

# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Field: Tyler  
 Facility: Alta Pad

Slot: Slot #01  
 Well: Braden Unit 1H  
 Wellbore: Braden Unit 1H PWB

Plot reference wellpath is Braden Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 857 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #01): -827 feet	Created by: delaset on 2019-04-25
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

API: 47-095-02545-0000  
 BHI Job #: 109745460  
 Rig: H&P 519  
 Duration: 04/11/2019-04/16/2019

### Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Alta Pad	1711946.826	14305610.532	39°23'39.580"N	80°44'48.520"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #01	0.00	0.00	1711946.826	14305610.532	39°23'39.580"N	80°44'48.520"W
H&P 519 (RKB) to Ground level (At Slot: Slot #01)						30ft
Mean Sea Level to Ground level (At Slot: Slot #01)						-827ft
H&P 519 (RKB) to Mean Sea Level						857ft

### Well Data

Slot	Well	Wellbore	Wellpath
Slot #01	Braden Unit 1H	Braden Unit 1H AWB	Braden Unit 1H AWP Proj: 19110'
Slot #01	Braden Unit 1H	Braden Unit 1H PWB	Braden Unit 1H PWP Rev-A.0

Gyrodatta MS Gyro <17-1/2">(100'-541') : 0.25° Inc, 115.00ft MD, 115.00ft TVD, -0.11ft VS

Panther EM <12-1/4">(541')(595'-2536') : 0.31° Inc, 610.00ft MD, 609.99ft TVD, -1.75ft VS

Panther EM <8-3/4">(2536')(2630'-6308') : 1.50° Inc, 2645.00ft MD, 2642.90ft TVD, 24.68ft VS

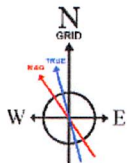
BH AT Curve <8-1/2">(6323')(6367'-19085') : 27.56° Inc, 6367.00ft MD, 6124.19ft TVD, -602.28ft VS

Marcellus POE: 7066' MD : 69.48° Inc, 7066.00ft MD, 6589.51ft TVD, -132.96ft VS

Projected MD at TD: 19110' : 90.49° Inc, 19110.00ft MD, 6579.25ft TVD, 11883.18ft VS

### Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
Tie On	6323.00	26.510	281.280	6084.99	-909.15	-815.28	9.30	-613.08
Proj. To Bottom	6384.00	27.070	293.830	6139.49	-900.87	-841.35	9.30	-597.16
End of 3D Arc	6747.14	46.198	340.511	6434.90	-739.55	-964.00	9.00	-405.86
POE	7062.30	70.931	342.021	6598.00	-486.72	-1049.25	7.86	-139.07
Landing Pt.	7304.91	90.000	342.021	6638.00	-260.20	-1122.76	7.86	99.08
BHL	19071.47	90.000	342.021	6638.00	10931.80	-4754.71	0.00	11865.65



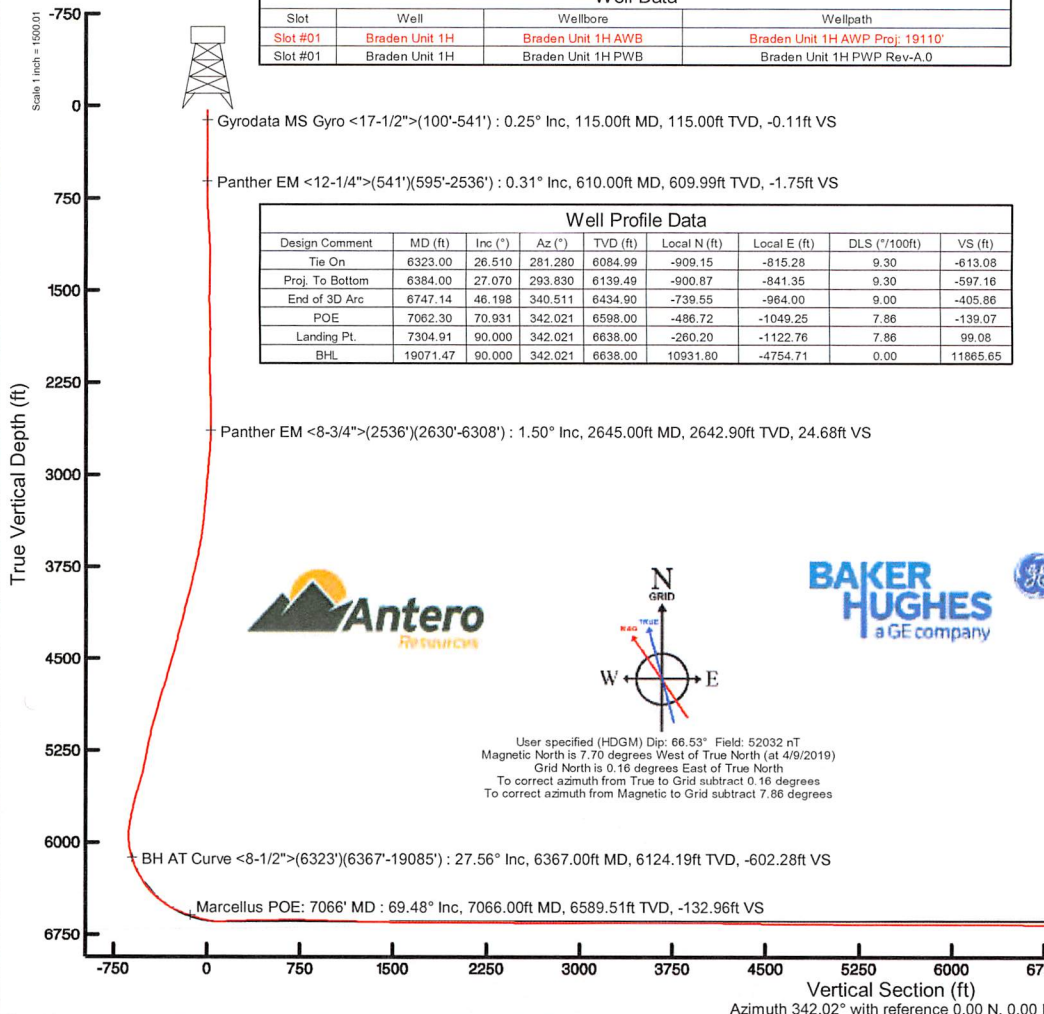
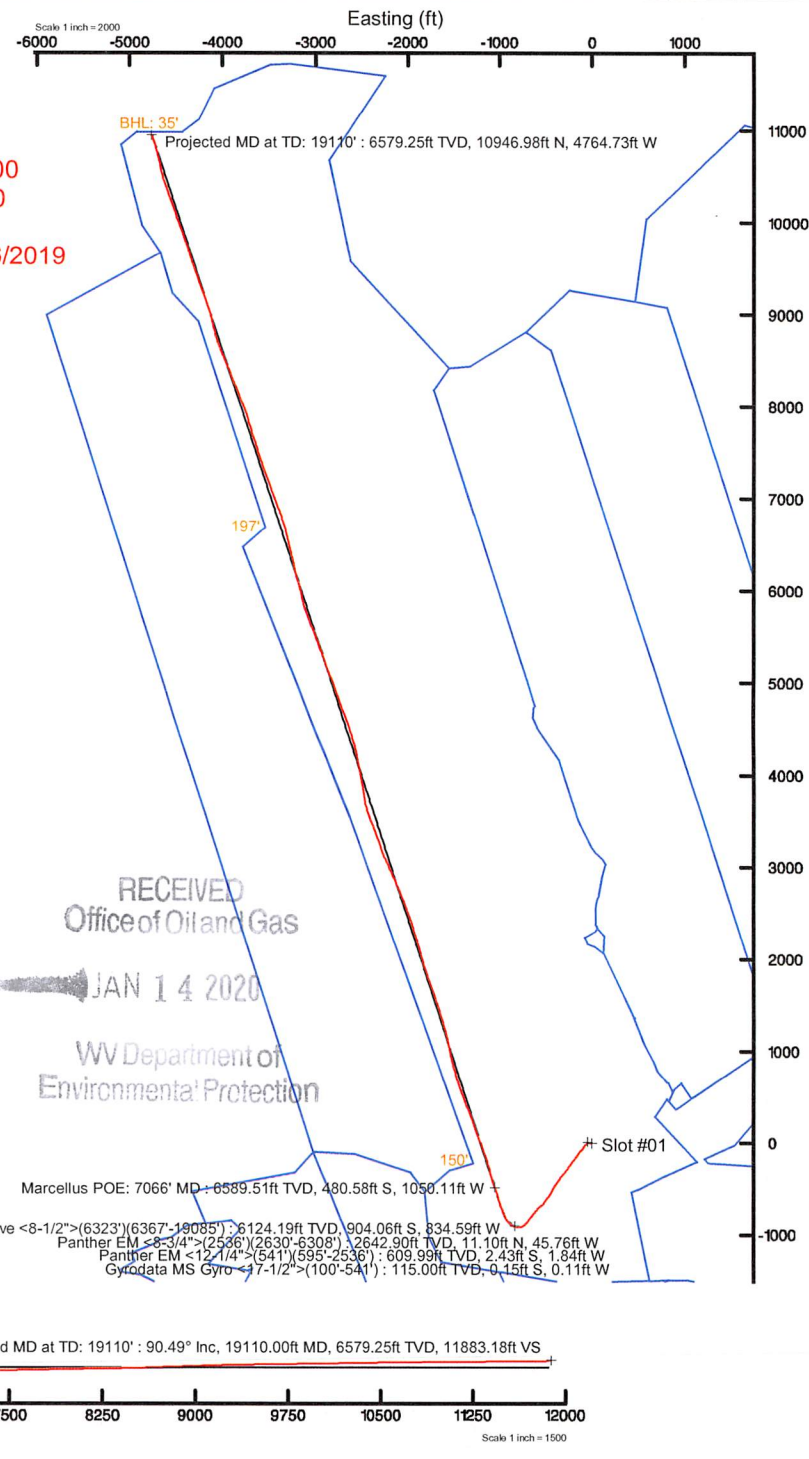
User specified (HDGM) Dip: 66.53° Field: 52032 nT  
 Magnetic North is 7.70 degrees West of True North (at 4/9/2019)  
 Grid North is 0.16 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.16 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.86 degrees



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Marcellus POE: 7066' MD : 6589.51ft TVD, 480.58ft S, 1050.11ft W

BH AT Curve <8-1/2">(6323')(6367'-19085') : 6124.19ft TVD, 904.06ft S, 834.59ft W  
 Panther EM <8-3/4">(2536')(2630'-6308') : 2642.90ft TVD, 11.10ft N, 45.76ft W  
 Panther EM <12-1/4">(541')(595'-2536') : 609.99ft TVD, 2.43ft S, 1.84ft W  
 Gyrodatta MS Gyro <17-1/2">(100'-541') : 115.00ft TVD, -0.15ft S, 0.11ft W



Vertical Section (ft)  
 Azimuth 342.02° with reference 0.00 N, 0.00 E



# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999606	Report Generated	4/25/2019 at 10:13:29 AM
Convergence at slot	0.16° East	Database/Source file	WA_MPL_EasternUS_Defn/Braden_Unit_1H_AWP_Proj_19110_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1711946.83	14305610.53	39°23'39.580"N	80°44'48.520"W
Facility Reference Pt			1711946.83	14305610.53	39°23'39.580"N	80°44'48.520"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 519 (RKB) to Facility Vertical Datum	30.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	857.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot #01)	30.00ft
MD Reference Pt	H&P 519 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	342.02°

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

WELLPATH DATA (221 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	215.090	0.00	0.00	0.00	0.00	1711946.83	14305610.53	39°23'39.580"N	80°44'48.520"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	215.090	30.00	0.00	0.00	0.00	1711946.83	14305610.53	39°23'39.580"N	80°44'48.520"W	0.00	0.000	0.00	0.00	0.00	
115.00	0.250	215.090	115.00	-0.11	-0.15	-0.11	1711946.72	14305610.38	39°23'39.579"N	80°44'48.521"W	0.19	215.090	0.29	0.29	-170.48	Gyrodata MS Gyro <17-1/2">(100'-541')
215.00	0.330	216.350	215.00	-0.41	-0.56	-0.40	1711946.42	14305609.97	39°23'39.574"N	80°44'48.525"W	0.69	215.615	0.08	0.08	1.26	
315.00	0.290	218.480	315.00	-0.72	-0.99	-0.73	1711946.09	14305609.54	39°23'39.570"N	80°44'48.529"W	1.23	216.375	0.04	-0.04	2.13	
415.00	0.280	211.630	415.00	-1.02	-1.40	-1.02	1711945.81	14305609.13	39°23'39.566"N	80°44'48.533"W	1.73	216.013	0.04	-0.01	-6.85	
515.00	0.460	227.410	514.99	-1.34	-1.88	-1.44	1711945.39	14305608.65	39°23'39.561"N	80°44'48.538"W	2.37	217.481	0.21	0.18	15.78	
556.00	0.470	219.880	555.99	-1.50	-2.12	-1.67	1711945.16	14305608.41	39°23'39.559"N	80°44'48.541"W	2.70	218.234	0.15	0.02	-18.37	
610.00	0.310	189.650	609.99	-1.75	-2.43	-1.84	1711944.99	14305608.10	39°23'39.556"N	80°44'48.543"W	3.05	217.039	0.47	-0.30	-55.98	Panther EM <12-1/4">(541')(595'-2536')
700.00	1.330	279.080	699.98	-1.49	-2.51	-2.91	1711943.92	14305608.03	39°23'39.555"N	80°44'48.557"W	3.84	229.226	1.51	1.13	99.37	
790.00	3.600	287.920	789.89	0.64	-1.47	-6.63	1711940.20	14305609.06	39°23'39.566"N	80°44'48.604"W	6.79	257.468	2.55	2.52	9.82	
880.00	5.120	290.800	879.63	4.82	0.82	-13.07	1711933.76	14305611.35	39°23'39.588"N	80°44'48.686"W	13.10	273.599	1.71	1.69	3.20	
974.00	5.390	288.330	973.24	10.06	3.70	-21.18	1711925.65	14305614.23	39°23'39.617"N	80°44'48.790"W	21.50	279.908	0.37	0.29	-2.63	
1068.00	5.400	284.680	1066.82	15.06	6.21	-29.65	1711917.18	14305616.74	39°23'39.642"N	80°44'48.897"W	30.30	281.827	0.37	0.01	-3.88	
1162.00	4.360	277.050	1160.48	18.96	7.77	-37.48	1711909.36	14305618.30	39°23'39.658"N	80°44'48.997"W	38.27	281.711	1.30	-1.11	-8.12	
1256.00	2.690	259.610	1254.30	20.76	7.81	-43.19	1711903.65	14305618.34	39°23'39.658"N	80°44'49.070"W	43.89	280.249	2.09	-1.78	-18.55	
1350.00	0.950	206.930	1348.25	20.50	6.72	-45.72	1711901.13	14305617.25	39°23'39.648"N	80°44'49.102"W	46.21	278.358	2.39	-1.85	-56.04	
1445.00	1.290	158.610	1443.24	18.88	5.02	-45.68	1711901.16	14305615.55	39°23'39.631"N	80°44'49.102"W	45.96	276.270	1.02	0.36	-50.86	
1539.00	0.570	171.540	1537.22	17.36	3.57	-45.23	1711901.61	14305614.10	39°23'39.617"N	80°44'49.096"W	45.37	274.515	0.79	-0.77	13.76	
1633.00	1.540	351.540	1631.22	18.14	4.36	-45.35	1711901.50	14305614.89	39°23'39.624"N	80°44'49.097"W	45.56	275.490	2.24	1.03	-191.49	
1727.00	1.920	355.910	1725.17	20.92	7.18	-45.64	1711901.20	14305617.71	39°23'39.652"N	80°44'49.101"W	46.21	278.938	0.43	0.40	4.65	
1821.00	0.080	169.290	1819.16	22.38	8.68	-45.74	1711901.10	14305619.21	39°23'39.667"N	80°44'49.102"W	46.56	280.750	2.13	-1.96	184.45	
1915.00	1.430	175.530	1913.15	21.18	7.45	-45.64	1711901.20	14305617.98	39°23'39.655"N	80°44'49.101"W	46.25	279.272	1.44	1.44	6.64	
2009.00	2.000	173.800	2007.10	18.43	4.65	-45.37	1711901.47	14305615.18	39°23'39.627"N	80°44'49.098"W	45.61	275.853	0.61	0.61	-1.84	
2103.00	0.420	219.380	2101.08	16.64	2.75	-45.41	1711901.43	14305613.28	39°23'39.608"N	80°44'49.098"W	45.50	273.470	1.84	-1.68	48.49	
2197.00	1.410	322.650	2195.07	17.54	3.41	-46.33	1711900.51	14305613.94	39°23'39.615"N	80°44'49.110"W	46.46	274.205	1.66	1.05	109.86	
2291.00	2.090	321.060	2289.03	20.23	5.66	-48.11	1711898.73	14305616.19	39°23'39.637"N	80°44'49.133"W	48.44	276.709	0.73	0.72	-1.69	
2386.00	1.880	339.790	2383.97	23.41	8.47	-49.74	1711897.11	14305619.00	39°23'39.665"N	80°44'49.153"W	50.46	279.663	0.71	-0.22	19.72	
2480.00	1.140	49.980	2477.94	25.30	10.52	-49.56	1711897.29	14305621.05	39°23'39.685"N	80°44'49.151"W	50.66	281.982	1.96	-0.79	74.67	
2551.00	1.420	83.410	2548.93	25.39	11.07	-48.14	1711898.70	14305621.60	39°23'39.691"N	80°44'49.133"W	49.40	282.953	1.10	0.39	47.08	

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #01
Area	Tyler County, WV		Well	Braden Unit 1H
Field	Tyler		Wellbore	Braden Unit 1H AWB
Facility	Alta Pad			

WELLPATH DATA (221 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	
2645.00	1.500	95.170	2642.90	24.68	11.10	-45.76	1711901.08	14305621.62	39°23'39.691"N	80°44'49.102"W	47.09	283.630	0.33	0.09	12.51	Panther EM <-8-3/4">(2536')(2630'-6308')	
2739.00	2.860	199.470	2736.85	22.33	8.77	-45.32	1711901.53	14305619.30	39°23'39.668"N	80°44'49.097"W	46.16	280.957	3.77	1.45	110.96		
2834.00	8.520	208.240	2831.35	15.58	0.33	-49.44	1711897.41	14305610.86	39°23'39.585"N	80°44'49.150"W	49.44	270.385	6.01	5.96	9.23		
2928.00	8.230	223.270	2924.36	7.52	-10.70	-57.35	1711889.50	14305599.83	39°23'39.476"N	80°44'49.251"W	58.34	259.428	2.34	-0.31	15.99		
3022.00	10.650	222.160	3017.08	-0.04	-22.04	-67.79	1711879.06	14305588.50	39°23'39.364"N	80°44'49.384"W	71.28	251.988	2.58	2.57	-1.18		
3117.00	9.350	217.910	3110.63	-8.74	-34.64	-78.42	1711868.43	14305575.91	39°23'39.240"N	80°44'49.520"W	85.73	246.170	1.57	-1.37	-4.47		
3216.00	8.170	212.700	3208.48	-17.71	-46.90	-87.17	1711859.69	14305563.65	39°23'39.119"N	80°44'49.632"W	98.98	241.715	1.44	-1.19	-5.26		
3310.00	9.550	219.010	3301.35	-26.19	-58.58	-95.68	1711851.18	14305551.97	39°23'39.004"N	80°44'49.741"W	112.19	238.522	1.79	1.47	6.71		
3404.00	12.380	222.110	3393.63	-35.46	-72.12	-107.35	1711839.52	14305538.44	39°23'38.870"N	80°44'49.890"W	129.33	236.106	3.07	3.01	3.30		
3498.00	15.570	221.510	3484.84	-46.89	-89.05	-122.47	1711824.40	14305521.52	39°23'38.703"N	80°44'50.083"W	151.42	233.979	3.40	3.39	-0.64		
3593.00	17.390	213.910	3575.94	-62.13	-110.38	-138.85	1711808.03	14305500.19	39°23'38.493"N	80°44'50.292"W	177.38	231.515	2.97	1.92	-8.00		
3687.00	19.050	213.430	3665.22	-80.37	-134.84	-155.13	1711791.75	14305475.74	39°23'38.252"N	80°44'50.501"W	205.55	229.003	1.77	1.77	-0.51		
3781.00	20.550	217.680	3753.67	-99.25	-160.71	-173.67	1711773.22	14305449.89	39°23'37.996"N	80°44'50.738"W	236.62	227.221	2.21	1.60	4.52		
3876.00	22.650	217.160	3841.99	-119.11	-188.48	-194.92	1711751.99	14305422.12	39°23'37.723"N	80°44'51.009"W	271.14	225.961	2.22	2.21	-0.55		
3970.00	23.890	214.490	3928.35	-141.05	-218.60	-216.63	1711730.28	14305392.02	39°23'37.425"N	80°44'51.287"W	307.76	224.741	1.73	1.32	-2.84		
4064.00	22.680	216.600	4014.69	-163.15	-248.84	-238.21	1711708.71	14305361.79	39°23'37.127"N	80°44'51.563"W	344.48	223.750	1.56	-1.29	2.24		
4158.00	23.680	217.210	4101.10	-184.43	-278.42	-260.43	1711686.49	14305332.22	39°23'36.835"N	80°44'51.847"W	381.24	223.088	1.09	1.06	0.65		
4253.00	26.000	221.240	4187.31	-205.98	-309.28	-285.70	1711661.24	14305301.37	39°23'36.531"N	80°44'52.170"W	421.05	222.731	3.02	2.44	4.24		
4347.00	23.700	217.130	4272.61	-227.34	-339.84	-310.69	1711636.25	14305270.83	39°23'36.230"N	80°44'52.490"W	460.46	222.435	3.06	-2.45	-4.37		
4441.00	23.230	216.000	4358.84	-249.05	-369.90	-332.99	1711613.96	14305240.78	39°23'35.933"N	80°44'52.775"W	497.71	221.994	0.69	-0.50	-1.20		
4536.00	24.510	214.780	4445.71	-271.99	-401.24	-355.25	1711591.72	14305209.45	39°23'35.624"N	80°44'53.059"W	535.91	221.521	1.44	1.35	-1.28		
4630.00	24.960	216.470	4531.09	-295.32	-433.21	-378.16	1711568.82	14305177.50	39°23'35.309"N	80°44'53.352"W	575.04	221.119	0.89	0.48	1.80		
4724.00	22.910	210.310	4617.01	-319.03	-464.96	-399.19	1711547.80	14305145.76	39°23'34.996"N	80°44'53.621"W	612.81	220.647	3.44	-2.18	-6.55		
4818.00	23.400	210.390	4703.44	-343.61	-496.86	-417.86	1711529.13	14305113.87	39°23'34.681"N	80°44'53.860"W	649.21	220.064	0.52	0.52	0.09		
4912.00	22.000	207.810	4790.16	-368.28	-528.53	-435.52	1711511.48	14305082.21	39°23'34.368"N	80°44'54.086"W	684.86	219.489	1.83	-1.49	-2.74		
5006.00	22.670	210.740	4877.11	-392.51	-559.68	-453.00	1711494.01	14305051.08	39°23'34.061"N	80°44'54.310"W	720.03	218.986	1.38	0.71	3.12		
5100.00	25.520	217.440	4962.93	-415.97	-591.34	-474.57	1711472.44	14305019.43	39°23'33.749"N	80°44'54.586"W	758.22	218.749	4.20	3.03	7.13		
5194.00	24.750	216.500	5048.02	-438.89	-623.23	-498.59	1711448.43	14304987.55	39°23'33.434"N	80°44'54.893"W	798.13	218.660	0.92	-0.82	-1.00		
5288.00	24.430	220.180	5133.50	-460.58	-653.90	-522.84	1711424.20	14304956.89	39°23'33.132"N	80°44'55.203"W	837.23	218.644	1.66	-0.34	3.91		
5382.00	24.040	229.610	5219.25	-478.14	-681.17	-549.97	1711397.07	14304929.63	39°23'32.863"N	80°44'55.549"W	875.48	218.917	4.13	-0.41	10.03		

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WV Department of  
Environmental Protection





# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

WELLPATH DATA (221 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
5476.00	22.210	225.730	5305.70	-493.31	-705.98	-577.28	1711369.77	14304904.83	39°23'32.618"N	80°44'55.898"W	911.96	219.273	2.53	-1.95	-4.13	
5570.00	23.090	217.600	5392.47	-511.60	-733.00	-601.25	1711345.81	14304877.83	39°23'32.352"N	80°44'56.204"W	948.05	219.361	3.46	0.94	-8.65	
5664.00	24.310	218.050	5478.54	-532.83	-762.84	-624.43	1711322.65	14304848.00	39°23'32.058"N	80°44'56.501"W	985.82	219.302	1.31	1.30	0.48	
5758.00	24.440	215.200	5564.17	-555.30	-793.97	-647.56	1711299.52	14304816.88	39°23'31.751"N	80°44'56.796"W	1024.56	219.201	1.26	0.14	-3.03	
5852.00	23.520	214.400	5650.05	-578.40	-825.33	-669.37	1711277.72	14304785.53	39°23'31.441"N	80°44'57.075"W	1062.65	219.043	1.04	-0.98	-0.85	
5946.00	22.090	219.250	5736.71	-599.42	-854.50	-691.15	1711255.95	14304756.37	39°23'31.154"N	80°44'57.354"W	1099.03	218.967	2.51	-1.52	5.16	
6040.00	21.680	225.560	5823.95	-616.73	-880.35	-714.73	1711232.37	14304730.53	39°23'30.899"N	80°44'57.655"W	1133.96	219.072	2.54	-0.44	6.71	
6134.00	21.360	243.170	5911.49	-627.11	-900.25	-742.44	1711204.68	14304710.64	39°23'30.703"N	80°44'58.009"W	1166.90	219.512	6.86	-0.34	18.73	
6229.00	23.100	261.970	5999.54	-626.55	-910.68	-776.37	1711170.76	14304700.21	39°23'30.601"N	80°44'58.441"W	1196.70	220.448	7.67	1.83	19.79	
6323.00	26.510	281.280	6084.99	-613.08	-909.15	-815.28	1711131.87	14304701.74	39°23'30.617"N	80°44'58.937"W	1221.16	221.884	9.30	3.63	20.54	
6367.00	27.560	288.140	6124.19	-602.28	-904.06	-834.59	1711112.57	14304706.83	39°23'30.668"N	80°44'59.182"W	1230.39	222.712	7.47	2.39	15.59	BH AT Curve <8-1/2">(6323')(6367'-19085')
6414.00	27.930	297.540	6165.81	-588.01	-895.58	-854.69	1711092.47	14304715.31	39°23'30.752"N	80°44'59.438"W	1237.97	223.662	9.34	0.79	20.00	
6461.00	28.590	306.700	6207.23	-570.97	-883.76	-873.48	1711073.69	14304727.12	39°23'30.869"N	80°44'59.677"W	1242.58	224.665	9.33	1.40	19.49	
6508.00	29.670	314.460	6248.30	-551.48	-868.89	-890.80	1711056.37	14304741.99	39°23'31.017"N	80°44'59.897"W	1244.39	225.714	8.35	2.30	16.51	
6556.00	32.730	322.040	6289.36	-528.74	-850.32	-907.28	1711039.91	14304760.54	39°23'31.201"N	80°45'00.106"W	1243.46	226.856	10.36	6.37	15.79	
6601.00	35.790	328.770	6326.57	-504.48	-829.47	-921.59	1711025.60	14304781.39	39°23'31.407"N	80°45'00.288"W	1239.90	228.011	10.81	6.80	14.96	
6650.00	39.050	332.630	6365.48	-475.29	-803.50	-936.12	1711011.08	14304807.35	39°23'31.664"N	80°45'00.472"W	1233.67	229.360	8.19	6.65	7.88	
6671.00†	40.786	334.393	6381.59	-461.97	-791.44	-942.13	1711005.07	14304819.41	39°23'31.784"N	80°45'00.548"W	1230.44	229.968	9.87	8.27	8.39	Middlesex: 6671' MD
6697.00	42.970	336.410	6400.95	-444.73	-775.66	-949.34	1710997.86	14304835.18	39°23'31.940"N	80°45'00.640"W	1225.93	230.750	9.87	8.40	7.76	
6744.00	47.220	339.220	6434.12	-411.54	-744.83	-961.88	1710985.33	14304865.99	39°23'32.245"N	80°45'00.798"W	1216.55	232.248	9.98	9.04	5.98	
6791.00	50.350	340.410	6465.09	-376.22	-711.65	-974.07	1710973.14	14304899.16	39°23'32.573"N	80°45'00.952"W	1206.34	233.848	6.93	6.66	2.53	
6839.00	55.120	340.970	6494.14	-338.04	-675.61	-986.69	1710960.52	14304935.19	39°23'32.930"N	80°45'01.112"W	1195.83	235.600	9.98	9.94	1.17	
6866.00†	57.876	341.634	6509.04	-315.53	-654.29	-993.91	1710953.31	14304956.51	39°23'33.141"N	80°45'01.203"W	1189.93	236.643	10.41	10.21	2.46	Burkett: 6866' MD
6886.00	59.920	342.100	6519.37	-298.40	-638.01	-999.24	1710947.98	14304972.77	39°23'33.302"N	80°45'01.270"W	1185.55	237.442	10.41	10.22	2.33	
6923.00†	63.785	342.974	6536.83	-265.79	-606.90	-1009.02	1710938.20	14305003.88	39°23'33.610"N	80°45'01.394"W	1177.47	238.974	10.65	10.44	2.36	Tully: 6923' MD
6933.00	64.830	343.200	6541.16	-256.78	-598.27	-1011.64	1710935.58	14305012.49	39°23'33.695"N	80°45'01.427"W	1175.31	239.400	10.65	10.45	2.26	
6980.00	69.730	343.460	6559.31	-213.45	-556.76	-1024.07	1710923.16	14305054.00	39°23'34.105"N	80°45'01.584"W	1165.63	241.468	10.44	10.43	0.55	
7027.00	69.270	340.630	6575.77	-169.43	-514.88	-1037.64	1710909.60	14305095.86	39°23'34.520"N	80°45'01.755"W	1158.36	243.609	5.72	-0.98	-6.02	
7066.00†	69.477	339.402	6589.51	-132.96	-480.58	-1050.11	1710897.13	14305130.14	39°23'34.859"N	80°45'01.913"W	1154.86	245.409	3.00	0.53	-3.15	Marcellus POE: 7066' MD
7074.00	69.520	339.150	6592.31	-125.47	-473.57	-1052.77	1710894.48	14305137.15	39°23'34.928"N	80°45'01.946"W	1154.38	245.780	3.00	0.54	-3.14	

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Braden Unit 1H AWP Proj: 19110'  
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Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #01
Area	Tyler County, WV		Well	Braden Unit 1H
Field	Tyler		Wellbore	Braden Unit 1H AWB
Facility	Alta Pad			

WELLPATH DATA (221 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
7122.00	73.940	341.090	6607.36	-79.93	-430.72	-1068.25	1710879.00	14305179.99	39°23'35.352"N	80°45'02.142"W	1151.82	248.041	9.98	9.21	4.04	
7169.00	76.110	343.450	6619.50	-34.53	-387.47	-1082.07	1710865.18	14305223.21	39°23'35.780"N	80°45'02.316"W	1149.36	250.298	6.70	4.62	5.02	
7216.00	79.820	345.270	6629.30	11.39	-343.22	-1094.46	1710852.80	14305267.45	39°23'36.218"N	80°45'02.473"W	1147.01	252.589	8.75	7.89	3.87	
7263.00	85.600	345.350	6635.26	57.91	-298.14	-1106.27	1710840.99	14305312.51	39°23'36.664"N	80°45'02.622"W	1145.74	254.917	12.30	12.30	0.17	
7311.00	91.690	343.980	6636.40	105.82	-251.89	-1118.96	1710828.31	14305358.75	39°23'37.121"N	80°45'02.782"W	1146.96	257.314	13.00	12.69	-2.85	
7405.00	92.430	341.600	6633.02	199.74	-162.16	-1146.75	1710800.53	14305448.44	39°23'38.009"N	80°45'03.132"W	1158.16	261.951	2.65	0.79	-2.53	
7500.00	91.260	339.840	6629.96	294.67	-72.54	-1178.10	1710769.19	14305538.02	39°23'38.895"N	80°45'03.529"W	1180.33	266.477	2.22	-1.23	-1.85	
7594.00	91.350	339.860	6627.82	388.57	15.68	-1210.47	1710736.83	14305626.21	39°23'39.768"N	80°45'03.938"W	1210.58	270.742	0.10	0.10	0.02	
7689.00	90.550	339.500	6626.24	483.48	104.76	-1243.46	1710703.86	14305715.25	39°23'40.650"N	80°45'04.355"W	1247.86	274.816	0.92	-0.84	-0.38	
7783.00	91.480	340.120	6624.58	577.39	192.97	-1275.90	1710671.43	14305803.42	39°23'41.522"N	80°45'04.765"W	1290.41	278.600	1.19	0.99	0.66	
7878.00	90.650	339.460	6622.81	672.30	282.10	-1308.71	1710638.64	14305892.52	39°23'42.404"N	80°45'05.180"W	1338.77	282.164	1.12	-0.87	-0.69	
7972.00	88.460	338.860	6623.54	766.18	369.94	-1342.15	1710605.21	14305980.33	39°23'43.273"N	80°45'05.603"W	1392.20	285.410	2.42	-2.33	-0.64	
8067.00	87.940	338.890	6626.53	860.99	458.52	-1376.37	1710571.00	14306068.87	39°23'44.150"N	80°45'06.035"W	1450.73	288.425	0.55	-0.55	0.03	
8161.00	88.860	339.970	6629.15	954.85	546.49	-1409.38	1710538.00	14306156.80	39°23'45.020"N	80°45'06.453"W	1511.62	291.194	1.51	0.98	1.15	
8256.00	88.770	341.570	6631.12	1049.81	636.16	-1440.66	1710506.73	14306246.44	39°23'45.907"N	80°45'06.848"W	1574.87	293.825	1.69	-0.09	1.68	
8350.00	88.890	342.480	6633.04	1143.79	725.56	-1469.67	1710477.74	14306335.80	39°23'46.791"N	80°45'07.214"W	1639.01	296.275	0.98	0.13	0.97	
8445.00	88.610	344.580	6635.11	1238.73	816.63	-1496.59	1710450.83	14306426.84	39°23'47.692"N	80°45'07.554"W	1704.90	298.620	2.23	-0.29	2.21	
8539.00	88.680	347.080	6637.33	1332.48	907.74	-1519.59	1710427.83	14306517.91	39°23'48.593"N	80°45'07.844"W	1770.07	300.852	2.66	0.07	2.66	
8634.00	89.230	347.790	6639.06	1427.04	1000.45	-1540.26	1710407.18	14306610.58	39°23'49.510"N	80°45'08.104"W	1836.65	303.005	0.95	0.58	0.75	
8729.00	89.350	348.460	6640.24	1521.50	1093.41	-1559.80	1710387.64	14306703.51	39°23'50.429"N	80°45'08.350"W	1904.87	305.030	0.72	0.13	0.71	
8823.00	89.690	346.070	6641.03	1615.09	1185.08	-1580.52	1710366.93	14306795.15	39°23'51.336"N	80°45'08.610"W	1975.47	306.863	2.57	0.36	-2.54	
8917.00	89.690	343.210	6641.54	1708.98	1275.72	-1605.42	1710342.04	14306885.74	39°23'52.233"N	80°45'08.924"W	2050.57	308.472	3.04	0.00	-3.04	
9012.00	89.780	343.540	6641.98	1803.96	1366.74	-1632.60	1710314.87	14306976.73	39°23'53.133"N	80°45'09.267"W	2129.17	309.935	0.36	0.09	0.35	
9106.00	89.540	342.890	6642.53	1897.93	1456.74	-1659.74	1710287.74	14307066.69	39°23'54.023"N	80°45'09.610"W	2208.36	311.273	0.74	-0.26	-0.69	
9201.00	89.630	340.550	6643.22	1992.92	1546.93	-1689.54	1710257.96	14307156.85	39°23'54.915"N	80°45'09.986"W	2290.75	312.477	2.46	0.09	-2.46	
9296.00	90.150	340.620	6643.41	2087.89	1636.53	-1721.12	1710226.39	14307246.41	39°23'55.802"N	80°45'10.386"W	2374.97	313.557	0.55	0.55	0.07	
9390.00	89.750	338.890	6643.49	2181.82	1724.72	-1753.64	1710193.88	14307334.57	39°23'56.674"N	80°45'10.797"W	2459.66	314.524	1.89	-0.43	-1.84	
9484.00	89.850	341.310	6643.82	2275.76	1813.10	-1785.64	1710161.90	14307422.91	39°23'57.549"N	80°45'11.201"W	2544.77	315.437	2.58	0.11	2.57	
9579.00	89.750	343.060	6644.15	2370.75	1903.54	-1814.70	1710132.84	14307513.32	39°23'58.443"N	80°45'11.568"W	2629.94	316.369	1.85	-0.11	1.84	
9673.00	89.750	344.800	6644.56	2464.69	1993.86	-1840.72	1710106.84	14307603.61	39°23'59.337"N	80°45'11.897"W	2713.62	317.287	1.85	0.00	1.85	

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9767.00	89.630	343.490	6645.07	2558.63	2084.28	-1866.40	1710081.17	14307693.99	39°24'00.231"N	80°45'12.221"W	2797.80	318.157	1.40	-0.13	-1.39	
9861.00	89.940	344.020	6645.42	2652.58	2174.53	-1892.70	1710054.88	14307784.20	39°24'01.124"N	80°45'12.552"W	2882.86	318.964	0.65	0.33	0.56	
9956.00	89.910	343.480	6645.54	2747.54	2265.73	-1919.28	1710028.31	14307875.37	39°24'02.026"N	80°45'12.888"W	2969.37	319.732	0.57	-0.03	-0.57	
10050.00	88.860	341.160	6646.55	2841.52	2355.28	-1947.82	1709999.77	14307964.88	39°24'02.912"N	80°45'13.248"W	3056.36	320.409	2.71	-1.12	-2.47	
10145.00	90.060	341.120	6647.45	2936.51	2445.18	-1978.53	1709969.08	14308054.74	39°24'03.801"N	80°45'13.636"W	3145.39	321.022	1.26	1.26	-0.04	
10239.00	89.910	340.370	6647.47	3030.48	2533.92	-2009.53	1709938.09	14308143.45	39°24'04.679"N	80°45'14.028"W	3234.03	321.584	0.81	-0.16	-0.80	
10334.00	90.090	339.340	6647.47	3125.41	2623.10	-2042.25	1709905.39	14308232.60	39°24'05.561"N	80°45'14.442"W	3324.37	322.097	1.10	0.19	-1.08	
10428.00	90.000	338.000	6647.40	3219.25	2710.66	-2076.44	1709871.21	14308320.12	39°24'06.428"N	80°45'14.874"W	3414.57	322.547	1.43	-0.10	-1.43	
10523.00	89.880	336.970	6647.50	3313.95	2798.42	-2112.81	1709834.85	14308407.84	39°24'07.296"N	80°45'15.335"W	3506.44	322.947	1.09	-0.13	-1.08	
10617.00	90.180	336.240	6647.45	3407.53	2884.69	-2150.14	1709797.54	14308494.08	39°24'08.150"N	80°45'15.807"W	3597.85	323.301	0.84	0.32	-0.78	
10712.00	90.000	334.450	6647.30	3501.88	2971.03	-2189.77	1709757.93	14308580.38	39°24'09.004"N	80°45'16.309"W	3690.81	323.608	1.89	-0.19	-1.88	
10806.00	90.000	335.810	6647.30	3595.20	3056.31	-2229.30	1709718.41	14308665.63	39°24'09.848"N	80°45'16.810"W	3782.96	323.893	1.45	0.00	1.45	
10901.00	90.120	337.750	6647.20	3689.80	3143.61	-2266.75	1709680.97	14308752.90	39°24'10.712"N	80°45'17.284"W	3875.62	324.206	2.05	0.13	2.04	
10995.00	89.850	341.120	6647.22	3783.69	3231.61	-2299.77	1709647.97	14308840.86	39°24'11.582"N	80°45'17.701"W	3966.38	324.563	3.60	-0.29	3.59	
11090.00	90.000	341.740	6647.35	3878.69	3321.66	-2330.02	1709617.73	14308930.88	39°24'12.473"N	80°45'18.084"W	4057.39	324.952	0.67	0.16	0.65	
11184.00	89.540	337.380	6647.73	3972.58	3409.72	-2362.84	1709584.92	14309018.90	39°24'13.344"N	80°45'18.499"W	4148.40	325.279	4.66	-0.49	-4.64	
11279.00	89.420	337.860	6648.59	4067.29	3497.56	-2399.01	1709548.77	14309106.71	39°24'14.214"N	80°45'18.956"W	4241.25	325.553	0.52	-0.13	0.51	
11373.00	89.320	342.130	6649.62	4161.21	3585.86	-2431.16	1709516.63	14309194.97	39°24'15.087"N	80°45'19.363"W	4332.31	325.863	4.54	-0.11	4.54	
11468.00	89.480	347.390	6650.62	4256.06	3677.48	-2456.12	1709491.68	14309286.56	39°24'15.993"N	80°45'19.678"W	4422.26	326.262	5.54	0.17	5.54	
11562.00	88.680	350.350	6652.13	4349.36	3769.69	-2474.26	1709473.55	14309378.73	39°24'16.905"N	80°45'19.906"W	4509.16	326.721	3.26	-0.85	3.15	
11657.00	88.950	349.370	6654.09	4443.45	3863.19	-2490.98	1709456.83	14309472.19	39°24'17.830"N	80°45'20.115"W	4596.65	327.186	1.07	0.28	-1.03	
11752.00	89.880	351.580	6655.06	4537.41	3956.87	-2506.70	1709441.12	14309565.83	39°24'18.756"N	80°45'20.312"W	4684.05	327.645	2.52	0.98	2.33	
11846.00	89.320	348.970	6655.72	4630.43	4049.51	-2522.58	1709425.25	14309658.43	39°24'19.672"N	80°45'20.512"W	4770.94	328.080	2.84	-0.60	-2.78	
11941.00	89.320	348.320	6656.85	4724.78	4142.64	-2541.28	1709406.55	14309751.53	39°24'20.593"N	80°45'20.747"W	4859.99	328.473	0.68	0.00	-0.68	
12035.00	89.350	348.960	6657.94	4818.15	4234.79	-2559.79	1709388.05	14309843.64	39°24'21.504"N	80°45'20.979"W	4948.33	328.848	0.68	0.03	0.68	
12129.00	89.420	346.000	6658.95	4911.71	4326.54	-2580.17	1709367.68	14309935.36	39°24'22.412"N	80°45'21.236"W	5037.48	329.190	3.15	0.07	-3.15	
12224.00	89.910	344.020	6659.50	5006.57	4418.30	-2604.74	1709343.12	14310027.08	39°24'23.319"N	80°45'21.546"W	5128.94	329.479	2.15	0.52	-2.08	
12318.00	89.290	341.350	6660.16	5100.56	4508.03	-2632.71	1709315.16	14310116.78	39°24'24.207"N	80°45'21.899"W	5220.49	329.715	2.92	-0.66	-2.84	
12413.00	89.420	338.750	6661.23	5195.48	4597.32	-2665.12	1709282.76	14310206.03	39°24'25.090"N	80°45'22.309"W	5313.96	329.899	2.74	0.14	-2.74	
12507.00	89.910	339.120	6661.78	5289.35	4685.03	-2698.90	1709248.99	14310293.71	39°24'25.958"N	80°45'22.736"W	5406.81	330.055	0.65	0.52	0.39	

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

WELLPATH DATA (221 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
12602.00	89.880	340.710	6661.95	5384.28	4774.25	-2731.53	1709216.38	14310382.89	39°24'26.841"N	80°45'23.149"W	5500.43	330.225	1.67	-0.03	1.67	
12696.00	90.280	339.590	6661.82	5478.23	4862.66	-2763.45	1709184.48	14310471.27	39°24'27.715"N	80°45'23.552"W	5593.04	330.390	1.27	0.43	-1.19	
12791.00	90.370	339.230	6661.28	5573.13	4951.59	-2796.85	1709151.08	14310560.17	39°24'28.595"N	80°45'23.975"W	5686.89	330.541	0.39	0.09	-0.38	
12885.00	90.310	338.490	6660.72	5666.98	5039.27	-2830.75	1709117.19	14310647.80	39°24'29.463"N	80°45'24.404"W	5779.91	330.675	0.79	-0.06	-0.79	
12980.00	90.220	336.910	6660.28	5761.71	5127.16	-2866.80	1709081.16	14310735.66	39°24'30.332"N	80°45'24.860"W	5874.21	330.789	1.67	-0.09	-1.66	
13074.00	89.940	340.760	6660.15	5855.54	5214.80	-2900.73	1709047.24	14310823.27	39°24'31.199"N	80°45'25.289"W	5967.28	330.915	4.11	-0.30	4.10	
13169.00	89.720	341.770	6660.43	5950.53	5304.76	-2931.25	1709016.74	14310913.20	39°24'32.089"N	80°45'25.675"W	6060.75	331.076	1.09	-0.23	1.06	
13263.00	89.720	340.540	6660.89	6044.52	5393.72	-2961.61	1708986.39	14311002.12	39°24'32.969"N	80°45'26.059"W	6153.32	331.230	1.31	0.00	-1.31	
13358.00	89.750	340.320	6661.33	6139.48	5483.23	-2993.43	1708954.58	14311091.59	39°24'33.855"N	80°45'26.461"W	6247.12	331.369	0.23	0.03	-0.23	
13453.00	89.380	339.010	6662.05	6234.40	5572.31	-3026.44	1708921.58	14311180.63	39°24'34.736"N	80°45'26.878"W	6341.13	331.493	1.43	-0.39	-1.38	
13547.00	89.780	338.640	6662.74	6328.25	5659.96	-3060.39	1708887.64	14311268.25	39°24'35.603"N	80°45'27.308"W	6434.37	331.599	0.58	0.43	-0.39	
13641.00	89.750	341.160	6663.13	6422.18	5748.23	-3092.69	1708855.36	14311356.48	39°24'36.476"N	80°45'27.716"W	6527.39	331.719	2.68	-0.03	2.68	
13736.00	89.200	341.920	6664.00	6517.17	5838.33	-3122.77	1708825.29	14311446.55	39°24'37.368"N	80°45'28.097"W	6621.02	331.859	0.99	-0.58	0.80	
13830.00	89.970	348.760	6664.68	6610.95	5929.22	-3146.55	1708801.52	14311537.40	39°24'38.267"N	80°45'28.396"W	6712.40	332.046	7.32	0.82	7.28	
13925.00	89.880	345.220	6664.81	6705.58	6021.76	-3167.93	1708780.15	14311629.91	39°24'39.182"N	80°45'28.666"W	6804.22	332.252	3.73	-0.09	-3.73	
14020.00	90.460	343.610	6664.52	6800.49	6113.27	-3193.45	1708754.64	14311721.38	39°24'40.087"N	80°45'28.988"W	6897.11	332.418	1.80	0.61	-1.69	
14114.00	90.770	346.650	6663.51	6894.34	6204.10	-3217.57	1708730.53	14311812.18	39°24'40.985"N	80°45'29.292"W	6988.82	332.588	3.25	0.33	3.23	
14209.00	90.830	347.510	6662.19	6988.96	6296.69	-3238.81	1708709.30	14311904.73	39°24'41.901"N	80°45'29.559"W	7080.83	332.780	0.91	0.06	0.91	
14303.00	90.580	346.790	6661.03	7082.57	6388.33	-3259.72	1708688.40	14311996.33	39°24'42.807"N	80°45'29.823"W	7171.92	332.967	0.81	-0.27	-0.77	
14398.00	91.260	348.260	6659.51	7177.12	6481.07	-3280.23	1708667.89	14312089.03	39°24'43.724"N	80°45'30.081"W	7263.90	333.155	1.70	0.72	1.55	
14492.00	90.580	345.770	6658.00	7270.74	6572.64	-3301.35	1708646.78	14312180.57	39°24'44.630"N	80°45'30.347"W	7355.17	333.330	2.75	-0.72	-2.65	
14587.00	90.710	345.160	6656.93	7365.56	6664.60	-3325.19	1708622.95	14312272.49	39°24'45.540"N	80°45'30.647"W	7448.07	333.484	0.66	0.14	-0.64	
14681.00	90.620	343.010	6655.84	7459.49	6754.98	-3350.96	1708597.19	14312362.84	39°24'46.434"N	80°45'30.973"W	7540.47	333.615	2.29	-0.10	-2.29	
14776.00	90.710	340.110	6654.73	7554.47	6845.09	-3381.01	1708567.16	14312452.91	39°24'47.325"N	80°45'31.352"W	7634.56	333.714	3.05	0.09	-3.05	
14871.00	91.080	340.260	6653.25	7649.41	6934.45	-3413.21	1708534.97	14312542.24	39°24'48.209"N	80°45'31.760"W	7728.95	333.793	0.42	0.39	0.16	
14965.00	91.200	340.740	6651.38	7743.36	7023.04	-3444.58	1708503.61	14312630.79	39°24'49.085"N	80°45'32.156"W	7822.29	333.874	0.53	0.13	0.51	
15060.00	91.420	339.820	6649.21	7838.29	7112.45	-3476.63	1708471.58	14312720.16	39°24'49.970"N	80°45'32.561"W	7916.68	333.950	1.00	0.23	-0.97	
15154.00	91.110	339.400	6647.13	7932.18	7200.54	-3509.37	1708438.85	14312808.22	39°24'50.841"N	80°45'32.976"W	8010.21	334.017	0.56	-0.33	-0.45	
15249.00	90.830	340.740	6645.52	8027.11	7289.83	-3541.75	1708406.48	14312897.48	39°24'51.725"N	80°45'33.385"W	8104.67	334.087	1.44	-0.29	1.41	
15343.00	90.710	340.730	6644.26	8121.08	7378.56	-3572.76	1708375.48	14312986.17	39°24'52.603"N	80°45'33.777"W	8198.03	334.163	0.13	-0.13	-0.01	

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

WELLPATH DATA (221 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
15437.00	90.990	341.720	6642.87	8215.06	7467.55	-3603.01	1708345.25	14313075.12	39°24'53.483"N	80°45'34.160"W	8291.32	334.243	1.09	0.30	1.05	
15532.00	91.020	342.440	6641.20	8310.04	7557.92	-3632.23	1708316.03	14313165.46	39°24'54.377"N	80°45'34.529"W	8385.42	334.332	0.76	0.03	0.76	
15626.00	90.890	341.080	6639.63	8404.03	7647.19	-3661.65	1708286.63	14313254.69	39°24'55.260"N	80°45'34.901"W	8478.63	334.414	1.45	-0.14	-1.45	
15721.00	91.540	344.610	6637.62	8498.98	7737.93	-3689.66	1708258.63	14313345.39	39°24'56.157"N	80°45'35.255"W	8572.58	334.507	3.78	0.68	3.72	
15815.00	91.970	343.710	6634.74	8592.87	7828.31	-3715.31	1708232.99	14313435.74	39°24'57.051"N	80°45'35.578"W	8665.22	334.611	1.06	0.46	-0.96	
15910.00	92.060	341.380	6631.40	8687.80	7918.88	-3743.78	1708204.53	14313526.27	39°24'57.947"N	80°45'35.938"W	8759.25	334.697	2.45	0.09	-2.45	
16004.00	91.780	339.480	6628.25	8781.71	8007.39	-3775.25	1708173.07	14313614.75	39°24'58.823"N	80°45'36.336"W	8852.73	334.758	2.04	-0.30	-2.02	
16098.00	91.750	337.270	6625.35	8875.47	8094.73	-3809.87	1708138.46	14313702.05	39°24'59.687"N	80°45'36.774"W	8946.49	334.795	2.35	-0.03	-2.35	
16193.00	91.850	339.010	6622.37	8970.20	8182.85	-3845.23	1708103.12	14313790.14	39°25'00.559"N	80°45'37.222"W	9041.28	334.831	1.83	0.11	1.83	
16287.00	91.790	340.130	6619.38	9064.06	8270.89	-3878.02	1708070.34	14313878.15	39°25'01.430"N	80°45'37.636"W	9134.92	334.879	1.19	-0.06	1.19	
16381.00	91.750	337.370	6616.48	9157.86	8358.45	-3912.07	1708036.30	14313965.67	39°25'02.296"N	80°45'38.067"W	9228.65	334.919	2.94	-0.04	-2.94	
16476.00	91.910	338.810	6613.45	9252.58	8446.54	-3947.50	1708000.89	14314053.73	39°25'03.168"N	80°45'38.516"W	9323.46	334.951	1.52	0.17	1.52	
16570.00	90.800	336.750	6611.22	9346.29	8533.53	-3983.04	1707965.37	14314140.68	39°25'04.028"N	80°45'38.966"W	9417.31	334.979	2.49	-1.18	-2.19	
16664.00	90.620	337.340	6610.06	9439.93	8620.08	-4019.69	1707928.72	14314227.20	39°25'04.885"N	80°45'39.430"W	9511.24	335.000	0.66	-0.19	0.63	
16758.00	90.800	341.690	6608.89	9533.81	8708.11	-4052.58	1707895.85	14314315.19	39°25'05.756"N	80°45'39.846"W	9604.92	335.044	4.63	0.19	4.63	
16853.00	90.950	344.990	6607.44	9628.76	8799.10	-4079.81	1707868.63	14314406.14	39°25'06.656"N	80°45'40.190"W	9698.91	335.125	3.48	0.16	3.47	
16947.00	90.860	347.130	6605.96	9722.51	8890.31	-4102.45	1707846.00	14314497.32	39°25'07.558"N	80°45'40.475"W	9791.21	335.229	2.28	-0.10	2.28	
17041.00	90.830	346.660	6604.57	9816.16	8981.85	-4123.76	1707824.70	14314588.83	39°25'08.463"N	80°45'40.744"W	9883.27	335.339	0.50	-0.03	-0.50	
17136.00	90.770	342.300	6603.24	9911.04	9073.36	-4149.17	1707799.30	14314680.30	39°25'09.368"N	80°45'41.064"W	9977.05	335.426	4.59	-0.06	-4.59	
17230.00	90.800	340.930	6601.95	10005.03	9162.55	-4178.82	1707769.67	14314769.45	39°25'10.250"N	80°45'41.439"W	10070.49	335.483	1.46	0.03	-1.46	
17325.00	90.860	339.580	6600.58	10099.97	9251.95	-4210.91	1707737.59	14314858.82	39°25'11.135"N	80°45'41.845"W	10165.15	335.528	1.42	0.06	-1.42	
17419.00	91.020	340.850	6599.04	10193.91	9340.39	-4242.72	1707705.79	14314947.22	39°25'12.010"N	80°45'42.247"W	10258.83	335.571	1.36	0.17	1.35	
17514.00	90.800	339.990	6597.53	10288.86	9429.88	-4274.55	1707673.97	14315036.68	39°25'12.895"N	80°45'42.650"W	10353.48	335.615	0.93	-0.23	-0.91	
17608.00	91.020	341.520	6596.03	10382.82	9518.62	-4305.53	1707643.00	14315125.38	39°25'13.773"N	80°45'43.042"W	10447.09	335.661	1.64	0.23	1.63	
17703.00	90.800	340.990	6594.53	10477.80	9608.57	-4336.05	1707612.49	14315215.29	39°25'14.663"N	80°45'43.428"W	10541.63	335.712	0.60	-0.23	-0.56	
17797.00	90.740	340.910	6593.26	10571.78	9697.41	-4366.73	1707581.82	14315304.10	39°25'15.542"N	80°45'43.816"W	10635.23	335.758	0.11	-0.06	-0.09	
17892.00	90.770	341.780	6592.01	10666.76	9787.41	-4397.12	1707551.45	14315394.07	39°25'16.432"N	80°45'44.200"W	10729.77	335.807	0.92	0.03	0.92	
17986.00	90.800	341.160	6590.72	10760.75	9876.53	-4426.99	1707521.59	14315483.15	39°25'17.314"N	80°45'44.577"W	10823.31	335.856	0.66	0.03	-0.66	
18080.00	90.830	339.080	6589.39	10854.68	9964.91	-4458.95	1707489.64	14315571.50	39°25'18.188"N	80°45'44.982"W	10917.04	335.893	2.21	0.03	-2.21	
18175.00	90.620	341.110	6588.18	10949.61	10054.23	-4491.29	1707457.32	14315660.78	39°25'19.071"N	80°45'45.391"W	11011.77	335.929	2.15	-0.22	2.14	

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

WELLPATH DATA (221 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
18289.00	90.550	341.100	6587.22	11043.60	10143.16	-4521.73	1707426.89	14315749.67	39°25'19.951"N	80°45'45.776"W	11105.39	335.973	0.08	-0.07	-0.01	
18364.00	90.520	340.250	6586.34	11138.57	10232.80	-4553.16	1707395.47	14315839.28	39°25'20.838"N	80°45'46.173"W	11200.07	336.013	0.90	-0.03	-0.89	
18458.00	90.520	339.730	6585.48	11232.50	10321.12	-4585.33	1707363.32	14315927.56	39°25'21.712"N	80°45'46.580"W	11293.84	336.046	0.55	0.00	-0.55	
18553.00	90.430	341.880	6584.70	11327.47	10410.83	-4616.56	1707332.10	14316017.24	39°25'22.599"N	80°45'46.975"W	11388.50	336.086	2.27	-0.09	2.26	
18647.00	90.580	345.050	6583.87	11421.43	10500.93	-4643.31	1707305.36	14316107.30	39°25'23.490"N	80°45'47.313"W	11481.72	336.146	3.38	0.16	3.37	
18742.00	90.580	346.850	6582.91	11516.19	10593.08	-4666.37	1707282.31	14316199.41	39°25'24.402"N	80°45'47.604"W	11575.33	336.226	1.89	0.00	1.89	
18837.00	90.620	347.720	6581.91	11610.79	10685.74	-4687.27	1707261.41	14316292.04	39°25'25.318"N	80°45'47.867"W	11668.57	336.315	0.92	0.04	0.92	
18931.00	90.550	346.520	6580.95	11704.41	10777.37	-4708.23	1707240.46	14316383.63	39°25'26.224"N	80°45'48.131"W	11760.91	336.401	1.28	-0.07	-1.28	
19026.00	90.580	341.270	6580.01	11799.32	10868.61	-4734.57	1707214.13	14316474.83	39°25'27.127"N	80°45'48.463"W	11855.07	336.461	5.53	0.03	-5.53	
19085.00	90.490	337.700	6579.46	11858.25	10923.85	-4755.24	1707193.47	14316530.06	39°25'27.673"N	80°45'48.725"W	11913.98	336.476	6.05	-0.15	-6.05	
19110.00	90.490	337.700	6579.25	11883.18	10946.98	-4764.73	1707183.99	14316553.18	39°25'27.902"N	80°45'48.845"W	11938.97	336.479	0.00	0.00	0.00	Projected MD at TD: 19110'

HOLE & CASING SECTIONS - Ref Wellbore: Braden Unit 1H AWB Ref Wellpath: Braden Unit 1H AWP Proj: 19110'									
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	30.00	98.00	68.00	30.00	98.00	0.00	0.00	-0.10	-0.07
17.5in Open Hole	98.00	564.50	466.50	98.00	564.49	-0.10	-0.07	-2.17	-1.71
13.375in Casing Surface	30.00	564.50	534.50	30.00	564.49	0.00	0.00	-2.17	-1.71
12.25in Open Hole	564.50	2619.00	2054.50	564.49	2616.91	-2.17	-1.71	11.14	-46.43
9.625in Casing Intermediate	30.00	2619.00	2589.00	30.00	2616.91	0.00	0.00	11.14	-46.43
8.75in Open Hole	2619.00	6384.00	3765.00	2616.91	6139.26	11.14	-46.43	-901.38	-841.99
8.5in Open Hole	6384.00	19110.00	12726.00	6139.26	6579.25	-901.38	-841.99	10946.98	-4764.73
5.5in Casing Production	30.00	19110.00	19080.00	30.00	6579.25	0.00	0.00	10946.98	-4764.73

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Braden Unit 1H - POE - Rev-1	6598.00	-486.72	-1049.25	1710897.99	14305124.00	39°23'34.798"N	80°45'01.902"W	point
Braden Unit 1H - BHL - Rev-1	6638.00	10931.80	-4754.71	1707194.00	14316538.00	39°25'27.752"N	80°45'48.718"W	point
Braden Unit 1H - LP - Rev-1	6638.00	-260.20	-1122.76	1710824.51	14305350.43	39°23'37.039"N	80°45'02.830"W	point

WELLPATH COMPOSITION - Ref Wellbore: Braden Unit 1H AWB    Ref Wellpath: Braden Unit 1H AWP Proj: 19110'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	556.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-541')	Braden Unit 1H AWB
556.00	2551.00	ISCWSA MWD, Rev. 4 (Standard)	02 Panther EM <12-1/4">(541')(595'-2536')	Braden Unit 1H AWB
2551.00	6323.00	ISCWSA MWD, Rev. 4 (Standard)	03 Panther EM <8-3/4">(2536')(2630'-6308')	Braden Unit 1H AWB
6323.00	19085.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2">(6323')(6367'-19085')	Braden Unit 1H AWB
19085.00	19110.00	Blind Drilling (std)	Projection to bit	Braden Unit 1H AWB

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# Actual Wellpath Report

Braden Unit 1H AWP Proj: 19110'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Braden Unit 1H
Field	Tyler	Wellbore	Braden Unit 1H AWB
Facility	Alta Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-095-02545-0000 BHI Job #: 109745460 Rig: H&amp;P 519 Duration: 04/11/2019-04/16/2019 Gyrodata MS Gyro &lt;17-1/2"&gt;(100'-541') Panther EM &lt;12-1/4"&gt;(541')(595'-2536') Panther EM &lt;8-3/4"&gt;(2536')(2630'-6308') BH AT Curve &lt;8-1/2"&gt;(6323')(6367'-19085') Middlesex: 6671' MD Burkett: 6866' MD Tully: 6923' MD Marcellus POE: 7066' MD Projected MD at TD: 19110'</p>

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