



# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

## REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Delaset
Scale	0.999607	Report Generated	12/27/2019 at 3:45:19 PM
Convergence at slot	0.17° 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	5.41	-19.27	1715785.43	14274038.63	39°18'27.3040"N	80°44'0.7930"W
Facility Reference Pt			1715804.69	14274033.23	39°18'27.2500"N	80°44'0.5480"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 317 (RKB) to Facility Vertical Datum	1308.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1308.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot #02)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	342.53°

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WELLPATH DATA (206 stations) † = interpolated, ‡ = extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.00	190.970	0.00	0.00	0.00	0.00	1715785.43	14274038.63	39°18'27.3040"N	80°44'0.7930"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	190.970	25.50	0.00	0.00	0.00	1715785.43	14274038.63	39°18'27.3040"N	80°44'0.7930"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.250	190.970	100.00	-0.14	-0.16	-0.03	1715785.40	14274038.47	39°18'27.3024"N	80°44'0.7934"W	0.16	190.970	0.34	0.34	0.00	Gyrodata MS Gyro <17-1/2">(100'-450')
125.00	0.400	191.710	125.00	-0.27	-0.30	-0.06	1715785.37	14274038.33	39°18'27.3010"N	80°44'0.7937"W	0.30	191.182	0.60	0.60	2.96	
150.00	0.380	191.810	150.00	-0.42	-0.47	-0.09	1715785.34	14274038.17	39°18'27.2994"N	80°44'0.7942"W	0.47	191.389	0.08	-0.08	0.40	
175.00	0.370	194.040	175.00	-0.56	-0.62	-0.13	1715785.30	14274038.01	39°18'27.2978"N	80°44'0.7946"W	0.64	191.779	0.07	-0.04	8.92	
200.00	0.370	193.660	200.00	-0.69	-0.78	-0.17	1715785.26	14274037.85	39°18'27.2963"N	80°44'0.7951"W	0.80	192.197	0.01	0.00	-1.52	
225.00	0.410	189.830	225.00	-0.84	-0.95	-0.20	1715785.23	14274037.68	39°18'27.2946"N	80°44'0.7956"W	0.97	192.101	0.19	0.16	-15.32	
250.00	0.420	194.200	250.00	-1.00	-1.12	-0.24	1715785.19	14274037.51	39°18'27.2929"N	80°44'0.7961"W	1.15	192.091	0.13	0.04	17.48	
275.00	0.470	186.290	275.00	-1.17	-1.32	-0.27	1715785.16	14274037.31	39°18'27.2910"N	80°44'0.7965"W	1.34	191.793	0.32	0.20	-31.64	
300.00	0.460	189.280	299.99	-1.36	-1.52	-0.30	1715785.13	14274037.11	39°18'27.2890"N	80°44'0.7969"W	1.55	191.266	0.10	-0.04	11.96	
325.00	0.520	175.510	324.99	-1.56	-1.73	-0.31	1715785.12	14274036.90	39°18'27.2869"N	80°44'0.7970"W	1.76	190.147	0.53	0.24	-55.08	
350.00	0.460	157.090	349.99	-1.77	-1.93	-0.26	1715785.17	14274036.70	39°18'27.2849"N	80°44'0.7964"W	1.95	187.698	0.67	-0.24	-73.68	
375.00	0.440	166.350	374.99	-1.96	-2.12	-0.20	1715785.23	14274036.51	39°18'27.2830"N	80°44'0.7956"W	2.13	185.382	0.30	-0.08	37.04	
400.00	0.440	160.440	399.99	-2.15	-2.30	-0.14	1715785.29	14274036.33	39°18'27.2812"N	80°44'0.7949"W	2.31	183.600	0.18	0.00	-23.64	
425.00	0.530	156.420	424.99	-2.36	-2.50	-0.07	1715785.36	14274036.13	39°18'27.2793"N	80°44'0.7939"W	2.50	181.525	0.38	0.36	-16.08	
450.00	0.600	149.670	449.99	-2.61	-2.72	0.05	1715785.48	14274035.91	39°18'27.2771"N	80°44'0.7925"W	2.72	179.035	0.39	0.28	-27.00	
607.00	1.040	163.850	606.97	-4.83	-4.80	0.86	1715786.29	14274033.83	39°18'27.2566"N	80°44'0.7822"W	4.87	169.869	0.31	0.28	9.03	APS EM <12-1/4"> (450')(607'-2547')
699.00	1.640	179.720	698.95	-6.93	-6.92	1.10	1715786.53	14274031.72	39°18'27.2356"N	80°44'0.7793"W	7.00	170.995	0.76	0.65	17.25	
792.00	3.170	196.710	791.86	-10.32	-10.71	0.36	1715785.79	14274027.92	39°18'27.1981"N	80°44'0.7887"W	10.72	178.059	1.80	1.65	18.27	
887.00	4.230	220.030	886.67	-14.38	-15.91	-2.65	1715782.79	14274022.73	39°18'27.1468"N	80°44'0.8272"W	16.13	189.443	1.92	1.12	24.55	
981.00	5.310	240.000	980.35	-17.19	-20.74	-8.64	1715776.79	14274017.90	39°18'27.0993"N	80°44'0.9037"W	22.47	202.625	2.09	1.15	21.24	
1076.00	6.050	242.690	1074.88	-19.00	-25.23	-16.90	1715768.54	14274013.41	39°18'27.0551"N	80°44'1.0089"W	30.37	213.810	0.83	0.78	2.83	
1171.00	6.640	243.660	1169.30	-20.70	-29.97	-26.27	1715759.17	14274008.67	39°18'27.0086"N	80°44'1.1283"W	39.85	221.238	0.63	0.62	1.02	
1266.00	6.890	242.730	1263.64	-22.52	-35.02	-36.26	1715749.19	14274003.63	39°18'26.9590"N	80°44'1.2555"W	50.40	225.998	0.29	0.26	-0.98	
1361.00	6.550	237.020	1357.99	-24.93	-40.58	-45.87	1715739.58	14273998.07	39°18'26.9043"N	80°44'1.3780"W	61.24	228.503	0.79	-0.36	-6.01	
1455.00	5.480	229.290	1451.47	-28.14	-46.42	-53.77	1715731.68	14273992.23	39°18'26.8467"N	80°44'1.4787"W	71.03	229.193	1.43	-1.14	-8.22	
1550.00	4.050	222.240	1546.14	-31.62	-51.86	-59.46	1715725.99	14273986.79	39°18'26.7931"N	80°44'1.5513"W	78.90	228.904	1.62	-1.51	-7.42	
1645.00	2.200	210.410	1641.00	-34.54	-55.92	-62.64	1715722.82	14273982.73	39°18'26.7531"N	80°44'1.5919"W	83.97	228.243	2.05	-1.95	-12.45	
1740.00	1.140	144.910	1735.96	-36.66	-58.27	-63.02	1715722.44	14273980.39	39°18'26.7299"N	80°44'1.5968"W	85.83	227.244	2.12	-1.12	-68.95	

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Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

## WELLPATH DATA (206 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
1835.00	1.410	118.510	1830.94	-38.40	-59.60	-61.45	1715724.01	14273979.06	39°18'26.7167"N	80°44'1.5769"W	85.60	225.876	0.67	0.28	-27.79	
1930.00	1.360	114.400	1925.91	-39.99	-60.62	-59.39	1715726.06	14273978.03	39°18'26.7066"N	80°44'1.5508"W	84.87	224.414	0.12	-0.05	-4.33	
2025.00	1.560	113.940	2020.88	-41.60	-61.61	-57.19	1715728.27	14273977.04	39°18'26.6967"N	80°44'1.5228"W	84.06	222.866	0.21	0.21	-0.48	
2119.00	1.970	109.880	2114.83	-43.43	-62.68	-54.50	1715730.95	14273975.97	39°18'26.6861"N	80°44'1.4886"W	83.06	221.005	0.46	0.44	-4.32	
2214.00	1.200	92.630	2209.80	-44.76	-63.28	-51.97	1715733.48	14273975.37	39°18'26.6800"N	80°44'1.4564"W	81.89	219.394	0.94	-0.81	-18.16	
2309.00	0.290	112.580	2304.79	-45.26	-63.42	-50.75	1715734.70	14273975.24	39°18'26.6786"N	80°44'1.4410"W	81.23	218.669	0.98	-0.96	21.00	
2404.00	1.800	291.430	2399.78	-44.48	-62.97	-51.92	1715733.53	14273975.69	39°18'26.6832"N	80°44'1.4558"W	81.61	219.507	2.20	1.59	188.26	
2499.00	3.060	296.010	2494.69	-41.79	-61.31	-55.59	1715729.86	14273977.34	39°18'26.6996"N	80°44'1.5024"W	82.76	222.197	1.34	1.33	4.82	
2547.00	3.510	292.560	2542.61	-39.97	-60.18	-58.10	1715727.36	14273978.47	39°18'26.7108"N	80°44'1.5343"W	83.65	223.988	1.02	0.94	-7.19	
2634.00	3.630	288.700	2629.44	-36.63	-58.28	-63.16	1715722.29	14273980.37	39°18'26.7298"N	80°44'1.5987"W	85.94	227.303	0.31	0.14	-4.44	BHI NavTrak <8-3/4">(2547')(2634'-5960')
2729.00	4.040	270.690	2724.23	-33.81	-57.27	-69.36	1715716.10	14273981.38	39°18'26.7399"N	80°44'1.6775"W	89.95	230.451	1.33	0.43	-18.96	
2824.00	4.940	272.000	2818.94	-31.40	-57.09	-76.79	1715708.67	14273981.56	39°18'26.7420"N	80°44'1.7720"W	95.69	233.371	0.95	0.95	1.38	
2918.00	7.170	270.110	2912.41	-28.28	-56.94	-86.71	1715698.76	14273981.71	39°18'26.7437"N	80°44'1.8981"W	103.73	236.707	2.38	2.37	-2.01	
3013.00	8.940	261.750	3006.47	-25.31	-57.99	-99.94	1715685.53	14273980.67	39°18'26.7338"N	80°44'2.0665"W	115.55	239.877	2.23	1.86	-8.80	
3108.00	10.790	249.850	3100.07	-24.54	-62.11	-115.60	1715669.88	14273976.54	39°18'26.6935"N	80°44'2.2659"W	131.23	241.751	2.89	1.95	-12.53	
3206.00	11.690	242.780	3196.20	-26.65	-69.81	-133.04	1715652.44	14273968.85	39°18'26.6179"N	80°44'2.4880"W	150.24	242.312	1.68	0.92	-7.21	
3301.00	12.430	236.800	3289.10	-31.05	-79.81	-150.15	1715635.34	14273958.85	39°18'26.5195"N	80°44'2.7061"W	170.05	242.007	1.53	0.78	-6.29	
3395.00	13.380	231.670	3380.73	-37.67	-92.10	-167.15	1715618.34	14273946.57	39°18'26.3986"N	80°44'2.9228"W	190.84	241.146	1.58	1.01	-5.46	
3490.00	13.210	232.280	3473.18	-45.34	-105.56	-184.36	1715601.14	14273933.11	39°18'26.2661"N	80°44'3.1423"W	212.44	240.206	0.23	-0.18	0.64	
3585.00	13.370	239.270	3565.65	-51.62	-117.81	-202.39	1715583.12	14273920.87	39°18'26.1455"N	80°44'3.3721"W	234.18	239.796	1.70	0.17	7.36	
3680.00	14.280	245.190	3657.90	-55.64	-128.34	-222.47	1715563.05	14273910.34	39°18'26.0420"N	80°44'3.6279"W	256.83	240.019	1.77	0.96	6.23	
3775.00	16.060	243.670	3749.58	-59.16	-139.09	-244.88	1715540.65	14273899.60	39°18'25.9364"N	80°44'3.9135"W	281.62	240.404	1.92	1.87	-1.60	
3870.00	17.210	239.720	3840.61	-64.30	-152.00	-268.80	1715516.74	14273886.69	39°18'25.8095"N	80°44'4.2182"W	308.80	240.512	1.70	1.21	-4.16	
3965.00	18.810	236.540	3930.95	-71.63	-167.53	-293.71	1715491.83	14273871.16	39°18'25.6567"N	80°44'4.5357"W	338.13	240.300	1.98	1.68	-3.35	
4059.00	18.310	234.300	4020.07	-80.43	-184.51	-318.35	1715467.21	14273854.20	39°18'25.4896"N	80°44'4.8498"W	367.95	239.904	0.93	-0.53	-2.38	
4154.00	17.730	229.660	4110.41	-90.72	-202.58	-341.49	1715444.07	14273836.13	39°18'25.3117"N	80°44'5.1449"W	397.06	239.323	1.63	-0.61	-4.88	
4249.00	16.680	231.050	4201.16	-101.33	-220.51	-363.12	1715422.45	14273818.20	39°18'25.1351"N	80°44'5.4207"W	424.83	238.731	1.19	-1.11	1.46	
4344.00	16.720	227.780	4292.15	-112.04	-238.27	-383.85	1715401.74	14273800.46	39°18'24.9602"N	80°44'5.6850"W	451.78	238.170	0.99	0.04	-3.44	
4439.00	16.350	226.070	4383.22	-123.72	-256.73	-403.60	1715381.99	14273782.00	39°18'24.7783"N	80°44'5.9369"W	478.33	237.539	0.64	-0.39	-1.80	
4534.00	15.190	226.740	4474.65	-135.10	-274.53	-422.29	1715363.31	14273764.20	39°18'24.6028"N	80°44'6.1754"W	503.68	236.972	1.24	-1.22	0.71	

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4629.00	16.520	230.050	4566.03	-145.68	-291.74	-441.71	1715343.90	14273747.01	39°18'24.4334"N	80°44'6.4231"W	529.36	236.566	1.69	1.40	3.48		
4724.00	18.890	230.600	4656.53	-156.58	-310.17	-463.94	1715321.67	14273728.58	39°18'24.2518"N	80°44'6.7067"W	558.08	236.235	2.49	2.48	0.58		
4818.00	18.550	224.470	4745.57	-169.30	-330.50	-486.17	1715299.45	14273708.27	39°18'24.0516"N	80°44'6.9902"W	587.87	235.793	2.12	-0.35	-6.52		
4913.00	15.720	211.710	4836.37	-184.83	-352.24	-503.53	1715282.10	14273686.53	39°18'23.8372"N	80°44'7.2119"W	614.51	235.026	4.94	-2.98	-13.43		
5008.00	14.010	209.470	4928.19	-201.09	-373.20	-515.96	1715269.68	14273665.58	39°18'23.6304"N	80°44'7.3707"W	636.78	234.121	1.90	-1.80	-2.36		
5103.00	12.880	216.050	5020.59	-215.24	-391.77	-527.85	1715257.79	14273647.01	39°18'23.4471"N	80°44'7.5226"W	657.35	233.417	2.00	-1.19	6.93		
5201.00	13.390	223.270	5116.04	-227.28	-408.87	-542.05	1715243.59	14273629.92	39°18'23.2786"N	80°44'7.7040"W	678.97	232.973	1.75	0.52	7.37		
5296.00	16.590	228.160	5207.79	-238.26	-425.93	-559.70	1715225.95	14273612.87	39°18'23.1105"N	80°44'7.9291"W	703.34	232.729	3.62	3.37	5.15		
5390.00	17.570	225.040	5297.65	-250.35	-444.91	-579.74	1715205.92	14273593.90	39°18'22.9235"N	80°44'8.1848"W	730.78	232.496	1.43	1.04	-3.32		
5485.00	17.160	223.360	5388.32	-263.79	-465.23	-599.51	1715186.16	14273573.58	39°18'22.7232"N	80°44'8.4370"W	758.85	232.188	0.68	-0.43	-1.77		
5580.00	17.300	225.950	5479.06	-276.95	-485.24	-619.28	1715166.39	14273553.58	39°18'22.5260"N	80°44'8.6893"W	786.75	231.919	0.82	0.15	2.73		
5675.00	17.310	230.340	5569.76	-288.60	-504.08	-640.32	1715145.37	14273534.75	39°18'22.3404"N	80°44'8.9576"W	814.93	231.789	1.37	0.01	4.62		
5770.00	16.950	231.770	5660.55	-298.85	-521.67	-662.07	1715123.62	14273517.16	39°18'22.1672"N	80°44'9.2350"W	842.90	231.764	0.58	-0.38	1.51		
5865.00	16.750	233.210	5751.47	-308.29	-538.44	-683.92	1715101.78	14273500.40	39°18'22.0021"N	80°44'9.5135"W	870.44	231.787	0.49	-0.21	1.52		
5960.00	16.970	231.410	5842.39	-317.81	-555.29	-705.72	1715079.99	14273483.56	39°18'21.8362"N	80°44'9.7915"W	897.98	231.803	0.60	0.23	-1.89		
6013.00	16.760	227.550	5893.11	-323.83	-565.27	-717.40	1715068.31	14273473.58	39°18'21.7379"N	80°44'9.9405"W	913.34	231.764	2.15	-0.40	-7.28	BH AT Curve <8-1/2">(5960')(6013'-17595')	
6108.00	18.430	227.260	5983.66	-336.02	-584.71	-738.54	1715047.19	14273454.15	39°18'21.5464"N	80°44'10.2101"W	941.98	231.631	1.76	1.76	-0.31		
6203.00	18.480	231.670	6073.78	-347.80	-604.24	-761.38	1715024.35	14273434.63	39°18'21.3540"N	80°44'10.5014"W	972.01	231.564	1.47	0.05	4.64		
6298.00	18.070	237.950	6164.00	-356.87	-621.39	-785.68	1715000.06	14273417.48	39°18'21.1851"N	80°44'10.8112"W	1001.71	231.659	2.12	-0.43	6.61		
6392.00	15.730	258.500	6254.01	-359.21	-631.68	-810.55	1714975.20	14273407.20	39°18'21.0841"N	80°44'11.1279"W	1027.62	232.070	6.78	-2.49	21.86		
6487.00	17.210	278.950	6345.19	-351.61	-632.06	-837.07	1714948.69	14273406.82	39°18'21.0811"N	80°44'11.4654"W	1048.90	232.944	6.26	1.56	21.53		
6582.00	20.010	297.040	6435.29	-333.95	-622.48	-865.46	1714920.31	14273416.40	39°18'21.1767"N	80°44'11.8262"W	1066.07	234.275	6.72	2.95	19.04		
6677.00	24.550	311.930	6523.24	-305.53	-601.87	-894.66	1714891.12	14273436.99	39°18'21.3812"N	80°44'12.1968"W	1078.27	236.070	7.59	4.78	15.67		
6772.00	29.710	320.290	6607.79	-266.71	-570.54	-924.42	1714861.38	14273468.31	39°18'21.6917"N	80°44'12.5742"W	1086.31	238.317	6.74	5.43	8.80		
6867.00	34.890	326.170	6688.08	-218.81	-529.82	-954.61	1714831.20	14273509.01	39°18'22.0950"N	80°44'12.9568"W	1091.79	240.969	6.37	5.45	6.19		
6923.00	38.848	329.823	6732.88	-186.29	-501.32	-972.36	1714813.45	14273537.51	39°18'22.3772"N	80°44'13.1816"W	1093.99	242.726	8.08	7.07	6.52	Middlesex: 6923' MD	
6961.00	41.590	331.960	6761.90	-162.26	-479.88	-984.29	1714801.53	14273558.94	39°18'22.5895"N	80°44'13.3325"W	1095.04	244.009	8.08	7.22	5.62		
7056.00	48.810	334.640	6828.80	-95.76	-419.67	-1014.46	1714771.37	14273619.13	39°18'23.1855"N	80°44'13.7141"W	1097.84	247.526	7.86	7.60	2.82		
7132.00	54.953	335.472	6875.69	-36.51	-365.47	-1039.65	1714746.19	14273673.30	39°18'23.7219"N	80°44'14.0326"W	1102.02	250.632	8.13	8.08	1.09	Burkett: 7132' MD	
7151.00	56.490	335.660	6886.39	-20.92	-351.18	-1046.14	1714739.70	14273687.59	39°18'23.8633"N	80°44'14.1146"W	1103.51	251.444	8.13	8.09	0.99		

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Laser Unit 2H
Field	Doddridge		API	47-017-06894-0000
Facility	George Scott Pad		Wellbore	Laser Unit 2H AWB
Slot	Slot #02			

WELLPATH DATA (206 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
7188.00†	59.326	336.088	6906.05	10.21	-322.57	-1058.95	1714726.90	14273716.18	39°18'24.1464"N	80°44'14.2765"W	1106.99	253.058	7.73	7.67	1.16	Tully: 7188' MD
7199.00	60.170	336.210	6911.59	19.65	-313.88	-1062.79	1714723.06	14273724.87	39°18'24.2324"N	80°44'14.3251"W	1108.18	253.546	7.73	7.67	1.11	
7246.00	63.740	336.870	6933.68	60.90	-275.84	-1079.30	1714706.55	14273762.90	39°18'24.6089"N	80°44'14.5337"W	1113.99	255.664	7.70	7.60	1.40	
7294.00	68.110	339.010	6953.26	104.57	-235.23	-1095.74	1714690.12	14273803.50	39°18'25.0108"N	80°44'14.7414"W	1120.71	257.884	9.97	9.10	4.46	
7341.00	72.200	341.070	6969.21	148.73	-193.68	-1110.82	1714675.05	14273845.03	39°18'25.4218"N	80°44'14.9316"W	1127.58	260.109	9.63	8.70	4.38	
7343.00†	72.294	341.113	6969.82	150.63	-191.88	-1111.44	1714674.43	14273846.83	39°18'25.4396"N	80°44'14.9394"W	1127.88	260.205	5.13	4.71	2.15	Marcellus POE: 7343' MD
7436.00	76.680	343.070	6994.69	240.21	-106.63	-1138.97	1714646.91	14273932.04	39°18'26.2830"N	80°44'15.2865"W	1143.95	264.652	5.13	4.72	2.10	
7531.00	81.850	343.120	7012.38	333.52	-17.36	-1166.10	1714619.79	14274021.28	39°18'27.1661"N	80°44'15.6284"W	1166.23	269.147	5.44	5.44	0.05	
7626.00	88.950	342.900	7020.00	428.15	73.15	-1193.75	1714592.15	14274111.75	39°18'28.0614"N	80°44'15.9768"W	1195.99	273.506	7.48	7.47	-0.23	
7721.00	89.600	343.020	7021.20	523.14	163.97	-1221.59	1714564.32	14274202.53	39°18'28.9599"N	80°44'16.3276"W	1232.55	277.645	0.70	0.68	0.13	
7815.00	89.420	342.080	7022.00	617.13	253.64	-1249.78	1714536.15	14274292.17	39°18'29.8470"N	80°44'16.6829"W	1275.26	281.472	1.02	-0.19	-1.00	
7910.00	89.820	341.910	7022.63	712.12	343.98	-1279.14	1714506.79	14274382.48	39°18'30.7407"N	80°44'17.0531"W	1324.59	285.052	0.46	0.42	-0.18	
8005.00	89.850	340.700	7022.91	807.10	433.97	-1309.59	1714476.36	14274472.43	39°18'31.6310"N	80°44'17.4372"W	1379.62	288.334	1.27	0.03	-1.27	
8100.00	89.630	339.170	7023.34	902.00	523.20	-1342.18	1714443.78	14274561.62	39°18'32.5138"N	80°44'17.8485"W	1440.55	291.296	1.63	-0.23	-1.61	
8195.00	90.000	339.840	7023.64	996.87	612.19	-1375.44	1714410.53	14274650.57	39°18'33.3943"N	80°44'18.2684"W	1505.53	293.993	0.81	0.39	0.71	
8290.00	89.690	338.910	7023.90	1091.72	701.10	-1408.91	1714377.08	14274739.45	39°18'34.2740"N	80°44'18.6909"W	1573.71	296.456	1.03	-0.33	-0.98	
8385.00	89.480	339.750	7024.59	1186.57	789.98	-1442.44	1714343.56	14274828.29	39°18'35.1534"N	80°44'19.1142"W	1644.60	298.708	0.91	-0.22	0.88	
8480.00	89.910	341.620	7025.09	1281.51	879.62	-1473.86	1714312.15	14274917.91	39°18'36.0404"N	80°44'19.5106"W	1716.39	300.829	2.02	0.45	1.97	
8575.00	89.720	344.450	7025.40	1376.50	970.48	-1501.58	1714284.45	14275008.73	39°18'36.9392"N	80°44'19.8599"W	1787.89	302.875	2.99	-0.20	2.98	
8669.00	90.000	350.840	7025.63	1470.08	1062.26	-1521.68	1714264.35	14275100.47	39°18'37.8468"N	80°44'20.1123"W	1855.77	304.918	6.80	0.30	6.80	
8764.00	89.820	350.340	7025.78	1564.14	1155.98	-1537.21	1714248.83	14275194.15	39°18'38.7736"N	80°44'20.3065"W	1923.36	306.943	0.56	-0.19	-0.53	
8859.00	89.260	348.220	7026.54	1658.47	1249.31	-1554.88	1714231.16	14275287.45	39°18'39.6965"N	80°44'20.5278"W	1994.60	308.781	2.31	-0.59	-2.23	
8954.00	89.110	345.540	7027.89	1753.18	1341.81	-1576.44	1714209.61	14275379.91	39°18'40.6114"N	80°44'20.7987"W	2070.18	310.403	2.83	-0.16	-2.82	
9049.00	89.320	343.870	7029.20	1848.10	1433.44	-1601.50	1714184.57	14275471.50	39°18'41.5177"N	80°44'21.1141"W	2149.31	311.830	1.77	0.22	-1.76	
9144.00	89.450	342.980	7030.22	1943.08	1524.48	-1628.60	1714157.48	14275562.51	39°18'42.4183"N	80°44'21.4556"W	2230.78	313.109	0.95	0.14	-0.94	
9239.00	89.510	342.860	7031.08	2038.07	1615.29	-1656.50	1714129.59	14275653.28	39°18'43.3166"N	80°44'21.8072"W	2313.69	314.278	0.14	0.06	-0.13	
9333.00	89.820	344.680	7031.63	2132.05	1705.54	-1682.77	1714103.33	14275743.49	39°18'44.2094"N	80°44'22.1381"W	2395.95	315.385	1.96	0.33	1.94	
9429.00	89.910	344.850	7031.85	2227.97	1798.16	-1708.00	1714078.11	14275836.08	39°18'45.1256"N	80°44'22.4557"W	2480.05	316.473	0.20	0.09	0.18	
9524.00	89.750	343.340	7032.14	2322.93	1889.52	-1734.03	1714052.09	14275927.41	39°18'46.0293"N	80°44'22.7835"W	2564.60	317.457	1.60	-0.17	-1.59	
9619.00	89.910	340.930	7032.42	2417.92	1979.93	-1763.17	1714022.96	14276017.78	39°18'46.9237"N	80°44'23.1510"W	2651.21	318.314	2.54	0.17	-2.54	

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

## WELLPATH DATA (206 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
9713.00	89.750	339.780	7032.70	2511.85	2068.46	-1794.77	1713991.37	14276106.27	39°18'47.7996"N	80°44'23.5498"W	2738.56	319.052	1.24	-0.17	-1.22	
9808.00	89.910	337.340	7032.98	2606.62	2156.88	-1829.49	1713956.66	14276194.66	39°18'48.6745"N	80°44'23.9883"W	2828.28	319.695	2.57	0.17	-2.57	
9903.00	89.910	336.790	7033.13	2701.19	2244.37	-1866.51	1713919.65	14276282.11	39°18'49.5402"N	80°44'24.4561"W	2919.09	320.252	0.58	0.00	-0.58	
9998.00	89.480	335.500	7033.63	2795.59	2331.25	-1904.93	1713881.25	14276368.96	39°18'50.4000"N	80°44'24.9417"W	3010.56	320.747	1.43	-0.45	-1.36	
10093.00	89.630	336.630	7034.37	2889.98	2418.08	-1943.47	1713842.73	14276455.75	39°18'51.2593"N	80°44'25.4289"W	3102.29	321.210	1.20	0.16	1.19	
10188.00	89.690	339.510	7034.94	2984.69	2506.19	-1978.95	1713807.27	14276543.83	39°18'52.1312"N	80°44'25.8770"W	3193.31	321.705	3.03	0.06	3.03	
10282.00	90.180	340.200	7035.04	3078.58	2594.44	-2011.32	1713774.90	14276632.05	39°18'53.0043"N	80°44'26.2857"W	3282.76	322.216	0.90	0.52	0.73	
10377.00	89.970	341.150	7034.92	3173.53	2684.09	-2042.76	1713743.48	14276721.66	39°18'53.8912"N	80°44'26.6824"W	3373.01	322.727	1.02	-0.22	1.00	
10472.00	90.060	345.020	7034.89	3268.51	2774.96	-2070.39	1713715.86	14276812.49	39°18'54.7902"N	80°44'27.0307"W	3462.22	323.273	4.07	0.09	4.07	
10567.00	89.970	347.200	7034.87	3363.32	2867.18	-2093.20	1713693.06	14276904.67	39°18'55.7023"N	80°44'27.3175"W	3549.95	323.868	2.30	-0.09	2.29	
10662.00	89.940	348.430	7034.94	3457.91	2960.03	-2113.25	1713673.02	14276997.49	39°18'56.6206"N	80°44'27.5692"W	3636.98	324.476	1.30	-0.03	1.29	
10757.00	90.060	350.830	7034.94	3552.18	3053.48	-2130.35	1713655.92	14277090.90	39°18'57.5446"N	80°44'27.7834"W	3723.18	325.097	2.53	0.13	2.53	
10852.00	90.460	350.420	7034.51	3646.23	3147.21	-2145.82	1713640.46	14277184.59	39°18'58.4715"N	80°44'27.9768"W	3809.13	325.713	0.60	0.42	-0.43	
10947.00	90.740	347.010	7033.52	3740.66	3240.35	-2164.41	1713621.88	14277277.70	39°18'59.3926"N	80°44'28.2099"W	3896.73	326.259	3.60	0.29	-3.59	
11041.00	89.880	340.590	7033.01	3834.58	3330.57	-2190.62	1713595.68	14277367.88	39°19'0.2850"N	80°44'28.5401"W	3986.41	326.666	6.89	-0.91	-6.83	
11136.00	90.030	336.690	7033.08	3929.34	3419.03	-2225.22	1713561.09	14277456.30	39°19'1.1603"N	80°44'28.9771"W	4079.38	326.943	4.11	0.16	-4.11	
11231.00	89.880	335.270	7033.16	4023.72	3505.80	-2263.88	1713522.44	14277543.04	39°19'2.0190"N	80°44'29.4659"W	4173.22	327.147	1.50	-0.16	-1.49	
11326.00	90.030	334.120	7033.23	4117.83	3591.68	-2304.49	1713481.85	14277628.89	39°19'2.8690"N	80°44'29.9795"W	4267.42	327.315	1.22	0.16	-1.21	
11421.00	89.350	332.520	7033.75	4211.60	3676.56	-2347.14	1713439.21	14277713.74	39°19'3.7091"N	80°44'30.5191"W	4361.90	327.446	1.83	-0.72	-1.68	
11516.00	90.220	335.390	7034.10	4305.53	3761.90	-2388.85	1713397.52	14277799.04	39°19'4.5538"N	80°44'31.0466"W	4456.29	327.584	3.16	0.92	3.02	
11611.00	90.310	339.110	7033.66	4400.11	3849.50	-2425.58	1713360.81	14277886.60	39°19'5.4205"N	80°44'31.5108"W	4549.95	327.785	3.92	0.09	3.92	
11705.00	90.370	339.620	7033.10	4493.96	3937.46	-2458.71	1713327.69	14277974.54	39°19'6.2909"N	80°44'31.9291"W	4642.07	328.018	0.55	0.06	0.54	
11800.00	90.120	343.060	7032.70	4588.93	4027.45	-2489.10	1713297.32	14278064.49	39°19'7.1812"N	80°44'32.3125"W	4734.55	328.283	3.63	-0.26	3.62	
11895.00	90.550	344.320	7032.14	4683.91	4118.63	-2515.78	1713270.65	14278155.63	39°19'8.0831"N	80°44'32.6486"W	4826.20	328.582	1.40	0.45	1.33	
11990.00	90.770	341.070	7031.05	4778.89	4209.31	-2544.03	1713242.41	14278246.27	39°19'8.9801"N	80°44'33.0048"W	4918.37	328.852	3.43	0.23	-3.42	
12085.00	90.250	343.470	7030.20	4873.87	4299.79	-2572.96	1713213.49	14278336.72	39°19'9.8752"N	80°44'33.3696"W	5010.82	329.104	2.58	-0.55	2.53	
12180.00	89.260	344.720	7030.61	4968.83	4391.15	-2598.99	1713187.47	14278428.04	39°19'10.7789"N	80°44'33.6976"W	5102.64	329.380	1.68	-1.04	1.32	
12275.00	89.750	345.910	7031.43	5063.72	4483.04	-2623.07	1713163.40	14278519.89	39°19'11.6878"N	80°44'34.0006"W	5194.05	329.668	1.35	0.52	1.25	
12370.00	89.850	349.390	7031.76	5158.32	4575.82	-2643.39	1713143.09	14278612.64	39°19'12.6054"N	80°44'34.2558"W	5284.47	329.986	3.66	0.11	3.66	
12465.00	89.420	349.200	7032.37	5252.66	4669.17	-2661.03	1713125.45	14278705.95	39°19'13.5285"N	80°44'34.4769"W	5374.22	330.321	0.49	-0.45	-0.20	

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

## WELLPATH DATA (206 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
12560.00	89.720	349.730	7033.08	5346.96	4762.56	-2678.40	1713108.09	14278799.31	39°19'14.4521"N	80°44'34.6946"W	5464.05	330.647	0.64	0.32	0.56	
12655.00	89.720	346.790	7033.54	5441.47	4855.57	-2697.73	1713088.77	14278892.28	39°19'15.3718"N	80°44'34.9371"W	5554.66	330.944	3.09	0.00	-3.09	
12749.00	89.850	346.710	7033.90	5535.22	4947.06	-2719.27	1713067.23	14278983.74	39°19'16.2768"N	80°44'35.2079"W	5645.16	331.204	0.16	0.14	-0.09	
12844.00	89.910	345.170	7034.10	5630.05	5039.21	-2742.35	1713044.16	14279075.85	39°19'17.1882"N	80°44'35.4983"W	5737.09	331.445	1.62	0.06	-1.62	
12939.00	89.630	342.720	7034.48	5725.01	5130.50	-2768.62	1713017.90	14279167.10	39°19'18.0912"N	80°44'35.8292"W	5829.86	331.647	2.60	-0.29	-2.58	
13034.00	89.910	342.120	7034.86	5820.01	5221.06	-2797.32	1712989.22	14279257.63	39°19'18.9871"N	80°44'36.1911"W	5923.21	331.819	0.70	0.29	-0.63	
13129.00	89.510	340.900	7035.34	5914.99	5311.16	-2827.44	1712959.11	14279347.69	39°19'19.8783"N	80°44'36.5712"W	6016.88	331.971	1.35	-0.42	-1.28	
13224.00	89.600	341.530	7036.08	6009.96	5401.09	-2858.03	1712928.53	14279437.59	39°19'20.7681"N	80°44'36.9572"W	6110.66	332.114	0.67	0.09	0.66	
13318.00	89.380	341.520	7036.91	6103.94	5490.24	-2887.82	1712898.75	14279526.70	39°19'21.6501"N	80°44'37.3330"W	6203.41	332.256	0.23	-0.23	-0.01	
13413.00	89.480	339.910	7037.86	6198.89	5579.91	-2919.19	1712867.39	14279616.33	39°19'22.5371"N	80°44'37.7289"W	6297.38	332.383	1.70	0.11	-1.69	
13508.00	89.200	336.310	7038.95	6293.58	5668.04	-2954.60	1712832.00	14279704.42	39°19'23.4092"N	80°44'38.1763"W	6391.89	332.468	3.80	-0.29	-3.79	
13603.00	89.510	336.400	7040.02	6388.03	5755.06	-2992.70	1712793.91	14279791.41	39°19'24.2703"N	80°44'38.6580"W	6486.67	332.525	0.34	0.33	0.09	
13698.00	88.650	335.560	7041.55	6482.39	5841.82	-3031.37	1712755.26	14279878.14	39°19'25.1289"N	80°44'39.1469"W	6581.49	332.575	1.27	-0.91	-0.88	
13793.00	89.630	336.030	7042.97	6576.73	5928.45	-3070.31	1712716.33	14279964.74	39°19'25.9863"N	80°44'39.6393"W	6676.33	332.621	1.14	1.03	0.49	
13888.00	89.600	338.090	7043.61	6671.29	6015.93	-3107.34	1712679.32	14280052.18	39°19'26.8519"N	80°44'40.1073"W	6771.04	332.683	2.17	-0.03	2.17	
13983.00	89.570	341.830	7044.30	6766.17	6105.16	-3139.88	1712646.79	14280141.38	39°19'27.7348"N	80°44'40.5182"W	6865.27	332.783	3.94	-0.03	3.94	
14077.00	89.940	346.910	7044.70	6860.09	6195.66	-3165.20	1712621.48	14280231.84	39°19'28.6299"N	80°44'40.8372"W	6957.35	332.939	5.42	0.39	5.40	
14172.00	89.600	347.830	7045.08	6954.75	6288.36	-3185.97	1712600.72	14280324.50	39°19'29.5467"N	80°44'41.0981"W	7049.39	333.131	1.03	-0.36	0.97	
14267.00	89.600	346.570	7045.75	7049.43	6380.99	-3207.02	1712579.68	14280417.10	39°19'30.4628"N	80°44'41.3626"W	7141.57	333.316	1.33	0.00	-1.33	
14362.00	89.570	346.830	7046.44	7144.18	6473.44	-3228.87	1712557.83	14280509.51	39°19'31.3772"N	80°44'41.6374"W	7234.02	333.491	0.28	-0.03	0.27	
14457.00	89.510	346.320	7047.20	7238.94	6565.84	-3250.93	1712535.79	14280601.87	39°19'32.2910"N	80°44'41.9147"W	7326.58	333.659	0.54	-0.06	-0.54	
14552.00	89.320	344.370	7048.17	7333.81	6657.74	-3274.96	1712511.76	14280693.74	39°19'33.2000"N	80°44'42.2172"W	7419.63	333.807	2.06	-0.20	-2.05	
14647.00	88.770	342.240	7049.75	7428.78	6748.72	-3302.25	1712484.49	14280784.68	39°19'34.1000"N	80°44'42.5612"W	7513.32	333.927	2.32	-0.58	-2.24	
14741.00	89.720	343.280	7050.99	7522.77	6838.48	-3330.10	1712456.64	14280874.41	39°19'34.9879"N	80°44'42.9124"W	7606.21	334.036	1.50	1.01	1.11	
14836.00	88.120	339.120	7052.78	7617.71	6928.38	-3360.70	1712426.05	14280964.27	39°19'35.8773"N	80°44'43.2986"W	7700.44	334.124	4.69	-1.68	-4.38	
14931.00	88.890	342.310	7055.26	7712.61	7018.00	-3392.06	1712394.71	14281053.86	39°19'36.7640"N	80°44'43.6945"W	7794.77	334.204	3.45	0.81	3.36	
15026.00	88.950	345.250	7057.05	7807.56	7109.20	-3418.59	1712368.19	14281145.02	39°19'37.6660"N	80°44'44.0288"W	7888.44	334.319	3.09	0.06	3.09	
15121.00	88.830	346.720	7058.89	7902.37	7201.35	-3441.59	1712345.20	14281237.13	39°19'38.5775"N	80°44'44.3182"W	7981.48	334.456	1.55	-0.13	1.55	
15216.00	89.170	349.250	7060.55	7996.92	7294.25	-3461.37	1712325.43	14281329.99	39°19'39.4962"N	80°44'44.5665"W	8073.85	334.614	2.69	0.36	2.66	
15310.00	88.950	349.720	7062.09	8090.21	7386.66	-3478.52	1712308.29	14281422.36	39°19'40.4100"N	80°44'44.7814"W	8164.73	334.783	0.55	-0.23	0.50	

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Laser Unit 2H
Field	Doddridge		API	47-017-06894-0000
Facility	George Scott Pad		Wellbore	Laser Unit 2H AWB
Slot	Slot #02			

WELLPATH DATA (206 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
15405.00	89.140	348.590	7063.68	8184.56	7479.94	-3496.39	1712290.42	14281515.62	39°19'41.3325"N	80°44'45.0055"W	8256.77	334.947	1.21	0.20	-1.19	
15500.00	89.110	346.880	7065.13	8279.16	7572.76	-3516.57	1712270.25	14281608.40	39°19'42.2505"N	80°44'45.2590"W	8349.43	335.091	1.80	-0.03	-1.80	
15595.00	89.850	344.750	7065.99	8373.99	7664.86	-3539.85	1712246.98	14281700.45	39°19'43.1613"N	80°44'45.5519"W	8442.78	335.211	2.37	0.78	-2.24	
15690.00	88.740	336.400	7067.16	8468.84	7754.36	-3571.41	1712215.43	14281789.92	39°19'44.0468"N	80°44'45.9503"W	8537.27	335.271	8.87	-1.17	-8.79	
15785.00	88.800	333.310	7069.20	8562.96	7840.33	-3611.76	1712175.10	14281875.86	39°19'44.8976"N	80°44'46.4608"W	8632.24	335.266	3.25	0.06	-3.25	
15880.00	88.830	336.040	7071.16	8657.04	7926.17	-3652.38	1712134.49	14281961.67	39°19'45.7472"N	80°44'46.9747"W	8727.20	335.260	2.87	0.03	2.87	
15975.00	88.980	339.140	7072.98	8751.66	8013.97	-3688.59	1712098.30	14282049.43	39°19'46.6160"N	80°44'47.4323"W	8822.10	335.285	3.27	0.16	3.26	
16070.00	89.020	340.530	7074.64	8846.54	8103.13	-3721.33	1712065.57	14282138.56	39°19'47.4981"N	80°44'47.8458"W	8916.78	335.333	1.46	0.04	1.46	
16165.00	89.110	345.100	7076.19	8941.50	8193.85	-3749.39	1712037.52	14282229.24	39°19'48.3955"N	80°44'48.1996"W	9010.95	335.412	4.81	0.09	4.81	
16259.00	89.110	346.810	7077.65	9035.31	8285.03	-3772.20	1712014.72	14282320.38	39°19'49.2973"N	80°44'48.4866"W	9103.36	335.520	1.82	0.00	1.82	
16354.00	88.000	343.950	7080.05	9130.16	8376.91	-3796.17	1711990.76	14282412.23	39°19'50.2061"N	80°44'48.7883"W	9196.93	335.621	3.23	-1.17	-3.01	
16449.00	89.110	344.640	7082.44	9225.08	8468.34	-3821.87	1711965.07	14282503.62	39°19'51.1104"N	80°44'49.1122"W	9290.82	335.710	1.38	1.17	0.73	
16544.00	89.140	345.180	7083.89	9319.98	8560.05	-3846.60	1711940.35	14282595.29	39°19'52.0176"N	80°44'49.4237"W	9384.60	335.802	0.57	0.03	0.57	
16639.00	89.140	345.600	7085.32	9414.86	8651.97	-3870.56	1711916.40	14282687.17	39°19'52.9267"N	80°44'49.7253"W	9478.28	335.898	0.44	0.00	0.44	
16733.00	89.050	346.410	7086.80	9508.67	8743.16	-3893.29	1711893.68	14282778.34	39°19'53.8287"N	80°44'50.0113"W	9570.82	335.997	0.87	-0.10	0.86	
16828.00	89.080	346.690	7088.35	9603.42	8835.55	-3915.39	1711871.59	14282870.68	39°19'54.7424"N	80°44'50.2892"W	9664.22	336.100	0.30	0.03	0.29	
16923.00	89.140	344.540	7089.83	9698.27	8927.55	-3938.98	1711848.00	14282962.65	39°19'55.6524"N	80°44'50.5862"W	9757.91	336.192	2.26	0.06	-2.26	
17018.00	89.940	344.800	7090.59	9793.20	9019.17	-3964.10	1711822.90	14283054.23	39°19'56.5586"N	80°44'50.9026"W	9851.88	336.274	0.89	0.84	0.27	
17113.00	90.800	341.860	7089.98	9888.18	9110.16	-3991.35	1711795.66	14283145.19	39°19'57.4587"N	80°44'51.2461"W	9946.15	336.341	3.22	0.91	-3.09	
17208.00	89.850	338.560	7089.44	9983.08	9199.54	-4023.50	1711763.52	14283234.53	39°19'58.3429"N	80°44'51.6522"W	10040.92	336.377	3.61	-1.00	-3.47	
17302.00	89.820	336.960	7089.71	10076.75	9286.54	-4059.08	1711727.95	14283321.50	39°19'59.2038"N	80°44'52.1019"W	10134.89	336.390	1.70	-0.03	-1.70	
17397.00	90.000	336.670	7089.86	10171.28	9373.87	-4096.48	1711690.57	14283408.79	39°20'0.0679"N	80°44'52.5747"W	10229.89	336.394	0.36	0.19	-0.31	
17492.00	89.540	336.050	7090.24	10265.73	9460.89	-4134.58	1711652.49	14283495.78	39°20'0.9291"N	80°44'53.0564"W	10324.88	336.394	0.81	-0.48	-0.65	
17587.00	89.910	334.050	7090.70	10359.92	9547.02	-4174.65	1711612.43	14283581.88	39°20'1.7815"N	80°44'53.5634"W	10419.85	336.382	2.14	0.39	-2.11	
17595.00	89.660	334.260	7090.73	10367.83	9554.22	-4178.13	1711608.95	14283589.07	39°20'1.8528"N	80°44'53.6075"W	10427.85	336.380	4.08	-3.13	2.63	
17620.00†	89.660	334.260	7090.87	10392.57	9576.74	-4188.99	1711598.10	14283611.58	39°20'2.0756"N	80°44'53.7449"W	10452.83	336.375	0.00	0.00	0.00	Projected MD at TD: 17620'

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

HOLE & CASING SECTIONS - Ref Wellbore: Laser Unit 2H AWB    Ref Wellpath: Laser Unit 2H AWP Proj: 17620'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.50	105.50	80.00	25.50	105.50	0.00	0.00	-0.18	-0.04
17.5in Open Hole	105.50	561.40	455.90	105.50	561.38	-0.18	-0.04	-4.06	0.63
13.375in Casing Surface	25.50	561.40	535.90	25.50	561.38	0.00	0.00	-4.06	0.63
12.25in Open Hole	561.40	2620.00	2058.60	561.38	2615.47	-4.06	0.63	-58.57	-62.33
9.625in Casing Intermediate	25.50	2620.00	2594.50	25.50	2615.47	0.00	0.00	-58.57	-62.33
8.75in Open Hole	2620.00	6030.00	3410.00	2615.47	5909.37	-58.57	-62.33	-568.61	-721.05
8.5in Open Hole	6030.00	17620.00	11590.00	5909.37	7090.87	-568.61	-721.05	9576.74	-4188.99
5.5in Casing Production	25.50	17620.00	17594.50	25.50	7090.87	0.00	0.00	9576.74	-4188.99

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Laser Unit 2H - POE - Rev-2	6971.00	-229.72	-1099.86	1714686.00	14273809.00	39°18'25.0653"N	80°44'14.7936"W	point
Laser Unit 2H - BHL - Rev-4	7017.00	9623.81	-4200.59	1711586.51	14283658.63	39°20'2.5411"N	80°44'53.8907"W	point
Laser Unit 2H - LP - Rev-3	7017.00	11.17	-1175.67	1714610.23	14274049.79	39°18'27.4483"N	80°44'15.7490"W	point
Laser Unit 2H - 50ft. Hardline	7050.00	4697.04	-2650.22	1713136.25	14278733.81	39°19'13.8037"N	80°44'34.3384"W	rectangle
2D Rectangle 10335.4 x 100.								

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# Actual Wellpath Report

Laser Unit 2H AWP Proj: 17620'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

WELLPATH COMPOSITION - Ref Wellbore: Laser Unit 2H AWB    Ref Wellpath: Laser Unit 2H AWP Proj: 17620'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	450.00	Gyrodatta 2015 - GC+WIR+DPIPE	01 Gyrodatta MS Gyro <17-1/2">(100'-450')	Laser Unit 2H AWB	
450.00	2547.00	BH NaviTrak (Axial)	02 APS EM <12-1/4"> (450')(607'-2547')	Laser Unit 2H AWB	
2547.00	5960.00	BH NaviTrak (2019) (Axial)	03 BHI NaviTrak <8-3/4">(2547')(2634'-5960')	Laser Unit 2H AWB	12/17/2019
5960.00	17620.00	BH AutoTrak Curve (Short)	04 BH AT Curve <8-1/2">(5960')(6013'-17595')	Laser Unit 2H AWB	

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Laser Unit 2H AWP Proj: 17620'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Laser Unit 2H
Field	Doddridge	API	47-017-06894-0000
Facility	George Scott Pad	Wellbore	Laser Unit 2H AWB
Slot	Slot #02		

## COMMENTS

### Wellpath general comments

API: 47-017-06894-0000

BHI Job #: 110037553B

Rig: H&P 317

Duration: 09/27/2019-12/22/2019

Gyrodata MS Gyro <17-1/2">(100'-450')

APS EM <12-1/4"> (450')(607'-2547')

BHI NaviTrak <8-3/4">(2547')(2634'-5960')

BH AT Curve <8-1/2">(5960')(6013'-17595')

Middlesex: 6923' MD

Burkett: 7132' MD

Tully: 7188' MD

Marcellus POE: 7343' MD

Projected MD at TD: 17620'

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