ANTERO RESOURCES CORPORATION

Area: Wetzel County, WV
Field: Wetzel
Facility: Harbour Pad
Slot: Slot B

Well: Twain Unit 1H
UWI: 47-103-03792-0000
Wellbore: Twain Unit 1H PWB
Wellpath: Twain Unit 1H PWP Rev-C.0

Plot reference wellpath is Twain Unit 1H PWP Rev-C.0	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: 1440 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot B): -1410 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edsaryar on 2026-03-04; Database: WA_MPL_EASTERNUS_Defn

Scale 1 inch = 2000

Easting (ft)

-3000 -2000 -1000 0 1000 2000 3000 4000 5000 6000

BH Lucida <8-1/2"> (6716')(6749'-18677') : 6652.15ft TVD, 620.09ft N, 854.32ft E
APS EM <8-3/4"> (3673')(3784'-6716') : 3731.80ft TVD, 325.66ft N, 451.51ft E
APS EM <12-1/4"> (464')(503'-3673') : 503.00ft TVD, 1.37ft S, 0.48ft W
Gyrodata MS Gyro <17-1/2"> (100'-464') : 100.00ft TVD, 0.10ft S, 0.03ft W

POE : 72'

Marcellus POE: 7616' MD : 7342.32ft TVD, 255.23ft N, 1048.96ft E

Slot B

Twain Unit 1H 50' UR Hard Line

BHL : 66'

Scale 1 inch = 1500

True Vertical Depth (ft)

-750 0 750 1500 2250 3000 3750 4500 5250 6000 6750 7500

Northing (ft)

1000 0 -1000 -2000 -3000 -4000 -5000 -6000 -7000 -8000 -9000 -10000 -11000

Well Data

Slot	Well	Wellbore	Wellpath
Slot B	Twain Unit 1H	Twain Unit 1H AWB	Twain Unit 1H AWP Proj: 18702'
Slot B	Twain Unit 1H	Twain Unit 1H PWB	Twain Unit 1H PWP Rev-C.0

Gyrodata MS Gyro <17-1/2"> (100'-464') : 0.17° Inc, 100.00ft MD, 100.00ft TVD, 0.09ft VS

APS EM <12-1/4"> (464')(503'-3673') : 0.44° Inc, 503.00ft MD, 503.00ft TVD, 1.14ft VS

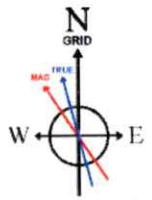
Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Harbour Pad			1724986.450	14383874.430	39°36'32.9960N	80°41'59.0388W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot B	-2.36	-14.81	1724971.650	14383872.070	39°36'32.9732N	80°41'59.2280W
Comment	Twain Unit 1H					
H&P 519 (RKB) to Ground level (At Slot: Slot B)					30ft	
Mean Sea Level to Ground level (At Slot: Slot B)					-1410ft	
H&P 519 (RKB) to Mean Sea Level					1440ft	

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	3673.00	8.910	49.450	3622.04	314.20	439.62	0.16	-155.13
Proj. to Bottom	3749.00	8.910	49.450	3697.12	321.85	448.57	0.00	-159.48
Drill Out	3829.00	8.910	49.450	3776.15	329.91	457.98	0.00	-164.05
Turn	3869.60	9.483	53.053	3816.23	333.96	463.04	2.00	-166.25
Curve KOP	6866.08	9.483	53.053	6771.77	630.70	857.58	0.00	-319.44
POE	7614.62	71.693	161.133	7342.00	280.19	1049.93	10.00	74.44
Landing Pt.	7797.70	90.000	161.133	7371.00	109.89	1108.13	10.00	254.41
BHL	18738.74	90.000	161.133	7371.00	-10243.34	4646.08	0.00	11195.46

APS EM <8-3/4"> (3673')(3784'-6716') : 8.23° Inc, 3784.00ft MD, 3731.80ft TVD, -162.13ft VS



User specified (HDGM) Dip: 66.15° Field: 51444.2 nT
Magnetic North is 8.07 degrees West of True North (at 2025-12-31)
Grid North is 0.19 degrees East of True North
To correct azimuth from True to Grid subtract 0.19 degrees
To correct azimuth from Magnetic to Grid subtract 8.26 degrees

API: 47-103-03792-0000
BH Job #: 112930782
Rig: H&P 519
Duration: 2/1/2026-2/5/2026

BH Lucida <8-1/2"> (6716')(6749'-18677') : 8.26° Inc, 6749.00ft MD, 6652.15ft TVD, -310.46ft VS

Marcellus POE: 7616' MD : 71.96° Inc, 7616.00ft MD, 7342.32ft TVD, 97.74ft VS

Projected MD at TD: 18702' : 7354.23ft TVD, 10230.99ft S, 4627.17ft E

Projected MD at TD: 18702' : 89.72° Inc, 18702.00ft MD, 7354.23ft TVD, 11177.66ft VS

-750 0 750 1500 2250 3000 3750 4500 5250 6000 6750 7500 8250 9000 9750 10500 11250 12000

Vertical Section (ft)

Azimuth 161.130° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

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Actual Wellpath Report

Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**ANTERO RESOURCES CORPORATION**	Well	**Twain Unit 1H**
Field	**Wetzel**	UWI	**47-103-03792-0000**
Facility	**Harbour Pad**	Wellbore	**Twain Unit 1H AWB**
Slot	**Slot B**		

DIRECTIONAL DIFFICULTY INDEX

Directional Difficulty Index @ TD = **6.94**

Reference: IADC/SPE 59196

Values	Wellpath characterized as:
< 6.0	Relatively short or simple profiles with low tortuosity
< 6.0-6.4	Shorter with high tortuosity or longer with lower tortuosity

Values	Wellpath characterized as:
6.4-6.8	Longer with relatively tortuous well paths
> 6.8	Long tortuous profiles, high degree of difficulty

HOLE & CASING SECTIONS - Ref Wellbore: Twain Unit 1H AWB Ref Wellpath: Twain Unit 1H AWP Proj: 18702'

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	-0.19	-0.05
17 1/2in Open Hole	130.00	505.00	375.00	130.00	505.00	-0.19	-0.05	-1.38	-0.49
13 3/8in Casing Surface	30.00	485.00	455.00	30.00	485.00	0.00	0.00	-1.24	-0.44
12 1/4in Open Hole	505.00	3749.00	3244.00	505.00	3697.17	-1.38	-0.49	321.99	448.01
9 5/8in Casing Intermediate	30.00	3719.00	3689.00	30.00	3667.50	0.00	0.00	318.88	444.83
8 3/4in Open Hole	3749.00	6790.00	3041.00	3697.17	6692.74	321.99	448.01	622.22	859.66
8 1/2in Open Hole	6790.00	18702.00	11912.00	6692.74	7354.23	622.22	859.66	-10230.99	4627.17
5 1/2in Casing Production	30.00	18682.00	18652.00	30.00	7354.13	0.00	0.00	-10212.08	4620.66

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* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water
** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

09/25/2026

Actual Wellpath Report

Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet [32067]	Software System	WellArchitect® 7.0.1
North Reference	Grid	Report Generated By	Edsaryar on 2026-03-04 at 2:20:53 PM
Scale	0.999608	Last Updated	2026-03-04
Convergence at slot	0.19° 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	-2.36	-14.81	1724971.65	14383872.07	39°36'32.9732"N	80°41'59.2280"W
Facility Reference Pt			1724986.45	14383874.43	39°36'32.9960"N	80°41'59.0388"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	1440.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1440.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot B)	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	161.130°

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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	194.820	0.00	0.00	0.00	0.00	1724971.65	14383872.07	39°36'32.9732"N	80°41'59.2280"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	194.820	30.00	0.00	0.00	0.00	1724971.65	14383872.07	39°36'32.9732"N	80°41'59.2280"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.170	194.820	100.00	0.09	-0.10	-0.03	1724971.62	14383871.97	39°36'32.9722"N	80°41'59.2284"W	0.10	194.820	0.24	0.24	0.00	Gyrodata MS Gyro <17-1/2"> (100'-464')
200.00	0.170	194.100	200.00	0.33	-0.39	-0.10	1724971.55	14383871.68	39°36'32.9693"N	80°41'59.2293"W	0.40	194.553	0.00	0.00	-0.72	
300.00	0.190	238.220	300.00	0.50	-0.62	-0.28	1724971.37	14383871.45	39°36'32.9671"N	80°41'59.2316"W	0.68	204.169	0.14	0.02	44.12	
400.00	0.170	163.490	400.00	0.68	-0.85	-0.38	1724971.27	14383871.22	39°36'32.9648"N	80°41'59.2329"W	0.93	203.931	0.22	-0.02	-74.73	
464.00	0.330	195.090	464.00	0.93	-1.12	-0.40	1724971.25	14383870.95	39°36'32.9621"N	80°41'59.2332"W	1.19	199.583	0.32	0.25	49.38	
503.00	0.440	201.010	503.00	1.14	-1.37	-0.48	1724971.17	14383870.70	39°36'32.9597"N	80°41'59.2342"W	1.45	199.382	0.30	0.28	15.18	APS EM <12-1/4"> (464')(503'-3673')
591.00	0.340	171.110	591.00	1.65	-1.94	-0.56	1724971.09	14383870.13	39°36'32.9540"N	80°41'59.2353"W	2.02	196.143	0.25	-0.11	-33.98	
681.00	2.100	55.440	680.98	1.47	-1.27	0.84	1724972.49	14383870.80	39°36'32.9606"N	80°41'59.2174"W	1.52	146.522	2.52	1.96	-128.52	
770.00	4.890	52.470	769.80	-0.18	1.97	5.19	1724976.84	14383874.04	39°36'32.9925"N	80°41'59.1616"W	5.55	69.224	3.14	3.13	-3.34	
860.00	7.330	49.490	859.28	-3.53	8.04	12.60	1724984.24	14383880.10	39°36'33.0522"N	80°41'59.0667"W	14.94	57.467	2.73	2.71	-3.31	
950.00	9.710	50.610	948.28	-8.31	16.58	22.83	1724994.47	14383888.65	39°36'33.1363"N	80°41'58.9356"W	28.22	54.007	2.65	2.64	1.24	
1040.00	10.250	52.780	1036.92	-13.49	26.24	35.07	1725006.71	14383898.30	39°36'33.2314"N	80°41'58.7788"W	43.80	53.194	0.73	0.60	2.41	
1134.00	10.010	52.250	1129.46	-18.77	36.30	48.19	1725019.82	14383908.36	39°36'33.3304"N	80°41'58.6107"W	60.34	53.009	0.27	-0.26	-0.56	
1229.00	9.690	51.530	1223.06	-24.12	46.33	60.98	1725032.61	14383918.38	39°36'33.4291"N	80°41'58.4469"W	76.59	52.773	0.36	-0.34	-0.76	
1323.00	9.570	51.560	1315.73	-29.39	56.11	73.29	1725044.92	14383928.16	39°36'33.5253"N	80°41'58.2892"W	92.31	52.564	0.13	-0.13	0.03	
1418.00	10.550	56.590	1409.27	-34.22	65.81	86.74	1725058.36	14383937.85	39°36'33.6207"N	80°41'58.1170"W	108.88	52.812	1.38	1.03	5.29	
1512.00	10.860	55.870	1501.64	-38.71	75.52	101.25	1725072.86	14383947.56	39°36'33.7162"N	80°41'57.9311"W	126.31	53.284	0.36	0.33	-0.77	
1607.00	10.040	52.460	1595.06	-43.72	85.58	115.23	1725086.83	14383957.62	39°36'33.8152"N	80°41'57.7521"W	143.53	53.397	1.08	-0.86	-3.59	
1701.00	11.220	55.900	1687.45	-48.74	95.70	129.30	1725100.90	14383967.74	39°36'33.9148"N	80°41'57.5719"W	160.86	53.492	1.42	1.26	3.66	
1796.00	12.180	55.750	1780.47	-53.83	106.53	145.24	1725116.83	14383978.55	39°36'34.0212"N	80°41'57.3678"W	180.12	53.741	1.01	1.01	-0.16	
1890.00	11.510	53.220	1872.47	-59.34	117.72	160.94	1725132.53	14383989.75	39°36'34.1313"N	80°41'57.1667"W	199.40	53.816	0.90	-0.71	-2.69	
1985.00	12.540	56.600	1965.39	-64.85	129.08	177.15	1725148.73	14384001.09	39°36'34.2430"N	80°41'56.9592"W	219.18	53.922	1.31	1.08	3.56	
2079.00	12.610	55.290	2057.13	-70.21	140.54	194.10	1725165.67	14384012.55	39°36'34.3557"N	80°41'56.7421"W	239.64	54.094	0.31	0.07	-1.39	
2174.00	11.350	51.430	2150.06	-76.19	152.27	209.94	1725181.50	14384024.28	39°36'34.4711"N	80°41'56.5392"W	259.34	54.046	1.57	-1.33	-4.06	
2269.00	12.890	56.870	2242.94	-81.95	163.89	226.12	1725197.68	14384035.90	39°36'34.5854"N	80°41'56.3320"W	279.27	54.066	2.02	1.62	5.73	
2363.00	13.040	58.200	2334.55	-86.91	175.21	243.91	1725215.47	14384047.21	39°36'34.6967"N	80°41'56.1041"W	300.32	54.309	0.36	0.16	1.41	
2458.00	12.600	54.530	2427.18	-92.26	186.87	261.46	1725233.01	14384058.87	39°36'34.8114"N	80°41'55.8794"W	321.37	54.446	0.97	-0.46	-3.86	
2552.00	12.240	54.290	2518.98	-98.08	198.63	277.90	1725249.44	14384070.63	39°36'34.9271"N	80°41'55.6689"W	341.59	54.444	0.39	-0.38	-0.26	

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Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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
2647.00	11.450	53.140	2611.96	-103.91	210.17	293.62	1725265.16	14384082.16	39°36'35.0406"N	80°41'55.4675"W	361.09	54.406	0.87	-0.83	-1.21	
2742.00	11.430	52.950	2705.07	-109.76	221.50	308.68	1725280.21	14384093.48	39°36'35.1520"N	80°41'55.2746"W	379.93	54.338	0.04	-0.02	-0.20	
2836.00	11.170	51.420	2797.25	-115.74	232.79	323.23	1725294.75	14384104.77	39°36'35.2631"N	80°41'55.0882"W	398.33	54.239	0.42	-0.28	-1.63	
2931.00	10.330	57.880	2890.58	-120.79	243.05	337.64	1725309.16	14384115.03	39°36'35.3641"N	80°41'54.9037"W	416.02	54.251	1.54	-0.88	6.80	
3025.00	10.090	59.310	2983.10	-124.41	251.74	351.86	1725323.37	14384123.71	39°36'35.4495"N	80°41'54.7217"W	432.64	54.418	0.37	-0.26	1.52	
3120.00	10.070	58.570	3076.63	-127.92	260.32	366.10	1725337.61	14384132.28	39°36'35.5338"N	80°41'54.5393"W	449.22	54.585	0.14	-0.02	-0.78	
3214.00	9.910	56.460	3169.20	-131.76	269.07	379.86	1725351.36	14384141.04	39°36'35.6199"N	80°41'54.3632"W	465.50	54.688	0.42	-0.17	-2.24	
3309.00	9.570	55.410	3262.83	-135.97	278.07	393.17	1725364.67	14384150.03	39°36'35.7084"N	80°41'54.1927"W	481.57	54.730	0.40	-0.36	-1.11	
3404.00	9.590	53.630	3356.51	-140.49	287.25	406.04	1725377.53	14384159.20	39°36'35.7986"N	80°41'54.0278"W	497.37	54.723	0.31	0.02	-1.87	
3498.00	9.390	51.670	3449.22	-145.39	296.65	418.36	1725389.85	14384168.60	39°36'35.8911"N	80°41'53.8700"W	512.86	54.661	0.40	-0.21	-2.09	
3593.00	8.960	50.220	3543.01	-150.62	306.19	430.13	1725401.61	14384178.13	39°36'35.9850"N	80°41'53.7193"W	527.98	54.555	0.51	-0.45	-1.53	
3673.00	8.910	49.450	3622.04	-155.13	314.20	439.62	1725411.10	14384186.15	39°36'36.0639"N	80°41'53.5976"W	540.36	54.447	0.16	-0.06	-0.96	
3784.00	8.230	42.340	3731.80	-162.13	325.66	451.51	1725422.98	14384197.60	39°36'36.1768"N	80°41'53.4453"W	556.70	54.198	1.13	-0.61	-6.41	APS EM <8-3/4"> (3673')(3784'-6716')
3879.00	9.790	48.030	3825.63	-168.57	336.09	462.09	1725433.56	14384208.03	39°36'36.2795"N	80°41'53.3096"W	571.39	53.971	1.89	1.64	5.99	
3973.00	13.410	51.940	3917.69	-175.30	348.16	476.62	1725448.08	14384220.09	39°36'36.3983"N	80°41'53.1235"W	590.24	53.853	3.94	3.85	4.16	
4068.00	14.060	52.640	4009.98	-182.58	361.95	494.47	1725465.92	14384233.88	39°36'36.5340"N	80°41'52.8948"W	612.79	53.796	0.71	0.68	0.74	
4162.00	13.830	61.130	4101.22	-188.15	374.31	513.38	1725484.83	14384246.23	39°36'36.6555"N	80°41'52.6526"W	635.35	53.904	2.19	-0.24	9.03	
4257.00	13.590	61.250	4193.51	-192.04	385.16	533.11	1725504.55	14384257.07	39°36'36.7621"N	80°41'52.4001"W	657.69	54.153	0.25	-0.25	0.13	
4351.00	13.040	57.500	4284.98	-196.43	396.17	551.74	1725523.17	14384268.08	39°36'36.8703"N	80°41'52.1616"W	679.24	54.320	1.09	-0.59	-3.99	
4446.00	10.890	61.220	4377.92	-200.50	406.25	568.65	1725540.07	14384278.16	39°36'36.9693"N	80°41'51.9452"W	698.85	54.458	2.40	-2.26	3.92	
4541.00	10.730	61.880	4471.23	-203.47	414.73	584.31	1725555.73	14384286.64	39°36'37.0527"N	80°41'51.7447"W	716.54	54.633	0.21	-0.17	0.69	
4635.00	9.090	66.840	4563.83	-205.43	421.78	598.86	1725570.27	14384293.68	39°36'37.1218"N	80°41'51.5585"W	732.48	54.843	1.97	-1.74	5.28	
4730.00	7.770	70.590	4657.80	-206.05	426.87	611.81	1725583.22	14384298.77	39°36'37.1717"N	80°41'51.3927"W	746.01	55.096	1.50	-1.39	3.95	
4825.00	8.020	48.010	4751.92	-208.71	433.44	622.80	1725594.20	14384305.33	39°36'37.2362"N	80°41'51.2521"W	758.78	55.164	3.25	0.26	-23.77	
4919.00	6.460	40.480	4845.17	-213.98	441.85	631.11	1725602.51	14384313.74	39°36'37.3191"N	80°41'51.1456"W	770.40	55.004	1.94	-1.66	-8.01	
5014.00	7.910	44.820	4939.42	-219.61	450.55	639.18	1725610.58	14384322.44	39°36'37.4048"N	80°41'51.0420"W	782.02	54.821	1.63	1.53	4.57	
5108.00	7.640	48.210	5032.56	-224.91	459.30	648.40	1725619.80	14384331.19	39°36'37.4910"N	80°41'50.9239"W	794.59	54.688	0.57	-0.29	3.61	
5203.00	6.440	47.660	5126.84	-229.49	467.10	657.05	1725628.44	14384338.98	39°36'37.5678"N	80°41'50.8130"W	806.16	54.591	1.27	-1.26	-0.58	
5297.00	7.770	47.590	5220.12	-234.13	474.93	665.64	1725637.02	14384346.82	39°36'37.6449"N	80°41'50.7030"W	817.70	54.492	1.41	1.41	-0.07	
5392.00	10.240	51.200	5313.94	-239.57	484.56	676.96	1725648.34	14384356.44	39°36'37.7397"N	80°41'50.5579"W	832.51	54.406	2.67	2.60	3.80	

Actual Wellpath Report

Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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
5487.00	11.230	47.120	5407.28	-246.21	496.14	690.32	1725661.70	14384368.02	39°36'37.8537"N	80°41'50.3867"W	850.12	54.295	1.31	1.04	-4.29	
5581.00	9.780	45.240	5499.70	-253.42	507.99	702.70	1725674.07	14384379.86	39°36'37.9704"N	80°41'50.2280"W	867.09	54.136	1.58	-1.54	-2.00	
5676.00	10.040	50.660	5593.28	-259.84	518.92	714.83	1725686.20	14384390.79	39°36'38.0781"N	80°41'50.0725"W	883.33	54.023	1.02	0.27	5.71	
5771.00	11.110	49.550	5686.67	-266.11	530.11	728.20	1725699.57	14384401.97	39°36'38.1882"N	80°41'49.9012"W	900.72	53.946	1.15	1.13	-1.17	
5866.00	9.050	48.690	5780.20	-272.32	540.98	740.78	1725712.14	14384412.84	39°36'38.2952"N	80°41'49.7400"W	917.29	53.860	2.17	-2.17	-0.91	
5960.00	9.760	51.750	5872.93	-277.79	550.80	752.59	1725723.94	14384422.65	39°36'38.3918"N	80°41'49.5887"W	932.62	53.801	0.92	0.76	3.26	
6055.00	9.930	46.270	5966.54	-283.91	561.45	764.83	1725736.18	14384433.29	39°36'38.4966"N	80°41'49.4318"W	948.78	53.719	1.00	0.18	-5.77	
6150.00	9.980	54.130	6060.11	-289.76	571.93	777.42	1725748.77	14384443.78	39°36'38.5999"N	80°41'49.2705"W	965.14	53.659	1.43	0.05	8.27	
6244.00	9.810	57.590	6152.71	-294.01	581.00	790.79	1725762.12	14384452.84	39°36'38.6890"N	80°41'49.0994"W	981.27	53.695	0.66	-0.18	3.68	
6339.00	8.440	54.030	6246.51	-297.96	589.43	803.26	1725774.59	14384461.27	39°36'38.7719"N	80°41'48.9396"W	996.32	53.729	1.56	-1.44	-3.75	
6434.00	8.150	57.180	6340.52	-301.63	597.17	814.56	1725785.89	14384469.01	39°36'38.8481"N	80°41'48.7949"W	1010.01	53.754	0.57	-0.31	3.32	
6528.00	7.750	60.950	6433.61	-304.36	603.86	825.70	1725797.03	14384475.70	39°36'38.9138"N	80°41'48.6523"W	1022.95	53.821	0.70	-0.43	4.01	
6623.00	8.730	59.620	6527.63	-306.93	610.62	837.52	1725808.84	14384482.45	39°36'38.9802"N	80°41'48.5010"W	1036.48	53.905	1.05	1.03	-1.40	
6716.00	9.000	60.980	6619.52	-309.62	617.72	849.97	1725821.29	14384489.54	39°36'39.0499"N	80°41'48.3416"W	1050.73	53.992	0.37	0.29	1.46	
6749.00	8.260	61.720	6652.15	-310.46	620.09	854.32	1725825.63	14384491.92	39°36'39.0733"N	80°41'48.2860"W	1055.64	54.027	2.27	-2.24	2.24	BH Lucida <8-1/2"> (6716')(6749'-18677')
6843.00	8.270	92.400	6745.21	-309.11	623.01	867.02	1725838.33	14384494.84	39°36'39.1017"N	80°41'48.1235"W	1067.65	54.300	4.64	0.01	32.64	
6938.00	8.630	141.560	6839.30	-299.91	617.13	878.29	1725849.60	14384488.96	39°36'39.0432"N	80°41'47.9797"W	1073.43	54.906	7.39	0.38	51.75	
7032.00	15.510	152.310	6931.18	-280.82	600.46	888.53	1725859.83	14384472.29	39°36'38.8781"N	80°41'47.8496"W	1072.40	55.950	7.67	7.32	11.44	
7106.00†	21.863	152.454	7001.24	-257.40	579.46	899.51	1725870.81	14384451.30	39°36'38.6702"N	80°41'47.7102"W	1070.00	57.211	8.59	8.59	0.19	Sycamore: 7106' MD
7126.00	23.580	152.480	7019.69	-249.76	572.61	903.08	1725874.38	14384444.46	39°36'38.6024"N	80°41'47.6649"W	1069.32	57.623	8.59	8.59	0.13	
7221.00	32.500	154.360	7103.45	-205.54	532.67	922.95	1725894.24	14384404.53	39°36'38.2070"N	80°41'47.4128"W	1065.63	60.009	9.43	9.39	1.98	
7251.00†	35.374	154.295	7128.34	-188.91	517.58	930.20	1725901.49	14384389.44	39°36'38.0576"N	80°41'47.3208"W	1064.50	60.908	9.58	9.58	-0.22	Middlesex: 7251' MD
7316.00	41.600	154.180	7179.20	-148.77	481.16	947.78	1725919.06	14384353.04	39°36'37.6971"N	80°41'47.0978"W	1062.92	63.084	9.58	9.58	-0.18	
7376.00†	47.594	154.032	7221.90	-106.98	443.29	966.17	1725937.44	14384315.18	39°36'37.3221"N	80°41'46.8644"W	1063.01	65.354	9.99	9.99	-0.25	Burkett: 7376' MD
7410.00	50.990	153.960	7244.07	-81.41	420.13	977.47	1725948.74	14384292.03	39°36'37.0929"N	80°41'46.7211"W	1063.93	66.742	9.99	9.99	-0.21	
7422.00†	52.176	154.397	7251.53	-72.08	411.66	981.57	1725952.83	14384283.57	39°36'37.0091"N	80°41'46.6691"W	1064.39	67.247	10.29	9.89	3.64	Tully: 7422' MD
7505.00	60.420	157.090	7297.55	-3.39	348.74	1009.83	1725981.09	14384220.67	39°36'36.3863"N	80°41'46.3107"W	1068.35	70.948	10.29	9.93	3.24	
7599.00	70.150	157.440	7336.80	81.70	270.07	1042.78	1726014.02	14384142.04	39°36'35.6077"N	80°41'45.8930"W	1077.19	75.480	10.36	10.35	0.37	
7616.00†	71.959	157.352	7342.32	97.74	255.23	1048.96	1726020.20	14384127.20	39°36'35.4608"N	80°41'45.8147"W	1079.57	76.325	10.65	10.64	-0.52	Marcellus POE: 7616' MD
7694.00	80.260	156.970	7361.03	173.22	185.51	1078.33	1726049.56	14384057.51	39°36'34.7708"N	80°41'45.4425"W	1094.17	80.239	10.65	10.64	-0.49	

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Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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
7788.00	90.000	159.790	7369.00	266.65	98.55	1112.78	1726083.99	14383970.58	39°36'33.9102"N	80°41'45.0061"W	1117.14	84.939	10.78	10.36	3.00	
7883.00	89.940	159.560	7369.05	361.62	9.46	1145.78	1726116.98	14383881.53	39°36'33.0286"N	80°41'44.5884"W	1145.82	89.527	0.25	-0.06	-0.24	
7977.00	89.720	160.710	7369.33	455.60	-78.94	1177.72	1726148.91	14383793.16	39°36'32.1538"N	80°41'44.1841"W	1180.36	93.835	1.25	-0.23	1.22	
8071.00	90.030	161.340	7369.54	549.60	-167.83	1208.28	1726179.46	14383704.30	39°36'31.2743"N	80°41'43.7974"W	1219.88	97.908	0.75	0.33	0.67	
8166.00	89.820	161.070	7369.66	644.60	-257.77	1238.89	1726210.05	14383614.40	39°36'30.3844"N	80°41'43.4103"W	1265.42	101.753	0.36	-0.22	-0.28	
8260.00	90.180	161.260	7369.66	738.60	-346.73	1269.24	1726240.39	14383525.47	39°36'29.5041"N	80°41'43.0264"W	1315.75	105.279	0.43	0.38	0.20	
8355.00	90.180	161.400	7369.36	833.60	-436.73	1299.65	1726270.79	14383435.51	39°36'28.6136"N	80°41'42.6418"W	1371.07	108.574	0.15	0.00	0.15	
8449.00	90.250	161.270	7369.01	927.60	-525.79	1329.73	1726300.86	14383346.49	39°36'27.7325"N	80°41'42.2613"W	1429.91	111.574	0.16	0.07	-0.14	
8543.00	90.250	161.130	7368.60	1021.59	-614.77	1360.02	1726331.14	14383257.54	39°36'26.8520"N	80°41'41.8781"W	1492.52	114.324	0.15	0.00	-0.15	
8637.00	90.220	160.650	7368.21	1115.59	-703.59	1390.80	1726361.90	14383168.75	39°36'25.9732"N	80°41'41.4888"W	1558.64	116.834	0.51	-0.03	-0.51	
8732.00	90.120	161.220	7367.93	1210.59	-793.38	1421.83	1726392.92	14383079.00	39°36'25.0848"N	80°41'41.0962"W	1628.21	119.162	0.61	-0.11	0.60	
8826.00	90.890	160.050	7367.10	1304.58	-882.06	1453.00	1726424.07	14382990.36	39°36'24.2073"N	80°41'40.7019"W	1699.77	121.260	1.49	0.82	-1.24	
8921.00	88.710	160.180	7367.44	1399.56	-971.39	1485.31	1726456.37	14382901.07	39°36'23.3234"N	80°41'40.2929"W	1774.75	123.185	2.30	-2.29	0.14	
9016.00	89.820	160.760	7368.65	1494.54	-1060.91	1517.06	1726488.11	14382811.58	39°36'22.4375"N	80°41'39.8911"W	1851.22	124.966	1.32	1.17	0.61	
9110.00	89.940	160.260	7368.85	1588.54	-1149.53	1548.42	1726519.46	14382723.00	39°36'21.5607"N	80°41'39.4943"W	1928.48	126.590	0.55	0.13	-0.53	
9205.00	89.780	160.940	7369.08	1683.53	-1239.13	1579.98	1726551.01	14382633.43	39°36'20.6740"N	80°41'39.0950"W	2007.93	128.106	0.74	-0.17	0.72	
9299.00	89.540	159.510	7369.64	1777.52	-1327.58	1611.78	1726582.80	14382545.01	39°36'19.7988"N	80°41'38.6926"W	2088.14	129.477	1.54	-0.26	-1.52	
9394.00	89.940	160.950	7370.07	1872.50	-1416.98	1643.91	1726614.92	14382455.65	39°36'18.9142"N	80°41'38.2859"W	2170.32	130.760	1.57	0.42	1.52	
9488.00	90.740	159.600	7369.51	1966.49	-1505.46	1675.64	1726646.63	14382367.20	39°36'18.0387"N	80°41'37.8845"W	2252.59	131.938	1.67	0.85	-1.44	
9583.00	91.390	156.590	7367.75	2061.33	-1593.58	1711.07	1726682.04	14382279.12	39°36'17.1666"N	80°41'37.4357"W	2338.21	132.964	3.24	0.68	-3.17	
9677.00	89.540	155.380	7366.99	2154.94	-1679.43	1749.32	1726720.28	14382193.30	39°36'16.3168"N	80°41'36.9507"W	2425.00	133.832	2.35	-1.97	-1.29	
9772.00	89.690	157.400	7367.62	2249.61	-1766.47	1787.37	1726758.31	14382106.29	39°36'15.4553"N	80°41'36.4684"W	2512.99	134.663	2.13	0.16	2.13	
9866.00	89.690	161.760	7368.13	2343.55	-1854.54	1820.15	1726791.09	14382018.26	39°36'14.5838"N	80°41'36.0534"W	2598.52	135.536	4.64	0.00	4.64	
9961.00	90.460	164.940	7368.01	2438.46	-1945.55	1847.37	1726818.29	14381927.29	39°36'13.6834"N	80°41'35.7096"W	2682.90	136.483	3.44	0.81	3.35	
10055.00	89.510	162.080	7368.03	2532.37	-2035.67	1874.05	1726844.96	14381837.20	39°36'12.7918"N	80°41'35.3727"W	2766.95	137.367	3.21	-1.01	-3.04	
10150.00	90.030	164.320	7368.41	2627.30	-2126.61	1901.50	1726872.41	14381746.30	39°36'11.8922"N	80°41'35.0259"W	2852.75	138.199	2.42	0.55	2.36	
10245.00	89.780	163.330	7368.57	2722.20	-2217.85	1927.97	1726898.86	14381655.10	39°36'10.9895"N	80°41'34.6918"W	2938.69	139.000	1.07	-0.26	-1.04	
10339.00	89.660	162.890	7369.03	2816.14	-2307.79	1955.28	1726926.16	14381565.19	39°36'10.0997"N	80°41'34.3468"W	3024.73	139.727	0.49	-0.13	-0.47	
10434.00	89.940	163.270	7369.36	2911.08	-2398.68	1982.93	1726953.80	14381474.34	39°36'9.2005"N	80°41'33.9976"W	3112.18	140.420	0.50	0.29	0.40	
10529.00	89.780	163.030	7369.59	3006.02	-2489.60	2010.46	1726981.32	14381383.45	39°36'8.3010"N	80°41'33.6498"W	3200.01	141.078	0.30	-0.17	-0.25	

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10623.00	89.660	163.410	7370.05	3099.96	-2579.60	2037.60	1727008.45	14381293.49	39°36'7.4106"N	80°41'33.3070"W	3287.27	141.695	0.42	-0.13	0.40	
10718.00	89.170	162.400	7371.02	3194.91	-2670.39	2065.52	1727036.36	14381202.73	39°36'6.5123"N	80°41'32.9542"W	3376.00	142.278	1.18	-0.52	-1.06	
10813.00	89.820	163.310	7371.86	3289.86	-2761.17	2093.53	1727064.35	14381111.99	39°36'5.6143"N	80°41'32.6004"W	3465.10	142.830	1.18	0.68	0.96	
10907.00	89.720	161.810	7372.24	3383.83	-2850.84	2121.70	1727092.51	14381022.35	39°36'4.7270"N	80°41'32.2445"W	3553.72	143.342	1.60	-0.11	-1.60	
11002.00	89.850	162.140	7372.60	3478.82	-2941.18	2151.10	1727121.90	14380932.05	39°36'3.8332"N	80°41'31.8729"W	3643.86	143.819	0.37	0.14	0.35	
11096.00	90.550	163.210	7372.27	3572.78	-3030.91	2179.09	1727149.88	14380842.35	39°36'2.9454"N	80°41'31.5192"W	3732.94	144.286	1.36	0.74	1.14	
11190.00	86.860	159.910	7374.39	3666.72	-3120.04	2208.80	1727179.58	14380753.26	39°36'2.0636"N	80°41'31.1435"W	3822.75	144.704	5.27	-3.93	-3.51	
11285.00	90.860	162.110	7376.28	3761.68	-3209.82	2239.70	1727210.47	14380663.51	39°36'1.1752"N	80°41'30.7527"W	3913.98	145.094	4.80	4.21	2.32	
11380.00	89.420	160.640	7376.05	3856.67	-3299.84	2270.04	1727240.79	14380573.53	39°36'0.2845"N	80°41'30.3691"W	4005.25	145.475	2.17	-1.52	-1.55	
11474.00	90.520	159.200	7376.10	3950.65	-3388.13	2302.31	1727273.05	14380485.28	39°35'59.4109"N	80°41'29.9607"W	4096.34	145.803	1.93	1.17	-1.53	
11569.00	89.630	157.820	7375.97	4045.55	-3476.52	2337.11	1727307.84	14380396.92	39°35'58.5361"N	80°41'29.5200"W	4189.07	146.089	1.73	-0.94	-1.45	
11664.00	90.950	161.080	7375.49	4140.49	-3565.46	2370.45	1727341.17	14380308.02	39°35'57.6560"N	80°41'29.0979"W	4281.53	146.383	3.70	1.39	3.43	
11758.00	91.630	162.090	7373.38	4234.46	-3654.62	2400.14	1727370.84	14380218.89	39°35'56.7738"N	80°41'28.7226"W	4372.29	146.705	1.30	0.72	1.07	
11853.00	90.830	161.870	7371.34	4329.43	-3744.94	2429.52	1727400.21	14380128.61	39°35'55.8801"N	80°41'28.3512"W	4463.98	147.027	0.87	-0.84	-0.23	
11948.00	90.710	162.120	7370.06	4424.41	-3835.28	2458.88	1727429.56	14380038.30	39°35'54.9863"N	80°41'27.9801"W	4555.82	147.335	0.29	-0.13	0.26	
12042.00	91.020	162.310	7368.64	4518.38	-3924.78	2487.59	1727458.26	14379948.84	39°35'54.1008"N	80°41'27.6173"W	4646.72	147.633	0.39	0.33	0.20	
12137.00	90.950	161.880	7367.01	4613.35	-4015.16	2516.79	1727487.45	14379858.49	39°35'53.2065"N	80°41'27.2482"W	4738.75	147.920	0.46	-0.07	-0.45	
12232.00	90.920	160.790	7365.46	4708.34	-4105.15	2547.19	1727517.84	14379768.54	39°35'52.3161"N	80°41'26.8638"W	4831.20	148.181	1.15	-0.03	-1.15	
12327.00	90.800	161.420	7364.03	4803.33	-4195.02	2577.95	1727548.59	14379678.70	39°35'51.4269"N	80°41'26.4748"W	4923.82	148.428	0.68	-0.13	0.66	
12421.00	90.000	160.590	7363.38	4897.32	-4283.90	2608.55	1727579.17	14379589.86	39°35'50.5474"N	80°41'26.0879"W	5015.61	148.662	1.23	-0.85	-0.88	
12516.00	89.970	158.540	7363.40	4992.28	-4372.92	2641.71	1727612.32	14379500.88	39°35'49.6665"N	80°41'25.6681"W	5108.92	148.863	2.16	-0.03	-2.16	
12610.00	90.370	160.890	7363.12	5086.25	-4461.08	2674.30	1727644.90	14379412.75	39°35'48.7941"N	80°41'25.2557"W	5201.26	149.058	2.54	0.43	2.50	
12705.00	90.120	160.820	7362.72	5181.24	-4550.82	2705.46	1727676.04	14379323.04	39°35'47.9061"N	80°41'24.8617"W	5294.29	149.269	0.27	-0.26	-0.07	
12799.00	89.480	157.770	7363.04	5275.18	-4638.74	2738.69	1727709.26	14379235.16	39°35'47.0361"N	80°41'24.4411"W	5386.87	149.443	3.32	-0.68	-3.24	
12894.00	89.940	160.720	7363.53	5370.12	-4727.57	2772.35	1727742.91	14379146.37	39°35'46.1570"N	80°41'24.0150"W	5480.49	149.612	3.14	0.48	3.11	
12988.00	89.350	161.790	7364.11	5464.12	-4816.58	2802.55	1727773.10	14379057.39	39°35'45.2763"N	80°41'23.6330"W	5572.59	149.807	1.30	-0.63	1.14	
13083.00	90.150	162.500	7364.52	5559.10	-4907.00	2831.68	1727802.22	14378967.00	39°35'44.3817"N	80°41'23.2649"W	5665.43	150.012	1.13	0.84	0.75	
13178.00	90.250	161.870	7364.19	5654.08	-4997.44	2860.74	1727831.27	14378876.60	39°35'43.4868"N	80°41'22.8977"W	5758.32	150.211	0.67	0.11	-0.66	
13272.00	90.520	161.090	7363.56	5748.08	-5086.57	2890.60	1727861.11	14378787.50	39°35'42.6049"N	80°41'22.5202"W	5850.54	150.391	0.88	0.29	-0.83	
13367.00	90.280	159.340	7362.90	5843.06	-5175.96	2922.76	1727893.26	14378698.15	39°35'41.7204"N	80°41'22.1134"W	5944.16	150.547	1.86	-0.25	-1.84	

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Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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
13461.00	90.220	158.880	7362.49	5937.00	-5263.78	2956.27	1727926.76	14378610.37	39°35'40.8513"N	80°41'21.6891"W	6037.13	150.680	0.49	-0.06	-0.49	
13556.00	90.220	162.020	7362.12	6031.98	-5353.29	2988.06	1727958.53	14378520.89	39°35'39.9656"N	80°41'21.2870"W	6130.76	150.831	3.31	0.00	3.31	
13651.00	90.180	161.750	7361.79	6126.97	-5443.58	3017.60	1727988.06	14378430.63	39°35'39.0722"N	80°41'20.9137"W	6224.02	150.999	0.29	-0.04	-0.28	
13746.00	90.220	161.670	7361.46	6221.97	-5533.78	3047.41	1728017.86	14378340.47	39°35'38.1797"N	80°41'20.5369"W	6317.39	151.159	0.09	0.04	-0.08	
13840.00	90.220	162.070	7361.10	6315.96	-5623.11	3076.66	1728047.10	14378251.17	39°35'37.2959"N	80°41'20.1672"W	6409.78	151.315	0.43	0.00	0.43	
13935.00	90.280	161.790	7360.68	6410.95	-5713.43	3106.13	1728076.55	14378160.89	39°35'36.4023"N	80°41'19.7948"W	6503.17	151.469	0.30	0.06	-0.29	
14029.00	90.280	161.980	7360.22	6504.94	-5802.77	3135.35	1728105.77	14378071.59	39°35'35.5183"N	80°41'19.4254"W	6595.64	151.617	0.20	0.00	0.20	
14124.00	89.850	161.880	7360.12	6599.93	-5893.08	3164.82	1728135.22	14377981.31	39°35'34.6247"N	80°41'19.0530"W	6689.13	151.762	0.46	-0.45	-0.11	
14219.00	89.750	161.870	7360.45	6694.92	-5983.36	3194.37	1728164.77	14377891.06	39°35'33.7314"N	80°41'18.6795"W	6782.68	151.903	0.11	-0.11	-0.01	
14313.00	89.540	161.830	7361.03	6788.91	-6072.69	3223.66	1728194.04	14377801.78	39°35'32.8476"N	80°41'18.3094"W	6875.28	152.039	0.23	-0.22	-0.04	
14407.00	89.720	161.860	7361.64	6882.90	-6162.00	3252.94	1728223.31	14377712.49	39°35'31.9639"N	80°41'17.9392"W	6967.92	152.170	0.19	0.19	0.03	
14502.00	90.120	162.040	7361.77	6977.89	-6252.33	3282.38	1728252.74	14377622.20	39°35'31.0702"N	80°41'17.5672"W	7061.56	152.301	0.46	0.42	0.19	
14597.00	90.090	161.470	7361.59	7072.88	-6342.55	3312.12	1728282.47	14377532.02	39°35'30.1775"N	80°41'17.1913"W	7155.29	152.426	0.60	-0.03	-0.60	
14691.00	90.150	161.880	7361.40	7166.88	-6431.79	3341.68	1728312.01	14377442.82	39°35'29.2946"N	80°41'16.8178"W	7248.08	152.546	0.44	0.06	0.44	
14786.00	90.180	162.020	7361.12	7261.87	-6522.11	3371.11	1728341.43	14377352.53	39°35'28.4009"N	80°41'16.4458"W	7341.82	152.667	0.15	0.03	0.15	
14880.00	90.340	162.150	7360.70	7355.86	-6611.55	3400.03	1728370.34	14377263.12	39°35'27.5159"N	80°41'16.0804"W	7434.57	152.785	0.22	0.17	0.14	
14975.00	90.000	161.790	7360.42	7450.84	-6701.89	3429.43	1728399.73	14377172.82	39°35'26.6221"N	80°41'15.7088"W	7528.36	152.901	0.52	-0.36	-0.38	
15069.00	90.180	161.990	7360.27	7544.84	-6791.23	3458.65	1728428.94	14377083.52	39°35'25.7381"N	80°41'15.3396"W	7621.22	153.011	0.29	0.19	0.21	
15164.00	90.180	161.730	7359.97	7639.83	-6881.51	3488.23	1728458.50	14376993.27	39°35'24.8449"N	80°41'14.9658"W	7715.11	153.120	0.27	0.00	-0.27	
15259.00	90.180	161.840	7359.67	7734.82	-6971.75	3517.92	1728488.19	14376903.07	39°35'23.9520"N	80°41'14.5905"W	7809.03	153.225	0.12	0.00	0.12	
15353.00	90.030	161.500	7359.50	7828.82	-7060.98	3547.48	1728517.74	14376813.88	39°35'23.0691"N	80°41'14.2169"W	7902.03	153.325	0.40	-0.16	-0.36	
15448.00	90.120	162.040	7359.37	7923.81	-7151.21	3577.20	1728547.44	14376723.68	39°35'22.1763"N	80°41'13.8413"W	7996.01	153.425	0.58	0.09	0.57	
15542.00	90.150	161.760	7359.15	8017.80	-7240.55	3606.41	1728576.64	14376634.37	39°35'21.2923"N	80°41'13.4722"W	8088.99	153.523	0.30	0.03	-0.30	
15637.00	90.150	161.780	7358.90	8112.79	-7330.79	3636.12	1728606.34	14376544.17	39°35'20.3995"N	80°41'13.0966"W	8183.02	153.618	0.02	0.00	0.02	
15731.00	90.030	161.930	7358.76	8206.79	-7420.11	3665.40	1728635.60	14376454.88	39°35'19.5157"N	80°41'12.7267"W	8276.06	153.711	0.20	-0.13	0.16	
15826.00	90.280	162.160	7358.50	8301.77	-7510.48	3694.68	1728664.88	14376364.54	39°35'18.6215"N	80°41'12.3567"W	8370.07	153.806	0.36	0.26	0.24	
15921.00	90.120	162.130	7358.17	8396.76	-7600.91	3723.81	1728693.99	14376274.15	39°35'17.7268"N	80°41'11.9886"W	8464.08	153.899	0.17	-0.17	-0.03	
16015.00	90.180	161.960	7357.92	8490.75	-7690.33	3752.79	1728722.96	14376184.77	39°35'16.8420"N	80°41'11.6225"W	8557.14	153.988	0.19	0.06	-0.18	
16109.00	90.180	162.030	7357.63	8584.74	-7779.73	3781.84	1728752.00	14376095.41	39°35'15.9575"N	80°41'11.2554"W	8650.23	154.075	0.07	0.00	0.07	
16204.00	90.220	161.950	7357.30	8679.72	-7870.07	3811.22	1728781.37	14376005.10	39°35'15.0636"N	80°41'10.8842"W	8744.33	154.161	0.09	0.04	-0.08	

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Twain Unit 1H AWP Proj: 18702'

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Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

WELLPATH DATA (208 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
16299.00	90.220	161.890	7356.93	8774.71	-7960.38	3840.70	1728810.84	14375914.83	39°35'14.1701"N	80°41'10.5117"W	8838.47	154.244	0.06	0.00	-0.06	
16393.00	90.220	160.330	7356.57	8868.71	-8049.31	3871.13	1728841.26	14375825.93	39°35'13.2901"N	80°41'10.1270"W	8931.80	154.316	1.66	0.00	-1.66	
16488.00	90.280	160.890	7356.16	8963.71	-8138.92	3902.67	1728872.78	14375736.35	39°35'12.4034"N	80°41'9.7281"W	9026.23	154.382	0.59	0.06	0.59	
16583.00	90.310	160.660	7355.67	9058.70	-8228.63	3933.95	1728904.05	14375646.69	39°35'11.5157"N	80°41'9.3326"W	9120.65	154.448	0.24	0.03	-0.24	
16677.00	90.340	160.880	7355.13	9152.70	-8317.38	3964.91	1728935.00	14375557.97	39°35'10.6375"N	80°41'8.9411"W	9214.08	154.513	0.24	0.03	0.23	
16772.00	90.280	161.030	7354.62	9247.70	-8407.18	3995.91	1728965.99	14375468.20	39°35'9.7490"N	80°41'8.5492"W	9308.49	154.578	0.17	-0.06	0.16	
16866.00	90.280	160.870	7354.16	9341.70	-8496.03	4026.59	1728996.65	14375379.39	39°35'8.8698"N	80°41'8.1613"W	9401.91	154.642	0.17	0.00	-0.17	
16961.00	90.150	160.810	7353.80	9436.69	-8585.77	4057.77	1729027.82	14375289.69	39°35'7.9818"N	80°41'7.7671"W	9496.36	154.704	0.15	-0.14	-0.06	
17055.00	90.310	161.040	7353.43	9530.69	-8674.60	4088.49	1729058.53	14375200.88	39°35'7.1027"N	80°41'7.3787"W	9589.81	154.765	0.30	0.17	0.24	
17150.00	89.450	160.490	7353.62	9625.69	-8764.30	4119.79	1729089.81	14375111.22	39°35'6.2152"N	80°41'6.9829"W	9684.29	154.823	1.07	-0.91	-0.58	
17244.00	90.180	160.980	7353.93	9719.69	-8853.03	4150.80	1729120.81	14375022.52	39°35'5.3371"N	80°41'6.5908"W	9777.80	154.880	0.94	0.78	0.52	
17339.00	90.340	161.000	7353.50	9814.68	-8942.85	4181.74	1729151.75	14374932.74	39°35'4.4484"N	80°41'6.1996"W	9872.26	154.939	0.17	0.17	0.02	
17434.00	90.310	160.790	7352.96	9909.68	-9032.62	4212.84	1729182.83	14374843.01	39°35'3.5601"N	80°41'5.8065"W	9966.75	154.996	0.22	-0.03	-0.22	
17528.00	90.370	160.800	7352.40	10003.68	-9121.38	4243.76	1729213.74	14374754.28	39°35'2.6818"N	80°41'5.4155"W	10060.27	155.050	0.06	0.06	0.01	
17623.00	90.340	160.670	7351.81	10098.67	-9211.06	4275.10	1729245.07	14374664.63	39°35'1.7944"N	80°41'5.0192"W	10154.81	155.103	0.14	-0.03	-0.14	
17717.00	90.400	161.210	7351.20	10192.67	-9299.91	4305.80	1729275.75	14374575.83	39°35'0.9152"N	80°41'4.6312"W	10248.32	155.156	0.58	0.06	0.57	
17812.00	90.090	160.950	7350.80	10287.67	-9389.77	4336.60	1729306.54	14374485.99	39°35'0.0260"N	80°41'4.2418"W	10342.82	155.210	0.43	-0.33	-0.27	
17907.00	89.880	160.860	7350.82	10382.67	-9479.55	4367.68	1729337.61	14374396.26	39°34'59.1377"N	80°41'3.8489"W	10437.36	155.262	0.24	-0.22	-0.09	
18001.00	89.750	160.570	7351.13	10476.67	-9568.27	4398.72	1729368.64	14374307.57	39°34'58.2597"N	80°41'3.4564"W	10530.93	155.311	0.34	-0.14	-0.31	
18096.00	89.750	161.150	7351.54	10571.66	-9658.02	4429.87	1729399.78	14374217.86	39°34'57.3717"N	80°41'3.0626"W	10625.49	155.360	0.61	0.00	0.61	
18190.00	89.750	160.820	7351.95	10665.66	-9746.89	4460.50	1729430.39	14374129.02	39°34'56.4923"N	80°41'2.6754"W	10719.04	155.410	0.35	0.00	-0.35	
18285.00	89.750	161.130	7352.37	10760.66	-9836.70	4491.46	1729461.35	14374039.25	39°34'55.6036"N	80°41'2.2839"W	10813.60	155.458	0.33	0.00	0.33	
18379.00	89.720	160.920	7352.80	10854.66	-9925.59	4522.03	1729491.90	14373950.39	39°34'54.7240"N	80°41'1.8976"W	10907.16	155.506	0.23	-0.03	-0.22	
18473.00	89.750	161.130	7353.24	10948.66	-10014.48	4552.59	1729522.45	14373861.53	39°34'53.8445"N	80°41'1.5112"W	11000.72	155.553	0.23	0.03	0.22	
18568.00	89.780	160.910	7353.63	11043.66	-10104.31	4583.49	1729553.33	14373771.73	39°34'52.9555"N	80°41'1.1206"W	11095.29	155.600	0.23	0.03	-0.23	
18662.00	89.720	161.010	7354.04	11137.66	-10193.17	4614.16	1729583.99	14373682.91	39°34'52.0763"N	80°41'0.7330"W	11188.89	155.645	0.12	-0.06	0.11	
18677.00	89.720	161.010	7354.11	11152.66	-10207.35	4619.04	1729588.87	14373668.74	39°34'51.9359"N	80°41'0.6713"W	11203.82	155.652	0.00	0.00	0.00	
18702.00‡	89.720	161.010	7354.23	11177.66	-10230.99	4627.17	1729597.00	14373645.11	39°34'51.7020"N	80°41'0.5684"W	11228.71	155.664	0.00	0.00	0.00	Projected MD at TD: 18702'

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Actual Wellpath Report

Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Twain Unit 1H POE Rev-1	7300.50	280.19	1049.93	1726021.17	14384152.15	39°36'35.7074"N	80°41'45.8013"W	point
Twain Unit 1H POE Rev-2	7310.00	280.19	1049.93	1726021.17	14384152.15	39°36'35.7074"N	80°41'45.8013"W	point
Twain Unit 1H POE Rev-3	7325.00	280.19	1049.93	1726021.17	14384152.15	39°36'35.7074"N	80°41'45.8013"W	point
Twain Unit 1H BHL Rev-1	7325.50	-10243.34	4646.08	1729615.90	14373632.76	39°34'51.5793"N	80°41'0.3275"W	point
Twain Unit 1H BHL Rev-2	7338.00	-10243.34	4646.08	1729615.90	14373632.76	39°34'51.5793"N	80°41'0.3275"W	point
Twain Unit 1H LP Rev-2	7338.00	112.77	1107.14	1726078.36	14383984.80	39°36'34.0509"N	80°41'45.0775"W	point
Twain Unit 1H POE Rev-4	7342.00	280.19	1049.93	1726021.17	14384152.15	39°36'35.7074"N	80°41'45.8013"W	point
Twain Unit 1H BHL Rev-3	7351.00	-10243.34	4646.08	1729615.90	14373632.76	39°34'51.5793"N	80°41'0.3275"W	point

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Twain Unit 1H AWP Proj: 18702'

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Twain Unit 1H
Field	Wetzel	UWI	47-103-03792-0000
Facility	Harbour Pad	Wellbore	Twain Unit 1H AWB
Slot	Slot B		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Twain Unit 1H LP Rev-3	7351.00	118.72	1105.11	**1726076.33**	**14383990.74**	39°36'34.1098"N	80°41'45.1032"W	point
Twain Unit 1H BHL Rev-4	7371.00	-10243.34	4646.08	**1729615.90**	**14373632.76**	39°34'51.5793"N	80°41'0.3275"W	point
Twain Unit 1H LP Rev-4	7371.00	109.89	1108.13	**1726079.34**	**14383981.91**	39°36'34.0224"N	80°41'45.0650"W	point
Twain Unit 1H 50' L/R Hard Line	7500.00	-4981.58	2848.01	1727818.54	14378892.45	39°35'43.6440"N	80°41'23.0597"W	rectangle
	2D Rectangle: 11121 x 100.							

WELLPATH COMPOSITION - Ref Wellbore: Twain Unit 1H AWB Ref Wellpath: Twain Unit 1H AWP Proj: 18702'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	464.00	Gyrodata 2015 - GC+WIR+DPIPE	01_Gyrodata MS Gyro <17-1/2"> (100'-464')	Twain Unit 1H AWB	2026-01-12
464.00	3673.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02_APS EM <12-1/4"> (464')(503'-3673')	Twain Unit 1H AWB	2026-01-12
3673.00	6716.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03_APS EM <8-3/4"> (3673')(3784'-6716')	Twain Unit 1H AWB	2026-01-30
6716.00	18702.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04_BH Lucida <8-1/2"> (6716')(6749'-18677')	Twain Unit 1H AWB	2026-01-30

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REFERENCE WELLPATH IDENTIFICATION			
Operator	**ANTERO RESOURCES CORPORATION**	Well	**Twain Unit 1H**
Field	**Wetzel**	UWI	**47-103-03792-0000**
Facility	**Harbour Pad**	Wellbore	**Twain Unit 1H AWB**
Slot	**Slot B**		

COMMENTS

Wellpath general comments

API: 47-103-03792-0000
BH Job #: 112930782
Rig: H&P 519
Duration: 2/1/2026-2/5/2026
Gyrodata MS Gyro <17-1/2"> (100'-464')
APS EM <12-1/4"> (464')(503'-3673')
APS EM <8-3/4"> (3673')(3784'-6716')
BH Lucida <8-1/2"> (6716')(6749'-18677')
Sycamore: 7106' MD
Middlesex: 7251' MD
Burkett: 7376' MD
Tully: 7422' MD
Marcellus POE: 7616' MD
Projected MD at TD: 18702'

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