



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Tyler County, WV	Well	Treasury Unit 2H
Field	Tyler	Wellbore	Treasury Unit 2H AWB
Facility	Kirk Hadley 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	9/19/2019 at 6:27:34 PM
Convergence at slot	0.04° East	Database/Source file	WA_MPL_EasternUS_Defn/Treasury_Unit_2H_AWP_Proj_21947_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	68.95	11.85	1659532.50	14330648.74	39°27'48.065"N	80°55'56.174"W
Facility Reference Pt			1659520.65	14330579.82	39°27'47.384"N	80°55'56.326"W
Field Reference Pt			0.00	0.00	0°0'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	937.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Ground Level at Slot (Slot #08)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.04°



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WELLPATH DATA (251 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 (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Turn Rate Comments
0.00†	0.000	295.990	0.00	0.00	0.00	0.00	1659532.50	14330648.74	39°27'48.065"N	80°55'56.174"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	295.990	25.00	0.00	0.00	0.00	1659532.50	14330648.74	39°27'48.065"N	80°55'56.174"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.520	295.990	100.00	0.24	0.15	-0.31	1659532.19	14330648.89	39°27'48.066"N	80°55'56.178"W	0.34	295.990	0.69	0.69	-85.35	Gyrodata MS Gyro <17-1/2"> 100'-388'
125.00	0.300	309.260	125.00	0.38	0.24	-0.46	1659532.04	14330648.98	39°27'48.067"N	80°55'56.180"W	0.52	297.653	0.95	-0.88	53.08	
150.00	0.170	322.970	150.00	0.47	0.31	-0.53	1659531.97	14330649.05	39°27'48.067"N	80°55'56.181"W	0.62	300.354	0.56	-0.52	54.84	
175.00	0.140	322.990	175.00	0.53	0.37	-0.57	1659531.93	14330649.11	39°27'48.069"N	80°55'56.181"W	0.68	302.550	0.12	-0.12	0.08	
200.00	0.030	336.980	200.00	0.57	0.40	-0.59	1659531.90	14330649.14	39°27'48.069"N	80°55'56.182"W	0.71	303.704	0.44	-0.44	55.98	
225.00	0.060	114.080	225.00	0.56	0.40	-0.58	1659531.91	14330649.14	39°27'48.069"N	80°55'56.182"W	0.71	304.174	0.34	0.12	548.40	
250.00	0.070	145.070	250.00	0.54	0.38	-0.56	1659531.93	14330649.12	39°27'48.069"N	80°55'56.181"W	0.68	303.907	0.14	0.04	123.96	
275.00	0.040	181.240	275.00	0.52	0.36	-0.55	1659531.94	14330649.10	39°27'48.069"N	80°55'56.181"W	0.66	302.791	0.18	-0.12	144.68	
300.00	0.080	139.080	300.00	0.49	0.34	-0.54	1659531.95	14330649.08	39°27'48.068"N	80°55'56.181"W	0.64	301.684	0.23	0.16	-168.64	
325.00	0.080	196.310	325.00	0.46	0.31	-0.54	1659531.96	14330649.05	39°27'48.068"N	80°55'56.181"W	0.62	299.638	0.31	0.00	228.92	
350.00	0.070	124.070	350.00	0.44	0.28	-0.53	1659531.97	14330649.02	39°27'48.068"N	80°55'56.181"W	0.60	297.900	0.36	-0.04	-288.96	
375.00	0.070	133.700	375.00	0.41	0.26	-0.51	1659531.99	14330649.00	39°27'48.068"N	80°55'56.181"W	0.57	297.315	0.05	0.00	38.52	
388.00	0.170	213.140	388.00	0.39	0.24	-0.51	1659531.99	14330648.98	39°27'48.067"N	80°55'56.181"W	0.56	295.137	1.32	0.77	611.08	
446.00	0.330	180.880	446.00	0.18	0.00	-0.56	1659531.94	14330648.74	39°27'48.065"N	80°55'56.181"W	0.56	270.034	0.36	0.28	-55.62	Gyrodata MS Gyro <12-1/4"> 388' \ 446'-813'
541.00	0.650	109.640	540.99	-0.41	-0.45	-0.06	1659532.44	14330648.29	39°27'48.061"N	80°55'56.175"W	0.46	187.087	0.66	0.34	-74.99	
630.00	3.080	96.470	629.94	-1.75	-0.89	2.80	1659535.29	14330647.85	39°27'48.056"N	80°55'56.138"W	2.93	107.727	2.75	2.73	-14.80	
721.00	6.280	87.790	720.63	-4.24	-0.98	10.20	1659542.69	14330647.77	39°27'48.055"N	80°55'56.044"W	10.25	95.472	3.59	3.52	-9.54	
813.00	8.470	82.870	811.86	-7.08	0.06	21.95	1659554.44	14330648.80	39°27'48.065"N	80°55'55.894"W	21.95	89.848	2.48	2.38	-5.35	
929.00	11.820	77.960	926.07	-10.24	3.56	41.86	1659574.34	14330652.30	39°27'48.100"N	80°55'55.640"W	42.01	85.144	2.81	2.72	-4.21	WFT EM <12-1/4"> 813' \ 929'-2663'
1024.00	14.280	78.260	1018.65	-12.86	7.94	62.69	1659595.16	14330656.68	39°27'48.143"N	80°55'55.375"W	63.19	82.785	2.80	2.80	0.32	
1118.00	16.790	78.950	1109.20	-16.19	12.90	87.37	1659619.83	14330661.64	39°27'48.192"N	80°55'55.060"W	88.32	81.602	2.68	2.67	0.73	
1213.00	19.590	82.070	1199.45	-21.13	17.73	116.62	1659649.07	14330666.46	39°27'48.239"N	80°55'54.687"W	117.96	81.357	3.12	2.95	3.28	
1308.00	22.380	83.680	1288.14	-28.13	21.92	150.37	1659682.81	14330670.70	39°27'48.280"N	80°55'54.257"W	151.96	81.708	3.00	2.94	1.63	
1402.00	25.400	85.790	1374.08	-37.18	25.37	188.28	1659720.70	14330674.10	39°27'48.314"N	80°55'53.773"W	189.98	82.327	3.34	3.21	2.24	
1496.00	25.840	83.930	1458.84	-46.89	29.01	228.75	1659761.16	14330677.74	39°27'48.350"N	80°55'53.257"W	230.59	82.772	0.98	0.47	-1.98	
1591.00	25.190	82.670	1544.57	-55.58	33.78	269.39	1659801.78	14330682.51	39°27'48.397"N	80°55'52.739"W	271.50	82.853	0.89	-0.68	-1.33	
1686.00	24.940	86.550	1630.63	-65.01	37.57	309.44	1659841.81	14330686.29	39°27'48.434"N	80°55'52.228"W	311.71	83.078	1.75	-0.25	4.08	
1780.00	23.980	83.860	1716.20	-74.55	40.80	348.22	1659880.57	14330689.53	39°27'48.466"N	80°55'51.734"W	350.60	83.317	1.56	-1.02	-2.85	



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Facility	Kirk Hadley Pad		

WELLPATH DATA (251 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 (ft/100ft)	Turn Rate (ft/100ft)	Comments
1875.00	26.52	82.72	1802.12	-83.13	45.56	388.46	1659920.80	14330694.28	39°27'48.512"N	80°55'51.221"W	391.12	83.311	2.72	2.67	-1.20	
1970.00	30.30	86.64	1885.67	-93.87	49.65	433.44	1659965.76	14330698.37	39°27'48.552"N	80°55'50.647"W	436.27	83.465	4.44	3.98	4.13	
2084.00	31.18	88.84	1966.46	-107.69	51.53	481.44	1660013.75	14330700.25	39°27'48.571"N	80°55'50.035"W	484.19	83.891	1.52	0.94	2.34	
2159.00	29.01	89.79	2048.65	-122.61	52.11	529.07	1660061.35	14330700.84	39°27'48.576"N	80°55'49.428"W	531.63	84.374	2.34	-2.28	1.00	
2253.00	27.37	90.24	2131.50	-137.05	52.11	573.47	1660105.74	14330700.83	39°27'48.576"N	80°55'48.862"W	575.84	84.808	1.76	-1.74	0.48	
2347.00	27.69	86.72	2214.86	-150.06	53.27	616.89	1660149.14	14330701.99	39°27'48.587"N	80°55'48.308"W	619.18	85.065	1.76	0.34	-3.74	
2442.00	25.25	85.84	2299.89	-161.20	56.00	659.14	1660191.37	14330704.72	39°27'48.613"N	80°55'47.769"W	661.51	85.144	2.60	-2.57	-0.93	
2537.00	22.88	82.84	2386.83	-170.06	59.72	697.23	1660229.44	14330708.43	39°27'48.650"N	80°55'47.284"W	699.78	85.105	3.37	-3.13	-3.16	
2631.00	21.81	83.03	2473.96	-177.33	64.06	732.24	1660264.44	14330712.77	39°27'48.693"N	80°55'46.837"W	735.04	85.001	0.51	-0.50	0.20	
2663.00	21.23	84.88	2503.73	-179.95	65.29	743.91	1660276.11	14330714.01	39°27'48.705"N	80°55'46.689"W	746.77	84.984	2.79	-1.81	5.78	
2760.00	20.05	83.02	2594.50	-187.60	68.88	777.91	1660310.10	14330717.60	39°27'48.740"N	80°55'45.820"W	780.95	84.940	1.39	-1.22	-1.93	WFT EM <8-3/4"= (2663') (2760'-5847')
2855.00	22.42	81.51	2683.05	-194.28	73.54	812.00	1660344.17	14330722.25	39°27'48.786"N	80°55'45.255"W	815.32	84.825	2.56	2.49	-1.59	
2949.00	26.25	80.62	2768.68	-201.00	79.57	850.25	1660382.41	14330728.28	39°27'48.845"N	80°55'45.333"W	853.97	84.653	4.09	4.07	-0.95	
3047.00	26.52	89.13	2856.50	-211.40	83.44	893.53	1660425.66	14330732.15	39°27'48.883"N	80°55'44.781"W	897.41	84.665	3.87	0.28	8.68	
3142.00	23.80	87.94	2942.48	-223.56	84.45	933.90	1660466.02	14330733.16	39°27'48.893"N	80°55'44.266"W	937.71	84.833	2.91	-2.86	-1.25	
3236.00	24.25	87.90	3028.34	-234.67	85.84	972.14	1660504.25	14330734.55	39°27'48.906"N	80°55'43.778"W	975.92	84.954	0.48	0.48	-0.04	
3330.00	26.08	89.02	3113.41	-246.65	86.90	1012.10	1660544.19	14330735.61	39°27'48.916"N	80°55'43.269"W	1015.82	85.093	2.01	1.95	1.19	
3425.00	28.10	88.43	3197.99	-259.79	87.87	1055.34	1660587.42	14330736.58	39°27'48.925"N	80°55'42.718"W	1059.00	85.240	2.15	2.13	-0.62	
3520.00	28.11	89.12	3281.78	-273.42	88.83	1100.09	1660632.14	14330737.53	39°27'48.935"N	80°55'42.147"W	1103.67	85.384	0.34	0.01	0.73	
3614.00	28.39	86.33	3364.59	-286.19	90.60	1144.53	1660676.57	14330739.30	39°27'48.952"N	80°55'41.580"W	1148.11	85.474	1.44	0.30	-2.97	
3709.00	26.18	87.92	3449.02	-298.23	92.80	1188.02	1660720.04	14330741.51	39°27'48.973"N	80°55'41.026"W	1191.64	85.533	2.45	-2.33	1.67	
3803.00	24.95	86.67	3533.81	-309.59	94.71	1228.54	1660760.54	14330743.41	39°27'48.992"N	80°55'40.509"W	1232.18	85.592	1.43	-1.31	-1.33	
3898.00	26.39	86.54	3619.44	-320.63	97.15	1289.61	1660801.60	14330745.85	39°27'49.015"N	80°55'39.985"W	1273.33	85.624	1.52	1.52	-0.14	
3992.00	27.60	85.75	3703.19	-331.74	100.02	1312.18	1660844.15	14330748.72	39°27'49.043"N	80°55'39.443"W	1315.99	85.641	1.34	1.29	-0.84	
4086.00	26.05	81.89	3787.08	-341.16	104.55	1354.34	1660886.29	14330753.25	39°27'49.088"N	80°55'38.905"W	1358.37	85.586	2.48	-1.65	-4.11	
4180.00	26.49	84.15	3871.37	-349.80	109.60	1395.63	1660927.57	14330758.29	39°27'49.137"N	80°55'38.379"W	1399.93	85.510	1.16	0.47	2.40	
4275.00	26.31	83.15	3956.47	-359.02	114.27	1437.61	1660969.53	14330762.96	39°27'49.183"N	80°55'37.843"W	1442.14	85.455	0.50	-0.19	-1.05	
4369.00	24.15	79.65	4041.50	-366.27	120.21	1477.21	1661009.12	14330768.90	39°27'49.242"N	80°55'37.338"W	1482.10	85.348	2.79	-2.30	-3.72	
4463.00	24.36	81.96	4127.20	-372.83	126.37	1515.33	1661047.22	14330775.06	39°27'49.302"N	80°55'36.852"W	1520.59	85.233	1.03	0.22	2.46	
4558.00	27.17	84.85	4212.75	-381.72	131.06	1556.34	1661088.21	14330779.75	39°27'49.348"N	80°55'36.329"W	1561.85	85.186	3.24	2.96	3.04	



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4653.00	28.930	85.430	4296.59	-392.61	134.84	1600.85	1661132.70	14330783.53	39°27'49.385"N	80°55'35.762"W	1606.52	85.185	1.89	1.89	0.61	
4747.00	28.120	83.280	4379.18	-402.95	139.24	1645.52	1661177.35	14330787.93	39°27'49.428"N	80°55'35.192"W	1651.40	85.163	1.39	-0.86	-2.29	
4842.00	27.350	84.930	4463.27	-412.94	143.79	1689.49	1661221.31	14330792.48	39°27'49.473"N	80°55'34.632"W	1695.60	85.135	1.14	-0.81	1.74	
4937.00	26.270	87.250	4548.06	-424.05	146.73	1732.23	1661264.03	14330795.41	39°27'49.502"N	80°55'34.087"W	1738.43	85.158	1.58	-1.14	2.44	
5031.00	24.810	84.310	4632.87	-434.38	149.68	1772.63	1661304.42	14330798.36	39°27'49.531"N	80°55'33.571"W	1778.94	85.173	2.06	-1.55	-3.13	
5126.00	23.790	80.880	4719.46	-442.23	154.70	1811.39	1661343.16	14330803.38	39°27'49.580"N	80°55'33.077"W	1817.98	85.119	1.83	-1.07	-3.61	
5220.00	24.170	83.110	4805.35	-449.50	160.01	1849.21	1661380.97	14330808.69	39°27'49.632"N	80°55'32.595"W	1856.12	85.055	1.05	0.40	2.37	
5315.00	26.070	87.460	4891.37	-459.46	163.27	1889.38	1661421.12	14330811.95	39°27'49.664"N	80°55'32.083"W	1896.42	85.061	2.79	2.00	4.58	
5410.00	25.650	85.770	4976.86	-470.59	165.71	1930.74	1661462.47	14330814.39	39°27'49.688"N	80°55'31.555"W	1937.84	85.094	0.89	-0.44	-1.78	
5504.00	26.190	86.670	5061.40	-481.36	168.42	1971.74	1661503.45	14330817.09	39°27'49.714"N	80°55'31.033"W	1978.92	85.118	0.71	0.57	0.96	
5599.00	27.120	87.100	5146.30	-492.99	170.73	2014.30	1661545.99	14330819.40	39°27'49.737"N	80°55'30.490"W	2021.52	85.155	1.00	0.98	0.45	
5694.00	26.310	84.990	5231.16	-504.06	173.66	2056.90	1661588.57	14330822.34	39°27'49.765"N	80°55'29.947"W	2064.22	85.174	1.31	-0.85	-2.22	
5788.00	24.840	85.980	5315.95	-514.17	176.87	2097.35	1661629.05	14330825.54	39°27'49.797"N	80°55'29.431"W	2104.79	85.180	1.63	-1.56	1.05	
5847.00	24.380	84.550	5369.59	-520.21	178.89	2121.83	1661663.48	14330827.56	39°27'49.816"N	80°55'29.119"W	2129.36	85.181	1.28	-0.78	-2.42	
5909.00	23.860	82.290	5426.18	-525.65	181.79	2147.00	1661678.63	14330830.46	39°27'49.845"N	80°55'28.798"W	2154.68	85.160	1.71	-0.84	-3.69	BHAT Curve <8-1/2> 5847 (6909-21923)
5991.00	23.050	88.300	5501.46	-528.12	189.96	2178.37	1661709.99	14330833.62	39°27'49.925"N	80°55'28.398"W	2186.64	85.016	6.85	-0.99	-17.06	
6087.00	22.670	44.220	5590.12	-518.85	210.21	2208.80	1661740.41	14330838.87	39°27'50.125"N	80°55'28.009"W	2218.78	84.564	9.69	-0.40	-25.08	
6182.00	20.190	31.070	5678.59	-500.05	237.39	2230.05	1661761.65	14330886.04	39°27'50.394"N	80°55'27.738"W	2242.65	83.924	5.68	-2.61	-13.84	
6277.00	26.270	11.800	5765.98	-471.38	272.10	2242.84	1661774.43	14330920.73	39°27'50.737"N	80°55'27.575"W	2259.28	83.083	10.17	6.40	-20.28	
6372.00	32.550	359.310	5848.77	-428.97	318.32	2246.84	1661778.43	14330966.93	39°27'51.193"N	80°55'27.523"W	2269.27	81.936	9.21	6.61	-13.15	
6467.00	41.310	357.080	5924.64	-374.45	375.30	2244.93	1661776.52	14331023.89	39°27'51.757"N	80°55'27.547"W	2276.08	80.509	9.33	9.22	-2.35	
6562.00	47.850	1.340	5992.28	-311.21	441.91	2244.15	1661775.75	14331090.48	39°27'52.415"N	80°55'27.556"W	2287.25	78.360	7.57	6.88	4.48	
6667.00	57.049	353.583	6056.13	-231.44	524.99	2240.46	1661772.91	14331173.52	39°27'53.236"N	80°55'27.602"W	2301.15	76.812	11.68	7.09	-11.11	Middlesex: 6667 MD
6752.00	63.430	344.810	6098.36	-158.52	597.29	2226.49	1661768.09	14331245.80	39°27'53.951"N	80°55'27.740"W	2305.21	74.983	11.68	7.51	10.33	
6847.00	65.170	343.570	6139.56	-73.05	679.65	2203.16	1661734.77	14331328.12	39°27'54.765"N	80°55'28.076"W	2305.61	72.856	2.18	1.83	-1.31	
6861.00	65.263	344.754	6145.42	-60.36	691.88	2199.69	1661731.31	14331340.34	39°27'54.886"N	80°55'28.121"W	2305.94	72.540	7.71	0.66	8.46	Burkett: 6861 MD
6910.00	65.661	348.883	6165.78	-16.02	735.27	2189.53	1661721.15	14331383.71	39°27'55.315"N	80°55'28.250"W	2309.69	71.437	7.71	0.81	8.43	Tully: 6910 MD
6941.00	65.970	351.480	6178.48	11.89	763.13	2184.71	1661716.33	14331411.56	39°27'55.590"N	80°55'28.317"W	2314.16	70.745	7.71	1.00	8.38	
6952.00	66.577	351.967	6182.91	21.79	773.09	2183.26	1661714.88	14331421.52	39°27'55.689"N	80°55'28.329"W	2316.10	70.501	6.85	5.52	4.43	Marcellus POE: 6952 MD



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #08
Area	Tyler County, WV	Treasury Unit 2H
Field	Tyler	Treasury Unit 2H AWB
Facility	Kirk Hadley Pad	

WELLPATH DATA (251 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
7036.00	71.260	355.550	6213.12	98.20	850.97	2174.78	1661706.41	14331499.37	39°27'56.458"N	80°55'28.436"W	2335.35	68.630	6.85	5.57	4.27	
7082.00	78.040	354.760	6225.29	141.20	895.15	2171.03	1661702.66	14331543.53	39°27'56.895"N	80°55'28.484"W	2348.34	67.593	14.83	14.74	-1.72	
7131.00	83.210	351.920	6233.27	188.41	943.14	2165.42	1661697.05	14331591.51	39°27'57.369"N	80°55'28.555"W	2361.90	66.465	12.00	10.55	-5.81	
7178.00	90.310	348.850	6235.93	234.68	989.37	2157.58	1661689.22	14331637.72	39°27'57.826"N	80°55'28.654"W	2373.61	65.366	16.45	15.11	-6.53	
7225.00	91.420	347.580	6235.22	281.30	1035.38	2147.99	1661679.62	14331683.70	39°27'58.281"N	80°55'28.716"W	2384.50	64.265	3.59	2.36	-2.71	
7321.00	91.450	343.970	6232.81	376.93	1128.39	2124.41	1661656.05	14331776.68	39°27'59.201"N	80°55'29.076"W	2405.49	62.025	3.76	0.03	-3.76	
7414.00	91.480	339.970	6230.44	469.87	1216.77	2095.64	1661627.29	14331865.03	39°28'00.074"N	80°55'29.442"W	2423.27	59.860	4.30	0.03	-4.31	
7509.00	91.510	341.070	6227.96	564.83	1306.30	2083.97	1661598.64	14331954.52	39°28'00.960"N	80°55'29.845"W	2442.62	57.670	1.16	0.03	1.16	
7604.00	91.630	339.050	6225.35	659.78	1395.57	2031.58	1661563.27	14332043.75	39°28'01.842"N	80°55'30.257"W	2464.74	55.513	2.13	0.13	-2.13	
7698.00	90.430	336.780	6223.66	753.61	1482.65	1996.25	1661527.95	14332130.80	39°28'02.703"N	80°55'30.706"W	2486.62	53.398	2.73	-1.28	-2.41	
7794.00	90.830	334.610	6222.61	849.19	1570.13	1956.74	1661488.45	14332218.24	39°28'03.568"N	80°55'31.209"W	2508.82	51.256	2.30	0.42	-2.21	
7889.00	90.830	329.010	6221.23	942.91	1653.82	1911.89	1661443.62	14332301.90	39°28'04.396"N	80°55'31.760"W	2527.93	49.140	5.89	0.00	-5.88	
7984.00	91.050	335.250	6219.67	1036.70	1737.75	1867.51	1661399.25	14332385.79	39°28'05.225"N	80°55'32.345"W	2550.95	47.061	6.57	0.23	6.57	
8080.00	90.890	338.290	6218.05	1132.41	1825.95	1829.65	1661361.41	14332473.95	39°28'06.097"N	80°55'32.827"W	2584.90	45.058	3.17	-0.17	3.17	
8174.00	91.290	338.090	6216.26	1226.28	1913.20	1794.73	1661326.51	14332561.17	39°28'06.960"N	80°55'33.271"W	2623.24	43.170	0.48	0.43	-0.21	
8269.00	90.830	335.460	6214.50	1320.99	2000.48	1757.28	1661289.07	14332648.42	39°28'07.823"N	80°55'33.748"W	2662.70	41.297	2.81	-0.48	-2.71	
8364.00	90.580	334.020	6213.33	1415.41	2088.39	1716.75	1661248.55	14332734.29	39°28'08.672"N	80°55'34.264"W	2701.89	39.449	1.54	-0.29	-1.52	
8459.00	90.520	336.830	6212.42	1509.94	2172.77	1677.24	1661209.07	14332820.64	39°28'09.526"N	80°55'34.767"W	2744.83	37.666	2.96	-0.06	2.96	
8554.00	90.000	338.300	6211.99	1604.76	2260.57	1640.99	1661172.83	14332908.41	39°28'10.394"N	80°55'35.228"W	2793.39	35.977	1.84	-0.55	1.84	
8649.00	89.880	340.430	6212.09	1699.71	2349.47	1607.51	1661139.36	14332997.27	39°28'11.273"N	80°55'35.654"W	2846.77	34.380	2.25	-0.13	2.24	
8744.00	90.310	344.880	6211.93	1794.65	2440.13	1579.20	1661111.06	14333087.89	39°28'12.170"N	80°55'36.014"W	2906.56	32.910	4.71	0.45	4.66	
8839.00	90.250	346.750	6211.47	1889.32	2532.23	1555.92	1661087.79	14333179.95	39°28'13.080"N	80°55'36.310"W	2972.05	31.568	1.97	-0.06	1.97	
8933.00	90.180	346.130	6211.11	1982.90	2623.61	1533.88	1661065.76	14333271.30	39°28'13.983"N	80°55'36.590"W	3039.10	30.312	0.66	-0.07	-0.66	
9028.00	90.280	346.430	6210.73	2077.50	2715.90	1511.35	1661043.24	14333363.55	39°28'14.896"N	80°55'36.876"W	3108.10	29.095	0.33	0.11	0.32	
9124.00	90.250	346.330	6209.87	2173.08	2809.19	1488.73	1661020.63	14333456.81	39°28'15.818"N	80°55'37.164"W	3179.29	27.921	0.12	-0.03	-0.11	
9219.00	90.250	346.330	6209.87	2267.68	2901.50	1466.27	1660998.18	14333549.08	39°28'16.730"N	80°55'37.449"W	3250.95	26.810	0.01	0.00	0.01	
9314.00	90.340	346.320	6209.38	2362.27	2993.81	1443.82	1660975.73	14333641.35	39°28'17.643"N	80°55'37.735"W	3323.77	25.746	0.10	0.00	-0.01	
9410.00	90.740	346.070	6208.48	2457.88	3087.03	1420.91	1660952.84	14333734.53	39°28'18.564"N	80°55'38.026"W	3398.34	24.716	0.49	0.42	-0.26	
9506.00	90.250	344.090	6207.65	2553.63	3179.78	1396.19	1660928.13	14333827.25	39°28'19.481"N	80°55'38.340"W	3472.81	23.706	2.12	-0.51	-2.05	
9602.00	90.370	342.790	6207.13	2649.54	3271.80	1388.83	1660900.78	14333919.23	39°28'20.391"N	80°55'38.688"W	3546.60	22.703	1.36	0.13	-1.33	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Tyler County, WV	Well	Treasury Unit 2H
Field	Tyler	Wellbore	Treasury Unit 2H AWB
Facility	Kirk Hadley Pad		

WELLPATH DATA (251 stations)

MID	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)	(ft)	(ft)	(°)	("/100ft)	("/100ft)	(°/100ft)	
9696.00	90.180	341.980	6206.68	2743.52	3361.39	1340.39	1660872.35	14334008.78	39°28'21.277"N	80°55'39.050"W	3618.78	21.740	0.89	-0.20	-0.86	
9791.00	90.180	340.710	6206.38	2838.51	3451.40	1310.00	1660841.97	14334098.75	39°28'22.167"N	80°55'39.436"W	3691.64	20.785	1.34	0.00	-1.34	
9885.00	90.250	339.810	6206.03	2932.50	3539.87	1278.25	1660810.24	14334187.19	39°28'23.041"N	80°55'39.840"W	3763.59	19.855	0.96	0.07	-0.96	
9979.00	89.750	339.590	6206.03	3026.48	3628.03	1245.64	1660777.64	14334275.32	39°28'23.913"N	80°55'40.255"W	3835.91	18.949	0.58	-0.53	-0.23	
10075.00	90.680	338.800	6205.67	3122.42	3717.77	1211.54	1660743.55	14334365.02	39°28'24.800"N	80°55'40.689"W	3910.20	18.050	1.27	0.97	-0.82	
10169.00	90.460	335.070	6204.73	3216.16	3804.24	1174.72	1660706.75	14334451.45	39°28'25.655"N	80°55'41.158"W	3981.48	17.160	3.97	-0.23	-3.97	
10264.00	90.310	333.270	6204.09	3310.47	3889.74	1133.34	1660665.38	14334536.92	39°28'26.500"N	80°55'41.685"W	4051.48	16.244	1.90	-0.16	-1.89	
10358.00	90.090	333.830	6203.77	3403.67	3973.90	1091.47	1660623.53	14334621.04	39°28'27.332"N	80°55'42.218"W	4121.06	15.358	0.64	-0.23	0.60	
10453.00	90.620	335.610	6203.18	3498.09	4059.79	1050.90	1660582.98	14334706.91	39°28'28.182"N	80°55'42.734"W	4193.61	14.513	1.95	0.56	1.87	
10548.00	90.580	336.230	6202.18	3592.70	4146.52	1012.14	1660544.23	14334793.60	39°28'29.039"N	80°55'43.227"W	4268.26	13.717	0.65	-0.04	0.65	
10643.00	90.310	338.870	6201.44	3687.52	4234.31	975.87	1660507.97	14334881.35	39°28'29.907"N	80°55'43.689"W	4345.31	12.978	2.79	-0.28	2.78	
10738.00	90.310	342.850	6200.93	3782.49	4324.04	944.73	1660476.84	14334971.05	39°28'30.794"N	80°55'44.065"W	4426.04	12.324	4.19	0.00	4.19	
10832.00	90.220	344.210	6200.50	3876.40	4414.18	918.08	1660450.21	14335061.15	39°28'31.685"N	80°55'44.424"W	4508.64	11.749	1.45	-0.10	1.45	
10927.00	90.550	344.760	6199.86	3971.23	4505.72	892.67	1660424.80	14335152.65	39°28'32.590"N	80°55'44.747"W	4593.29	11.206	0.68	0.35	0.58	
11022.00	90.800	344.510	6198.74	4066.03	4597.31	867.50	1660399.64	14335244.21	39°28'33.496"N	80°55'45.067"W	4678.45	10.686	0.37	0.28	-0.28	
11117.00	90.340	341.920	6197.79	4160.95	4688.25	840.07	1660372.23	14335335.11	39°28'34.395"N	80°55'45.416"W	4762.92	10.159	2.77	-0.48	-2.73	
11212.00	90.280	342.880	6197.28	4255.92	4778.81	811.34	1660343.51	14335425.63	39°28'35.290"N	80°55'45.782"W	4847.19	9.636	1.01	-0.06	1.01	
11306.00	90.250	344.040	6196.84	4349.84	4868.91	784.58	1660316.76	14335515.70	39°28'36.181"N	80°55'46.122"W	4931.72	9.154	1.23	-0.03	1.23	
11401.00	90.400	345.230	6196.30	4444.65	4960.51	759.41	1660291.60	14335607.26	39°28'37.086"N	80°55'46.442"W	5018.31	8.704	1.26	0.16	1.23	
11495.00	90.520	343.890	6195.55	4538.46	5051.12	734.39	1660266.59	14335697.83	39°28'37.982"N	80°55'46.760"W	5104.22	8.272	1.43	0.13	-1.43	
11590.00	90.310	341.850	6194.86	4633.41	5141.90	706.41	1660238.62	14335788.57	39°28'38.879"N	80°55'47.116"W	5190.19	7.822	2.16	-0.22	-2.15	
11685.00	90.280	341.330	6194.37	4728.40	5232.03	676.41	1660208.63	14335878.67	39°28'39.770"N	80°55'47.498"W	5275.57	7.366	0.55	-0.03	-0.55	
11779.00	90.310	341.200	6193.89	4822.40	5321.05	646.21	1660178.45	14335967.66	39°28'40.650"N	80°55'47.882"W	5360.15	6.924	0.14	0.00	-0.14	
11875.00	90.310	340.280	6193.37	4918.40	5411.68	614.55	1660146.80	14336058.24	39°28'41.546"N	80°55'48.285"W	5446.46	6.479	0.96	0.00	-0.96	
11970.00	90.220	338.190	6192.93	5013.34	5500.50	580.87	1660113.13	14336147.03	39°28'42.424"N	80°55'48.714"W	5531.08	6.028	2.20	-0.09	-2.20	
12065.00	90.250	337.000	6192.54	5108.17	5588.32	544.66	1660076.94	14336234.82	39°28'43.293"N	80°55'49.175"W	5614.80	5.567	1.25	0.03	-1.25	
12160.00	90.280	339.670	6192.10	5203.05	5676.60	509.59	1660041.89	14336323.07	39°28'44.165"N	80°55'49.621"W	5699.43	5.130	2.81	0.03	2.81	
12255.00	90.060	340.590	6191.82	5298.04	5765.95	477.30	1660009.61	14336412.37	39°28'45.049"N	80°55'50.032"W	5785.67	4.732	1.00	-0.23	0.97	
12351.00	90.180	342.760	6191.62	5394.03	5857.07	447.12	1659979.44	14336503.46	39°28'45.949"N	80°55'50.416"W	5874.12	4.365	2.26	0.12	2.26	
12446.00	89.970	344.550	6191.49	5488.93	5948.23	420.39	1659952.72	14336594.58	39°28'46.851"N	80°55'50.758"W	5963.07	4.043	1.90	-0.22	1.88	



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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Tyler County, WV	Well	Treasury Unit 2H
Field	Tyler	Wellbore	Treasury Unit 2H AWB
Facility	Kirk Hadley Pad		

WELLPATH DATA (251 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 (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Comments
12541.00	90.180	347.390	6191.37	5583.56	6040.39	397.36	1659929.70	14336686.70	39°28'47.702"N	80°55'51.049"W	6053.44	3.764	3.00	0.22	2.99	
12636.00	90.280	347.070	6190.99	5678.01	6133.04	376.36	1659908.71	14336779.32	39°28'48.677"N	80°55'51.316"W	6144.57	3.512	0.35	0.11	-0.34	
12731.00	90.280	346.890	6190.52	5772.50	6225.59	354.96	1659887.31	14336871.83	39°28'49.592"N	80°55'51.588"W	6235.70	3.263	0.19	0.00	-0.19	
12826.00	90.340	346.550	6190.01	5867.03	6318.05	333.14	1659865.50	14336964.26	39°28'50.506"N	80°55'51.865"W	6326.83	3.018	0.36	0.06	-0.36	
12921.00	90.250	344.270	6189.52	5961.75	6409.98	309.21	1659841.58	14337056.15	39°28'51.415"N	80°55'52.169"W	6417.43	2.762	2.40	-0.09	-2.40	
13015.00	90.220	343.040	6189.13	6055.65	6500.18	282.76	1659815.14	14337146.31	39°28'52.307"N	80°55'52.506"W	6506.33	2.491	1.31	-0.03	-1.31	
13110.00	90.400	342.360	6188.62	6150.60	6590.88	254.51	1659786.90	14337236.97	39°28'53.203"N	80°55'52.865"W	6595.79	2.211	0.74	0.19	-0.72	
13205.00	90.430	342.030	6187.93	6245.58	6681.33	225.46	1659757.86	14337327.38	39°28'54.098"N	80°55'53.235"W	6685.13	1.933	0.35	0.03	-0.35	
13300.00	90.740	343.110	6186.96	6340.54	6771.96	197.00	1659729.42	14337417.98	39°28'54.994"N	80°55'53.597"W	6774.82	1.666	1.18	0.33	1.14	
13395.00	90.430	341.390	6185.99	6435.51	6862.43	168.04	1659700.47	14337508.41	39°28'55.888"N	80°55'53.965"W	6864.48	1.403	1.84	-0.38	-1.81	
13489.00	90.310	339.250	6185.39	6529.50	6950.93	136.39	1659668.83	14337596.88	39°28'56.763"N	80°55'54.368"W	6952.27	1.124	2.28	-0.13	-2.28	
13584.00	90.400	337.860	6184.80	6624.40	7039.35	101.66	1659634.12	14337685.26	39°28'57.637"N	80°55'54.810"W	7040.08	0.827	1.47	0.09	-1.46	
13678.00	90.800	337.240	6183.81	6718.22	7126.22	65.77	1659598.24	14337772.10	39°28'58.496"N	80°55'55.267"W	7126.52	0.529	0.78	0.43	-0.66	
13773.00	90.250	336.300	6182.94	6812.95	7213.51	28.30	1659560.78	14337859.36	39°28'59.359"N	80°55'55.744"W	7213.57	0.225	1.15	-0.58	-0.99	
13868.00	90.340	337.010	6182.45	6907.67	7300.73	-9.35	1659523.15	14337946.54	39°29'00.221"N	80°55'56.223"W	7300.74	359.927	0.75	0.09	0.75	
13963.00	90.250	335.630	6181.96	7002.35	7387.73	-47.50	1659485.02	14338033.51	39°29'01.081"N	80°55'56.709"W	7387.88	359.632	1.46	-0.09	-1.45	
14057.00	90.280	336.740	6181.53	7096.01	7473.73	-85.46	1659447.08	14338119.47	39°29'01.931"N	80°55'57.192"W	7474.21	359.345	1.18	0.03	1.18	
14152.00	89.600	337.610	6181.63	7190.79	7561.29	-122.31	1659410.24	14338206.99	39°29'02.797"N	80°55'57.662"W	7562.27	359.073	1.16	-0.72	0.92	
14247.00	87.820	337.170	6183.77	7285.57	7648.96	-158.82	1659373.74	14338294.63	39°29'03.664"N	80°55'58.126"W	7650.61	358.811	1.93	-1.87	-0.46	
14341.00	90.770	344.360	6184.93	7379.49	7737.64	-189.76	1659342.81	14338383.27	39°29'04.541"N	80°55'58.520"W	7739.96	358.595	8.27	3.14	7.65	
14436.00	91.350	346.660	6183.17	7474.18	7829.59	-213.52	1659319.06	14338475.19	39°29'05.450"N	80°55'58.822"W	7832.50	358.438	2.50	0.61	2.42	
14532.00	89.080	346.950	6182.81	7569.69	7923.05	-235.44	1659297.16	14338568.61	39°29'06.375"N	80°55'59.101"W	7926.55	358.298	2.38	-2.36	0.30	
14627.00	91.600	353.190	6182.24	7663.45	8016.57	-251.81	1659280.79	14338662.09	39°29'07.298"N	80°55'59.309"W	8020.53	358.201	7.08	2.65	6.57	
14722.00	88.980	351.690	6181.76	7756.57	8110.73	-264.31	1659268.30	14338756.22	39°29'08.229"N	80°55'59.467"W	8115.04	358.134	3.18	-2.76	-1.56	
14817.00	91.290	351.740	6181.54	7849.92	8204.74	-277.99	1659254.61	14338850.18	39°29'09.158"N	80°55'59.641"W	8209.44	358.059	2.43	2.43	0.05	
14911.00	90.460	348.810	6180.10	7942.68	8297.36	-293.87	1659238.75	14338942.77	39°29'10.073"N	80°55'59.843"W	8302.57	357.972	3.24	-0.88	-3.12	
15006.00	90.180	345.090	6179.57	8037.15	8389.89	-315.32	1659217.31	14339035.26	39°29'10.988"N	80°55'00.115"W	8395.82	357.848	3.93	-0.29	-3.92	
15102.00	90.800	340.160	6178.75	8133.08	8481.48	-343.97	1659188.66	14339126.82	39°29'11.893"N	80°55'00.480"W	8488.45	357.678	5.18	0.65	-5.14	
15198.00	91.350	337.560	6176.95	8228.99	8571.00	-378.59	1659154.06	14339216.30	39°29'12.778"N	80°55'00.921"W	8579.35	357.471	2.77	0.57	-2.71	
15294.00	91.050	334.140	6174.94	8324.56	8658.56	-417.95	1659114.82	14339303.83	39°29'13.644"N	80°55'01.421"W	8668.64	357.237	3.58	-0.31	-3.55	



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #08
ANTERO RESOURCES CORPORATION	Treasury Unit 2H
Area	Treasury Unit 2H AWB
Field	Wellbore
Facility	Kirk Hadley Pad

WELLPATH DATA (251 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
15390.00	90.891	333.060	6173.31	8419.74	8744.54	-460.53	1659072.15	14339389.77	39°29'14.494"N	80°56'01.964"W	8756.65	356.985	1.14	-0.17	-1.12	
15485.00	90.891	334.280	6171.84	8513.94	8829.67	-502.66	1659030.04	14339474.86	39°29'15.336"N	80°56'02.501"W	8843.96	356.742	1.28	0.00	1.28	
15581.00	90.891	334.080	6170.35	8609.24	8916.07	-544.46	1658988.25	14339561.23	39°29'16.190"N	80°56'03.033"W	8932.68	356.506	0.21	0.00	-0.21	
15677.00	91.351	334.970	6168.47	8704.60	9002.72	-585.75	1658946.98	14339647.85	39°29'17.047"N	80°56'03.559"W	9021.78	356.277	1.04	0.43	0.93	
15772.00	90.921	333.400	6166.59	8798.90	9088.22	-627.11	1658905.64	14339733.31	39°29'17.892"N	80°56'04.085"W	9109.83	356.053	1.71	-0.45	-1.66	
15867.00	90.921	333.080	6165.06	8893.01	9173.04	-669.88	1658862.89	14339818.09	39°29'18.731"N	80°56'04.630"W	9197.46	355.823	0.34	0.00	-0.34	
15962.00	90.861	334.470	6163.59	8987.23	9258.25	-711.85	1658820.93	14339903.27	39°29'19.573"N	80°56'05.165"W	9285.57	355.603	1.46	-0.05	1.46	
16057.00	90.403	336.450	6162.54	9081.77	9344.65	-751.30	1658781.50	14339989.64	39°29'20.427"N	80°56'05.667"W	9374.81	355.403	2.14	-0.48	2.08	
16153.00	90.400	338.660	6161.87	9177.58	9433.37	-787.95	1658744.86	14340078.33	39°29'21.305"N	80°56'06.134"W	9466.23	355.225	2.30	0.00	2.30	
16247.00	90.400	341.980	6161.22	9271.56	9521.87	-819.60	1658713.22	14340166.79	39°29'22.179"N	80°56'06.537"W	9557.08	355.080	3.53	0.00	3.53	
16342.00	90.430	343.970	6160.53	9366.50	9612.70	-847.42	1658685.42	14340257.58	39°29'23.077"N	80°56'06.891"W	9649.98	354.962	2.09	0.03	2.03	
16438.00	90.430	344.510	6159.81	9462.35	9705.09	-873.49	1658659.36	14340349.93	39°29'23.991"N	80°56'07.222"W	9744.32	354.857	0.56	0.00	0.56	
16533.00	90.460	344.450	6159.07	9557.17	9796.62	-898.91	1658633.95	14340441.43	39°29'24.895"N	80°56'07.546"W	9837.77	354.757	0.07	0.03	-0.06	
16628.00	90.430	344.920	6158.33	9651.98	9888.24	-924.00	1658608.87	14340533.01	39°29'25.801"N	80°56'07.865"W	9931.32	354.662	0.50	-0.03	0.45	
16722.00	90.430	345.470	6157.63	9745.73	9979.12	-948.02	1658584.86	14340623.85	39°29'26.699"N	80°56'08.170"W	10024.05	354.573	0.59	0.00	0.59	
16817.00	90.430	345.530	6156.91	9840.44	10071.09	-971.80	1658561.08	14340715.79	39°29'27.609"N	80°56'08.473"W	10117.87	354.488	0.06	0.00	0.05	
16912.00	90.400	344.860	6156.22	9935.18	10162.93	-996.08	1658536.82	14340807.60	39°29'28.517"N	80°56'08.782"W	10211.63	354.402	0.71	-0.03	-0.71	
17007.00	90.430	345.290	6155.54	10029.95	10254.73	-1020.54	1658512.36	14340899.35	39°29'29.424"N	80°56'09.093"W	10305.38	354.317	0.45	0.03	0.45	
17103.00	90.370	345.010	6154.87	10125.70	10347.52	-1045.15	1658487.77	14340992.10	39°29'30.341"N	80°56'09.406"W	10400.17	354.232	0.30	-0.06	-0.29	
17198.00	90.650	343.990	6154.02	10220.52	10439.06	-1070.53	1658462.39	14341083.61	39°29'31.246"N	80°56'09.729"W	10493.81	354.145	1.11	0.29	-1.07	
17293.00	90.370	342.320	6153.17	10315.45	10529.98	-1098.06	1658434.88	14341174.49	39°29'32.145"N	80°56'10.079"W	10587.07	354.047	1.78	-0.29	-1.76	
17388.00	91.021	342.680	6152.02	10410.41	10620.57	-1126.63	1658406.32	14341265.05	39°29'33.040"N	80°56'10.443"W	10680.76	353.945	0.78	0.69	0.39	
17482.00	90.920	342.020	6150.43	10504.37	10710.13	-1155.12	1658377.84	14341354.57	39°29'33.926"N	80°56'10.806"W	10772.24	353.844	0.71	-0.11	-0.70	
17578.00	90.980	341.700	6148.84	10600.35	10800.47	-1185.01	1658347.97	14341445.75	39°29'34.828"N	80°56'11.186"W	10866.16	353.739	0.34	0.05	-0.33	
17672.00	90.860	341.270	6147.33	10694.33	10890.47	-1214.85	1658318.13	14341534.84	39°29'35.709"N	80°56'11.566"W	10958.02	353.635	0.47	-0.13	-0.46	
17767.00	90.950	341.080	6145.83	10789.32	10980.38	-1245.50	1658287.49	14341624.71	39°29'36.597"N	80°56'11.956"W	11050.79	353.529	0.22	0.09	-0.20	
17861.00	90.770	339.940	6144.42	10883.30	11068.98	-1276.86	1658256.15	14341713.28	39°29'37.473"N	80°56'12.355"W	11142.38	353.420	1.23	-0.19	-1.21	
17955.00	89.970	338.340	6143.81	10977.25	11156.81	-1310.33	1658222.69	14341801.08	39°29'38.342"N	80°56'12.781"W	11233.50	353.301	1.90	-0.85	-1.70	
18050.00	87.940	334.630	6145.54	11071.91	11243.89	-1348.22	1658184.82	14341888.12	39°29'39.202"N	80°56'13.264"W	11324.43	353.162	4.45	-2.14	-3.91	
18145.00	89.020	334.870	6148.06	11166.30	11329.78	-1388.73	1658144.33	14341973.97	39°29'40.052"N	80°56'13.780"W	11414.58	353.012	1.16	1.14	0.25	



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #08
ANTERO RESOURCES CORPORATION	Treasury Unit 2H
Tyler County, WV	Treasury Unit 2H AWB
Tyler	
Kirk Hadley Pad	

WELLPATH DATA (251 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
18239.00	88.650	335.150	6149.98	11259.76	11414.96	-1428.43	1658104.64	14342059.12	39°29'40.894"N	80°56'14.285"W	11503.99	352.867	0.49	-0.38	0.30	
18334.00	88.580	334.190	6152.27	11354.15	11500.81	-1469.06	1658064.02	14342144.93	39°29'41.742"N	80°56'14.803"W	11594.25	352.721	1.01	-0.07	-1.01	
18429.00	88.580	334.290	6154.63	11448.45	11586.34	-1510.34	1658022.76	14342230.43	39°29'42.588"N	80°56'15.329"W	11684.36	352.573	0.11	0.00	0.11	
18524.00	88.650	337.930	6156.92	11543.05	11673.16	-1548.79	1657994.32	14342317.21	39°29'43.446"N	80°56'15.818"W	11775.46	352.442	3.83	0.07	3.83	
18620.00	88.520	341.160	6159.29	11638.98	11763.07	-1582.33	1657950.80	14342407.08	39°29'44.335"N	80°56'16.245"W	11869.01	352.339	3.37	-0.14	3.36	
18715.00	88.550	343.130	6161.72	11733.93	11853.46	-1611.45	1657921.70	14342497.44	39°29'45.229"N	80°56'16.616"W	11962.49	352.258	2.07	0.03	2.07	
18809.00	88.610	346.510	6164.05	11827.68	11944.14	-1636.05	1657897.11	14342588.08	39°29'46.125"N	80°56'16.929"W	12058.66	352.200	3.60	0.05	3.60	
18904.00	88.610	348.380	6166.36	11922.05	12036.83	-1656.69	1657876.47	14342680.74	39°29'47.062"N	80°56'17.192"W	12150.31	352.163	1.97	0.00	1.97	
18999.00	89.780	348.880	6167.69	12016.21	12129.96	-1675.42	1657857.75	14342773.83	39°29'47.942"N	80°56'17.430"W	12245.12	352.136	1.34	1.23	0.53	
19093.00	89.690	349.870	6168.13	12109.22	12222.34	-1692.75	1657840.43	14342866.18	39°29'48.875"N	80°56'17.650"W	12339.01	352.115	1.06	-0.10	1.05	
19189.00	89.690	350.350	6168.65	12204.01	12316.92	-1709.24	1657823.94	14342960.71	39°29'49.810"N	80°56'17.859"W	12434.95	352.099	0.50	0.00	0.50	
19284.00	89.690	348.770	6169.16	12297.96	12410.34	-1726.45	1657806.74	14343054.10	39°29'50.733"N	80°56'18.078"W	12529.85	352.080	1.66	0.00	-1.66	
19380.00	90.180	346.120	6169.27	12393.35	12504.03	-1747.32	1657785.88	14343147.75	39°29'51.660"N	80°56'18.344"W	12625.53	352.045	2.81	0.51	-2.76	
19475.00	90.800	343.660	6168.46	12488.13	12595.74	-1772.08	1657761.13	14343239.42	39°29'52.566"N	80°56'18.659"W	12719.78	351.992	2.67	0.65	-2.58	
19570.00	90.150	338.670	6167.67	12583.09	12685.62	-1802.74	1657730.48	14343329.27	39°29'53.455"N	80°56'19.049"W	12813.07	351.912	5.30	-0.88	-5.25	
19665.00	90.180	335.230	6167.40	12677.84	12773.02	-1839.93	1657693.31	14343416.63	39°29'54.319"N	80°56'19.523"W	12904.86	351.803	3.62	0.03	-3.82	
19760.00	90.180	334.220	6167.10	12772.26	12858.93	-1880.49	1657652.76	14343502.50	39°29'55.168"N	80°56'20.039"W	12995.70	351.680	1.06	0.00	-1.05	
19855.00	90.180	333.840	6166.80	12866.55	12944.33	-1922.09	1657611.18	14343587.88	39°29'56.012"N	80°56'20.569"W	13086.26	351.554	0.40	0.00	-0.40	
19950.00	90.250	334.460	6166.44	12960.86	13029.86	-1963.51	1657569.77	14343673.33	39°29'56.858"N	80°56'21.097"W	13176.94	351.430	0.66	0.07	0.65	
20046.00	90.180	337.540	6166.08	13056.48	13117.51	-2002.55	1657530.75	14343760.99	39°29'57.725"N	80°56'21.594"W	13269.49	351.320	3.21	-0.07	3.21	
20141.00	90.090	337.420	6165.86	13151.29	13205.27	-2038.94	1657494.38	14343848.71	39°29'58.592"N	80°56'22.058"W	13361.75	351.223	0.16	-0.09	-0.13	
20236.00	90.180	339.830	6165.63	13246.20	13293.73	-2073.56	1657459.77	14343937.13	39°29'59.467"N	80°56'22.498"W	13454.47	351.134	2.54	0.03	2.54	
20331.00	90.150	340.220	6165.36	13341.19	13383.01	-2106.01	1657427.33	14344026.38	39°30'00.349"N	80°56'22.912"W	13547.71	351.057	0.41	-0.03	0.41	
20425.00	90.250	341.360	6165.03	13435.18	13471.78	-2136.94	1657396.41	14344115.11	39°30'01.227"N	80°56'23.305"W	13640.21	350.987	1.22	0.11	1.21	
20520.00	90.180	343.980	6164.68	13530.14	13562.46	-2165.24	1657368.13	14344205.75	39°30'02.123"N	80°56'23.666"W	13734.21	350.929	2.76	-0.07	2.76	
20615.00	90.090	341.850	6164.45	13625.08	13653.26	-2193.15	1657340.23	14344296.52	39°30'03.021"N	80°56'24.021"W	13828.28	350.874	2.24	-0.03	-2.24	
20710.00	90.120	339.320	6164.28	13720.07	13742.85	-2224.72	1657308.67	14344386.07	39°30'03.906"N	80°56'24.423"W	13921.76	350.805	2.66	0.03	-2.66	
20805.00	89.970	340.400	6164.20	13815.05	13832.04	-2257.43	1657275.97	14344475.23	39°30'04.788"N	80°56'24.839"W	14015.04	350.731	1.15	-0.16	1.14	
20899.00	89.910	341.370	6164.30	13909.05	13920.85	-2288.21	1657245.20	14344564.01	39°30'05.666"N	80°56'25.231"W	14107.66	350.666	1.03	-0.05	1.03	
20995.00	89.940	342.250	6164.43	14005.04	14012.06	-2318.18	1657215.25	14344655.17	39°30'06.568"N	80°56'25.613"W	14202.52	350.606	0.92	0.03	0.92	



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Tyler County, WV	Well	Treasury Unit 2H
Field	Tyler	Wellbore	Treasury Unit 2H AWB
Facility	Kirk Hadley Pad		

WELLPATH DATA (251 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 (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Comments
21089.00	89.880	342.710	6164.58	14099.01	14101.70	-2346.48	1657186.96	14344744.77	39°30'07.454"N	80°56'25.973"W	14295.59	350.553	0.49	-0.05	0.49	
21183.00	90.000	342.930	6164.67	14192.96	14191.50	-2374.24	1657159.21	14344834.54	39°30'08.342"N	80°56'26.327"W	14388.74	350.502	0.27	0.13	0.23	
21277.00	89.850	343.980	6164.80	14286.88	14281.61	-2401.01	1657132.45	14344924.61	39°30'09.232"N	80°56'26.667"W	14482.03	350.457	1.13	-0.16	1.12	
21373.00	90.030	341.320	6164.90	14382.83	14373.23	-2429.64	1657103.84	14345016.20	39°30'10.138"N	80°56'27.032"W	14577.14	350.405	2.78	0.19	-2.77	
21468.00	89.820	338.280	6165.02	14477.80	14462.38	-2462.44	1657071.05	14345105.31	39°30'11.019"N	80°56'27.449"W	14670.51	350.337	3.21	-0.22	-3.20	
21563.00	89.970	336.950	6165.20	14572.62	14550.22	-2498.61	1657034.89	14345193.12	39°30'11.888"N	80°56'27.910"W	14763.19	350.256	1.41	0.16	-1.40	
21658.00	90.030	337.390	6165.20	14667.41	14637.77	-2535.47	1656998.04	14345280.64	39°30'12.753"N	80°56'28.360"W	14855.74	350.173	0.47	0.05	0.46	
21753.00	89.880	336.190	6165.27	14762.14	14725.08	-2572.91	1656960.62	14345367.91	39°30'13.617"N	80°56'28.857"W	14948.18	350.089	1.27	-0.16	-1.26	
21849.00	89.850	334.200	6165.50	14857.64	14812.22	-2613.18	1656920.36	14345455.02	39°30'14.478"N	80°56'29.370"W	15040.97	349.995	2.07	-0.02	-2.07	
21923.00	89.970	330.960	6165.61	14930.82	14877.90	-2647.26	1656886.30	14345520.67	39°30'15.127"N	80°56'29.804"W	15111.58	349.911	4.38	0.16	-4.38	
21947.00	89.970	330.960	6165.63	14954.45	14898.88	-2658.91	1656874.66	14345541.64	39°30'15.335"N	80°56'29.952"W	15134.28	349.881	0.00	0.00	0.00	Projected MD at TD: 21947'

HOLE & CASING SECTIONS - Ref Wellbore: Treasury Unit 2H AWB Ref Wellpath: Treasury Unit 2H AWP Proj: 21947'

String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	End N/S (ft)	Start E/W (ft)	End E/W (ft)
20in Conductor	25.00	105.00	80.00	25.00	105.00	0.00	0.17	0.00	-0.34
17.5in Open Hole	105.00	487.50	382.50	105.00	487.50	0.17	-0.22	-0.34	-0.47
13.375in Casing Surface	25.00	476.50	451.50	25.00	476.50	0.00	-0.17	0.00	-0.51
12.25in Open Hole	487.50	2745.20	2257.70	487.50	2580.61	-0.22	68.28	-0.47	772.85
9.625in Casing Intermediate	25.00	2729.60	2704.60	25.00	2565.98	0.00	67.66	0.00	767.47
8.75in Open Hole	2745.20	5923.00	3177.80	2580.61	5438.99	68.28	182.66	772.85	2152.57
8.5in Open Hole	5923.00	21947.00	16024.00	5438.99	6165.63	182.66	14898.88	2152.57	-2658.91
5.5in Casing Production	25.00	21947.00	21922.00	25.00	6165.63	0.00	14898.88	0.00	-2658.91



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #08
ANTERO RESOURCES CORPORATION	Well	Treasury Unit 2H
Tyler County, WV	Wellbore	Treasury Unit 2H AWB
Tyler		
Kirk Hadley Pad		

TARGETS

Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape
Treasury Unit 2H - POE - Rev-1	6190.00	751.21	2230.27	1661761.87	14331399.65	39°27'55.472"N	80°55'27.730"W	point
Treasury Unit 2H - BHL - Rev-1	6228.00	14915.12	-2635.64	1656897.92	14345557.87	39°30'15.495"N	80°56'29.655"W	point
Treasury Unit 2H - LP - Rev-1	6228.00	968.91	2155.48	1661687.11	14331617.26	39°27'57.624"N	80°55'28.681"W	point

WELLPATH COMPOSITION - Ref Wellbore: Treasury Unit 2H AWB Ref Wellpath: Treasury Unit 2H AWP Proj: 21947

Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	388.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2'>(100'-388')	Treasury Unit 2H AWB
388.00	813.00	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4'>(388'X446'-813')	Treasury Unit 2H AWB
813.00	2663.00	OWSG MWD rev2 + HRGM	03 WFT EM <12-1/4'>(813'X929'-2663')	Treasury Unit 2H AWB
2663.00	5847.00	OWSG MWD rev2 + HRGM	04 WFT EM <8-3/4'>(2663'X2760'-5847')	Treasury Unit 2H AWB
5847.00	21923.00	BHI AutoTrak Curve (Short)	05 BH AT Curve <8-1/2'>(5847'X5909'-21923')	Treasury Unit 2H AWB
21923.00	21947.00	Blind Drilling (std)	Projection to bit	Treasury Unit 2H AWB



Actual Wellpath Report

Treasury Unit 2H AWP Proj: 21947'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #08
ANTERO RESOURCES CORPORATION	Well	Treasury Unit 2H
Tyler County, WV	Wellbore	Treasury Unit 2H AWB
Tyler		
Kirk Hadley Pad		

COMMENTS

Wellpath general comments
 API: 47-095-02557-0000
 BHI Job #: 110008798A
 Rig: Patterson 342
 Duration: 09/15/2019-09/19/2019
 Gyrodatta MS Gyro <17-1/2">(100'-388')
 Gyrodatta MS Gyro <12-1/4">(388')(446'-813')
 WFT EM <12-1/4">(813')(929'-2663')
 WFT EM <8-3/4">(2663')(2760'-5847')
 BH AT Curve <8-1/2">(5847')(5909'-21923')
 Middlesex: 6667' MD
 Burkett: 6861' MD
 Tully: 6910' MD
 Marcellus POE: 6952' MD
 Projected MD at TD: 21947'