

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Neat Pad
 Slot: Slot #01
 Well: Crown Unit 3H
 Wellbore: Crown Unit 3H PWB



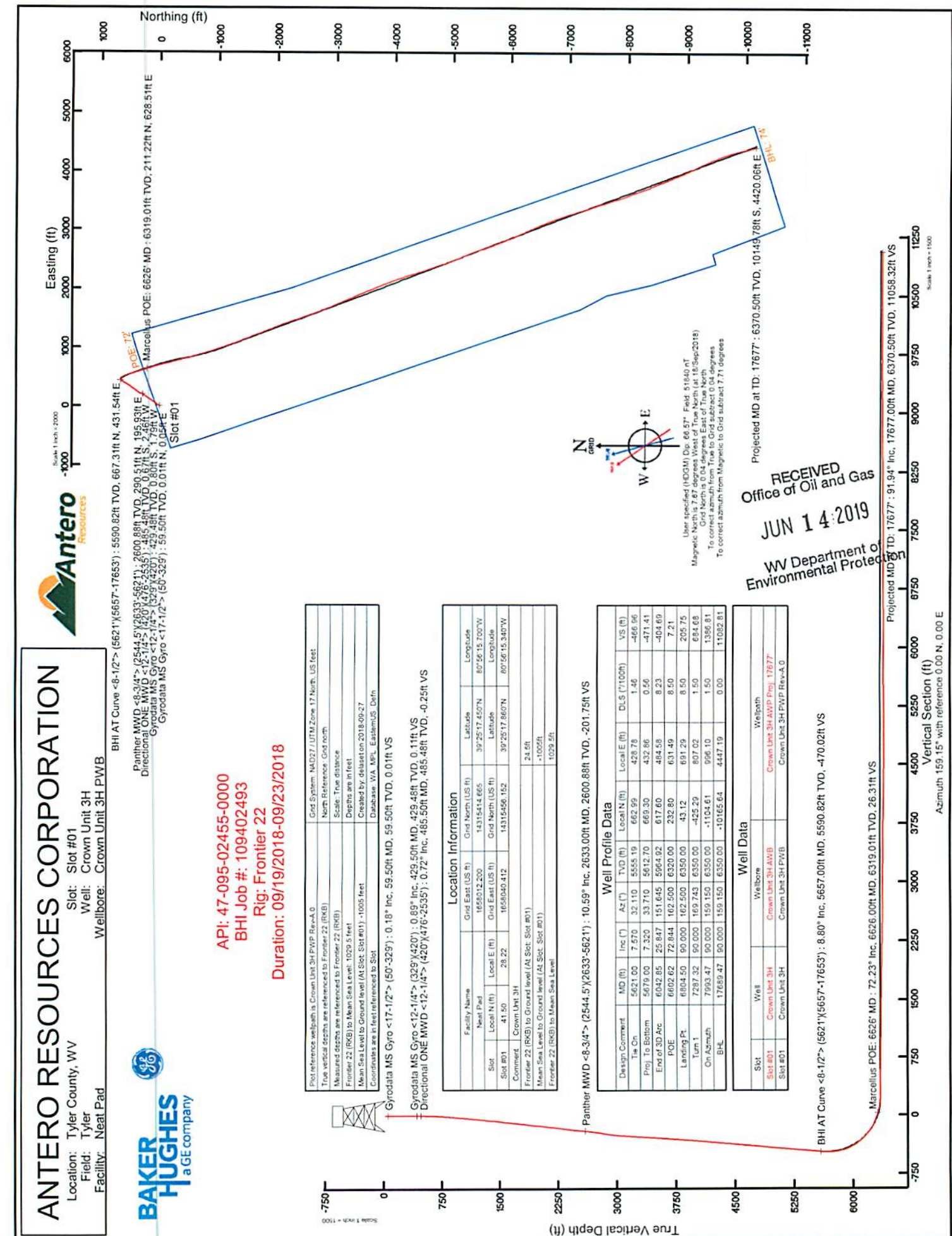
API: 47-095-02455-0000
 BHI Job #: 109402493
 Rig: Frontier 22
 Duration: 09/19/2018-09/23/2018

Plot reference wellpath is Crown Unit 3H PWB Rev-A-0	Grid System: NAD27 UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level: 1029.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot Slot #01): -1005 feet	Created by: delatation 2018-09-27
Coordinates are in feet referenced to Slot	Database: WA MPL EastmanUS Defn

Location Information	
Facility Name	Grid East (US ft)
Neat Pad	1655012.200
Slot	Local N (ft)
Slot #01	41.50
Comment	Crown Unit 3H
Frontier 22 (RKB) to Ground level (At Slot Slot #01)	24.5ft
Mean Sea Level to Ground level (At Slot Slot #01)	-1005ft
Frontier 22 (RKB) to Mean Sea Level	1029.5ft

Well Profile Data									
Design Comment	MD (ft)	Inc (")	Az (")	TVD (ft)	Local N (ft)	Local E (ft)	DLS (1/100ft)	VS (ft)	
Toe On	5621.00	7.570	32.110	5555.19	662.99	428.78	1.46	-466.96	
Proj To Bottom	5679.00	7.320	33.710	5612.70	669.30	432.86	0.56	-471.41	
End of 3D Arc	6042.85	25.847	151.645	5964.92	617.60	484.58	8.23	-404.69	
POE	6002.62	72.844	162.500	6020.00	232.80	631.49	8.50	7.21	
Landing Pt	6804.50	90.000	162.500	6350.00	43.12	691.29	8.50	205.75	
Turn 1	7297.32	90.000	169.743	6350.00	-425.29	807.02	1.50	694.68	
On Azimuth	7993.47	90.000	159.150	6350.00	-1104.61	996.10	1.50	1386.81	
BHL	17689.47	90.000	159.150	6350.00	-10165.64	4447.19	0.00	11082.81	

Well Data		
Well	Wellbore	Wellpath
Slot #01	Crown Unit 3H	Crown Unit 3H AWP Proj 17677
Slot #01	Crown Unit 3H	Crown Unit 3H PWB Rev-A-0



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Vertical Section (ft)
 Azimuth 159.15° with reference 0.00 N, 0.00 E
 Scale 1 inch = 1500

REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #01
Area	Tyler County, WV	Crown Unit 3H
Field	Tyler	Crown Unit 3H AWB
Facility	Neat Pad	

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999600	Report Generated	27/Sep/2018 at 10:29
Convergence at slot	0.04° East	Database/Source file	WA_MPL_EasternUS_Defn/Crown_Unit_3H_AWP_Proj_17677_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Northing[US ft]	Latitude	Longitude	
Slot Location	41.50	28.22	14315456.15	39°25'17.860"N	80°56'15.340"W	
Facility Reference Pt			1658012.20	39°25'17.450"N	80°56'15.700"W	
Field Reference Pt			0.00	0°00'00.000"	85°29'19.301"W	

WELLPATH DATUM

Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	1029.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1029.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Ground Level at Slot (Slot #01)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	159.15°

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Crown Unit 3H
Field	Tyler	Wellbore	Crown Unit 3H AWB
Facility	Neat Pad		

WELLPATH DATA (216 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.00	75.620	0.00	0.00	0.00	0.00	1658040.41	14315456.15	39°25'17.860"N	80°56'15.340"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	75.620	24.50	0.00	0.00	0.00	1658040.41	14315456.15	39°25'17.860"N	80°56'15.340"W	0.00	0.000	0.00	0.00	0.00	
59.50	0.180	75.620	59.50	0.01	0.01	0.05	1658040.47	14315456.17	39°25'17.860"N	80°56'15.339"W	0.05	75.620	0.51	0.51	216.06	Gyrodata MS Gyro <17-1/2"> (50'-329')
84.50	0.180	154.280	84.50	0.05	-0.01	0.11	1658040.52	14315456.14	39°25'17.860"N	80°56'15.339"W	0.11	96.306	0.91	0.00	0.00	314.64
109.50	0.220	41.480	109.50	0.07	-0.01	0.16	1658040.57	14315456.14	39°25'17.860"N	80°56'15.338"W	0.16	94.146	1.34	0.00	0.16	-451.20
134.50	0.200	40.440	134.50	0.02	0.06	0.22	1658040.63	14315456.21	39°25'17.861"N	80°56'15.337"W	0.22	75.109	0.08	-0.08	-4.16	
159.50	0.230	47.420	159.50	-0.02	0.12	0.28	1658040.69	14315456.28	39°25'17.861"N	80°56'15.336"W	0.31	66.144	0.16	0.12	27.92	
184.50	0.190	27.860	184.50	-0.06	0.20	0.34	1658040.75	14315456.35	39°25'17.862"N	80°56'15.336"W	0.39	60.014	0.33	-0.16	-78.16	
209.50	0.010	304.810	209.50	-0.09	0.23	0.36	1658040.77	14315456.38	39°25'17.862"N	80°56'15.335"W	0.43	56.782	0.76	-0.72	-332.28	
234.50	0.210	246.410	234.50	-0.09	0.22	0.31	1658040.72	14315456.37	39°25'17.862"N	80°56'15.336"W	0.38	55.322	0.82	0.80	-233.60	
259.50	0.480	240.460	259.50	-0.07	0.15	0.18	1658040.59	14315456.30	39°25'17.861"N	80°56'15.338"W	0.23	50.818	1.09	1.08	-23.80	
284.50	0.530	239.030	284.50	-0.04	0.04	-0.01	1658040.40	14315456.19	39°25'17.860"N	80°56'15.340"W	0.04	343.133	0.21	0.20	-5.72	
309.50	0.590	229.370	309.50	0.03	-0.11	-0.21	1658040.20	14315456.04	39°25'17.859"N	80°56'15.343"W	0.23	242.486	0.45	0.24	-38.64	
334.50	0.830	243.360	334.49	0.09	-0.27	-0.47	1658039.94	14315455.88	39°25'17.857"N	80°56'15.346"W	0.54	239.684	1.18	0.96	55.96	
338.50	0.840	243.120	338.49	0.09	-0.30	-0.52	1658039.89	14315455.85	39°25'17.857"N	80°56'15.347"W	0.60	240.030	0.26	0.25	-6.00	
429.50	0.890	253.890	429.48	0.11	-0.80	-1.79	1658038.62	14315455.35	39°25'17.852"N	80°56'15.363"W	1.96	246.034	0.19	0.05	11.84	Gyrodata MS Gyro <12-1/4"> (329')(420)
485.50	0.720	315.890	485.48	-0.25	-0.67	-2.46	1658037.96	14315455.49	39°25'17.853"N	80°56'15.371"W	2.54	254.847	1.50	-0.30	110.71	Directional ONE MWD <12-1/4"> (420')(476'-2935')
577.50	1.760	11.830	577.46	-1.97	1.13	-2.57	1658037.84	14315457.28	39°25'17.871"N	80°56'15.373"W	2.81	293.800	1.61	1.13	60.80	
667.50	3.450	23.970	667.36	-5.06	4.96	-1.18	1658039.23	14315461.11	39°25'17.909"N	80°56'15.355"W	5.10	346.565	1.96	1.88	13.49	
758.50	5.390	24.290	758.09	-10.01	11.36	1.99	1658042.10	14315467.51	39°25'17.972"N	80°56'15.318"W	11.48	8.442	2.13	2.13	0.35	
849.50	6.850	33.720	848.57	-16.18	19.77	6.46	1658046.87	14315475.91	39°25'18.055"N	80°56'15.258"W	20.80	18.088	1.94	1.60	10.36	
945.50	8.910	39.910	943.66	-23.13	30.23	14.41	1658054.81	14315486.37	39°25'18.159"N	80°56'15.156"W	33.49	25.477	2.32	2.15	6.45	
1039.50	9.880	40.630	1036.40	-30.53	41.94	24.33	1658064.73	14315498.07	39°25'18.274"N	80°56'15.030"W	48.48	30.117	1.04	1.03	0.77	
1133.50	9.800	35.660	1129.02	-38.80	54.56	34.24	1658074.64	14315510.69	39°25'18.399"N	80°56'14.903"W	64.42	32.114	0.91	-0.09	-5.29	
1227.50	10.040	34.790	1221.61	-47.84	67.79	43.56	1658083.98	14315523.91	39°25'18.530"N	80°56'14.784"W	80.59	32.738	0.30	0.26	-0.93	
1321.50	10.870	36.160	1314.05	-57.29	81.67	53.49	1658093.88	14315537.79	39°25'18.667"N	80°56'14.658"W	97.53	33.220	0.92	0.88	1.46	
1415.50	10.900	34.910	1406.36	-67.11	96.12	63.80	1658104.19	14315552.23	39°25'18.810"N	80°56'14.526"W	115.37	33.576	0.25	0.03	-1.33	
1509.50	10.990	31.330	1498.65	-77.61	111.06	73.55	1658113.93	14315567.17	39°25'18.957"N	80°56'14.402"W	133.21	33.514	0.73	0.10	-3.81	
1603.50	10.460	33.540	1591.01	-88.07	125.83	82.92	1658123.30	14315581.93	39°25'19.103"N	80°56'14.282"W	150.69	33.386	0.71	-0.56	2.35	
1697.50	9.880	35.360	1683.53	-97.53	139.51	92.30	1658132.68	14315595.61	39°25'19.238"N	80°56'14.163"W	167.28	33.489	0.71	-0.62	1.94	

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Crown Unit 3H
Area	Tyler County, WV	Wellbore	Crown Unit 3H AWP
Field	Tyler		
Facility	Neat Pad		

WELLPATH DATA (216 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
1791.50	11.300	35.940	1775.93	-107.06	153.55	102.38	1658142.75	14315609.64	39°25'19.377"N	80°56'14.034"W	184.55	33.693	1.51	1.51	0.62	
1885.50	11.180	33.750	1868.13	-117.38	168.58	112.84	1658153.21	14315624.67	39°25'19.525"N	80°56'13.901"W	202.86	33.797	0.47	-0.13	-2.33	
1980.50	11.630	33.680	1961.25	-128.27	184.21	123.27	1658163.63	14315640.29	39°25'19.680"N	80°56'13.768"W	221.65	33.789	0.47	0.47	-0.09	
2074.50	12.570	36.890	2053.16	-139.23	200.28	134.66	1658175.02	14315655.35	39°25'19.839"N	80°56'13.622"W	241.34	33.916	1.23	1.00	3.44	
2168.50	11.550	37.780	2145.08	-149.59	215.90	146.57	1658186.92	14315671.96	39°25'19.993"N	80°56'13.470"W	260.95	34.172	1.10	-1.09	0.95	
2262.50	11.250	31.370	2237.23	-160.11	231.16	157.11	1658197.45	14315687.22	39°25'20.144"N	80°56'13.336"W	279.50	34.201	1.38	-0.32	-6.82	
2356.50	11.180	31.740	2329.44	-171.26	246.74	166.67	1658207.02	14315702.80	39°25'20.298"N	80°56'13.214"W	297.76	34.039	0.11	-0.07	0.39	
2450.50	11.240	34.540	2421.65	-182.00	262.04	176.66	1658217.00	14315718.09	39°25'20.449"N	80°56'13.087"W	316.03	33.987	0.58	0.08	2.98	
2544.50	10.790	34.060	2513.91	-192.26	276.88	186.76	1658227.12	14315732.92	39°25'20.595"N	80°56'12.957"W	333.99	34.004	0.49	-0.48	-0.51	
2633.00	10.590	33.650	2600.88	-201.75	290.51	195.93	1658236.26	14315746.54	39°25'20.730"N	80°56'12.841"W	350.40	33.997	0.24	-0.23	-0.46	Panther MWD -8-3/4" > (2644.51)(2633-5621)
2727.00	10.300	27.510	2693.32	-212.35	305.15	204.60	1658244.93	14315761.18	39°25'20.875"N	80°56'12.730"W	367.39	33.841	1.22	-0.31	-6.53	
2822.00	11.160	18.500	2786.67	-225.10	321.40	211.44	1658251.76	14315777.43	39°25'21.035"N	80°56'12.643"W	384.72	33.339	1.98	0.91	-9.48	
2917.00	12.080	20.640	2879.72	-239.66	339.43	217.86	1658258.18	14315795.44	39°25'21.213"N	80°56'12.561"W	403.33	32.694	1.07	0.97	2.25	
3011.00	11.520	28.700	2971.74	-253.12	356.87	225.83	1658266.16	14315812.87	39°25'21.386"N	80°56'12.459"W	422.32	32.327	1.85	-0.60	8.57	
3111.00	8.490	40.450	3070.22	-263.14	371.25	235.42	1658275.74	14315827.25	39°25'21.528"N	80°56'12.337"W	439.60	32.380	3.64	-3.03	11.75	
3206.00	6.830	34.410	3164.37	-269.73	381.24	243.16	1658283.48	14315837.24	39°25'21.626"N	80°56'12.238"W	452.19	32.531	1.94	-1.75	-6.36	
3301.00	7.340	37.450	3258.64	-276.14	390.72	250.05	1658290.36	14315846.72	39°25'21.720"N	80°56'12.150"W	463.88	32.618	0.67	0.54	3.20	
3396.00	6.650	41.630	3352.94	-281.87	399.65	257.39	1658297.70	14315855.64	39°25'21.808"N	80°56'12.057"W	475.37	32.783	0.90	-0.73	4.40	
3491.00	6.500	32.640	3447.31	-287.61	408.29	263.85	1658304.25	14315864.28	39°25'21.894"N	80°56'11.973"W	486.18	32.881	1.09	-0.16	-9.46	
3585.00	6.320	35.930	3540.73	-293.61	416.96	269.85	1658310.16	14315872.95	39°25'21.979"N	80°56'11.898"W	496.67	32.910	0.44	-0.19	3.50	
3681.00	7.250	32.820	3636.05	-300.09	426.33	276.24	1658316.54	14315882.31	39°25'22.072"N	80°56'11.816"W	508.00	32.941	1.04	0.97	-3.24	
3775.00	7.190	37.940	3729.31	-305.66	435.95	283.07	1658323.37	14315891.93	39°25'22.167"N	80°56'11.729"W	519.79	32.996	0.69	-0.06	5.45	
3870.00	8.420	39.920	3823.43	-313.13	445.98	291.19	1658331.48	14315901.95	39°25'22.266"N	80°56'11.626"W	532.62	33.141	1.33	1.29	2.08	
3966.00	8.920	33.100	3918.33	-320.95	457.60	299.76	1658340.05	14315913.57	39°25'22.381"N	80°56'11.516"W	547.04	33.228	1.19	0.52	-7.10	
4061.00	9.160	33.910	4012.15	-329.64	470.05	308.00	1658348.29	14315926.01	39°25'22.504"N	80°56'11.411"W	561.97	33.235	0.29	0.25	0.85	
4156.00	9.030	38.360	4105.96	-337.82	482.17	316.85	1658357.13	14315938.13	39°25'22.623"N	80°56'11.298"W	576.96	33.310	0.75	-0.14	4.68	
4250.00	9.100	36.170	4198.79	-345.65	493.96	325.81	1658366.09	14315949.91	39°25'22.740"N	80°56'11.184"W	591.73	33.409	0.37	0.07	-2.33	
4345.00	9.330	34.850	4292.56	-354.07	506.34	334.65	1658374.92	14315962.29	39°25'22.862"N	80°56'11.071"W	606.93	33.461	0.33	0.24	-1.39	
4440.00	8.300	39.060	4386.44	-361.85	517.98	343.37	1658383.64	14315973.93	39°25'22.977"N	80°56'10.960"W	621.46	33.540	1.28	-1.08	4.43	
4535.00	7.380	21.000	4480.56	-369.84	529.01	349.88	1658390.15	14315984.95	39°25'23.086"N	80°56'10.877"W	634.24	33.480	2.75	-0.97	-19.01	

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Field	Tyler	Wellbore	Crown Unit 3H AWB
Facility	Neat Pad		

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4630.00	7.790	24.440	4574.73	-378.91	540.56	354.73	1658395.00	14315996.50	39°25'23.200"N	80°56'10.815"W	646.56	33.274	0.64	0.43	3.62	
4725.00	8.710	36.270	4668.75	-387.35	552.23	361.65	1658401.91	14316008.16	39°25'23.315"N	80°56'10.727"W	660.11	33.220	2.03	0.97	12.45	
4819.00	8.540	30.720	4761.69	-395.55	563.96	369.42	1658409.69	14316019.89	39°25'23.431"N	80°56'10.628"W	674.19	33.227	0.90	-0.18	-5.90	
4913.00	9.290	27.790	4854.56	-404.90	576.68	376.53	1658416.79	14316032.60	39°25'23.557"N	80°56'10.537"W	688.71	33.141	0.93	0.80	-3.12	
5009.00	10.190	34.720	4949.18	-414.82	590.51	384.98	1658425.23	14316046.43	39°25'23.694"N	80°56'10.429"W	704.92	33.102	1.54	0.94	7.22	
5104.00	8.350	39.730	5042.93	-422.96	602.73	394.17	1658434.43	14316058.64	39°25'23.814"N	80°56'10.312"W	720.17	33.184	2.11	-1.94	5.27	
5198.00	8.130	33.300	5135.96	-430.21	613.53	402.18	1658442.43	14316069.44	39°25'23.921"N	80°56'10.210"W	733.60	33.246	1.01	-0.23	-6.84	
5293.00	8.730	25.830	5229.94	-439.09	625.63	409.01	1658449.26	14316081.54	39°25'24.041"N	80°56'10.123"W	747.47	33.175	1.31	0.63	-7.86	
5389.00	7.250	32.670	5325.01	-447.69	637.29	415.46	1658455.70	14316093.70	39°25'24.156"N	80°56'10.040"W	760.75	33.101	1.83	-1.54	7.13	
5484.00	7.270	20.830	5419.25	-455.74	647.96	420.83	1658461.07	14316103.85	39°25'24.261"N	80°56'09.972"W	772.62	33.003	1.57	0.02	-12.46	
5579.00	6.950	31.540	5513.52	-463.74	658.48	425.98	1658466.22	14316114.37	39°25'24.365"N	80°56'09.908"W	784.26	32.899	1.43	-0.33	11.27	
5621.00	7.570	32.110	5555.19	-468.96	662.99	428.78	1658469.02	14316118.88	39°25'24.410"N	80°56'09.870"W	789.57	32.892	1.46	1.45	1.36	
5657.00	8.800	32.900	5590.92	-470.02	667.31	431.54	1658471.78	14316123.20	39°25'24.452"N	80°56'09.835"W	794.69	32.890	3.43	3.42	2.19	BHI AT Curve <8-1/2"> (5621)-(5657)
5721.00	6.750	52.280	5654.24	-474.01	673.73	437.17	1658477.41	14316129.61	39°25'24.516"N	80°56'09.763"W	803.14	32.979	5.16	-3.20	30.28	
5767.00	7.120	76.680	5699.91	-474.42	676.04	442.09	1658482.32	14316131.92	39°25'24.539"N	80°56'09.701"W	807.76	33.182	6.41	0.80	53.04	
5816.00	9.400	96.960	5748.41	-472.15	676.25	449.02	1658489.25	14316132.13	39°25'24.541"N	80°56'09.612"W	811.75	33.583	7.48	4.65	41.39	
5863.00	11.230	116.050	5794.66	-467.02	673.78	456.94	1658497.17	14316129.66	39°25'24.516"N	80°56'09.511"W	814.11	34.144	8.20	3.89	40.62	
5911.00	14.530	132.000	5841.46	-458.24	667.69	465.62	1658505.85	14316123.58	39°25'24.456"N	80°56'09.401"W	814.01	34.890	10.05	6.88	33.23	
5956.00	18.060	142.480	5884.66	-448.53	658.38	474.07	1658514.29	14316114.27	39°25'24.364"N	80°56'09.293"W	811.30	35.756	10.18	7.84	23.29	
6007.00	22.660	149.690	5932.46	-429.25	643.61	483.85	1658524.07	14316099.50	39°25'24.218"N	80°56'09.169"W	805.20	36.935	10.29	9.06	14.14	
6052.00	27.460	153.250	5973.21	-410.36	626.84	492.91	1658533.12	14316082.74	39°25'24.052"N	80°56'09.055"W	797.43	38.179	11.13	10.62	7.91	
6102.00	32.310	157.460	6016.56	-385.52	604.19	503.22	1658543.43	14316060.10	39°25'23.828"N	80°56'08.922"W	786.31	39.791	10.56	9.70	8.42	
6148.00	35.370	158.670	6054.76	-359.91	580.43	512.78	1658552.99	14316036.35	39°25'23.593"N	80°56'08.801"W	774.50	41.459	6.81	6.65	2.63	
6197.00	39.640	159.770	6093.62	-330.08	552.54	523.35	1658563.55	14316008.47	39°25'23.317"N	80°56'08.666"W	761.05	43.446	6.82	8.71	2.24	
6245.00	43.710	161.490	6129.47	-298.19	522.43	533.91	1658574.11	14315978.38	39°25'23.020"N	80°56'08.532"W	746.99	45.623	8.81	8.48	3.58	
6292.00	47.360	162.710	6162.39	-264.70	490.52	544.21	1658584.40	14315946.47	39°25'22.704"N	80°56'08.401"W	732.65	47.971	7.98	7.77	2.60	
6333.00†	51.120	163.185	6189.15	-233.72	460.83	553.31	1658593.50	14315916.80	39°25'22.411"N	80°56'08.285"W	720.08	50.210	9.21	9.17	1.16	Middlesex: 6333' MD
6339.00	51.670	163.250	6192.99	-229.04	456.34	554.67	1658594.86	14315912.31	39°25'22.366"N	80°56'08.268"W	718.26	50.555	9.21	9.17	1.09	
6386.00	56.350	164.070	6220.51	-191.14	419.86	565.35	1658605.54	14315875.84	39°25'22.006"N	80°56'08.132"W	704.21	53.401	10.06	9.96	1.74	
6433.00	60.670	163.890	6245.05	-151.21	381.35	576.41	1658616.59	14315837.34	39°25'21.625"N	80°56'07.992"W	691.14	56.512	9.20	9.19	-0.38	

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Crown Unit 3H AWP Proj: 17677'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Crown Unit 3H
Field	Tyler	Wellbore	Crown Unit 3H AWB
Facility	Neat Pad		

WELLPATH DATA (216 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US FT]	Grid North [US FT]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS F/100ft	Build Rate F/100ft	Turn Rate F/100ft	Comments
6481.00	64.930	163.270	6286.99	-108.66	340.41	588.48	1658628.66	14315796.42	39°25'21.220"N	80°56'07.838"W	679.84	59.953	8.95	8.87	-1.29	
6513.00†	67.122	163.345	6279.99	-79.50	312.40	596.88	1658637.05	14315768.43	39°25'20.943"N	80°56'07.731"W	673.69	62.373	6.85	6.85	0.24	Burkett: 6513' MD
6528.00	68.150	163.380	6285.70	-65.67	299.11	600.85	1658641.02	14315755.14	39°25'20.812"N	80°56'07.681"W	671.19	63.555	6.85	6.85	0.23	
6576.00	70.090	162.750	6302.80	-20.92	256.21	613.92	1658654.08	14315712.26	39°25'20.388"N	80°56'07.515"W	665.24	67.347	4.22	4.04	-1.31	July: 6576' MD
6623.00	71.950	161.400	6318.09	23.46	213.93	627.60	1658667.76	14315669.99	39°25'19.970"N	80°56'07.341"W	663.06	71.178	4.80	3.96	-2.87	
6626.00†	72.230	161.402	6319.01	26.31	211.22	628.51	1658668.67	14315667.29	39°25'19.943"N	80°56'07.329"W	663.05	71.424	9.33	9.33	0.06	Marcellus POE: 6626' MD
6671.00	76.430	161.430	6331.16	69.60	170.16	642.31	1658682.47	14315626.24	39°25'19.537"N	80°56'07.154"W	664.47	75.162	9.33	9.33	0.06	
6718.00	80.390	163.250	6340.60	115.55	126.30	656.27	1658696.42	14315582.40	39°25'19.104"N	80°56'06.976"W	668.32	79.107	9.24	8.43	3.87	
6766.00	84.210	164.960	6347.04	162.93	80.56	669.29	1658709.44	14315536.68	39°25'18.652"N	80°56'06.811"W	674.12	83.137	8.71	7.96	3.56	
6813.00	87.940	165.550	6350.25	209.55	35.22	681.23	1658721.36	14315491.36	39°25'18.203"N	80°56'06.659"W	682.14	87.040	8.03	7.94	1.28	
6862.00	89.570	165.970	6351.32	258.21	-12.26	693.28	1658733.41	14315443.90	39°25'17.734"N	80°56'06.506"W	693.38	91.013	3.44	3.33	0.86	
6959.00	89.660	165.820	6351.97	354.54	-106.33	716.91	1658757.04	14315349.86	39°25'16.804"N	80°56'06.206"W	724.76	98.437	0.18	0.09	-0.15	
7050.00	89.320	164.780	6352.78	445.01	-194.35	740.00	1658780.12	14315261.88	39°25'15.934"N	80°56'05.912"W	765.10	104.715	1.20	-0.37	-1.14	
7145.00	89.080	165.330	6354.10	539.49	-286.13	764.50	1658804.61	14315170.14	39°25'15.027"N	80°56'05.601"W	816.29	110.519	0.63	-0.25	0.58	
7239.00	89.380	166.140	6355.37	632.86	-377.22	787.66	1658827.76	14315079.08	39°25'14.126"N	80°56'05.307"W	873.33	115.590	0.92	0.32	0.86	
7335.00	89.290	164.760	6356.48	728.28	-470.13	811.78	1658851.86	14314986.21	39°25'13.208"N	80°56'05.000"W	938.09	120.077	1.44	-0.09	-1.44	
7429.00	89.380	164.310	6357.57	821.85	-560.72	836.84	1658876.92	14314896.65	39°25'12.312"N	80°56'04.882"W	1007.33	123.824	0.49	0.10	-0.48	
7524.00	89.320	163.750	6358.65	916.50	-652.05	862.98	1658903.04	14314804.36	39°25'11.409"N	80°56'04.350"W	1081.62	127.074	0.59	-0.06	-0.59	
7619.00	89.420	163.120	6359.70	1011.23	-743.10	890.06	1658930.11	14314713.35	39°25'10.509"N	80°56'04.005"W	1159.48	129.858	0.67	0.11	-0.66	
7713.00	89.450	163.450	6360.62	1104.98	-833.12	917.09	1658957.14	14314623.36	39°25'09.619"N	80°56'03.662"W	1239.01	132.253	0.35	0.03	0.35	
7807.00	89.570	162.120	6361.43	1198.79	-922.91	944.91	1658984.94	14314533.61	39°25'08.732"N	80°56'03.308"W	1320.84	134.325	1.42	0.13	-1.41	
7902.00	89.480	160.960	6362.21	1293.70	-1013.02	974.99	1659015.01	14314443.54	39°25'07.841"N	80°56'02.926"W	1405.99	136.096	1.22	-0.09	-1.22	
7997.00	89.450	160.180	6363.10	1388.67	-1102.60	1006.59	1659046.60	14314353.99	39°25'06.955"N	80°56'02.524"W	1492.97	137.606	0.82	-0.03	-0.82	
8092.00	89.320	159.540	6364.12	1483.65	-1191.79	1039.30	1659079.29	14314264.84	39°25'06.074"N	80°56'02.108"W	1581.30	138.910	0.69	-0.14	-0.67	
8187.00	89.290	160.380	6365.27	1578.64	-1281.03	1071.85	1659111.83	14314175.64	39°25'05.191"N	80°56'01.694"W	1670.30	140.080	0.88	-0.03	0.88	
8281.00	89.200	158.140	6366.51	1672.62	-1368.92	1105.13	1659145.10	14314087.78	39°25'04.322"N	80°56'01.271"W	1759.34	141.086	2.38	-0.10	-2.38	
8375.00	89.140	158.480	6367.87	1766.60	-1456.26	1139.87	1659179.83	14314000.48	39°25'03.459"N	80°56'00.829"W	1849.32	141.948	0.37	-0.06	0.36	
8469.00	89.290	158.130	6369.16	1860.58	-1543.59	1174.62	1659214.56	143138913.18	39°25'02.596"N	80°56'00.387"W	1939.69	142.730	0.41	0.16	-0.37	
8564.00	89.140	158.840	6370.46	1955.57	-1631.96	1209.45	1659249.38	14313824.85	39°25'01.722"N	80°55'59.944"W	2031.28	143.458	0.76	-0.16	0.75	
8659.00	89.110	158.850	6371.91	2050.55	-1720.55	1243.73	1659283.65	14313736.29	39°25'00.846"N	80°55'59.508"W	2123.01	144.138	0.03	-0.03	0.01	

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Actual Wellpath Report

Crown Unit 3H AWP Proj: 17677
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Tyler County, WV	Well	Crown Unit 3H
Field	Tyler	Wellbore	Crown Unit 3H AWB
Facility	Neat Pad		

WELLPATH DATA (216 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Bulld Rate (F/100ft)	Turn Rate (F/100ft)	Comments
8753.00	88.920	158.220	6373.53	2144.53	-1808.02	1278.13	1659318.03	14313648.86	39°24'59.981"N	80°55'59.071"W	2214.17	144.743	0.70	-0.20	-0.67	
8849.00	89.050	158.520	6375.23	2240.51	-1897.24	1313.51	1659353.39	14313559.67	39°24'59.099"N	80°55'58.621"W	2307.56	145.304	0.34	0.14	0.31	
8943.00	89.140	157.060	6376.71	2334.47	-1984.25	1349.04	1659388.91	14313472.69	39°24'58.239"N	80°55'58.169"W	2399.41	145.789	1.56	0.10	-1.55	
9038.00	88.490	158.950	6378.68	2429.42	-2072.32	1384.61	1659424.46	14313384.67	39°24'57.368"N	80°55'57.716"W	2492.31	146.251	2.10	-0.68	1.99	
9133.00	89.020	161.000	6380.74	2524.39	-2161.55	1417.13	1659456.97	14313295.47	39°24'56.486"N	80°55'57.303"W	2584.67	146.751	2.23	0.56	2.16	
9228.00	89.820	161.270	6381.71	2619.32	-2251.44	1447.84	1659487.67	14313205.62	39°24'55.598"N	80°55'56.912"W	2676.79	147.256	0.89	0.84	0.28	
9323.00	90.120	160.710	6381.76	2714.27	-2341.26	1478.79	1659518.60	14313115.84	39°24'54.710"N	80°55'56.519"W	2769.17	147.723	0.67	0.32	-0.59	
9418.00	89.660	159.750	6381.94	2809.26	-2430.66	1510.92	1659550.72	14313026.47	39°24'53.826"N	80°55'56.110"W	2861.99	148.135	1.12	-0.48	-1.01	
9512.00	89.690	159.800	6382.47	2903.25	-2518.86	1543.42	1659583.21	14312938.30	39°24'52.954"N	80°55'55.697"W	2954.11	148.502	0.06	0.03	0.05	
9607.00	89.630	159.620	6383.03	2998.24	-2607.96	1576.36	1659616.14	14312849.24	39°24'52.073"N	80°55'55.278"W	3047.36	148.850	0.20	-0.06	-0.19	
9702.00	89.570	158.510	6383.70	3093.24	-2696.69	1610.30	1659650.07	14312760.55	39°24'51.196"N	80°55'54.847"W	3140.89	149.157	1.17	-0.06	-1.17	
9796.00	89.570	158.470	6384.40	3187.23	-2784.14	1644.77	1659684.52	14312673.13	39°24'50.331"N	80°55'54.408"W	3233.68	149.427	0.04	0.00	-0.04	
9890.00	89.570	158.970	6385.11	3281.22	-2871.73	1678.88	1659718.62	14312585.58	39°24'49.465"N	80°55'53.975"W	3326.48	149.688	0.53	0.00	0.53	
9985.00	89.380	157.120	6385.98	3376.20	-2959.83	1714.40	1659754.12	14312497.51	39°24'48.594"N	80°55'53.523"W	3420.49	149.920	1.96	-0.20	-1.95	
10080.00	89.320	155.400	6387.06	3471.07	-3046.78	1752.64	1659792.35	14312410.59	39°24'47.735"N	80°55'53.037"W	3514.91	150.091	1.81	-0.06	-1.81	
10174.00	89.480	156.580	6388.04	3564.92	-3132.64	1790.88	1659830.58	14312324.77	39°24'46.886"N	80°55'52.550"W	3608.42	150.244	1.27	0.17	1.26	
10270.00	89.750	156.650	6388.69	3660.82	-3220.75	1828.99	1659868.66	14312236.69	39°24'46.015"N	80°55'52.066"W	3703.84	150.409	0.29	0.28	0.07	
10365.00	89.420	155.500	6389.37	3755.68	-3307.59	1867.51	1659907.17	14312149.89	39°24'45.156"N	80°55'51.576"W	3798.39	150.550	1.26	-0.35	-1.21	
10460.00	89.600	156.260	6390.19	3850.52	-3394.29	1906.33	1659945.98	14312063.23	39°24'44.299"N	80°55'51.082"W	3892.98	150.680	0.82	0.19	0.80	
10555.00	89.350	158.660	6391.06	3945.47	-3482.02	1942.74	1659982.37	14311975.53	39°24'43.431"N	80°55'50.619"W	3987.32	150.841	2.54	-0.26	2.53	
10650.00	89.600	158.230	6391.93	4040.46	-3570.37	1977.64	1660017.26	14311887.21	39°24'42.588"N	80°55'50.175"W	4081.50	151.018	0.52	0.26	-0.45	
10744.00	89.570	157.400	6392.61	4134.43	-3657.41	2013.14	1660052.74	14311800.21	39°24'41.697"N	80°55'49.724"W	4174.85	151.170	0.88	-0.03	-0.88	
10840.00	89.540	158.220	6393.35	4230.40	-3746.30	2049.39	1660088.98	14311711.36	39°24'40.819"N	80°55'49.263"W	4270.22	151.319	0.85	-0.03	0.85	
10934.00	89.630	158.950	6394.04	4324.39	-3833.81	2083.71	1660123.29	14311623.88	39°24'39.953"N	80°55'48.826"W	4363.48	151.475	0.78	0.10	0.78	
11030.00	89.720	158.820	6394.58	4420.39	-3923.36	2118.29	1660157.66	14311534.37	39°24'39.068"N	80°55'48.386"W	4458.69	151.635	0.16	0.09	-0.14	
11125.00	89.510	160.330	6395.22	4515.38	-4012.38	2151.45	1660190.99	14311445.38	39°24'38.188"N	80°55'47.965"W	4552.79	151.800	1.60	-0.22	1.59	
11220.00	89.720	162.210	6395.86	4610.31	-4102.35	2181.95	1660221.48	14311355.45	39°24'37.299"N	80°55'47.577"W	4646.52	151.992	1.99	0.22	1.98	
11315.00	89.600	162.510	6396.42	4705.16	-4192.88	2210.74	1660250.26	14311264.96	39°24'36.404"N	80°55'47.211"W	4740.00	152.199	0.34	-0.13	0.32	
11410.00	89.880	163.300	6396.85	4799.95	-4283.68	2238.66	1660278.18	14311174.19	39°24'35.506"N	80°55'46.856"W	4833.37	152.408	0.88	0.29	0.83	
11505.00	90.000	162.540	6396.95	4894.75	-4374.49	2266.56	1660306.07	14311083.42	39°24'34.608"N	80°55'46.502"W	4926.81	152.610	0.81	0.13	-0.80	

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Facility	Neat Pad		

WELLPATH DATA (216 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
11599.00	89.910	161.710	6397.03	4988.62	-4463.95	2295.42	1660334.91	14310994.00	39°24'33.724"N	80°55'46.135"W	5019.54	152.787	0.89	-0.10	-0.88	
11594.00	89.970	161.350	6397.12	5083.54	-4554.05	2325.51	1660364.99	14310903.93	39°24'32.833"N	80°55'45.753"W	5113.46	152.949	0.38	0.06	-0.38	
11789.00	90.060	161.450	6397.10	5178.46	-4644.09	2355.81	1660395.28	14310813.92	39°24'31.943"N	80°55'45.368"W	5207.44	153.103	0.14	0.09	0.11	
11885.00	90.650	161.770	6396.50	5274.37	-4735.19	2386.10	1660425.55	14310722.87	39°24'31.042"N	80°55'44.983"W	5302.40	153.256	0.70	0.61	0.33	
11979.00	90.340	161.130	6396.69	5368.29	-4824.30	2416.00	1660455.44	14310633.79	39°24'30.161"N	80°55'44.603"W	5395.46	153.398	0.76	-0.33	-0.68	
12073.00	90.340	160.140	6395.14	5462.26	-4912.98	2447.17	1660486.60	14310545.14	39°24'29.285"N	80°55'44.206"W	5488.72	153.522	1.05	0.00	-1.05	
12169.00	90.520	159.590	6394.41	5558.25	-5003.11	2480.22	1660519.63	14310455.05	39°24'28.394"N	80°55'43.786"W	5584.14	153.631	0.60	0.19	-0.57	
12263.00	90.220	157.260	6393.81	5652.23	-5090.52	2514.78	1660554.18	14310367.68	39°24'27.529"N	80°55'43.347"W	5677.80	153.710	2.50	-0.32	-2.48	
12357.00	90.090	157.400	6393.65	5746.18	-5177.25	2551.01	1660590.40	14310280.98	39°24'26.672"N	80°55'42.886"W	5771.62	153.769	0.20	-0.14	0.15	
12453.00	90.220	157.810	6393.29	5842.15	-5266.01	2587.58	1660626.96	14310192.25	39°24'25.794"N	80°55'42.421"W	5867.41	153.832	0.45	0.14	0.43	
12548.00	90.120	160.160	6393.01	5937.14	-5354.69	2621.65	1660661.01	14310103.62	39°24'24.918"N	80°55'41.988"W	5962.02	153.914	2.48	-0.11	2.47	
12642.00	90.520	162.510	6392.49	6031.07	-5443.74	2651.73	1660691.08	14310014.60	39°24'24.037"N	80°55'41.606"W	6055.24	154.029	2.54	0.43	2.50	
12737.00	90.490	162.530	6391.65	6125.90	-5534.34	2680.26	1660719.60	14309924.03	39°24'23.142"N	80°55'41.243"W	6149.21	154.159	0.04	-0.03	0.02	
12832.00	90.340	159.920	6390.96	6220.82	-5624.28	2710.84	1660750.16	14309834.13	39°24'22.252"N	80°55'40.854"W	6243.49	154.266	2.75	-0.16	-2.75	
12927.00	90.340	158.500	6390.40	6315.82	-5713.09	2744.55	1660783.86	14309745.36	39°24'21.374"N	80°55'40.426"W	6338.14	154.340	1.49	0.00	-1.49	
13021.00	90.120	158.160	6390.02	6409.81	-5800.45	2779.27	1660818.56	14309658.04	39°24'20.511"N	80°55'39.985"W	6431.91	154.399	0.43	-0.23	-0.36	
13115.00	90.280	158.360	6389.69	6503.80	-5887.76	2814.08	1660853.36	14309570.76	39°24'19.648"N	80°55'39.542"W	6525.70	154.454	0.27	0.17	0.21	
13210.00	90.650	158.480	6388.92	6598.79	-5976.10	2849.02	1660888.29	14309482.45	39°24'18.774"N	80°55'39.098"W	6620.47	154.511	0.41	0.39	0.13	
13306.00	90.280	157.470	6388.14	6694.76	-6065.09	2885.02	1660924.27	14309393.50	39°24'17.894"N	80°55'38.640"W	6716.30	154.561	1.12	-0.39	-1.05	
13399.00	90.150	155.820	6387.79	6787.67	-6150.46	2921.89	1660961.13	14309308.16	39°24'17.050"N	80°55'38.171"W	6809.23	154.589	1.78	-0.14	-1.77	
13494.00	90.180	155.770	6387.52	6882.51	-6237.11	2960.84	1661000.06	14309221.55	39°24'16.194"N	80°55'37.676"W	6904.21	154.606	0.06	0.03	-0.05	
13587.00	90.220	155.840	6387.19	6975.35	-6321.94	2998.95	1661038.16	14309136.75	39°24'15.355"N	80°55'37.191"W	6997.19	154.622	0.09	0.04	0.08	
13682.00	90.180	155.170	6386.86	7070.15	-6408.39	3038.34	1661077.53	14309050.34	39°24'14.500"N	80°55'36.690"W	7092.18	154.633	0.71	-0.04	-0.71	
13777.00	89.910	156.990	6386.79	7165.01	-6495.23	3076.86	1661116.03	14308963.53	39°24'13.642"N	80°55'36.201"W	7187.14	154.653	1.94	-0.28	1.92	
13872.00	90.400	157.940	6386.53	7259.97	-6582.97	3113.27	1661152.43	14308875.82	39°24'12.774"N	80°55'35.738"W	7282.03	154.689	1.13	0.52	1.00	
13968.00	90.180	158.580	6386.05	7355.96	-6672.14	3148.82	1661187.97	14308786.69	39°24'11.892"N	80°55'35.286"W	7377.84	154.736	0.70	-0.23	0.67	
14061.00	90.250	159.900	6385.70	7448.95	-6759.10	3181.79	1661220.92	14308699.77	39°24'11.033"N	80°55'34.867"W	7470.56	154.792	1.42	0.08	1.42	
14157.00	90.220	161.870	6385.30	7544.90	-6849.80	3213.22	1661252.34	14308609.10	39°24'10.136"N	80°55'34.467"W	7566.02	154.859	2.05	-0.03	2.05	
14251.00	90.180	162.800	6384.97	7638.76	-6939.37	3241.74	1661280.85	14308519.57	39°24'09.250"N	80°55'34.105"W	7659.23	154.950	0.99	-0.04	0.99	
14346.00	90.340	162.380	6384.54	7733.59	-7030.02	3270.17	1661309.27	14308428.96	39°24'08.354"N	80°55'33.743"W	7753.39	155.053	0.47	0.17	-0.44	

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Actual Wellpath Report

Crown Unit 3H AWP Proj: 17677

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Crown Unit 3H
Area	Tyler County, WV	Wellbore	Crown Unit 3H AWP
Field	Tyler		
Facility	Neat Pad		

WELLPATH DATA (216 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
14441.00	90.430	163.440	6383.90	7828.38	-7120.82	3298.09	1661337.17	14306338.19	39°24'07.457"N	80°55'33.389"W	7847.51	155.148	1.12	0.09	1.12	
14535.00	90.310	162.500	6383.30	7922.17	-7210.69	3325.62	1661364.69	14306248.35	39°24'06.568"N	80°55'33.039"W	7940.64	155.241	1.01	-0.13	-1.00	
14629.00	90.340	160.560	6382.76	8016.08	-7299.85	3355.39	1661394.46	14308159.24	39°24'05.687"N	80°55'32.661"W	8034.08	155.314	2.06	0.03	-2.06	
14724.00	90.180	159.630	6382.33	8111.06	-7389.17	3387.74	1661426.79	14308069.95	39°24'04.804"N	80°55'32.250"W	8128.75	155.370	0.99	-0.17	-0.98	
14819.00	90.060	162.460	6382.13	8206.00	-7479.01	3418.59	1661457.63	14307980.15	39°24'03.916"N	80°55'31.857"W	8223.28	155.435	2.98	-0.13	2.98	
14914.00	90.490	163.390	6381.68	8300.79	-7569.82	3446.49	1661485.51	14307889.37	39°24'03.018"N	80°55'31.503"W	8317.48	155.521	1.08	0.45	0.98	
15008.00	91.170	162.810	6380.32	8394.57	-7659.70	3473.96	1661512.98	14307799.53	39°24'02.129"N	80°55'31.154"W	8410.67	155.604	1.10	0.72	-0.83	
15103.00	90.150	161.710	6379.22	8489.43	-7750.12	3503.07	1661542.07	14307709.14	39°24'01.235"N	80°55'30.784"W	8505.05	155.677	1.43	-1.07	-0.95	
15198.00	90.370	161.830	6378.79	8584.33	-7840.35	3532.79	1661571.78	14307618.95	39°24'00.343"N	80°55'30.407"W	8599.52	155.744	0.26	0.23	0.13	
15292.00	90.830	159.460	6377.81	8678.29	-7929.03	3563.93	1661602.91	14307530.31	39°23'59.467"N	80°55'30.011"W	8693.17	155.797	2.57	0.49	-2.52	
15386.00	90.000	159.820	6377.13	8772.28	-8017.10	3596.79	1661635.76	14307442.27	39°23'58.596"N	80°55'29.593"W	8786.96	155.837	0.90	-0.88	0.17	
15482.00	90.460	159.790	6376.04	8868.26	-8105.82	3661.25	1661700.19	14307263.62	39°23'57.703"N	80°55'29.178"W	8882.70	155.893	1.14	0.45	1.05	
15576.00	90.280	158.290	6375.43	8956.24	-8193.82	3694.88	1661733.80	14307175.88	39°23'56.829"N	80°55'28.774"W	8976.43	155.929	0.89	0.03	-0.89	
15670.00	90.400	158.420	6374.87	9151.23	-8283.60	3729.92	1661768.83	14307087.62	39°23'55.961"N	80°55'28.347"W	9070.29	155.961	1.61	-0.19	-1.60	
15765.00	89.850	155.950	6374.66	9246.16	-8371.90	3766.83	1661805.73	14307000.12	39°23'55.088"N	80°55'27.901"W	9165.20	155.966	0.19	0.13	0.14	
15860.00	89.850	155.950	6374.66	9246.16	-8459.42	3766.83	1661805.73	14307000.12	39°23'54.223"N	80°55'27.432"W	9260.18	155.997	2.77	-0.58	-2.71	
15954.00	89.820	159.030	6374.93	9340.11	-8546.22	3802.88	1661841.77	14306913.36	39°23'53.365"N	80°55'26.973"W	9354.13	156.012	3.38	-0.03	3.38	
16048.00	90.580	159.280	6374.60	9434.11	-8634.07	3836.33	1661875.20	14306825.55	39°23'52.495"N	80°55'26.548"W	9447.99	156.043	0.85	0.81	0.27	
16144.00	89.910	155.870	6374.19	9530.05	-8722.79	3872.95	1661911.81	14306736.86	39°23'51.619"N	80°55'26.083"W	9543.94	156.059	3.62	-0.70	-3.55	
16238.00	89.510	157.250	6373.67	9623.95	-8809.03	3910.34	1661949.18	14306650.66	39°23'50.766"N	80°55'25.608"W	9637.94	156.064	1.53	-0.43	1.47	
16333.00	90.800	156.560	6374.41	9718.88	-8896.41	3947.60	1661986.43	14306563.31	39°23'49.902"N	80°55'25.134"W	9732.92	156.072	1.54	1.36	-0.73	
16428.00	89.630	155.560	6374.05	9813.74	-8983.24	3986.15	1662024.96	14306476.52	39°23'49.044"N	80°55'24.644"W	9827.92	156.072	1.62	-1.23	-1.05	
16523.00	90.490	154.570	6373.95	9908.49	-9069.38	4026.20	1662065.00	14306389.41	39°23'48.192"N	80°55'24.134"W	9922.90	156.062	1.38	0.91	-1.04	
16616.00	90.000	153.160	6373.55	10001.09	-9152.87	4067.16	1662105.94	14306306.96	39°23'47.365"N	80°55'23.614"W	10015.83	156.042	1.61	-0.53	-1.52	
16711.00	89.850	153.820	6373.68	10095.63	-9237.88	4109.57	1662148.33	14306221.98	39°23'46.525"N	80°55'23.074"W	10110.74	156.018	0.71	-0.16	0.69	
16806.00	89.970	155.310	6373.83	10190.32	-9323.67	4150.37	1662189.11	14306136.23	39°23'45.678"N	80°55'22.556"W	10205.70	156.004	1.57	0.13	1.57	
16901.00	90.030	156.780	6373.83	10285.18	-9410.49	4188.94	1662227.67	14306049.45	39°23'44.819"N	80°55'22.065"W	10300.70	156.004	1.55	0.06	1.55	
16996.00	90.060	157.560	6373.75	10380.12	-9498.04	4225.80	1662264.51	14305961.92	39°23'43.954"N	80°55'21.597"W	10395.68	156.015	0.82	0.03	0.82	
17090.00	90.030	158.460	6373.68	10474.10	-9585.20	4261.00	1662299.70	14305874.80	39°23'43.092"N	80°55'21.149"W	10489.62	156.033	0.96	-0.03	0.96	
17185.00	89.750	161.660	6373.86	10569.08	-9674.50	4293.39	1662332.08	14305785.54	39°23'42.209"N	80°55'20.738"W	10584.38	156.069	3.38	-0.29	3.37	

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Well	Crown Unit 3H
Tyler County, WV	Wellbore	Crown Unit 3H AWB
Tyler		
Neat Pad		

WELLPATH DATA (216 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (JUS ft)	Grid North (JUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
17280.00	89.820	164.870	6374.22	10663.82	-9765.46	4320.74	1662359.42	14305694.61	39°23'41.310"N	80°55'20.390"W	10678.62	156.133	3.38	0.07	3.38	
17375.00	89.970	166.780	6374.39	10758.17	-9857.56	4344.00	1662382.67	14305602.55	39°23'40.399"N	80°55'20.095"W	10772.27	156.218	2.02	0.16	2.01	
17470.00	90.650	164.810	6373.88	10852.53	-9949.65	4367.31	1662405.97	14305510.50	39°23'39.489"N	80°55'19.799"W	10865.96	156.301	2.19	0.72	-2.07	
17565.00	90.340	165.310	6373.06	10947.02	-10041.44	4391.81	1662430.45	14305418.75	39°23'38.582"N	80°55'19.488"W	10959.85	156.377	0.62	-0.33	0.53	
17653.00	91.940	165.430	6371.31	11034.48	-10126.56	4414.03	1662452.67	14305333.66	39°23'37.740"N	80°55'19.206"W	11046.76	156.448	1.82	1.82	0.14	
17677.00	91.940	165.430	6370.50	11058.32	-10149.78	4420.06	1662458.70	14305310.45	39°23'37.511"N	80°55'19.129"W	11070.45	156.468	0.00	0.00	0.00	Projected MD at TD: 17677'

HOLE & CASING SECTIONS - Ref Wellbore: Crown Unit 3H AWB Ref Wellpath: Crown Unit 3H AWP Proj: 17677'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start EW (ft)	End N/S (ft)	End EW (ft)
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.02	0.15
17.5in Open Hole	104.50	366.50	262.00	104.50	366.49	-0.02	0.15	-0.47	-0.89
13.375in Casing Surface	24.50	366.50	342.00	24.50	366.49	0.00	0.00	-0.47	-0.89
12.25in Open Hole	366.50	2617.50	2251.00	366.49	2585.64	-0.47	-0.89	288.13	194.35
9.625in Casing Intermediate	24.50	2617.50	2593.00	24.50	2585.64	0.00	0.00	288.13	194.35
8.75in Open Hole	2617.50	5621.00	3003.50	2585.64	5555.19	288.13	194.35	662.99	428.78
8.5in Open Hole	5621.00	17677.00	12056.00	5555.19	6370.50	662.99	428.78	-10149.78	4420.06
5.5in Casing Production	24.50	17677.00	17652.50	24.50	6370.50	0.00	0.00	-10149.78	4420.06

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #01
ANTERO RESOURCES CORPORATION	Well	Crown Unit 3H
Area Tyler County, WV	Wellbore	Crown Unit 3H AWB
Field Tyler		
Facility Neat Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Crown Unit 3H POE Rev-2	6320.00	232.80	631.48	1658671.64	14315688.86	39°25'20.156"N	80°56'07.291"W	point
Crown Unit 3H BHL Rev-2	6350.00	-10165.64	4447.19	1662485.82	14305294.59	39°23'37.354"N	80°55'18.784"W	point
Crown Unit 3H LP Rev-1	6350.00	43.12	691.29	1658731.42	14315499.26	39°25'18.281"N	80°56'06.531"W	point

WELLPATH COMPOSITION - Ref Wellbore: Crown Unit 3H AWB Ref Wellpath: Crown Unit 3H AWP Proj: 17677

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	338.50	Gyrodatta standard - Drop gyro or Multi-shot	01 Gyrodatta MS Gyro <17-1/2">(50'-329')	Crown Unit 3H AWB
338.50	429.50	Gyrodatta standard - Drop gyro or Multi-shot	02 Gyrodatta MS Gyro <12-1/4">(329')(420')	Crown Unit 3H AWB
429.50	2544.50	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4">(420')(476'-2535')	Crown Unit 3H AWB
2544.50	5621.00	ISCWSA MWD, Rev. 4 (Standard)	04 Panther MWD <8-3/4">(2544.50)(2633'-5621')	Crown Unit 3H AWB
5621.00	17653.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(5621')(5657'-17653)	Crown Unit 3H AWB
17653.00	17677.00	Blind Drilling (std)	Projection to bit	Crown Unit 3H AWB

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Actual Wellpath Report

Crown Unit 3H AWP Proj: 17677
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Slot	Slot #01	
ANTERO RESOURCES CORPORATION	Well	Crown Unit 3H	
Tyler County, WV	Wellbore	Crown Unit 3H AWB	
Tyler			
Neat Pad			

COMMENTS
<p>Wellpath general comments</p> <p>API: 47-095-02455-0000</p> <p>BHI Job #: 109402493</p> <p>Rig: Frontier 22</p> <p>Duration: 09/19/2018-09/23/2018</p> <p>Gyrodata MS Gyro <17-1/2"> (50'-329')</p> <p>Gyrodata MS Gyro <12-1/4"> (329')(420')</p> <p>Directional ONE MWD <12-1/4"> (420')(476'-2535')</p> <p>Panther MWD <8-3/4"> (2544.5')(2633'-5621')</p> <p>BHI AT Curve <8-1/2"> (5621')(5657'-17653')</p> <p>Middlesex: 6333' MD</p> <p>Burkett: 6513' MD</p> <p>Tully: 6576' MD</p> <p>Marcellus POE: 6626' MD</p> <p>Projected MD at TD: 17677'</p>

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