



ANTERO RESOURCES CORPORATION



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

Slot: Slot C
Well: Ellick Unit 1H
Wellbore: Ellick Unit 1H PWB

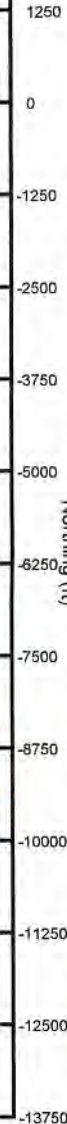
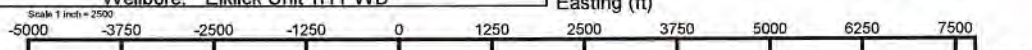
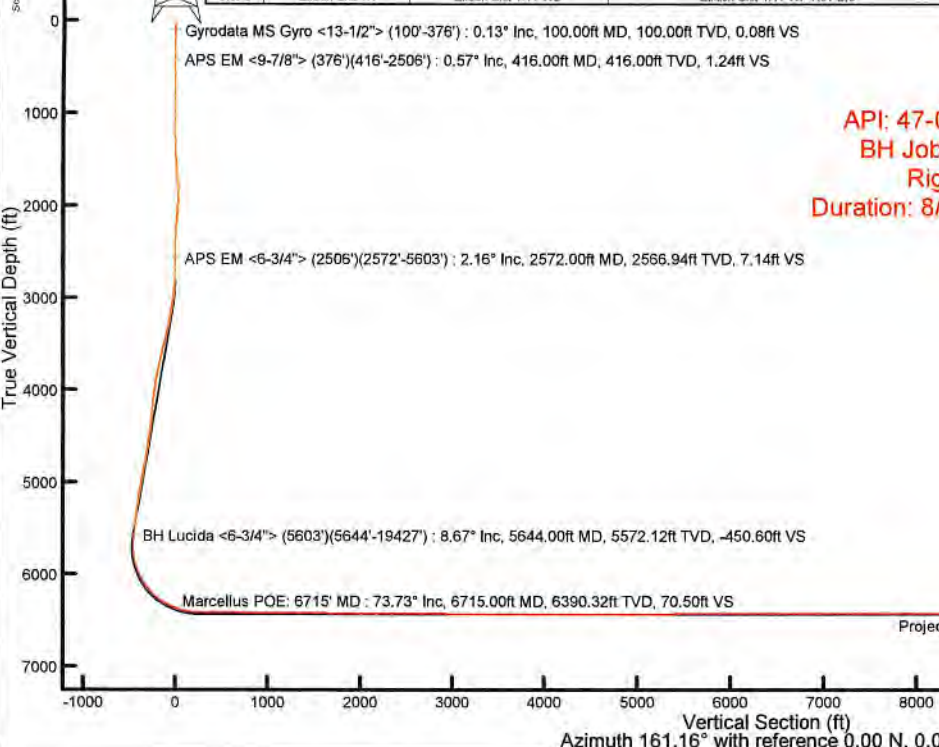
Easting (ft)

Pkt reference wellpath is Ellick Unit 1H PWP Rev-B.0		Grid System: NAD27 / UTM Zone 17 North, US feet	
True vertical depths are referenced to H&P 531 (RKB)		North Reference: Grid north	
Reference wellpath measured depths are referenced to H&P 531 (RKB)		Scale: True distance	
H&P 531 (RKB) to Mean Sea Level: 1049 feet		Coordinates are in feet referenced to Sikt	
Mean Sea Level to Ground level (At Slot: Slot C): -1019 feet		Depths are in feet	
Offset wellpath MDs are referenced to each path's default MD datum		Created by: redsuryan on 2022-09-06; Database: WA_MPL_EACTERMUS_Doh	

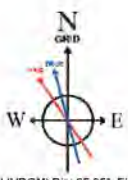
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Cashew Pad	1680670.880	14224370.270	39°10'16.9800"N	80°51'28.6800"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot C	27.33	13.35	1680684.220	14224397.590
Comment: Ellick Unit 1H			39ft	
H&P 531 (RKB) to Ground level (At Slot: Slot C)			-1019ft	
Mean Sea Level to Ground level (At Slot: Slot C)			1049ft	
H&P 531 (RKB) to Mean Sea Level				

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2506.00	2.960	228.450	2501.00	2.43	23.49	5.26
Proj. to Bottom	2589.00	2.960	228.450	2562.92	0.31	21.09	6.52
KOP 1	2648.00	2.960	228.450	2642.81	-2.43	18.00	8.11
End of 3D Arc	3186.12	13.418	23.192	3176.76	46.06	32.28	-33.17
Curve KOP	5675.27	13.418	23.192	5597.97	577.00	259.76	-462.21
POE	6744.57	75.440	161.164	6409.00	111.39	527.35	64.68
Landing Pt.	8926.57	90.000	161.164	6432.00	-59.02	595.48	244.92
BHL	19754.57	90.000	161.164	6432.00	-12200.03	4727.14	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot C	Ellick Unit 1H	Ellick Unit 1H AWB	Ellick Unit 1H AWP Proj: 19454'
Slot C	Ellick Unit 1H	Ellick Unit 1H PWB	Ellick Unit 1H PWP Rev-B.0

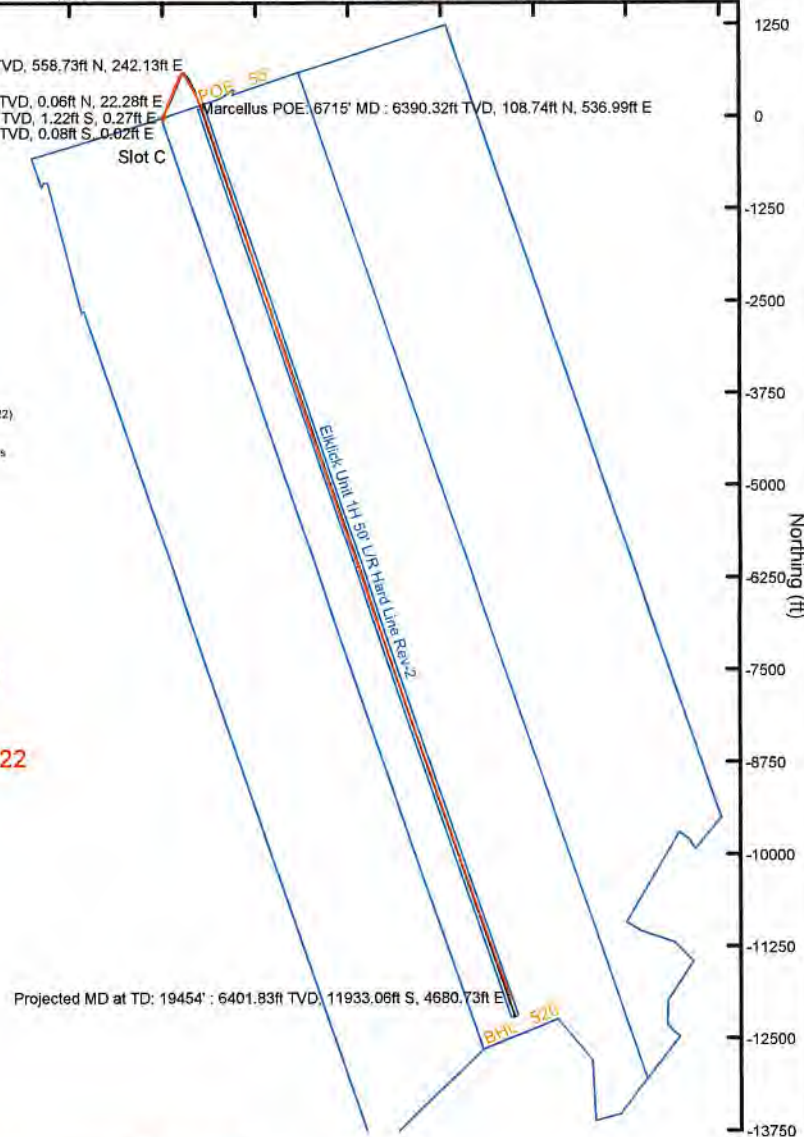


BH Lucida $\langle 6-3/4^\circ \rangle$ (5603')(5644'-19427') : 5572.12ft TVD, 558.73ft N, 242.13ft E
 APS EM $\langle 6-3/4^\circ \rangle$ (2506')(2572'-5603') : 2566.94ft TVD, 0.06ft N, 22.28ft E
 APS EM $\langle 9-7/8^\circ \rangle$ (376')(416'-2506') : 416.00ft TVD, 1.22ft S, 0.27ft E
 Gyrodota MS Gyro $\langle 13-1/2^\circ \rangle$ (100'-376') : 100.00ft TVD, 0.08ft S, 0.02ft E



User specified (HDGM) Dip: 65.85° Field: 51402 nT
 Magnetic North is 7.42 degrees West of True North (at 8/21/2022)
 Grid North is 0.99 degrees East of True North
 To correct azimuth from True to Grid subtract 0.99 degrees
 To correct azimuth from Magnetic to Grid subtract 7.51 degrees

API: 47-085-10419-0000
 BH Job #: 111434652
 Rig: H&P 531
 Duration: 8/24/2022-8/30/2022





Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999602	Report Generated	9/6/2022 at 10:10:39 PM
Convergence at slot	0.09° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	27.33	13.35	1680684.22	14224397.59	39°10'17.2500"N	80°51'28.5100"W
Facility Reference Pt			1680670.88	14224370.27	39°10'16.9800"N	80°51'28.6800"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 531 (RKB) to Facility Vertical Datum	1049.00ft
Horizontal Reference Pt	Slot	H&P 531 (RKB) to Mean Sea Level	1049.00ft
Vertical Reference Pt	H&P 531 (RKB)	H&P 531 (RKB) to Ground Level at Slot (Slot C)	30.00ft
MD Reference Pt	H&P 531 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.16°



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWP
Slot	Slot C		

WELLPATH DATA (216 stations) † = interpolated, ‡ = extrapolated station																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
0.00	0.000	165.920	0.00	0.00	0.00	0.00	1680684.22	14224397.59	39°10'17.2500"N	80°51'28.5100"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	165.920	30.00	0.00	0.00	0.00	1680684.22	14224397.59	39°10'17.2500"N	80°51'28.5100"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.130	165.920	100.00	0.08	-0.08	0.02	1680684.24	14224397.51	39°10'17.2492"N	80°51'28.5098"W	0.08	165.920	0.19	0.19	0.00	Gyrodata MS Gyro <13-1/2"> (100'-376')
200.00	0.100	140.020	200.00	0.27	-0.25	0.10	1680684.32	14224397.34	39°10'17.2475"N	80°51'28.5087"W	0.27	157.924	0.06	-0.03	-25.90	
300.00	0.210	174.270	300.00	0.53	-0.50	0.18	1680684.40	14224397.09	39°10'17.2450"N	80°51'28.5078"W	0.53	160.583	0.14	0.11	34.25	
376.00	0.380	170.770	376.00	0.92	-0.89	0.23	1680684.45	14224396.70	39°10'17.2412"N	80°51'28.5071"W	0.92	165.416	0.22	0.22	-4.61	
416.00	0.570	175.790	416.00	1.24	-1.22	0.27	1680684.49	14224396.37	39°10'17.2379"N	80°51'28.5066"W	1.25	167.628	0.49	0.48	12.55	APS EM <9-7/8"> (376')(416'-2506')
506.00	0.970	184.530	505.99	2.37	-2.43	0.24	1680684.46	14224395.17	39°10'17.2260"N	80°51'28.5070"W	2.44	174.343	0.46	0.44	9.71	
596.00	0.980	195.420	595.98	3.71	-3.93	-0.02	1680684.20	14224393.66	39°10'17.2112"N	80°51'28.5104"W	3.93	180.358	0.21	0.01	12.10	
686.00	0.770	219.590	685.97	4.66	-5.14	-0.61	1680683.61	14224392.46	39°10'17.1992"N	80°51'28.5179"W	5.17	186.825	0.47	-0.23	26.86	
776.00	0.970	247.070	775.96	5.03	-5.90	-1.70	1680682.52	14224391.69	39°10'17.1917"N	80°51'28.5317"W	6.14	196.093	0.51	0.22	30.53	
866.00	1.050	242.400	865.94	5.21	-6.58	-3.13	1680681.09	14224391.02	39°10'17.1850"N	80°51'28.5499"W	7.29	205.479	0.13	0.09	-5.19	
956.00	1.190	241.390	955.92	5.50	-7.41	-4.69	1680679.54	14224390.19	39°10'17.1768"N	80°51'28.5696"W	8.76	212.317	0.16	0.16	-1.12	
1051.00	1.090	239.410	1050.91	5.85	-8.34	-6.33	1680677.89	14224389.25	39°10'17.1677"N	80°51'28.5905"W	10.47	217.199	0.11	-0.11	-2.08	
1145.00	1.080	189.900	1144.89	6.81	-9.67	-7.25	1680676.97	14224387.93	39°10'17.1545"N	80°51'28.6023"W	12.08	216.875	0.97	-0.01	-52.67	
1239.00	1.250	168.060	1238.87	8.60	-11.54	-7.19	1680677.03	14224386.05	39°10'17.1360"N	80°51'28.6015"W	13.60	211.925	0.50	0.18	-23.23	
1334.00	1.460	178.770	1333.85	10.78	-13.77	-6.95	1680677.27	14224383.83	39°10'17.1140"N	80°51'28.5985"W	15.42	206.791	0.35	0.22	11.27	
1429.00	2.610	180.800	1428.78	13.97	-17.14	-6.96	1680677.27	14224380.46	39°10'17.0807"N	80°51'28.5986"W	18.50	202.088	1.21	1.21	2.14	
1523.00	3.770	164.840	1522.64	19.07	-22.26	-6.18	1680678.05	14224375.34	39°10'17.0300"N	80°51'28.5889"W	23.10	195.507	1.54	1.23	-16.98	
1618.00	5.060	150.330	1617.36	26.31	-28.92	-3.29	1680680.94	14224368.68	39°10'16.9642"N	80°51'28.5523"W	29.10	186.483	1.79	1.36	-15.27	
1713.00	5.650	124.760	1711.96	34.19	-35.22	2.63	1680686.85	14224362.38	39°10'16.9018"N	80°51'28.4773"W	35.32	175.729	2.56	0.62	-26.92	
1807.00	5.400	88.140	1805.55	39.20	-37.72	10.86	1680695.07	14224359.89	39°10'16.8770"N	80°51'28.3729"W	39.25	163.945	3.70	-0.27	-38.96	
1902.00	5.990	60.930	1900.10	39.63	-35.17	19.66	1680703.87	14224362.44	39°10'16.9021"N	80°51'28.2611"W	40.29	150.795	2.88	0.62	-28.64	
1997.00	7.830	48.870	1994.41	36.29	-28.50	28.87	1680713.07	14224369.10	39°10'16.9678"N	80°51'28.1441"W	40.56	134.635	2.46	1.94	-12.69	
2092.00	7.080	30.090	2088.62	29.99	-19.18	36.68	1680720.88	14224378.42	39°10'17.0599"N	80°51'28.0447"W	41.39	117.603	2.67	-0.79	-19.77	
2187.00	5.630	3.710	2183.05	21.84	-9.46	39.91	1680724.12	14224388.14	39°10'17.1559"N	80°51'28.0034"W	41.02	103.331	3.39	-1.53	-27.77	
2281.00	4.980	330.450	2276.67	13.57	-1.31	38.20	1680722.40	14224396.29	39°10'17.2365"N	80°51'28.0250"W	38.22	91.957	3.29	-0.69	-35.38	
2376.00	4.980	289.210	2371.34	6.98	3.64	32.27	1680716.48	14224401.23	39°10'17.2855"N	80°51'28.1002"W	32.47	83.564	3.69	0.00	-43.41	
2471.00	4.100	244.990	2466.07	4.80	3.56	25.30	1680709.51	14224401.15	39°10'17.2848"N	80°51'28.1887"W	25.55	81.987	3.70	-0.93	-46.55	
2506.00	2.960	228.450	2501.00	5.28	2.43	23.49	1680707.70	14224400.02	39°10'17.2737"N	80°51'28.2117"W	23.61	84.087	4.34	-3.26	-47.26	



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

WELLPATH DATA (216 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	
2572.00	2.160	176.970	2566.94	7.14	0.06	22.28	1680706.49	14224397.65	39°10'17.2502"N	80°51'28.2272"W	22.28	89.846	3.54	-1.21	-78.00	APS EM <6-3/4"> (2506')(2572'-5603')	
2666.00	3.980	65.290	2660.86	8.51	-0.35	25.34	1680709.55	14224397.24	39°10'17.2462"N	80°51'28.1883"W	25.34	90.782	5.51	1.94	-118.81		
2761.00	4.840	33.780	2755.59	5.74	4.36	30.56	1680714.77	14224401.95	39°10'17.2926"N	80°51'28.1219"W	30.87	81.872	2.67	0.91	-33.17		
2855.00	7.480	20.260	2849.05	-1.42	13.40	34.88	1680719.09	14224410.99	39°10'17.3819"N	80°51'28.0668"W	37.37	68.983	3.19	2.81	-14.38		
2950.00	6.970	5.470	2943.30	-11.47	24.94	37.58	1680721.78	14224422.52	39°10'17.4959"N	80°51'28.0324"W	45.10	56.424	2.02	-0.54	-15.57		
3049.00	9.280	14.060	3041.30	-23.65	38.67	40.09	1680724.29	14224436.24	39°10'17.6315"N	80°51'28.0002"W	55.70	46.033	2.63	2.33	8.68		
3144.00	11.920	18.720	3134.68	-37.86	55.39	45.10	1680729.30	14224452.96	39°10'17.7968"N	80°51'27.9363"W	71.43	39.151	2.92	2.78	4.91		
3238.00	11.640	11.300	3226.70	-53.76	73.89	50.07	1680734.27	14224471.45	39°10'17.9795"N	80°51'27.8728"W	89.26	34.125	1.64	-0.30	-7.89		
3333.00	13.720	13.370	3319.38	-71.58	94.25	54.56	1680738.75	14224491.80	39°10'18.1807"N	80°51'27.8154"W	108.90	30.065	2.24	2.19	2.18		
3427.00	17.390	17.670	3409.92	-92.31	118.49	61.40	1680745.80	14224516.03	39°10'18.4201"N	80°51'27.7280"W	133.45	27.393	4.09	3.90	4.57		
3521.00	17.680	11.190	3499.56	-115.96	145.88	68.43	1680752.63	14224543.41	39°10'18.6907"N	80°51'27.6382"W	161.13	25.132	2.10	0.31	-6.89		
3616.00	16.840	16.230	3590.29	-139.72	173.24	75.08	1680759.27	14224570.76	39°10'18.9611"N	80°51'27.5532"W	188.81	23.431	1.80	-0.88	5.31		
3712.00	16.160	24.240	3682.35	-160.86	198.78	84.45	1680768.64	14224596.29	39°10'19.2134"N	80°51'27.4337"W	215.98	23.019	2.47	-0.71	8.34		
3807.00	16.320	28.920	3773.56	-179.49	222.52	96.34	1680780.52	14224620.02	39°10'19.4478"N	80°51'27.2824"W	242.48	23.410	1.39	0.17	4.93		
3901.00	14.930	19.100	3864.10	-197.92	245.53	106.69	1680790.86	14224643.02	39°10'19.6751"N	80°51'27.1505"W	267.70	23.486	3.17	-1.48	-10.45		
3996.00	10.780	21.770	3956.70	-214.32	265.35	113.99	1680798.16	14224662.83	39°10'19.8709"N	80°51'27.0574"W	288.80	23.248	4.41	-4.37	2.81		
4090.00	10.640	34.310	4049.08	-226.20	280.68	122.14	1680806.31	14224678.16	39°10'20.0223"N	80°51'26.9535"W	306.11	23.517	2.48	-0.15	13.34		
4184.00	9.240	24.260	4141.67	-236.92	294.73	130.14	1680814.30	14224692.21	39°10'20.1611"N	80°51'26.8518"W	322.18	23.823	2.37	-1.49	-10.69		
4279.00	8.380	24.710	4235.55	-247.50	307.98	136.16	1680820.33	14224705.44	39°10'20.2919"N	80°51'26.7750"W	336.73	23.851	0.91	-0.91	0.47		
4373.00	10.150	31.920	4328.32	-257.71	321.23	143.41	1680827.57	14224718.69	39°10'20.4228"N	80°51'26.6827"W	351.79	24.058	2.25	1.88	7.67		
4468.00	8.710	18.150	4422.05	-268.75	335.17	150.08	1680834.24	14224732.63	39°10'20.5605"N	80°51'26.5978"W	367.24	24.121	2.81	-1.52	-14.49		
4562.00	9.380	17.490	4514.88	-280.61	349.24	154.59	1680838.75	14224746.69	39°10'20.6995"N	80°51'26.5401"W	381.93	23.877	0.72	0.71	-0.70		
4657.00	11.350	16.720	4608.32	-294.45	365.58	159.61	1680843.77	14224763.02	39°10'20.8609"N	80°51'26.4761"W	398.90	23.586	2.08	2.07	-0.81		
4752.00	13.910	19.580	4701.02	-311.00	385.29	166.13	1680850.28	14224782.73	39°10'21.0556"N	80°51'26.3929"W	419.58	23.324	2.77	2.69	3.01		
4846.00	15.100	22.740	4792.02	-329.02	407.23	174.65	1680858.80	14224804.66	39°10'21.2723"N	80°51'26.2843"W	443.10	23.213	1.52	1.27	3.36		
4941.00	15.170	26.750	4883.73	-346.97	429.75	185.03	1680869.17	14224827.16	39°10'21.4947"N	80°51'26.1521"W	467.88	23.294	1.10	0.07	4.22		
5036.00	13.580	27.220	4975.75	-363.41	450.76	195.72	1680879.86	14224848.17	39°10'21.7023"N	80°51'26.0159"W	491.42	23.471	1.68	-1.67	0.49		
5130.00	11.960	16.070	5067.44	-379.06	469.94	203.47	1680887.61	14224867.34	39°10'21.8917"N	80°51'25.9171"W	512.10	23.411	3.13	-1.72	-11.86		
5225.00	12.040	21.360	5160.36	-394.70	488.63	209.80	1680893.94	14224886.02	39°10'22.0763"N	80°51'25.8363"W	531.77	23.237	1.16	0.08	5.57		
5319.00	11.160	21.280	5252.44	-409.14	506.24	216.68	1680900.81	14224903.62	39°10'22.2502"N	80°51'25.7487"W	550.66	23.172	0.94	-0.94	-0.09		



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWP
Slot	Slot C		

WELLPATH DATA (216 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]	Build Rate ["/100ft]	Turn Rate ["/100ft]	Comments
5414.00	11.580	26.470	5345.58	-422.88	523.34	224.26	1680908.39	14224920.72	39°10'22.4191"N	80°51'25.6520"W	569.37	23.196	1.16	0.44	5.46	
5508.00	9.710	25.080	5437.96	-435.23	538.97	231.83	1680915.96	14224936.34	39°10'22.5735"N	80°51'25.5557"W	586.71	23.274	2.01	-1.99	-1.48	
5603.00	9.480	29.540	5531.63	-446.19	553.03	239.08	1680923.21	14224950.40	39°10'22.7123"N	80°51'25.4633"W	602.49	23.379	0.82	-0.24	4.69	
5644.00	8.670	26.600	5572.12	-450.60	558.73	242.13	1680926.25	14224956.10	39°10'22.7886"N	80°51'25.4245"W	608.94	23.430	2.28	-1.98	-7.17	BH Lucida <6-3/4"> (5603')(5644'-19427')
5667.00	8.890	29.780	5594.85	-453.00	561.82	243.79	1680927.91	14224959.19	39°10'22.7992"N	80°51'25.4033"W	612.43	23.457	2.32	0.96	13.83	
5762.00	11.070	63.670	5688.49	-459.04	572.25	255.62	1680939.74	14224969.61	39°10'22.9021"N	80°51'25.2529"W	626.75	24.070	6.48	2.29	35.67	
5856.00	13.440	95.420	5780.44	-455.73	575.22	274.61	1680958.72	14224972.58	39°10'22.9312"N	80°51'25.0117"W	637.41	25.519	7.49	2.52	33.78	
5951.00	18.220	127.960	5871.98	-438.72	565.02	297.36	1680981.47	14224962.38	39°10'22.8300"N	80°51'24.7230"W	638.49	27.757	10.42	5.03	34.25	
6045.00	23.990	146.820	5959.74	-407.85	539.94	319.45	1681003.54	14224937.31	39°10'22.5817"N	80°51'24.4430"W	627.36	30.611	9.41	6.14	20.06	
6140.00	29.660	150.240	6044.49	-366.02	503.34	341.71	1681025.79	14224900.72	39°10'22.2196"N	80°51'24.1612"W	608.37	34.172	6.18	5.97	3.60	
6141.00†	29.729	150.252	6045.36	-365.54	502.91	341.95	1681026.04	14224900.29	39°10'22.2153"N	80°51'24.1581"W	608.15	34.214	6.95	6.92	1.24	Sycamore: 6141' MD
6234.00	36.170	151.220	6123.36	-315.81	458.78	366.63	1681050.71	14224856.19	39°10'21.7789"N	80°51'23.8456"W	587.29	38.630	6.95	6.93	1.04	
6328.00	43.230	150.520	6195.64	-256.77	406.38	395.87	1681079.93	14224803.81	39°10'21.2605"N	80°51'23.4754"W	567.33	44.249	7.53	7.51	-0.74	
6366.00†	46.879	151.225	6222.48	-230.31	382.89	408.95	1681093.01	14224780.33	39°10'21.0281"N	80°51'23.3098"W	560.22	46.885	9.69	9.60	1.86	Middlesex: 6366' MD
6423.00	52.360	152.140	6259.39	-187.50	344.67	429.53	1681113.58	14224742.13	39°10'20.6500"N	80°51'23.0493"W	550.72	51.255	9.69	9.62	1.60	
6517.00	60.870	154.300	6311.07	-109.83	274.64	464.79	1681148.83	14224672.12	39°10'19.9573"N	80°51'22.6029"W	539.87	59.422	9.25	9.05	2.30	
6559.00†	62.800	155.014	6330.90	-73.05	241.18	480.64	1681164.67	14224638.67	39°10'19.6263"N	80°51'22.4024"W	537.76	63.353	4.83	4.59	1.70	Burkett: 6559' MD
6612.00	65.240	155.880	6354.11	-25.64	197.84	500.43	1681184.45	14224595.36	39°10'19.1977"N	80°51'22.1519"W	538.12	68.429	4.83	4.60	1.63	
6662.00†	69.270	157.644	6373.44	20.32	155.48	518.61	1681202.62	14224553.01	39°10'18.7787"N	80°51'21.9220"W	541.42	73.311	8.69	8.06	3.53	Tully: 6662' MD
6706.00	72.830	159.120	6387.73	61.88	116.80	533.93	1681217.94	14224514.34	39°10'18.3961"N	80°51'21.7282"W	546.56	77.661	8.69	8.09	3.35	
6715.00†	73.732	159.309	6390.32	70.50	108.74	536.99	1681221.00	14224506.29	39°10'18.3164"N	80°51'21.6895"W	547.89	78.553	10.22	10.02	2.10	Marcellus POE: 6715' MD
6801.00	82.360	161.040	6408.12	154.54	29.66	565.48	1681249.48	14224427.24	39°10'17.5343"N	80°51'21.3294"W	566.26	86.997	10.22	10.03	2.01	
6895.00	89.980	160.930	6414.39	248.26	-58.94	596.02	1681280.00	14224338.67	39°10'16.6581"N	80°51'20.9435"W	598.93	95.648	8.11	8.11	-0.12	
6989.00	88.510	160.600	6415.63	342.24	-147.69	626.98	1681310.95	14224249.96	39°10'15.7805"N	80°51'20.5521"W	644.14	103.254	1.60	-1.56	-0.35	
7084.00	89.950	160.920	6416.90	437.23	-237.37	658.28	1681342.24	14224160.32	39°10'14.8936"N	80°51'20.1565"W	699.77	109.829	1.55	1.52	0.34	
7178.00	90.050	161.230	6416.90	531.23	-326.29	688.77	1681372.71	14224071.43	39°10'14.0142"N	80°51'19.7712"W	762.15	115.348	0.35	0.11	0.33	
7273.00	90.140	160.830	6416.75	626.23	-416.13	719.65	1681403.58	14223981.63	39°10'13.1258"N	80°51'19.3809"W	831.30	120.038	0.43	0.09	-0.42	
7367.00	89.680	161.400	6416.89	720.23	-505.07	750.08	1681434.00	14223892.72	39°10'12.2462"N	80°51'18.9964"W	904.27	123.955	0.78	-0.49	0.61	
7462.00	89.710	161.440	6417.40	815.23	-595.12	780.35	1681464.25	14223802.71	39°10'11.3557"N	80°51'18.6139"W	981.38	127.330	0.05	0.03	0.04	
7556.00	89.830	161.860	6417.78	909.22	-684.33	809.94	1681493.83	14223713.53	39°10'10.4734"N	80°51'18.2400"W	1060.34	130.195	0.46	0.13	0.45	



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Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWP
Slot	Slot C		

WELLPATH DATA (216 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
7651.00	88.010	160.270	6419.57	1004.20	-774.17	840.76	1681524.64	14223623.73	39°10'9.5850"N	80°51'17.8505"W	1142.90	132.639	2.54	-1.92	-1.67	
7745.00	89.800	161.720	6421.36	1098.17	-863.03	871.36	1681555.23	14223534.91	39°10'8.7063"N	80°51'17.4637"W	1226.41	134.725	2.45	1.90	1.54	
7839.00	89.800	161.430	6421.69	1192.17	-952.21	901.07	1681584.93	14223445.77	39°10'7.8243"N	80°51'17.0883"W	1310.96	136.581	0.31	0.00	-0.31	
7934.00	89.680	161.350	6422.12	1287.17	-1042.24	931.39	1681615.23	14223355.77	39°10'6.9340"N	80°51'16.7052"W	1397.76	138.215	0.15	-0.13	-0.08	
8028.00	89.710	161.850	6422.62	1381.16	-1131.43	961.06	1681644.89	14223266.61	39°10'6.0520"N	80°51'16.3303"W	1484.51	139.655	0.53	0.03	0.53	
8122.00	89.890	161.610	6422.95	1475.16	-1220.69	990.53	1681674.35	14223177.39	39°10'5.1692"N	80°51'15.9580"W	1572.01	140.943	0.32	0.19	-0.26	
8217.00	89.740	161.760	6423.26	1570.15	-1310.88	1020.38	1681704.19	14223087.24	39°10'4.2774"N	80°51'15.5808"W	1661.20	142.103	0.22	-0.16	0.16	
8311.00	89.770	161.780	6423.66	1664.15	-1400.16	1049.78	1681733.58	14222997.99	39°10'3.3945"N	80°51'15.2093"W	1750.00	143.139	0.04	0.03	0.02	
8406.00	89.620	161.400	6424.17	1759.14	-1490.30	1079.79	1681763.57	14222907.89	39°10'2.5031"N	80°51'14.8302"W	1840.36	144.075	0.43	-0.16	-0.40	
8500.00	89.680	161.370	6424.74	1853.14	-1579.38	1109.79	1681793.57	14222818.85	39°10'1.6221"N	80°51'14.4511"W	1930.30	144.905	0.07	0.06	-0.03	
8595.00	89.580	161.310	6425.35	1948.14	-1669.38	1140.19	1681823.95	14222728.88	39°10'0.7321"N	80°51'14.0670"W	2021.60	145.667	0.12	-0.11	-0.06	
8689.00	89.740	161.650	6425.91	2042.14	-1758.51	1170.04	1681853.79	14222639.78	39°09'59.8506"N	80°51'13.6898"W	2112.19	146.362	0.40	0.17	0.36	
8783.00	89.650	161.330	6426.41	2136.13	-1847.65	1199.88	1681883.62	14222550.68	39°09'58.9691"N	80°51'13.3127"W	2203.07	147.000	0.35	-0.10	-0.34	
8878.00	89.650	161.400	6426.99	2231.13	-1937.67	1230.24	1681913.97	14222460.70	39°09'58.0789"N	80°51'12.9291"W	2295.22	147.588	0.07	0.00	0.07	
8972.00	89.830	161.880	6427.42	2325.13	-2026.88	1259.85	1681943.56	14222371.52	39°09'57.1967"N	80°51'12.5551"W	2386.52	148.136	0.55	0.19	0.51	
9067.00	89.830	161.520	6427.70	2420.12	-2117.07	1289.68	1681973.38	14222281.36	39°09'56.3047"N	80°51'12.1782"W	2478.97	148.651	0.38	0.00	-0.38	
9161.00	89.680	161.340	6428.10	2514.12	-2206.18	1319.61	1682003.31	14222192.29	39°09'55.4235"N	80°51'11.8000"W	2570.72	149.114	0.25	-0.16	-0.19	
9256.00	89.610	161.520	6428.69	2609.12	-2296.23	1349.87	1682033.55	14222102.28	39°09'54.5330"N	80°51'11.4177"W	2663.61	149.550	0.20	-0.07	0.19	
9350.00	89.680	161.640	6429.27	2703.11	-2385.41	1379.57	1682063.24	14222013.13	39°09'53.6510"N	80°51'11.0425"W	2755.61	149.958	0.15	0.07	0.13	
9445.00	89.860	161.630	6429.66	2798.11	-2475.57	1409.50	1682093.16	14221923.01	39°09'52.7594"N	80°51'10.6643"W	2848.71	150.344	0.19	0.19	-0.01	
9539.00	89.710	161.860	6430.01	2892.10	-2564.84	1438.94	1682122.59	14221833.77	39°09'51.8766"N	80°51'10.2923"W	2940.91	150.706	0.29	-0.16	0.24	
9634.00	89.710	161.460	6430.49	2987.10	-2655.02	1468.84	1682152.47	14221743.64	39°09'50.9849"N	80°51'9.9147"W	3034.24	151.047	0.42	0.00	-0.42	
9729.00	89.830	161.550	6430.87	3082.09	-2745.11	1498.97	1682182.59	14221653.58	39°09'50.0939"N	80°51'9.5339"W	3127.70	151.363	0.16	0.13	0.09	
9824.00	89.950	161.790	6431.05	3177.09	-2835.29	1528.85	1682212.46	14221563.44	39°09'49.2021"N	80°51'9.1565"W	3221.22	151.665	0.28	0.13	0.25	
9918.00	89.890	161.570	6431.18	3271.09	-2924.52	1558.39	1682241.99	14221474.24	39°09'48.3196"N	80°51'8.7832"W	3313.82	151.948	0.24	-0.06	-0.23	
10013.00	89.920	161.620	6431.34	3366.08	-3014.66	1588.39	1682271.97	14221384.13	39°09'47.4282"N	80°51'8.4043"W	3407.52	152.216	0.06	0.03	0.05	
10107.00	89.770	161.800	6431.60	3460.08	-3103.91	1617.89	1682301.46	14221294.92	39°09'46.5456"N	80°51'8.0316"W	3500.26	152.470	0.25	-0.16	0.19	
10202.00	89.890	161.490	6431.88	3555.07	-3194.08	1647.80	1682331.37	14221204.79	39°09'45.6539"N	80°51'7.6537"W	3594.08	152.711	0.35	0.13	-0.33	
10296.00	90.020	161.550	6431.95	3649.07	-3283.23	1677.60	1682361.15	14221115.67	39°09'44.7722"N	80°51'7.2772"W	3687.00	152.935	0.15	0.14	0.06	
10390.00	89.920	161.300	6432.00	3743.07	-3372.34	1707.54	1682391.08	14221026.60	39°09'43.8911"N	80°51'6.8989"W	3779.99	153.145	0.29	-0.11	-0.27	



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

WELLPATH DATA (216 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
10485.00	89.890	161.240	6432.16	3838.07	-3462.31	1738.05	1682421.57	14220936.67	39°09'43.0013"N	80°51'6.5135"W	3874.06	153.344	0.07	-0.03	-0.06	
10580.00	89.890	161.610	6432.34	3933.07	-3552.36	1768.31	1682451.82	14220846.66	39°09'42.1108"N	80°51'6.1312"W	3968.14	153.537	0.39	0.00	0.39	
10674.00	89.860	161.650	6432.55	4027.07	-3641.57	1797.93	1682481.44	14220757.48	39°09'41.2286"N	80°51'5.7570"W	4061.23	153.723	0.05	-0.03	0.04	
10768.00	89.980	161.440	6432.68	4121.06	-3730.73	1827.69	1682511.18	14220668.35	39°09'40.3468"N	80°51'5.3810"W	4154.37	153.900	0.26	0.13	-0.22	
10863.00	89.830	161.340	6432.83	4216.06	-3820.76	1858.01	1682541.48	14220578.35	39°09'39.4564"N	80°51'4.9980"W	4248.58	154.067	0.19	-0.16	-0.11	
10958.00	89.890	161.580	6433.07	4311.06	-3910.83	1888.21	1682571.68	14220488.32	39°09'38.5657"N	80°51'4.6164"W	4342.81	154.228	0.26	0.06	0.25	
11052.00	89.860	161.290	6433.27	4405.06	-3999.94	1918.14	1682601.59	14220399.25	39°09'37.6845"N	80°51'4.2383"W	4436.08	154.380	0.31	-0.03	-0.31	
11147.00	89.890	161.710	6433.48	4500.06	-4090.03	1948.29	1682631.73	14220309.19	39°09'36.7935"N	80°51'3.8575"W	4530.36	154.529	0.44	0.03	0.44	
11241.00	89.890	161.150	6433.66	4594.06	-4179.14	1978.22	1682661.65	14220220.12	39°09'35.9123"N	80°51'3.4794"W	4623.69	154.669	0.60	0.00	-0.60	
11336.00	90.050	160.790	6433.71	4689.06	-4268.95	2009.20	1682692.61	14220130.35	39°09'35.0242"N	80°51'3.0880"W	4718.13	154.796	0.41	0.17	-0.38	
11431.00	90.140	161.100	6433.55	4784.05	-4358.74	2040.21	1682723.62	14220040.59	39°09'34.1361"N	80°51'2.6961"W	4812.60	154.917	0.34	0.09	0.33	
11525.00	90.170	161.100	6433.30	4878.05	-4447.67	2070.66	1682754.05	14219951.70	39°09'33.2567"N	80°51'2.3115"W	4906.06	155.035	0.03	0.03	0.00	
11714.00	90.170	160.970	6432.74	5067.05	-4626.41	2132.08	1682815.45	14219773.03	39°09'31.4890"N	80°51'1.5354"W	5094.06	155.257	0.07	0.00	-0.07	
11809.00	90.200	160.850	6432.43	5162.05	-4716.19	2163.15	1682846.51	14219683.29	39°09'30.6012"N	80°51'1.1429"W	5188.61	155.361	0.13	0.03	-0.13	
11903.00	90.630	161.160	6431.75	5256.05	-4805.07	2193.75	1682877.09	14219594.45	39°09'29.7222"N	80°51'0.7564"W	5282.16	155.461	0.56	0.46	0.33	
11998.00	90.420	161.100	6430.88	5351.04	-4894.96	2224.47	1682907.80	14219504.59	39°09'28.8332"N	80°51'0.3682"W	5376.70	155.561	0.23	-0.22	-0.06	
12092.00	90.540	161.070	6430.09	5445.04	-4983.88	2254.94	1682938.26	14219415.71	39°09'27.9538"N	80°50'59.9833"W	5470.26	155.656	0.13	0.13	-0.03	
12187.00	90.420	161.380	6429.30	5540.04	-5073.82	2285.52	1682968.82	14219325.80	39°09'27.0644"N	80°50'59.5970"W	5564.82	155.751	0.35	-0.13	0.33	
12376.00	90.290	161.230	6428.12	5729.03	-5252.84	2346.10	1683029.38	14219146.85	39°09'25.2939"N	80°50'58.8317"W	5752.96	155.933	0.11	-0.07	-0.08	
12470.00	90.450	161.360	6427.52	5823.03	-5341.88	2376.24	1683059.51	14219057.85	39°09'24.4134"N	80°50'58.4509"W	5846.55	156.019	0.22	0.17	0.14	
12565.00	90.450	161.080	6426.77	5918.03	-5431.82	2406.82	1683090.08	14218967.95	39°09'23.5240"N	80°50'58.0646"W	5941.16	156.102	0.29	0.00	-0.29	
12659.00	90.480	160.970	6426.01	6012.02	-5520.70	2437.39	1683120.63	14218879.09	39°09'22.6449"N	80°50'57.6785"W	6034.82	156.179	0.12	0.03	-0.12	
12754.00	90.140	160.950	6425.49	6107.02	-5610.51	2468.38	1683151.61	14218789.33	39°09'21.7568"N	80°50'57.2870"W	6129.49	156.253	0.36	-0.36	-0.02	
12849.00	90.170	160.860	6425.24	6202.02	-5700.28	2499.46	1683182.68	14218699.59	39°09'20.8690"N	80°50'56.8943"W	6224.18	156.324	0.10	0.03	-0.09	
13037.00	90.140	160.940	6424.73	6390.02	-5877.93	2560.97	1683244.17	14218522.01	39°09'19.1121"N	80°50'56.1172"W	6411.60	156.458	0.05	-0.02	0.04	
13132.00	89.650	161.310	6424.90	6485.02	-5967.82	2591.71	1683274.89	14218432.16	39°09'18.2231"N	80°50'55.7290"W	6506.29	156.526	0.65	-0.52	0.39	
13227.00	90.230	160.870	6425.00	6580.02	-6057.69	2622.49	1683305.66	14218342.32	39°09'17.3343"N	80°50'55.3400"W	6600.99	156.591	0.77	0.61	-0.46	
13321.00	89.770	160.650	6425.00	6674.01	-6146.44	2653.47	1683336.63	14218253.61	39°09'16.4566"N	80°50'54.9487"W	6694.75	156.650	0.54	-0.49	-0.23	
13416.00	89.770	160.890	6425.38	6769.01	-6236.14	2684.76	1683367.90	14218163.95	39°09'15.5695"N	80°50'54.5534"W	6789.50	156.707	0.25	0.00	0.25	
13510.00	89.550	161.140	6425.94	6863.01	-6325.02	2715.34	1683398.47	14218075.10	39°09'14.6905"N	80°50'54.1671"W	6883.24	156.766	0.35	-0.23	0.27	



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWP
Slot	Slot C		

WELLPATH DATA (216 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
13605.00	90.200	160.890	6426.15	6958.01	-6414.86	2746.24	1683429.36	14217985.30	39°09'13.8021"N	80°50'53.7767"W	6977.98	156.824	0.73	0.68	-0.26	
13699.00	89.680	160.810	6426.25	7052.01	-6503.65	2777.08	1683460.19	14217896.54	39°09'12.9239"N	80°50'53.3872"W	7071.75	156.877	0.56	-0.55	-0.09	
13794.00	89.460	161.060	6426.96	7147.00	-6593.44	2808.11	1683491.20	14217806.79	39°09'12.0359"N	80°50'52.9952"W	7166.51	156.931	0.35	-0.23	0.26	
13888.00	89.980	160.940	6427.42	7241.00	-6682.32	2838.71	1683521.80	14217717.95	39°09'11.1570"N	80°50'52.6086"W	7260.28	156.984	0.57	0.55	-0.13	
13983.00	89.950	160.550	6427.48	7336.00	-6772.00	2870.04	1683553.11	14217628.30	39°09'10.2700"N	80°50'52.2128"W	7355.08	157.032	0.41	-0.03	-0.41	
14077.00	88.880	158.360	6428.44	7429.94	-6860.01	2903.02	1683586.08	14217540.32	39°09'9.3996"N	80°50'51.7960"W	7448.98	157.063	2.59	-1.14	-2.33	
14172.00	90.110	159.580	6429.27	7524.87	-6948.68	2937.11	1683620.16	14217451.69	39°09'8.5226"N	80°50'51.3652"W	7543.92	157.087	1.82	1.29	1.28	
14266.00	90.230	160.910	6429.00	7618.85	-7037.14	2968.88	1683651.92	14217363.26	39°09'7.6477"N	80°50'50.9638"W	7637.78	157.126	1.42	0.13	1.41	
14361.00	90.230	160.980	6428.61	7713.85	-7126.94	2999.90	1683682.92	14217273.50	39°09'6.7597"N	80°50'50.5720"W	7732.57	157.173	0.07	0.00	0.07	
14455.00	90.230	161.110	6428.24	7807.85	-7215.84	3030.43	1683713.44	14217184.64	39°09'5.8805"N	80°50'50.1863"W	7826.36	157.219	0.14	0.00	0.14	
14550.00	90.200	161.100	6427.88	7902.85	-7305.72	3061.20	1683744.19	14217094.79	39°09'4.9916"N	80°50'49.7978"W	7921.14	157.266	0.03	-0.03	-0.01	
14644.00	90.290	160.880	6427.48	7996.85	-7394.59	3091.81	1683774.80	14217005.96	39°09'4.1127"N	80°50'49.4110"W	8014.94	157.309	0.25	0.10	-0.23	
14738.00	90.140	161.250	6427.13	8090.85	-7483.51	3122.32	1683805.29	14216917.08	39°09'3.2333"N	80°50'49.0257"W	8108.74	157.353	0.42	-0.16	0.39	
14833.00	90.170	160.830	6426.87	8185.85	-7573.35	3153.18	1683836.14	14216827.27	39°09'2.3448"N	80°50'48.6358"W	8203.55	157.395	0.44	0.03	-0.44	
14927.00	90.260	161.300	6426.52	8279.85	-7662.26	3183.69	1683866.63	14216738.39	39°09'1.4655"N	80°50'48.2506"W	8297.36	157.437	0.51	0.10	0.50	
15021.00	90.170	161.250	6426.16	8373.85	-7751.29	3213.86	1683896.80	14216649.40	39°09'0.5851"N	80°50'47.8694"W	8391.15	157.480	0.11	-0.10	-0.05	
15116.00	90.140	161.090	6425.91	8468.85	-7841.20	3244.52	1683927.45	14216559.53	39°08'59.6958"N	80°50'47.4822"W	8485.95	157.521	0.17	-0.03	-0.17	
15210.00	90.230	161.210	6425.60	8562.84	-7930.16	3274.89	1683957.80	14216470.60	39°08'58.8161"N	80°50'47.0986"W	8579.77	157.561	0.16	0.10	0.13	
15305.00	90.230	161.490	6425.22	8657.84	-8020.17	3305.27	1683988.17	14216380.63	39°08'57.9259"N	80°50'46.7149"W	8674.56	157.602	0.29	0.00	0.29	
15400.00	90.320	161.180	6424.77	8752.84	-8110.17	3335.68	1684018.56	14216290.66	39°08'57.0358"N	80°50'46.3309"W	8769.36	157.643	0.34	0.09	-0.33	
15495.00	89.190	160.090	6425.17	8847.83	-8199.80	3367.18	1684050.05	14216201.08	39°08'56.1495"N	80°50'45.9330"W	8864.23	157.675	1.65	-1.19	-1.15	
15589.00	89.920	161.440	6425.90	8941.83	-8288.54	3398.14	1684081.00	14216112.36	39°08'55.2718"N	80°50'45.5419"W	8958.09	157.707	1.63	0.78	1.44	
15684.00	89.830	160.660	6426.11	9036.82	-8378.39	3428.99	1684111.84	14216022.55	39°08'54.3832"N	80°50'45.1522"W	9052.92	157.742	0.83	-0.09	-0.82	
15778.00	89.770	160.780	6426.44	9130.82	-8467.12	3460.03	1684142.86	14215933.86	39°08'53.5057"N	80°50'44.7602"W	9146.80	157.773	0.14	-0.06	0.13	
15873.00	90.080	161.230	6426.56	9225.82	-8556.95	3490.95	1684173.77	14215844.07	39°08'52.6173"N	80°50'44.3697"W	9241.65	157.806	0.58	0.33	0.47	
15967.00	89.920	160.980	6426.56	9319.82	-8645.88	3521.39	1684204.20	14215755.17	39°08'51.7378"N	80°50'43.9852"W	9335.49	157.839	0.32	-0.17	-0.27	
16061.00	90.110	161.170	6426.54	9413.82	-8734.80	3551.88	1684234.68	14215666.29	39°08'50.8584"N	80°50'43.6002"W	9429.35	157.872	0.29	0.20	0.20	
16156.00	89.950	160.820	6426.49	9508.82	-8824.62	3582.81	1684265.60	14215576.50	39°08'49.9701"N	80°50'43.2094"W	9524.21	157.903	0.41	-0.17	-0.37	
16250.00	90.200	161.460	6426.36	9602.82	-8913.57	3613.20	1684296.97	14215487.58	39°08'49.0904"N	80°50'42.8257"W	9618.06	157.934	0.73	0.27	0.68	
16344.00	90.110	161.050	6426.11	9696.82	-9002.59	3643.41	1684326.17	14215398.60	39°08'48.2101"N	80°50'42.4442"W	9711.90	157.966	0.45	-0.10	-0.44	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWP
Slot	Slot C		

WELLPATH DATA (216 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
16439.00	90.170	161.080	6425.88	9791.82	-9092.45	3674.23	1684356.98	14215308.78	39°08'47.3214"N	80°50'42.0548"W	9806.76	157.996	0.07	0.06	0.03	
16533.00	90.050	161.190	6425.70	9885.82	-9181.40	3704.63	1684387.37	14215219.87	39°08'46.4417"N	80°50'41.6710"W	9900.62	158.026	0.17	-0.13	0.12	
16628.00	90.170	161.900	6425.52	9980.81	-9271.51	3734.70	1684417.43	14215129.79	39°08'45.5505"N	80°50'41.2913"W	9995.44	158.060	0.76	0.13	0.75	
16723.00	90.290	160.950	6425.13	10075.81	-9361.56	3764.96	1684447.68	14215039.78	39°08'44.6600"N	80°50'40.9091"W	10090.28	158.091	1.01	0.13	-1.00	
16912.00	90.110	160.810	6424.47	10264.81	-9540.13	3826.87	1684509.56	14214861.27	39°08'42.8939"N	80°50'40.1273"W	10279.06	158.143	0.12	-0.10	-0.07	
17007.00	90.350	161.010	6424.09	10359.81	-9629.91	3857.94	1684540.61	14214771.54	39°08'42.0060"N	80°50'39.7349"W	10373.95	158.168	0.33	0.25	0.21	
17101.00	90.780	161.400	6423.17	10453.80	-9718.89	3888.22	1684570.89	14214682.59	39°08'41.1260"N	80°50'39.3524"W	10467.81	158.195	0.62	0.46	0.41	
17196.00	90.570	161.210	6422.05	10548.79	-9808.87	3918.67	1684601.32	14214592.64	39°08'40.2361"N	80°50'38.9679"W	10562.67	158.223	0.30	-0.22	-0.20	
17290.00	90.630	160.970	6421.06	10642.79	-9897.79	3949.13	1684631.77	14214503.76	39°08'39.3567"N	80°50'38.5832"W	10656.55	158.248	0.26	0.06	-0.26	
17479.00	90.450	161.150	6419.28	10831.78	-10076.55	4010.47	1684693.09	14214325.07	39°08'37.5888"N	80°50'37.8086"W	10845.31	158.297	0.13	-0.10	0.10	
17574.00	90.540	161.030	6418.46	10926.78	-10166.42	4041.26	1684723.86	14214235.24	39°08'36.7000"N	80°50'37.4198"W	10940.20	158.322	0.16	0.09	-0.13	
17668.00	90.510	161.290	6417.60	11020.77	-10255.38	4071.62	1684754.21	14214146.31	39°08'35.8203"N	80°50'37.0365"W	11034.08	158.346	0.28	-0.03	0.28	
17763.00	90.420	161.010	6416.83	11115.77	-10345.28	4102.31	1684784.89	14214056.45	39°08'34.9311"N	80°50'36.6489"W	11128.96	158.370	0.31	-0.09	-0.29	
17857.00	90.420	160.460	6416.14	11209.76	-10434.02	4133.32	1684815.89	14213967.75	39°08'34.0536"N	80°50'36.2572"W	11222.88	158.390	0.59	0.00	-0.59	
17952.00	90.420	160.810	6415.44	11304.76	-10523.64	4164.82	1684847.37	14213878.16	39°08'33.1672"N	80°50'35.8594"W	11317.81	158.408	0.37	0.00	0.37	
18046.00	90.660	161.270	6414.56	11398.75	-10612.54	4195.36	1684877.90	14213789.30	39°08'32.2880"N	80°50'35.4737"W	11411.70	158.430	0.55	0.26	0.49	
18141.00	90.660	160.920	6413.46	11493.75	-10702.41	4226.14	1684908.67	14213699.47	39°08'31.3993"N	80°50'35.0850"W	11506.60	158.452	0.37	0.00	-0.37	
18235.00	90.750	160.830	6412.31	11587.74	-10791.21	4256.93	1684939.45	14213610.70	39°08'30.5210"N	80°50'34.6961"W	11600.50	158.472	0.14	0.10	-0.10	
18330.00	90.810	160.830	6411.01	11682.73	-10880.93	4288.13	1684970.63	14213521.01	39°08'29.6336"N	80°50'34.3022"W	11695.42	158.491	0.06	0.06	0.00	
18424.00	90.450	160.830	6409.98	11776.72	-10969.72	4318.99	1685001.48	14213432.26	39°08'28.7556"N	80°50'33.9124"W	11789.33	158.509	0.38	-0.38	0.00	
18519.00	90.200	160.610	6409.44	11871.72	-11059.39	4350.36	1685032.84	14213342.63	39°08'27.8687"N	80°50'33.5163"W	11884.26	158.527	0.35	-0.26	-0.23	
18613.00	90.450	161.200	6408.91	11965.71	-11148.21	4381.11	1685063.57	14213253.84	39°08'26.9903"N	80°50'33.1280"W	11978.18	158.546	0.68	0.27	0.63	
18708.00	87.860	159.330	6410.31	12060.68	-11237.61	4413.18	1685095.63	14213164.47	39°08'26.1061"N	80°50'32.7229"W	12073.11	158.559	3.36	-2.73	-1.97	
18802.00	90.290	161.420	6411.83	12154.64	-11326.13	4444.74	1685127.18	14213075.99	39°08'25.2307"N	80°50'32.3243"W	12167.04	158.573	3.41	2.59	2.22	
18897.00	90.350	160.910	6411.29	12249.64	-11416.04	4475.41	1685157.84	14212986.12	39°08'24.3415"N	80°50'31.9371"W	12261.94	158.593	0.54	0.06	-0.54	
18991.00	90.690	160.860	6410.44	12343.64	-11504.85	4506.19	1685188.61	14212897.34	39°08'23.4631"N	80°50'31.5484"W	12355.87	158.611	0.37	0.36	-0.05	
19036.00	91.430	160.860	6409.61	12388.63	-11547.36	4520.94	1685203.35	14212854.85	39°08'23.0427"N	80°50'31.3621"W	12400.82	158.619	1.64	1.64	0.00	
19086.00	92.290	161.010	6407.99	12438.60	-11594.59	4537.27	1685219.67	14212807.64	39°08'22.5756"N	80°50'31.1560"W	12450.76	158.628	1.75	1.72	0.30	
19134.00	91.460	159.590	6406.42	12486.57	-11639.75	4553.44	1685235.84	14212762.49	39°08'22.1289"N	80°50'30.9517"W	12498.71	158.635	3.43	-1.73	-2.96	
19180.00	91.460	159.230	6405.24	12532.53	-11682.80	4569.61	1685252.00	14212719.46	39°08'21.7032"N	80°50'30.7474"W	12544.69	158.638	0.78	0.00	-0.78	



Actual Wellpath Report

Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

WELLPATH DATA (216 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
19227.00	91.430	158.530	6404.06	12579.48	-11726.63	4586.54	1685268.92	14212675.65	39°08'21.2697"N	80°50'30.5335"W	12591.67	158.638	1.49	-0.06	-1.49	
19275.00	91.000	157.530	6403.04	12627.40	-11771.13	4604.49	1685286.87	14212631.17	39°08'20.8295"N	80°50'30.3067"W	12639.66	158.636	2.27	-0.90	-2.08	
19317.00	89.830	154.910	6402.74	12669.24	-11809.56	4621.43	1685303.80	14212592.75	39°08'20.4494"N	80°50'30.0926"W	12681.62	158.628	6.83	-2.79	-6.24	
19369.00	90.230	154.110	6402.71	12720.89	-11856.50	4643.80	1685326.17	14212545.83	39°08'19.9850"N	80°50'29.8096"W	12733.48	158.611	1.72	0.77	-1.54	
19427.00	90.780	154.320	6402.20	12778.46	-11908.72	4669.03	1685351.38	14212493.63	39°08'19.4684"N	80°50'29.4906"W	12791.31	158.591	1.02	0.95	0.36	
19454.00‡	90.780	154.320	6401.83	12805.26	-11933.06	4680.73	1685363.08	14212469.31	39°08'19.2278"N	80°50'29.3427"W	12818.23	158.582	0.00	0.00	0.00	Projected MD at TD: 19454'

HOLE & CASING SECTIONS - Ref Wellbore: Elklick Unit 1H AWB Ref Wellpath: Elklick Unit 1H AWP Proj: 19454'

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]
16in Conductor	30.00	130.00	100.00	30.00	130.00	0.00	0.00	-0.14	0.04
13.5in Open Hole	130.00	366.00	236.00	130.00	366.00	-0.14	0.04	-0.83	0.22
10.75in Casing Surface	30.00	346.00	316.00	30.00	346.00	0.00	0.00	-0.71	0.20
9.875in Open Hole	366.00	2568.00	2202.00	366.00	2562.95	-0.83	0.22	0.21	22.27
7.625in Casing Intermediate	30.00	2548.00	2518.00	30.00	2542.96	0.00	0.00	0.95	22.41
6.75in Open Hole	2568.00	19454.00	16886.00	2562.95	6401.83	0.21	22.27	-11933.06	4680.73
5in Casing Production	30.00	19434.00	19404.00	30.00	6402.10	0.00	0.00	-11915.03	4672.07



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Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Elklick Unit 1H POE Rev-3	6409.00	111.39	527.35	1681211.36	14224508.93	39°10'18.3427"N	80°51'21.8119"W	point
Elklick Unit 1H BHL Rev-2	6432.00	-12344.74	4776.50	1685458.81	14212057.79	39°08'15.1570"N	80°50'28.1364"W	point
Elklick Unit 1H BHL Rev-3	6432.00	-12200.03	4727.14	1685409.47	14212202.44	39°08'16.5882"N	80°50'28.7597"W	point
Elklick Unit 1H LP Rev-2	6432.00	-59.01	585.48	1681269.46	14224338.60	39°10'16.6575"N	80°51'21.0773"W	point
Elklick Unit 1H 50' L/R Hard Line Rev-2	7000.00	-6039.31	2625.53	1683308.70	14218360.70	39°09'17.5159"N	80°50'55.3010"W	rectangle
2D Rectangle 13018.6 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Elklick Unit 1H AWB Ref Wellpath: Elklick Unit 1H AWP Proj: 19454'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	376.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <13-1/2"> (100'-376')	Elklick Unit 1H AWB	7/22/2022
376.00	2506.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <9-7/8"> (376')(416'-2506')	Elklick Unit 1H AWB	7/22/2022
2506.00	5603.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <6-3/4"> (2506')(2572'-5603')	Elklick Unit 1H AWB	8/21/2022
5603.00	19454.00	BH OnTrak (2019) (HRGM, Short spacing)	04 BH Lucida <6-3/4"> (5603')(5644'-19427')	Elklick Unit 1H AWB	8/21/2022



Actual Wellpath Report
 Elklick Unit 1H AWP Proj: 19454'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Elklick Unit 1H
Field	Ritchie	API	47-085-10419-0000
Facility	Cashew Pad	Wellbore	Elklick Unit 1H AWB
Slot	Slot C		

COMMENTS
<p>Wellpath general comments API: 47-085-10419-0000 BH Job #: 111434652 Rig: H&P 531 Duration: 8/24/2022-8/30/2022 Gyrodata MS Gyro <13-1/2"> (100'-376") APS EM <9-7/8"> (376')(416'-2506') APS EM <6-3/4"> (2506')(2572'-5603') BH Lucida <6-3/4"> (5603')(5644'-19427') Sycamore: 6141' MD Middlesex: 6366' MD Burkett: 6559' MD Tully: 6662' MD Marcellus POE: 6715' MD Projected MD at TD: 19454'</p>

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 Office of Oil and Gas
 APR 07 2023
 WV Department of
 Environmental Protection