.321	2.24	0.04	2.24	
16540.00	90.060	164.740	6451.55	9950.76	-9118.50	3983.84	1672938.04	14270215.82	39°17'50.399"N	80°53'06.165"W	9950.78	156.400	0.28	0.26	0.12	
16636.00	90.460	160.760	6451.11	10046.17	-9210.17	4012.30	1672966.49	14270124.19	39°17'49.492"N	80°53'05.805"W	10046.18	156.460	4.17	0.42	-4.15	
16731.00	88.770	158.350	6451.75	10141.03	-9299.17	4045.48	1672999.66	14270035.22	39°17'48.612"N	80°53'05.384"W	10141.03	156.489	3.10	-1.78	-2.54	
16826.00	89.660	157.840	6453.05	10235.98	-9387.30	4080.92	1673035.08	14269947.13	39°17'47.741"N	80°53'04.935"W	10235.98	156.504	1.08	0.94	-0.54	
16921.00	89.630	157.270	6453.64	10330.96	-9475.10	4117.19	1673071.34	14269859.36	39°17'46.872"N	80°53'04.475"W	10330.97	156.514	0.60	-0.03	-0.60	
17016.00	89.600	157.300	6454.28	10425.95	-9562.73	4153.88	1673108.01	14269771.77	39°17'46.006"N	80°53'04.010"W	10425.95	156.521	0.04	-0.03	0.03	
17063.00	89.630	157.950	6454.59	10472.94	-9606.19	4171.77	1673125.89	14269728.32	39°17'45.576"N	80°53'03.783"W	10472.94	156.526	1.38	0.06	1.38	
17087.00	89.630	157.950	6454.75	10496.94	-9628.44	4180.78	1673134.90	14269706.09	39°17'45.356"N	80°53'03.669"W	10496.94	156.529	0.00	0.00	0.00	Projected MD at TD: 17087

HOLE & CASING SECTIONS - Ref Wellbore: Penny Unit 1H AWB Ref Wellpath: Penny Unit 1H AWP Proj: 17087

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	24.50	104.50	80.00	24.50	104.50	0.00	0.00	0.14	0.19
17.5in Open Hole	104.50	567.50	463.00	104.50	567.49	0.14	0.19	-0.29	2.40
13.375in Casing Surface	24.50	567.50	543.00	24.50	567.49	0.00	0.00	-0.29	2.40
12.25in Open Hole	567.50	2590.50	2023.00	567.49	2588.76	-0.29	2.40	-44.39	4.52
9.625in Casing Intermediate	24.50	2590.50	2566.00	24.50	2588.76	0.00	0.00	-44.39	4.52
8.75in Open Hole	2590.50	6452.50	3862.00	2588.76	6256.89	-44.39	4.52	368.53	755.17
8.5in Open Hole	6452.50	17087.00	10634.50	6256.89	6454.75	368.53	755.17	-9628.44	4180.78
5.5in Casing Production	24.50	17087.00	17062.50	24.50	6454.75	0.00	0.00	-9628.44	4180.78



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Ritchie County, WV	Well	Penny Unit 1H
Field	Ritchie	Wellbore	Penny Unit 1H AWB
Facility	Mulvay Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Penny Unit 1H POE - Rev-2	6383.00	176.27	883.20	1669838.64	14279506.86	39°19'22.302"N	80°53'45.469"W	point
Penny Unit 1H BHL - Rev-2	6406.00	-9627.33	4166.54	1673120.67	14269707.19	39°17'45.367"N	80°53'03.850"W	point
Penny Unit 1H LP - Rev-1	6406.00	45.82	949.67	1669905.08	14279376.47	39°19'21.012"N	80°53'44.625"W	point

WELLPATH COMPOSITION - Ref Wellbore: Penny Unit 1H AWB Ref Wellpath: Penny Unit 1H AWP Proj: 17087

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
24.50	6260.50	Gyrodata standard - Drop gyro or Multi-shot	04 Gyrodata MS Gyro <8-3/4"> (100'-6251')
6260.50	6365.50	ISCVSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <8-3/4"> (6251')(6268'-6356')
6365.50	17063.00	BHI AutoTrak Curve (Short)	05_BHI AT Curve <8-1/2"> (6365.5')(6434'-17063')
17063.00	17087.00	Blind Drilling (std)	Projection to bit



Actual Wellpath Report

Penny Unit 1H AWP Proj: 17087

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Ritchie County, WV	Well	Penny Unit 1H
Field	Ritchie	Wellbore	Penny Unit 1H AWB
Facility	Mulvay Pad		

COMMENTS
<p>Wellpath general comments</p> <p>API: 47-085-100298-0000</p> <p>BHI Job #: 8661074</p> <p>Rig: Frontier 22</p> <p>Duration: 07/18/2017-07/20/2017</p> <p>Gyrodatta MS Gyro <8-3/4"> (100'-6251')</p> <p>Directional ONE MWD <8-3/4"> (6251')(6268'-6356')</p> <p>BHI AT Curve <8-1/2"> (6365.5')(6434'-17063')</p> <p>Middlesex: 6396' MD</p> <p>Burket: 6583' MD</p> <p>Tully: 6664' MD</p> <p>Marcellus POE: 6767' MD</p> <p>Projected MD at TD: 17087'</p>