



ANTERO RESOURCES CORPORATION

Location: Wetzel County, WV
 Field: Wetzel
 Facility: Gadd Pad

Slot: Slot #09
 Well: Busch Unit 1H
 Wellbore: Busch Unit 1H PWB



Plot reference wellpath is Busch Unit 1H PWP Rev-B.1	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1254 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #09): -1224 feet	Depths are in feet
Offset wellpath MDs are referenced to each well's default MD datum	Created by: edsaryar on 2021-10-19; Database: WA_MPL_EASTERNUS_Defn

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Gadd Pad	1709411.160	14362271.230	39°32'59.8700"N	80°45'18.8700"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #09	-21.96	-112.58	1709298.620	14362249.280	39°32'59.6560"N
Comment	Busch Unit 1H				
H&P 519 (RKB) to Ground level (At Slot: Slot #09)					30ft
Mean Sea Level to Ground level (At Slot: Slot #09)					-1224ft
H&P 519 (RKB) to Mean Sea Level					1254ft

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*100ft)	VS (ft)
Tie On	2588.00	19.570	236.280	2521.82	-227.47	-383.73	1.97	-91.51
Proj. to Bottom	2662.00	19.570	236.280	2591.55	-241.23	-404.35	0.00	-97.89
Drill Out	2742.00	19.570	236.280	2666.93	-256.10	-426.64	0.00	-104.78
End of 3D Arc	2832.58	18.797	241.269	2752.48	-271.54	-452.06	2.00	-111.19
Curve KOP	6534.61	18.797	241.269	6257.07	-844.95	-1498.07	0.00	-316.51
POE	7465.43	73.926	330.212	6923.00	-475.37	-1911.67	8.00	166.74
Landing Pt.	7666.36	90.000	330.212	6951.00	-303.27	-2010.18	8.00	361.42
On Azimuth	8032.05	90.000	341.183	6951.00	29.51	-2160.46	3.00	724.89
BHL	20328.32	90.000	341.183	6951.00	11668.58	-6126.60	0.00	13021.15

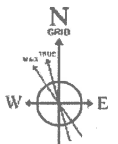
Scale 1 inch = 2000

Gyrodata MS Gyro <17-1/2"> (100°-383') : 0.66° Inc, 100.00ft MD, 100.00ft TVD, -0.39ft VS

APS EM <12-1/4"> (383')(598°-2588') : 0.21° Inc, 598.00ft MD, 597.99ft TVD, -3.56ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #09	Busch Unit 1H	Busch Unit 1H AWB	Busch Unit 1H AWP Proj: 20345'
Slot #09	Busch Unit 1H	Busch Unit 1H PWB	Busch Unit 1H PWP Rev-B.1

APS EM <8-3/4"> (2588')(2656°-5402') : 19.37° Inc, 2656.00ft MD, 2585.93ft TVD, -97.47ft VS



User specified (HDGM) Dip: 66.52° Field: 51873 nT
 Magnetic North is 7.70 degrees West of True North (at 20/Sep/2021)
 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

BH AT Curve <8-1/2"> (5402')(5513°-20320') : 18.29° Inc, 5513.00ft MD, 5293.63ft TVD, -274.21ft VS

Marcellus POE: 7455' MD : 74.58° Inc, 7455.00ft MD, 6921.88ft TVD, 170.78ft VS

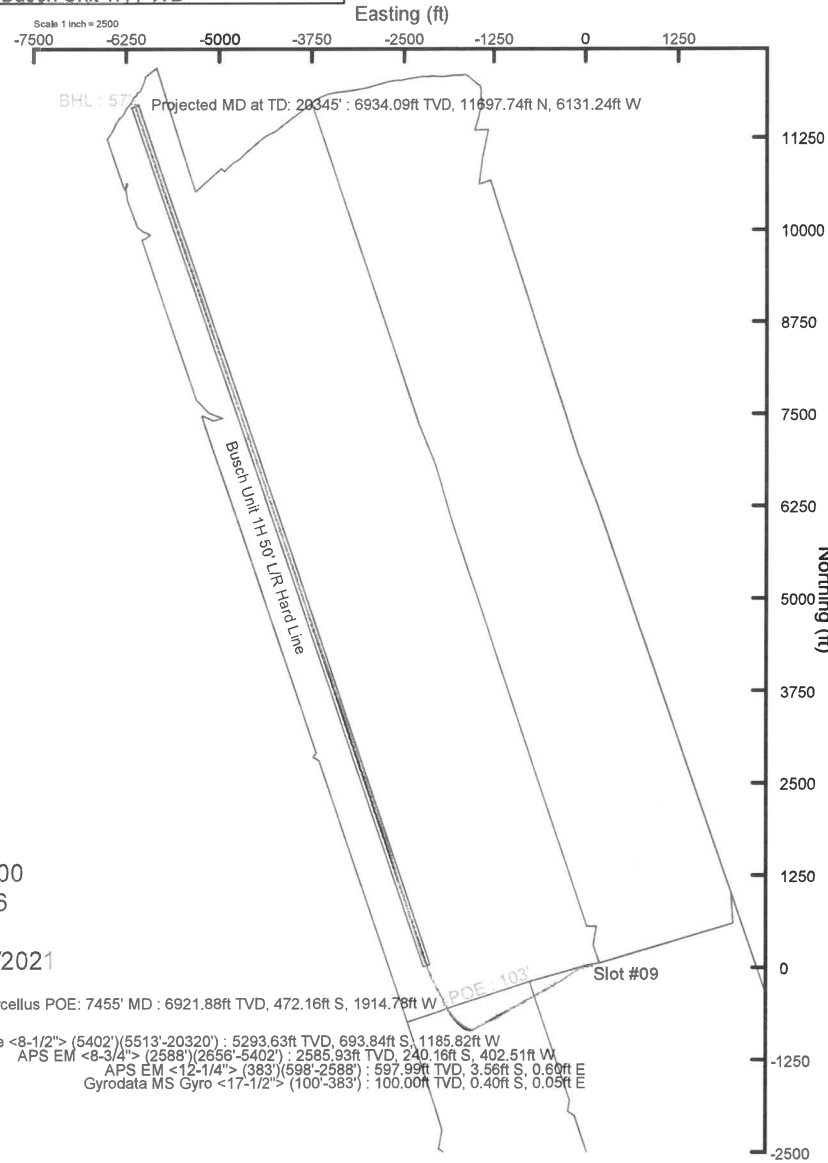
API: 47-103-03404-0000
 BH Job #: 110972226
 Rig: H&P 519
 Duration: 9/23/2021-9/27/2021

Marcellus POE: 7455' MD : 6921.88ft TVD, 472.16ft S, 1914.78ft W

BH AT Curve <8-1/2"> (5402')(5513°-20320') : 5293.63ft TVD, 693.84ft S, 1185.82ft W
 APS EM <8-3/4"> (2588')(2656°-5402') : 2585.93ft TVD, 240.16ft S, 402.51ft W
 APS EM <12-1/4"> (383')(598°-2588') : 597.99ft TVD, 3.56ft S, 0.60ft E
 Gyrodata MS Gyro <17-1/2"> (100°-383') : 100.00ft TVD, 0.40ft S, 0.09ft E

Projected MD at TD: 20345' : 89.94° Inc, 20345.00ft MD, 6934.09ft TVD, 13050.26ft VS

Vertical Section (ft)
 Azimuth 341.18° with reference 0.00 N, 0.00 E





Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999605	Report Generated	19/Oct/2021 at 18:50
Convergence at slot	0.16° 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	-21.96	-112.58	1709298.62	14362249.28	39°32'59.6560"N	80°45'20.3080"W
Facility Reference Pt			1709411.16	14362271.23	39°32'59.8700"N	80°45'18.8700"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 519 (RKB) to Facility Vertical Datum	1254.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1254.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot #09)	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	341.18°



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 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	173.350	0.00	0.00	0.00	0.00	1709298.62	14362249.28	39°32'59.6560"N	80°45'20.3080"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	173.350	30.00	0.00	0.00	0.00	1709298.62	14362249.28	39°32'59.6560"N	80°45'20.3080"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.660	173.350	100.00	-0.39	-0.40	0.05	1709298.67	14362248.88	39°32'59.6520"N	80°45'20.3074"W	0.40	173.350	0.94	0.94	0.00	Gyrodata MS Gyro <17-1/2"> (100'-383')
200.00	0.520	185.820	199.99	-1.37	-1.42	0.07	1709298.69	14362247.86	39°32'59.6419"N	80°45'20.3072"W	1.43	177.291	0.19	-0.14	12.47	
300.00	0.320	173.900	299.99	-2.05	-2.15	0.05	1709298.67	14362247.13	39°32'59.6347"N	80°45'20.3074"W	2.15	178.642	0.22	-0.20	-11.92	
383.00	0.360	146.630	382.99	-2.53	-2.60	0.22	1709298.84	14362246.68	39°32'59.6303"N	80°45'20.3053"W	2.61	175.186	0.20	0.05	-32.86	
598.00	0.210	178.880	597.99	-3.56	-3.56	0.60	1709299.22	14362245.72	39°32'59.6208"N	80°45'20.3005"W	3.61	170.458	0.10	-0.07	15.00	APS EM <12-1/4"> (383')(598'-2588')
688.00	0.980	266.000	687.98	-3.52	-3.78	-0.17	1709298.45	14362245.50	39°32'59.6187"N	80°45'20.3103"W	3.78	182.520	1.10	0.86	96.80	
779.00	2.710	259.500	778.93	-3.01	-4.22	-3.06	1709295.56	14362245.06	39°32'59.6143"N	80°45'20.3472"W	5.21	215.902	1.91	1.90	-7.14	
870.00	3.290	263.250	869.81	-2.15	-4.92	-7.77	1709290.86	14362244.36	39°32'59.6076"N	80°45'20.4073"W	9.20	237.629	0.67	0.64	4.12	
960.00	4.430	261.640	959.60	-0.98	-5.73	-13.77	1709284.86	14362243.55	39°32'59.5997"N	80°45'20.4840"W	14.92	247.399	1.27	1.27	-1.79	
1051.00	6.200	256.120	1050.21	0.08	-7.42	-22.02	1709276.61	14362241.86	39°32'59.5832"N	80°45'20.5893"W	23.24	251.372	2.02	1.95	-6.07	
1145.00	7.400	251.580	1143.54	0.56	-10.55	-32.69	1709265.94	14362238.73	39°32'59.5526"N	80°45'20.7257"W	34.35	252.109	1.40	1.28	-4.83	
1240.00	9.000	249.430	1237.57	0.37	-15.10	-45.45	1709253.19	14362234.19	39°32'59.5080"N	80°45'20.8888"W	47.89	251.626	1.71	1.68	-2.26	
1334.00	10.620	245.620	1330.19	-0.69	-21.26	-60.23	1709238.42	14362228.03	39°32'59.4475"N	80°45'21.0776"W	63.87	250.560	1.86	1.72	-4.05	
1429.00	11.540	237.600	1423.43	-3.77	-29.96	-76.22	1709222.43	14362219.33	39°32'59.3619"N	80°45'21.2821"W	81.90	248.541	1.89	0.97	-8.44	
1524.00	13.070	234.940	1516.24	-9.01	-41.22	-93.04	1709205.62	14362208.07	39°32'59.2511"N	80°45'21.4972"W	101.77	246.103	1.72	1.61	-2.80	
1618.00	14.640	239.340	1607.51	-14.42	-53.39	-111.96	1709186.70	14362195.91	39°32'59.1313"N	80°45'21.7391"W	124.04	244.506	2.01	1.67	4.68	
1713.00	16.680	239.270	1698.98	-19.69	-66.48	-134.01	1709164.66	14362182.83	39°32'59.0026"N	80°45'22.0211"W	149.59	243.615	2.15	2.15	-0.07	
1808.00	19.630	237.820	1789.24	-26.20	-81.95	-159.24	1709139.44	14362167.36	39°32'58.8504"N	80°45'22.3437"W	179.09	242.769	3.14	3.11	-1.53	
1902.00	20.820	234.600	1877.44	-34.61	-100.04	-186.22	1709112.47	14362149.28	39°32'58.6723"N	80°45'22.6888"W	211.39	241.756	1.73	1.27	-3.43	
1997.00	21.380	236.100	1966.07	-43.94	-119.47	-214.36	1709084.35	14362129.85	39°32'58.4810"N	80°45'23.0486"W	245.41	240.867	0.82	0.59	1.58	
2091.00	19.620	234.690	2054.12	-52.87	-138.15	-241.46	1709057.25	14362111.18	39°32'58.2971"N	80°45'23.3952"W	278.19	240.224	1.94	-1.87	-1.50	
2186.00	19.560	233.960	2143.62	-62.11	-156.73	-267.34	1709031.39	14362092.61	39°32'58.1142"N	80°45'23.7262"W	309.89	239.618	0.27	-0.06	-0.77	
2280.00	19.900	239.890	2232.11	-69.90	-174.01	-293.90	1709004.84	14362075.33	39°32'57.9440"N	80°45'24.0659"W	341.55	239.371	2.16	0.36	6.31	
2375.00	19.660	239.570	2321.50	-76.28	-190.22	-321.67	1708977.08	14362059.14	39°32'57.7846"N	80°45'24.4209"W	373.70	239.402	0.28	-0.25	-0.34	
2470.00	20.050	240.070	2410.86	-82.63	-206.44	-349.56	1708949.20	14362042.92	39°32'57.6251"N	80°45'24.7775"W	405.97	239.435	0.45	0.41	0.53	
2564.00	19.820	237.470	2499.23	-89.52	-223.05	-376.96	1708921.81	14362026.32	39°32'57.4617"N	80°45'25.1279"W	438.01	239.387	0.97	-0.24	-2.77	
2588.00	19.570	236.280	2521.82	-91.51	-227.47	-383.73	1708915.04	14362021.90	39°32'57.4182"N	80°45'25.2145"W	446.09	239.342	1.97	-1.04	-4.96	
2656.00	19.370	235.590	2585.93	-97.47	-240.16	-402.51	1708896.27	14362009.21	39°32'57.2932"N	80°45'25.4547"W	468.71	239.177	0.45	-0.29	-1.01	APS EM <8-3/4"> (2588')(2656'-5402')



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
2750.00	19.000	239.800	2674.72	-104.68	-256.67	-428.60	1708870.19	14361992.71	39°32'57.1307"N	80°45'25.7882"W	499.57	239.084	1.52	-0.39	4.48	
2845.00	19.490	240.470	2764.41	-110.68	-272.26	-455.75	1708843.05	14361977.13	39°32'56.9774"N	80°45'26.1354"W	530.88	239.147	0.57	0.52	0.71	
2939.00	20.140	231.870	2852.86	-118.95	-289.98	-482.13	1708816.68	14361959.41	39°32'56.8029"N	80°45'26.4728"W	562.62	238.975	3.17	0.69	-9.15	
3034.00	18.990	232.680	2942.38	-129.26	-309.45	-507.29	1708791.53	14361939.95	39°32'56.6112"N	80°45'26.7946"W	594.23	238.616	1.24	-1.21	0.85	
3131.00	16.420	245.340	3034.81	-135.67	-324.75	-532.31	1708766.52	14361924.66	39°32'56.4606"N	80°45'27.1146"W	623.56	238.614	4.76	-2.65	13.05	
3226.00	15.740	253.120	3126.10	-136.60	-334.10	-556.85	1708741.99	14361915.32	39°32'56.3689"N	80°45'27.4281"W	649.39	239.037	2.38	-0.72	8.19	
3320.00	18.440	247.870	3215.95	-137.02	-343.40	-582.83	1708716.02	14361906.02	39°32'56.2777"N	80°45'27.7601"W	676.47	239.494	3.31	2.87	-5.59	
3415.00	20.960	246.450	3305.38	-139.29	-355.85	-612.33	1708686.54	14361893.57	39°32'56.1554"N	80°45'28.1371"W	708.22	239.837	2.70	2.65	-1.49	
3510.00	22.740	238.230	3393.57	-144.81	-372.31	-643.52	1708655.35	14361877.11	39°32'55.9935"N	80°45'28.5359"W	743.46	239.948	3.72	1.87	-8.65	
3604.00	19.830	235.790	3481.15	-153.11	-390.85	-672.16	1708626.73	14361858.59	39°32'55.8111"N	80°45'28.9021"W	777.54	239.823	3.24	-3.10	-2.60	
3699.00	16.690	239.530	3571.36	-160.15	-406.83	-697.25	1708601.64	14361842.61	39°32'55.6538"N	80°45'29.2230"W	807.26	239.738	3.53	-3.31	3.94	
3793.00	14.820	240.580	3661.83	-165.08	-419.58	-719.36	1708579.55	14361829.87	39°32'55.5284"N	80°45'29.5056"W	832.78	239.746	2.01	-1.99	1.12	
3888.00	16.090	246.340	3753.39	-168.43	-430.83	-742.00	1708556.91	14361818.62	39°32'55.4178"N	80°45'29.7951"W	858.01	239.859	2.10	1.34	6.06	
3982.00	17.910	250.410	3843.29	-169.72	-440.91	-767.55	1708531.37	14361808.55	39°32'55.3189"N	80°45'30.1216"W	885.18	240.126	2.31	1.94	4.33	
4077.00	18.760	245.030	3933.47	-171.56	-452.25	-795.17	1708503.77	14361797.21	39°32'55.2075"N	80°45'30.4745"W	914.78	240.371	1.99	0.89	-5.66	
4172.00	18.740	237.940	4023.44	-176.69	-466.80	-821.95	1708476.99	14361782.66	39°32'55.0644"N	80°45'30.8169"W	945.26	240.407	2.40	-0.02	-7.46	
4267.00	17.360	230.550	4113.77	-185.18	-483.91	-845.83	1708453.12	14361765.56	39°32'54.8959"N	80°45'31.1223"W	974.48	240.225	2.81	-1.45	-7.78	
4361.00	16.850	232.430	4203.62	-194.50	-501.13	-867.46	1708431.50	14361748.35	39°32'54.7263"N	80°45'31.3990"W	1001.81	239.985	0.80	-0.54	2.00	
4456.00	18.680	239.470	4294.09	-202.02	-517.26	-891.48	1708407.49	14361732.23	39°32'54.5676"N	80°45'31.7062"W	1030.68	239.877	2.97	1.93	7.41	
4550.00	18.500	242.340	4383.19	-207.36	-531.83	-917.66	1708381.33	14361717.66	39°32'54.4243"N	80°45'32.0409"W	1060.63	239.906	0.99	-0.19	3.05	
4645.00	19.310	242.980	4473.07	-211.92	-545.96	-945.00	1708353.99	14361703.53	39°32'54.2853"N	80°45'32.3904"W	1091.38	239.983	0.88	0.85	0.67	
4739.00	18.830	240.510	4561.91	-216.94	-560.49	-972.05	1708326.95	14361689.01	39°32'54.1424"N	80°45'32.7362"W	1122.07	240.032	1.00	-0.51	-2.63	
4834.00	20.090	240.710	4651.48	-222.75	-576.02	-999.63	1708299.39	14361673.49	39°32'53.9897"N	80°45'33.0888"W	1153.71	240.048	1.33	1.33	0.21	
4929.00	19.170	235.230	4740.96	-230.00	-592.90	-1026.67	1708272.35	14361656.62	39°32'53.8236"N	80°45'33.4346"W	1185.57	239.994	2.17	-0.97	-5.77	
5023.00	18.670	234.390	4829.89	-238.59	-610.46	-1051.58	1708247.45	14361639.06	39°32'53.6507"N	80°45'33.7532"W	1215.93	239.864	0.61	-0.53	-0.89	
5118.00	18.040	235.220	4920.05	-247.02	-627.71	-1076.03	1708223.02	14361621.82	39°32'53.4809"N	80°45'34.0658"W	1245.73	239.743	0.72	-0.66	0.87	
5212.00	18.610	236.250	5009.29	-254.89	-644.34	-1100.45	1708198.60	14361605.19	39°32'53.3171"N	80°45'34.3782"W	1275.22	239.650	0.70	0.61	1.10	
5307.00	19.880	242.890	5098.99	-261.13	-660.13	-1127.44	1708171.63	14361589.41	39°32'53.1618"N	80°45'34.7232"W	1306.48	239.651	2.66	1.34	6.99	
5402.00	19.210	237.880	5188.52	-267.05	-675.80	-1155.06	1708144.02	14361573.75	39°32'53.0077"N	80°45'35.0763"W	1338.23	239.669	1.90	-0.71	-5.27	
5513.00	18.290	241.420	5293.63	-274.21	-693.84	-1185.82	1708113.27	14361555.71	39°32'52.8302"N	80°45'35.4696"W	1373.89	239.667	1.32	-0.83	3.19	BH AT Curve <8-1/2"> (5402')(5513'-20320')



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 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
5607.00	16.760	243.260	5383.26	-278.57	-707.00	-1210.88	1708088.22	14361542.56	39°32'52.7008"N	80°45'35.7899"W	1402.17	239.721	1.73	-1.63	1.96	
5702.00	19.470	246.210	5473.55	-281.83	-719.55	-1237.60	1708061.51	14361530.02	39°32'52.5774"N	80°45'36.1315"W	1431.58	239.826	3.01	2.85	3.11	
5797.00	20.830	246.640	5562.73	-284.54	-732.63	-1267.60	1708031.53	14361516.94	39°32'52.4489"N	80°45'36.5149"W	1464.09	239.973	1.44	1.43	0.45	
5891.00	20.430	247.320	5650.70	-286.97	-745.59	-1298.08	1708001.06	14361503.99	39°32'52.3217"N	80°45'36.9044"W	1496.96	240.128	0.50	-0.43	0.72	
5986.00	20.310	247.380	5739.76	-289.18	-758.32	-1328.60	1707970.55	14361491.26	39°32'52.1967"N	80°45'37.2944"W	1529.78	240.284	0.13	-0.13	0.06	
6081.00	20.310	243.960	5828.86	-292.34	-771.90	-1358.63	1707940.53	14361477.69	39°32'52.0632"N	80°45'37.6783"W	1562.59	240.397	1.25	0.00	-3.60	
6175.00	19.930	243.890	5917.12	-296.43	-786.11	-1387.67	1707911.50	14361463.48	39°32'51.9235"N	80°45'38.0495"W	1594.87	240.469	0.41	-0.40	-0.07	
6270.00	20.720	241.830	6006.21	-301.21	-801.17	-1417.03	1707882.15	14361448.43	39°32'51.7755"N	80°45'38.4247"W	1627.83	240.517	1.12	0.83	-2.17	
6364.00	20.340	241.520	6094.24	-306.65	-816.81	-1446.05	1707853.15	14361432.79	39°32'51.6216"N	80°45'38.7957"W	1660.79	240.540	0.42	-0.40	-0.33	
6459.00	19.580	240.810	6183.53	-312.29	-832.45	-1474.46	1707824.75	14361417.16	39°32'51.4678"N	80°45'39.1589"W	1693.22	240.552	0.84	-0.80	-0.75	
6554.00	19.330	262.210	6273.22	-312.15	-842.36	-1503.97	1707795.25	14361407.26	39°32'51.3707"N	80°45'39.5360"W	1723.80	240.747	7.47	-0.26	22.53	
6648.00	22.140	287.440	6361.30	-298.66	-839.15	-1536.35	1707762.88	14361410.46	39°32'51.4033"N	80°45'39.9493"W	1750.59	241.357	9.88	2.99	26.84	
6743.00	26.030	295.460	6448.04	-273.51	-824.81	-1572.27	1707726.97	14361424.79	39°32'51.5459"N	80°45'40.4073"W	1775.49	242.319	5.34	4.09	8.44	
6838.00	27.750	299.760	6532.77	-242.36	-804.87	-1610.30	1707688.96	14361444.73	39°32'51.7440"N	80°45'40.8921"W	1800.25	243.443	2.73	1.81	4.53	
6921.00†	32.219	303.827	6604.65	-210.27	-782.95	-1645.48	1707653.79	14361466.64	39°32'51.9615"N	80°45'41.3404"W	1822.25	244.554	5.91	5.38	4.90	Sycamore: 6921' MD
6932.00	32.820	304.290	6613.93	-205.55	-779.64	-1650.38	1707648.90	14361469.95	39°32'51.9944"N	80°45'41.4028"W	1825.26	244.714	5.91	5.46	4.21	
7027.00	39.130	312.160	6690.81	-158.67	-744.96	-1693.94	1707605.36	14361504.62	39°32'52.3383"N	80°45'41.9577"W	1850.51	246.261	8.22	6.64	8.28	
7069.00†	42.746	315.059	6722.53	-134.28	-725.97	-1713.84	1707585.46	14361523.60	39°32'52.5265"N	80°45'42.2111"W	1861.25	247.043	9.72	8.61	6.90	Middlesex: 7069' MD
7121.00	47.310	318.140	6759.28	-100.82	-699.22	-1739.07	1707560.24	14361550.33	39°32'52.7915"N	80°45'42.5323"W	1874.38	248.097	9.72	8.78	5.92	
7213.00†	54.069	316.916	6817.53	-35.68	-646.78	-1787.13	1707512.19	14361602.76	39°32'53.3111"N	80°45'43.1441"W	1900.57	250.104	7.42	7.35	-1.33	Burkett: 7213' MD
7216.00	54.290	316.880	6819.29	-33.46	-645.00	-1788.80	1707510.53	14361604.53	39°32'53.3287"N	80°45'43.1653"W	1901.53	250.172	7.42	7.35	-1.21	
7271.00†	58.911	319.618	6849.56	8.82	-610.74	-1819.34	1707480.00	14361638.78	39°32'53.6681"N	80°45'43.5540"W	1919.11	251.443	9.37	8.40	4.98	Tully: 7271' MD
7310.00	62.220	321.400	6868.72	40.60	-584.53	-1840.93	1707458.42	14361664.98	39°32'53.9277"N	80°45'43.8287"W	1931.50	252.384	9.37	8.49	4.57	
7405.00	70.460	328.880	6906.86	124.13	-513.15	-1890.43	1707408.94	14361736.33	39°32'54.6344"N	80°45'44.4582"W	1958.84	254.813	11.27	8.67	7.87	
7455.00†	74.580	329.689	6921.88	170.78	-472.16	-1914.78	1707384.60	14361777.31	39°32'55.0402"N	80°45'44.7676"W	1972.13	256.148	8.38	8.24	1.62	Marcellus POE: 7455' MD
7500.00	78.290	330.390	6932.43	213.70	-434.27	-1936.62	1707362.77	14361815.19	39°32'55.4153"N	80°45'45.0452"W	1984.71	257.361	8.38	8.24	1.56	
7594.00	84.880	330.150	6946.18	304.95	-353.56	-1982.71	1707316.70	14361895.86	39°32'56.2141"N	80°45'45.6308"W	2013.98	259.889	7.02	7.01	-0.26	
7689.00	90.060	330.270	6950.37	398.09	-271.23	-2029.84	1707269.58	14361978.16	39°32'57.0291"N	80°45'46.2298"W	2047.88	262.389	5.45	5.45	0.13	
7784.00	89.970	334.400	6950.35	491.94	-187.11	-2073.94	1707225.50	14362062.25	39°32'57.8616"N	80°45'46.7899"W	2082.36	264.845	4.35	-0.09	4.35	
7878.00	89.380	335.750	6950.88	585.41	-101.86	-2113.55	1707185.90	14362147.46	39°32'58.7051"N	80°45'47.2927"W	2116.01	267.241	1.57	-0.63	1.44	



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWP
Slot	Slot #09		

WELLPATH DATA (223 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
7973.00	89.140	337.620	6952.11	680.10	-14.63	-2151.15	1707148.32	14362234.65	39°32'59.5682"N	80°45'47.7697"W	2151.20	269.610	1.98	-0.25	1.97	
8068.00	89.480	338.890	6953.25	774.97	73.60	-2186.34	1707113.15	14362322.85	39°33'0.4411"N	80°45'48.2160"W	2187.58	271.928	1.38	0.36	1.34	
8163.00	89.630	339.290	6953.99	869.90	162.34	-2220.25	1707079.25	14362411.55	39°33'1.3191"N	80°45'48.6459"W	2226.17	274.182	0.45	0.16	0.42	
8258.00	90.280	344.440	6954.06	964.86	252.59	-2249.81	1707049.71	14362501.77	39°33'2.2118"N	80°45'49.0202"W	2263.94	276.406	5.46	0.68	5.42	
8352.00	88.800	342.080	6954.82	1058.79	342.59	-2276.88	1707022.65	14362591.74	39°33'3.1020"N	80°45'49.3627"W	2302.51	278.557	2.96	-1.57	-2.51	
8447.00	90.460	342.780	6955.43	1153.76	433.16	-2305.55	1706993.98	14362682.26	39°33'3.9978"N	80°45'49.7258"W	2345.89	280.640	1.90	1.75	0.74	
8541.00	89.260	341.400	6955.66	1247.74	522.60	-2334.46	1706965.09	14362771.67	39°33'4.8826"N	80°45'50.0918"W	2392.24	282.618	1.95	-1.28	-1.47	
8636.00	89.200	344.420	6956.94	1342.68	613.38	-2362.37	1706937.19	14362862.42	39°33'5.7805"N	80°45'50.4451"W	2440.70	284.555	3.18	-0.06	3.18	
8731.00	89.720	340.800	6957.83	1437.63	704.02	-2390.76	1706908.81	14362953.02	39°33'6.6771"N	80°45'50.8045"W	2492.26	286.408	3.85	0.55	-3.81	
8825.00	89.350	339.370	6958.60	1531.61	792.40	-2422.77	1706876.81	14363041.36	39°33'7.5513"N	80°45'51.2102"W	2549.06	288.111	1.57	-0.39	-1.52	
8920.00	90.550	342.980	6958.68	1626.59	882.30	-2453.42	1706846.17	14363131.23	39°33'8.4406"N	80°45'51.5985"W	2607.25	289.780	4.00	1.26	3.80	
9014.00	89.260	342.840	6958.83	1720.55	972.14	-2481.05	1706818.56	14363221.04	39°33'9.3293"N	80°45'51.9481"W	2664.71	291.397	1.38	-1.37	-0.15	
9109.00	89.540	341.010	6959.83	1815.53	1062.45	-2510.52	1706789.10	14363311.31	39°33'10.2226"N	80°45'52.3214"W	2726.08	292.938	1.95	0.29	-1.93	
9203.00	90.030	344.080	6960.18	1909.49	1152.11	-2538.71	1706760.92	14363400.93	39°33'11.1094"N	80°45'52.6783"W	2787.90	294.409	3.31	0.52	3.27	
9298.00	89.880	344.280	6960.26	2004.36	1243.51	-2564.61	1706735.03	14363492.30	39°33'12.0135"N	80°45'53.0059"W	2850.18	295.867	0.26	-0.16	0.21	
9393.00	89.170	341.750	6961.04	2099.30	1334.35	-2592.36	1706707.29	14363583.11	39°33'12.9120"N	80°45'53.3571"W	2915.62	297.236	2.77	-0.75	-2.66	
9487.00	90.000	342.880	6961.73	2193.28	1423.91	-2620.91	1706678.75	14363672.62	39°33'13.7978"N	80°45'53.7186"W	2982.73	298.515	1.49	0.88	1.20	
9582.00	89.880	344.090	6961.82	2288.20	1514.99	-2647.92	1706651.75	14363763.67	39°33'14.6987"N	80°45'54.0604"W	3050.68	299.776	1.28	-0.13	1.27	
9677.00	90.180	342.890	6961.78	2383.12	1606.07	-2674.91	1706624.77	14363854.71	39°33'15.5996"N	80°45'54.4020"W	3120.03	300.981	1.30	0.32	-1.26	
9771.00	89.690	341.640	6961.88	2477.10	1695.60	-2703.55	1706596.15	14363944.21	39°33'16.4851"N	80°45'54.7646"W	3191.27	302.095	1.43	-0.52	-1.33	
9866.00	90.400	342.960	6961.81	2572.08	1786.10	-2732.43	1706567.28	14364034.67	39°33'17.3803"N	80°45'55.1303"W	3264.40	303.171	1.58	0.75	1.39	
9961.00	89.720	342.870	6961.71	2667.03	1876.91	-2760.34	1706539.38	14364125.44	39°33'18.2785"N	80°45'55.4836"W	3338.00	304.214	0.72	-0.72	-0.09	
10055.00	90.310	342.190	6961.68	2761.01	1966.57	-2788.56	1706511.17	14364215.07	39°33'19.1654"N	80°45'55.8408"W	3412.25	305.193	0.96	0.63	-0.72	
10150.00	89.600	341.230	6961.76	2856.00	2056.77	-2818.37	1706481.37	14364305.23	39°33'20.0576"N	80°45'56.2185"W	3489.05	306.121	1.26	-0.75	-1.01	
10245.00	90.250	341.510	6961.88	2951.00	2146.79	-2848.72	1706451.03	14364395.22	39°33'20.9481"N	80°45'56.6029"W	3567.06	307.002	0.74	0.68	0.29	
10339.00	89.380	339.860	6962.19	3044.99	2235.49	-2879.81	1706419.95	14364483.89	39°33'21.8256"N	80°45'56.9969"W	3645.65	307.821	1.98	-0.93	-1.76	
10434.00	90.030	341.300	6962.67	3139.98	2325.09	-2911.39	1706388.38	14364573.44	39°33'22.7119"N	80°45'57.3972"W	3725.89	308.611	1.66	0.68	1.52	
10528.00	89.480	341.810	6963.08	3233.98	2414.25	-2941.13	1706358.65	14364662.58	39°33'23.5939"N	80°45'57.7739"W	3805.11	309.381	0.80	-0.59	0.54	
10623.00	89.940	341.030	6963.56	3328.98	2504.30	-2971.40	1706328.40	14364752.59	39°33'24.4846"N	80°45'58.1574"W	3885.97	310.124	0.95	0.48	-0.82	
10718.00	90.060	341.650	6963.56	3423.98	2594.31	-3001.80	1706298.01	14364842.56	39°33'25.3750"N	80°45'58.5424"W	3967.52	310.835	0.66	0.13	0.65	



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 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
10812.00	90.310	341.310	6963.25	3517.97	2683.44	-3031.66	1706268.17	14364931.65	39°33'26.2566"N	80°45'58.9207"W	4048.68	311.513	0.45	0.27	-0.36	
10907.00	89.720	341.650	6963.23	3612.97	2773.52	-3061.83	1706238.00	14365021.70	39°33'27.1477"N	80°45'59.3030"W	4131.25	312.171	0.72	-0.62	0.36	
11001.00	90.180	341.300	6963.31	3706.97	2862.65	-3091.70	1706208.15	14365110.79	39°33'28.0293"N	80°45'59.6813"W	4213.47	312.797	0.61	0.49	-0.37	
11096.00	90.030	341.070	6963.14	3801.97	2952.57	-3122.34	1706177.52	14365200.68	39°33'28.9189"N	80°46'0.0695"W	4297.28	313.399	0.29	-0.16	-0.24	
11191.00	89.630	340.480	6963.42	3896.97	3042.27	-3153.62	1706146.25	14365290.35	39°33'29.8062"N	80°46'0.4659"W	4381.86	313.970	0.75	-0.42	-0.62	
11285.00	89.630	339.900	6964.03	3990.95	3130.71	-3185.47	1706114.41	14365378.75	39°33'30.6810"N	80°46'0.8697"W	4466.38	314.503	0.62	0.00	-0.62	
11380.00	89.630	337.720	6964.64	4085.86	3219.28	-3219.81	1706080.09	14365467.28	39°33'31.5573"N	80°46'1.3051"W	4553.12	314.995	2.29	0.00	-2.29	
11475.00	90.060	340.960	6964.90	4180.80	3308.15	-3253.32	1706046.59	14365556.12	39°33'32.4365"N	80°46'1.7301"W	4639.83	315.479	3.44	0.45	3.41	
11569.00	90.180	342.260	6964.70	4274.79	3397.35	-3282.98	1706016.95	14365645.28	39°33'33.3189"N	80°46'2.1058"W	4724.40	315.981	1.39	0.13	1.38	
11664.00	89.450	339.890	6965.01	4369.79	3487.21	-3313.79	1705986.15	14365735.11	39°33'34.2077"N	80°46'2.4961"W	4810.59	316.461	2.61	-0.77	-2.49	
11758.00	89.660	339.130	6965.74	4463.74	3575.26	-3346.69	1705953.26	14365823.12	39°33'35.0788"N	80°46'2.9133"W	4897.22	316.891	0.84	0.22	-0.81	
11853.00	90.220	340.570	6965.84	4558.71	3664.44	-3379.41	1705920.55	14365912.27	39°33'35.9610"N	80°46'3.3282"W	4984.83	317.317	1.63	0.59	1.52	
11947.00	90.000	340.590	6965.66	4652.71	3753.09	-3410.67	1705889.31	14366000.88	39°33'36.8380"N	80°46'3.7243"W	5071.33	317.737	0.24	-0.23	0.02	
12042.00	90.400	340.740	6965.32	4747.70	3842.73	-3442.12	1705857.87	14366090.49	39°33'37.7247"N	80°46'4.1230"W	5158.95	318.148	0.45	0.42	0.16	
12137.00	90.370	340.570	6964.69	4842.70	3932.37	-3473.59	1705826.41	14366180.09	39°33'38.6114"N	80°46'4.5218"W	5246.84	318.545	0.18	-0.03	-0.18	
12231.00	90.150	340.310	6964.26	4936.69	4020.94	-3505.06	1705794.95	14366268.63	39°33'39.4876"N	80°46'4.9207"W	5334.17	318.921	0.36	-0.23	-0.28	
12326.00	90.260	340.540	6963.90	5031.68	4110.45	-3536.89	1705763.14	14366358.10	39°33'40.3731"N	80°46'5.3241"W	5422.67	319.289	0.28	0.14	0.24	
12420.00	90.000	340.520	6963.67	5125.67	4199.08	-3568.22	1705731.82	14366446.69	39°33'41.2498"N	80°46'5.7212"W	5510.39	319.643	0.30	-0.30	-0.02	
12515.00	90.180	340.240	6963.52	5220.66	4288.56	-3600.12	1705699.93	14366536.14	39°33'42.1350"N	80°46'6.1256"W	5599.34	319.988	0.35	0.19	-0.29	
12610.00	90.280	340.470	6963.14	5315.65	4378.03	-3632.06	1705668.00	14366625.57	39°33'43.0200"N	80°46'6.5304"W	5688.49	320.321	0.26	0.11	0.24	
12704.00	90.180	340.320	6962.76	5409.64	4466.58	-3663.60	1705636.48	14366714.09	39°33'43.8960"N	80°46'6.9302"W	5776.87	320.641	0.19	-0.11	-0.16	
12799.00	90.950	340.300	6961.83	5504.63	4556.02	-3695.60	1705604.48	14366803.49	39°33'44.7808"N	80°46'7.3360"W	5866.41	320.953	0.81	0.81	-0.02	
12894.00	90.400	341.360	6960.71	5599.62	4645.74	-3726.79	1705573.30	14366893.18	39°33'45.6683"N	80°46'7.7313"W	5955.83	321.264	1.26	-0.58	1.12	
12989.00	89.660	339.030	6960.66	5694.60	4735.12	-3758.98	1705541.13	14366982.52	39°33'46.5524"N	80°46'8.1393"W	6045.77	321.556	2.57	-0.78	-2.45	
13083.00	90.740	339.440	6960.33	5788.54	4823.01	-3792.31	1705507.82	14367070.38	39°33'47.4219"N	80°46'8.5619"W	6135.39	321.822	1.23	1.15	0.44	
13178.00	90.370	341.750	6959.41	5883.52	4912.60	-3823.87	1705476.27	14367159.93	39°33'48.3082"N	80°46'8.9619"W	6225.40	322.104	2.46	-0.39	2.43	
13273.00	90.310	340.730	6958.85	5978.52	5002.55	-3854.42	1705445.73	14367249.85	39°33'49.1980"N	80°46'9.3491"W	6315.23	322.386	1.08	-0.06	-1.07	
13367.00	89.660	340.200	6958.87	6072.51	5091.14	-3885.85	1705414.31	14367338.40	39°33'50.0743"N	80°46'9.7475"W	6404.65	322.647	0.89	-0.69	-0.56	
13462.00	90.250	340.300	6958.95	6167.50	5180.55	-3917.95	1705382.22	14367427.78	39°33'50.9588"N	80°46'10.1545"W	6495.26	322.901	0.63	0.62	0.11	
13557.00	90.150	339.950	6958.61	6262.48	5269.89	-3950.25	1705349.94	14367517.08	39°33'51.8426"N	80°46'10.5640"W	6586.06	323.145	0.38	-0.11	-0.37	



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
13652.00	90.060	341.460	6958.44	6357.48	5359.55	-3981.64	1705318.56	14367606.71	39°33'52.7295"N	80°46'10.9618"W	6676.70	323.391	1.59	-0.09	1.59	
13746.00	90.180	342.060	6958.24	6451.47	5448.83	-4011.06	1705289.15	14367695.95	39°33'53.6126"N	80°46'11.3346"W	6765.97	323.642	0.65	0.13	0.64	
13841.00	90.430	341.990	6957.74	6546.46	5539.19	-4040.38	1705259.85	14367786.28	39°33'54.5064"N	80°46'11.7060"W	6856.19	323.892	0.27	0.26	-0.07	
13935.00	90.220	341.680	6957.20	6640.45	5628.51	-4069.68	1705230.55	14367875.55	39°33'55.3899"N	80°46'12.0772"W	6945.67	324.131	0.40	-0.22	-0.33	
14030.00	89.450	340.580	6957.48	6735.45	5718.40	-4100.40	1705199.84	14367965.41	39°33'56.2791"N	80°46'12.4666"W	7036.58	324.357	1.41	-0.81	-1.16	
14124.00	90.430	341.390	6957.58	6829.45	5807.27	-4131.03	1705169.23	14368054.24	39°33'57.1581"N	80°46'12.8548"W	7126.69	324.574	1.35	1.04	0.86	
14219.00	90.030	342.550	6957.20	6924.43	5897.60	-4160.43	1705139.84	14368144.54	39°33'58.0517"N	80°46'13.2273"W	7217.40	324.799	1.29	-0.42	1.22	
14313.00	89.970	340.810	6957.20	7018.43	5986.83	-4189.98	1705110.30	14368233.74	39°33'58.9343"N	80°46'13.6016"W	7307.40	325.013	1.85	-0.06	-1.85	
14408.00	90.580	341.540	6956.74	7113.42	6076.75	-4220.63	1705079.66	14368323.62	39°33'59.8237"N	80°46'13.9901"W	7398.69	325.218	1.00	0.64	0.77	
14502.00	89.970	340.930	6956.29	7207.42	6165.75	-4250.87	1705049.44	14368412.58	39°34'0.7041"N	80°46'14.3733"W	7489.08	325.416	0.92	-0.65	-0.65	
14597.00	90.000	340.730	6956.31	7302.42	6255.48	-4282.07	1705018.25	14368502.28	39°34'1.5918"N	80°46'14.7687"W	7580.71	325.607	0.21	0.03	-0.21	
14692.00	89.690	340.490	6956.57	7397.42	6345.09	-4313.61	1704986.73	14368591.86	39°34'2.4782"N	80°46'15.1685"W	7672.51	325.791	0.41	-0.33	-0.25	
14786.00	90.620	341.460	6956.32	7491.41	6433.96	-4344.25	1704956.10	14368680.68	39°34'3.3572"N	80°46'15.5569"W	7763.26	325.973	1.43	0.99	1.03	
14881.00	90.400	341.150	6955.47	7586.41	6523.94	-4374.70	1704925.66	14368770.63	39°34'4.2473"N	80°46'15.9428"W	7854.92	326.156	0.40	-0.23	-0.33	
14976.00	90.150	341.190	6955.01	7681.41	6613.85	-4405.36	1704895.01	14368860.51	39°34'5.1367"N	80°46'16.3314"W	7946.71	326.333	0.27	-0.26	0.04	
15071.00	90.000	341.260	6954.89	7776.41	6703.80	-4435.93	1704864.45	14368950.42	39°34'6.0264"N	80°46'16.7189"W	8038.56	326.507	0.17	-0.16	0.07	
15165.00	90.250	341.610	6954.68	7870.41	6792.91	-4465.86	1704834.53	14369039.49	39°34'6.9079"N	80°46'17.0982"W	8129.42	326.678	0.46	0.27	0.37	
15260.00	90.400	341.660	6954.15	7965.40	6883.07	-4495.79	1704804.61	14369129.62	39°34'7.7997"N	80°46'17.4774"W	8221.24	326.849	0.17	0.16	0.05	
15354.00	90.340	341.690	6953.54	8059.40	6972.30	-4525.35	1704775.07	14369218.81	39°34'8.6823"N	80°46'17.8519"W	8312.14	327.015	0.07	-0.06	0.03	
15449.00	89.970	340.920	6953.28	8154.39	7062.29	-4555.80	1704744.63	14369308.76	39°34'9.5724"N	80°46'18.2378"W	8404.23	327.174	0.90	-0.39	-0.81	
15543.00	90.220	341.200	6953.13	8248.39	7151.20	-4586.31	1704714.13	14369397.64	39°34'10.4519"N	80°46'18.6245"W	8495.52	327.327	0.40	0.27	0.30	
15638.00	90.220	341.650	6952.76	8343.39	7241.25	-4616.57	1704683.88	14369487.65	39°34'11.3427"N	80°46'19.0081"W	8587.69	327.481	0.47	0.00	0.47	
15733.00	90.000	341.180	6952.58	8438.39	7331.29	-4646.85	1704653.62	14369577.66	39°34'12.2334"N	80°46'19.3918"W	8679.92	327.632	0.55	-0.23	-0.49	
15827.00	90.250	341.320	6952.37	8532.39	7420.30	-4677.06	1704623.41	14369666.64	39°34'13.1138"N	80°46'19.7747"W	8771.30	327.777	0.30	0.27	0.15	
15922.00	90.310	341.830	6951.91	8627.39	7510.43	-4707.09	1704593.40	14369756.73	39°34'14.0054"N	80°46'20.1552"W	8863.59	327.923	0.54	0.06	0.54	
16017.00	90.150	341.030	6951.53	8722.38	7600.48	-4737.34	1704563.16	14369846.75	39°34'14.8961"N	80°46'20.5386"W	8955.99	328.065	0.86	-0.17	-0.84	
16111.00	90.180	341.340	6951.26	8816.38	7689.46	-4767.66	1704532.86	14369935.69	39°34'15.7763"N	80°46'20.9229"W	9047.56	328.200	0.33	0.03	0.33	
16206.00	90.060	341.040	6951.06	8911.38	7779.39	-4798.29	1704502.24	14370025.58	39°34'16.6658"N	80°46'21.3111"W	9140.15	328.334	0.34	-0.13	-0.32	
16300.00	90.460	341.580	6950.63	9005.38	7868.43	-4828.41	1704472.13	14370114.59	39°34'17.5465"N	80°46'21.6929"W	9231.78	328.465	0.71	0.43	0.57	
16395.00	89.910	341.080	6950.33	9100.38	7958.43	-4858.82	1704441.73	14370204.55	39°34'18.4368"N	80°46'22.0783"W	9324.41	328.595	0.78	-0.58	-0.53	



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 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
16490.00	90.090	341.650	6950.33	9195.38	8048.45	-4889.17	1704411.38	14370294.54	39°34'19.3272"N	80°46'22.4631"W	9417.09	328.723	0.63	0.19	0.60	
16585.00	89.880	341.310	6950.35	9290.38	8138.53	-4919.35	1704381.22	14370384.58	39°34'20.2183"N	80°46'22.8455"W	9509.76	328.849	0.42	-0.22	-0.36	
16679.00	90.030	341.360	6950.42	9384.38	8227.58	-4949.43	1704351.15	14370473.60	39°34'21.0992"N	80°46'23.2268"W	9601.56	328.970	0.17	0.16	0.05	
16774.00	89.970	341.180	6950.42	9479.38	8317.55	-4979.94	1704320.66	14370563.53	39°34'21.9891"N	80°46'23.6135"W	9694.40	329.090	0.20	-0.06	-0.19	
16868.00	90.180	341.670	6950.30	9573.38	8406.65	-5009.88	1704290.73	14370652.60	39°34'22.8705"N	80°46'23.9930"W	9786.25	329.207	0.57	0.22	0.52	
16963.00	90.150	341.190	6950.03	9668.37	8496.71	-5040.14	1704260.48	14370742.62	39°34'23.7613"N	80°46'24.3764"W	9879.12	329.324	0.51	-0.03	-0.51	
17057.00	91.290	342.460	6948.85	9762.36	8586.01	-5069.45	1704231.18	14370831.88	39°34'24.6446"N	80°46'24.7479"W	9970.90	329.441	1.82	1.21	1.35	
17152.00	90.280	341.670	6947.54	9857.34	8676.38	-5098.70	1704201.94	14370922.22	39°34'25.5385"N	80°46'25.1186"W	10063.62	329.559	1.35	-1.06	-0.83	
17247.00	90.220	341.560	6947.13	9952.33	8766.53	-5128.67	1704171.99	14371012.33	39°34'26.4302"N	80°46'25.4983"W	10156.54	329.671	0.13	-0.06	-0.12	
17341.00	89.880	341.240	6947.05	10046.33	8855.62	-5158.65	1704142.02	14371101.39	39°34'27.3114"N	80°46'25.8783"W	10248.59	329.778	0.50	-0.36	-0.34	
17436.00	89.940	340.760	6947.20	10141.33	8945.45	-5189.58	1704111.10	14371191.18	39°34'28.1999"N	80°46'26.2704"W	10341.79	329.880	0.51	0.06	-0.51	
17531.00	90.370	341.600	6946.94	10236.33	9035.36	-5220.22	1704080.47	14371281.06	39°34'29.0894"N	80°46'26.6589"W	10434.97	329.983	0.99	0.45	0.88	
17626.00	90.490	341.300	6946.23	10331.32	9125.43	-5250.44	1704050.26	14371371.09	39°34'29.9802"N	80°46'27.0419"W	10528.09	330.085	0.34	0.13	-0.32	
17720.00	90.710	341.490	6945.24	10425.32	9214.51	-5280.43	1704020.28	14371460.14	39°34'30.8614"N	80°46'27.4220"W	10620.27	330.185	0.31	0.23	0.20	
17815.00	90.370	341.100	6944.35	10520.31	9304.49	-5310.90	1703989.83	14371550.08	39°34'31.7514"N	80°46'27.8082"W	10713.50	330.283	0.54	-0.36	-0.41	
17910.00	90.310	340.790	6943.78	10615.31	9394.28	-5341.91	1703958.83	14371639.83	39°34'32.6396"N	80°46'28.2014"W	10806.87	330.376	0.33	-0.06	-0.33	
18005.00	90.460	340.840	6943.15	10710.31	9484.00	-5373.13	1703927.62	14371729.52	39°34'33.5272"N	80°46'28.5972"W	10900.31	330.466	0.17	0.16	0.05	
18099.00	90.340	340.810	6942.49	10804.30	9572.78	-5404.00	1703896.76	14371818.27	39°34'34.4054"N	80°46'28.9887"W	10992.79	330.555	0.13	-0.13	-0.03	
18194.00	90.520	341.120	6941.78	10899.30	9662.59	-5434.99	1703865.79	14371908.04	39°34'35.2937"N	80°46'29.3815"W	11086.24	330.643	0.38	0.19	0.33	
18289.00	90.550	341.160	6940.89	10994.30	9752.48	-5465.70	1703835.09	14371997.90	39°34'36.1829"N	80°46'29.7707"W	11179.66	330.732	0.05	0.03	0.04	
18383.00	90.520	341.130	6940.01	11088.29	9841.43	-5496.07	1703804.73	14372086.81	39°34'37.0628"N	80°46'30.1558"W	11272.12	330.818	0.05	-0.03	-0.03	
18478.00	90.620	341.110	6939.07	11183.29	9931.32	-5526.81	1703774.00	14372176.66	39°34'37.9519"N	80°46'30.5455"W	11365.60	330.904	0.11	0.11	-0.02	
18573.00	90.370	341.120	6938.25	11278.28	10021.20	-5557.56	1703743.26	14372266.51	39°34'38.8410"N	80°46'30.9353"W	11459.10	330.988	0.26	-0.26	0.01	
18667.00	90.520	341.510	6937.52	11372.28	10110.24	-5587.67	1703713.16	14372355.52	39°34'39.7217"N	80°46'31.3171"W	11551.59	331.072	0.44	0.16	0.41	
18762.00	90.220	341.070	6936.90	11467.28	10200.22	-5618.15	1703682.70	14372445.46	39°34'40.6118"N	80°46'31.7034"W	11645.09	331.155	0.56	-0.32	-0.46	
18857.00	90.370	340.910	6936.41	11562.28	10290.04	-5649.09	1703651.77	14372535.24	39°34'41.5002"N	80°46'32.0957"W	11738.70	331.234	0.23	0.16	-0.17	
18951.00	90.550	341.320	6935.66	11656.27	10378.98	-5679.51	1703621.36	14372624.14	39°34'42.3799"N	80°46'32.4814"W	11831.32	331.312	0.48	0.19	0.44	
19046.00	89.910	340.880	6935.28	11751.27	10468.85	-5710.29	1703590.60	14372713.98	39°34'43.2690"N	80°46'32.8715"W	11924.94	331.390	0.82	-0.67	-0.46	
19141.00	90.180	341.230	6935.20	11846.27	10558.71	-5741.13	1703559.77	14372803.80	39°34'44.1578"N	80°46'33.2626"W	12018.60	331.466	0.47	0.28	0.37	
19235.00	89.850	340.850	6935.18	11940.27	10647.61	-5771.67	1703529.24	14372892.66	39°34'45.0371"N	80°46'33.6498"W	12111.30	331.540	0.54	-0.35	-0.40	



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

WELLPATH DATA (223 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
19330.00	90.090	341.030	6935.23	12035.27	10737.40	-5802.69	1703498.23	14372982.42	39°34'45.9253"N	80°46'34.0431"W	12205.04	331.612	0.32	0.25	0.19	
19425.00	90.180	340.730	6935.00	12130.27	10827.16	-5833.81	1703467.12	14373072.14	39°34'46.8132"N	80°46'34.4377"W	12298.81	331.684	0.33	0.09	-0.32	
19520.00	90.280	341.170	6934.62	12225.26	10916.95	-5864.82	1703436.13	14373161.90	39°34'47.7014"N	80°46'34.8308"W	12392.58	331.754	0.47	0.11	0.46	
19614.00	89.850	340.800	6934.52	12319.26	11005.82	-5895.44	1703405.51	14373250.74	39°34'48.5805"N	80°46'35.2192"W	12485.37	331.824	0.60	-0.46	-0.39	
19709.00	90.400	341.530	6934.31	12414.26	11095.74	-5926.11	1703374.86	14373340.62	39°34'49.4699"N	80°46'35.6080"W	12579.12	331.894	0.96	0.58	0.77	
19804.00	90.220	341.050	6933.79	12509.26	11185.71	-5956.59	1703344.40	14373430.56	39°34'50.3599"N	80°46'35.9943"W	12672.85	331.964	0.54	-0.19	-0.51	
19898.00	89.750	340.970	6933.82	12603.26	11274.60	-5987.17	1703313.82	14373519.41	39°34'51.2391"N	80°46'36.3822"W	12765.69	332.030	0.51	-0.50	-0.09	
19993.00	90.090	341.350	6933.95	12698.26	11364.51	-6017.85	1703283.15	14373609.28	39°34'52.1285"N	80°46'36.7711"W	12859.49	332.097	0.54	0.36	0.40	
20088.00	89.850	341.200	6934.00	12793.26	11454.48	-6048.35	1703252.67	14373699.22	39°34'53.0184"N	80°46'37.1578"W	12953.29	332.164	0.30	-0.25	-0.16	
20182.00	90.030	341.130	6934.10	12887.26	11543.45	-6078.70	1703222.33	14373788.15	39°34'53.8984"N	80°46'37.5425"W	13046.14	332.229	0.21	0.19	-0.07	
20277.00	90.030	341.270	6934.05	12982.26	11633.38	-6109.31	1703191.73	14373878.04	39°34'54.7880"N	80°46'37.9307"W	13139.98	332.294	0.15	0.00	0.15	
20320.00	89.940	341.150	6934.06	13025.26	11674.09	-6123.16	1703177.89	14373918.74	39°34'55.1907"N	80°46'38.1063"W	13182.47	332.323	0.35	-0.21	-0.28	
20345.00‡	89.940	341.150	6934.09	13050.26	11697.74	-6131.24	1703169.81	14373942.39	39°34'55.4247"N	80°46'38.2087"W	13207.17	332.339	0.00	0.00	0.00	Projected MD at TD: 20345'

HOLE & CASING SECTIONS - Ref Wellbore: Busch Unit 1H AWB Ref Wellpath: Busch Unit 1H AWP Proj: 20345'									
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	130.00	100.00	30.00	130.00	0.00	0.00	-0.73	0.08
17.5in Open Hole	130.00	483.00	353.00	130.00	482.99	-0.73	0.08	-3.09	0.49
13.375in Casing Surface	30.00	463.00	433.00	30.00	462.99	0.00	0.00	-3.00	0.45
12.25in Open Hole	483.00	2662.00	2179.00	482.99	2591.59	-3.09	0.49	-241.28	-404.15
9.625in Casing Intermediate	30.00	2632.00	2602.00	30.00	2563.30	0.00	0.00	-235.67	-395.92
8.75in Open Hole	2662.00	5505.00	2843.00	2591.59	5286.03	-241.28	-404.15	-692.63	-1183.61
8.5in Open Hole	5505.00	20345.00	14840.00	5286.03	6934.09	-692.63	-1183.61	11697.74	-6131.24
5.5in Casing Production	30.00	20325.00	20295.00	30.00	6934.07	0.00	0.00	11678.82	-6124.78



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Busch Unit 1H POE Rev-2	6925.00	-475.37	-1911.67	1707387.71	14361774.10	39°32'55.0084"N	80°45'44.7281"W	point
Busch Unit 1H POE Plat	6936.00	-498.93	-1980.35	1707319.06	14361750.55	39°32'54.7774"N	80°45'45.6056"W	point
Busch Unit 1H AZI Rev-2	6953.00	29.51	-2160.46	1707139.02	14362278.78	39°33'0.0047"N	80°45'47.8870"W	point
Busch Unit 1H BHL Rev-2	6953.00	11668.58	-6126.60	1703174.45	14373913.23	39°34'55.1363"N	80°46'38.1504"W	point
Busch Unit 1H LP Rev-2	6953.00	-303.27	-2010.18	1707289.24	14361946.13	39°32'56.7119"N	80°45'45.9799"W	point
Busch Unit 1H 50' L/R Hard Line	7252.00	5847.28	-4142.93	1705157.34	14368094.24	39°33'57.5539"N	80°46'13.0053"W	rectangle
	2D Rectangle 12300 x 100.							

WELLPATH COMPOSITION - Ref Wellbore: Busch Unit 1H AWB Ref Wellpath: Busch Unit 1H AWP Proj: 20345'						
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date	
30.00	383.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-383')	Busch Unit 1H AWB	20/Jul/2021	
383.00	2588.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (383')(598'-2588')	Busch Unit 1H AWB	20/Jul/2021	
2588.00	5402.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (2588')(2656'-5402')	Busch Unit 1H AWB	20/Sep/2021	
5402.00	20345.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (5402')(5513'-20320')	Busch Unit 1H AWB	20/Sep/2021	



Actual Wellpath Report

Busch Unit 1H AWP Proj: 20345'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Busch Unit 1H
Field	Wetzel	API	47-103-03404-0000
Facility	Gadd Pad	Wellbore	Busch Unit 1H AWB
Slot	Slot #09		

COMMENTS

Wellpath general comments

API: 47-103-03404-0000

BH Job #: 110972226

Rig: H&P 519

Duration: 9/23/2021-9/27/2021

Gyrodatta MS Gyro <17-1/2"> (100'-383')

APS EM <12-1/4"> (383')(598'-2588')

APS EM <8-3/4"> (2588')(2656'-5402')

BH AT Curve <8-1/2"> (5402')(5513'-20320')

Sycamore: 6921' MD

Middlesex: 7069' MD

Burkett: 7213' MD

Tully: 7271' MD

Marcellus POE: 7455' MD

Projected MD at TD: 20345'