



# ANTERO RESOURCES CORPORATION

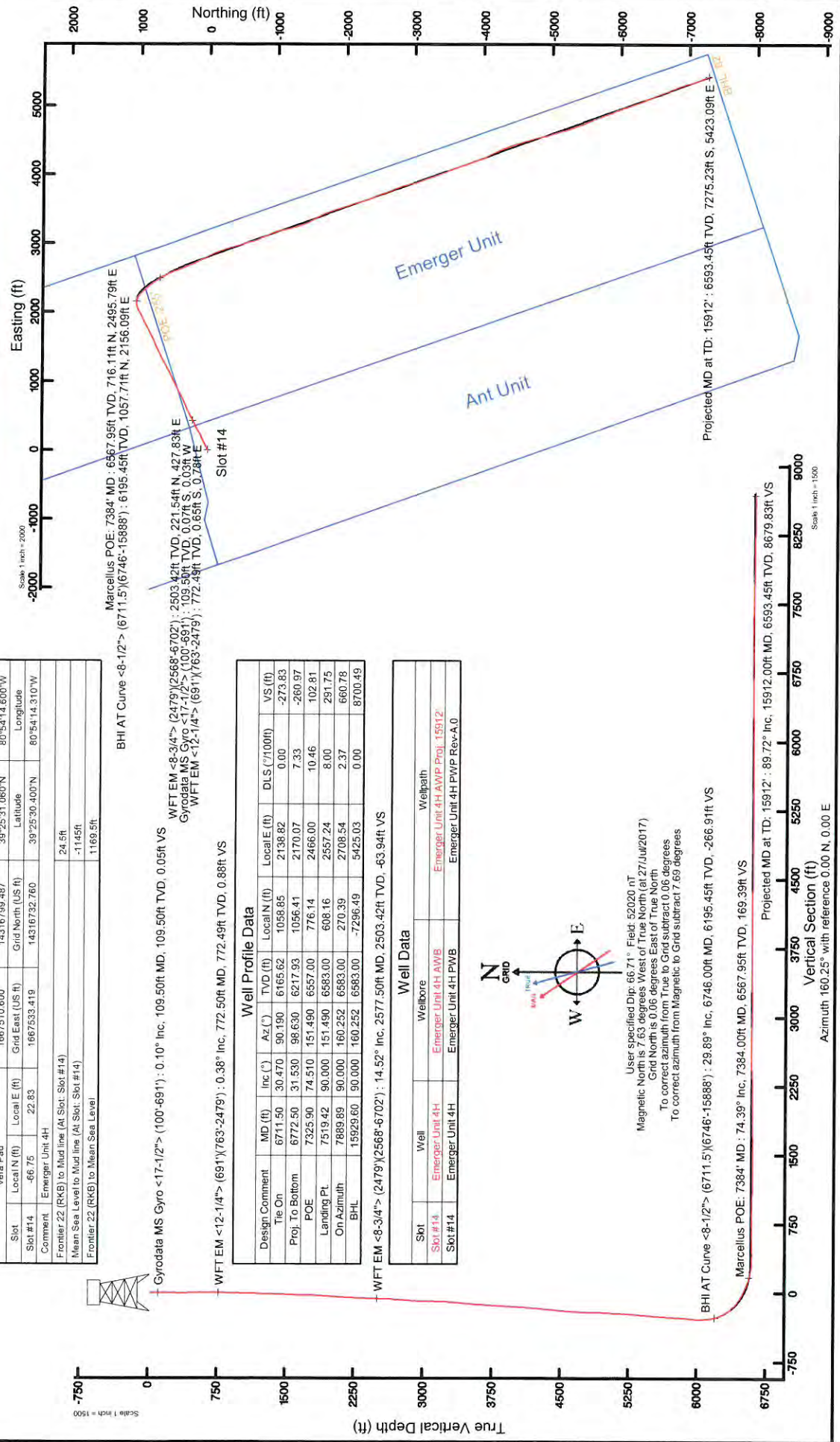
Location: Tyler County, WV  
 Field: Tyler  
 Facility: Vera Pad  
 Slot: Slot #14  
 Well: Emerger Unit 4H  
 Wellbore: Emerger Unit 4H PWB



Plot reference wellpath is Emerger Unit 4H PWB Rev-A-0  
 True vertical depths are referenced to Frontier 22 (RKB)  
 Measured depths are referenced to Frontier 22 (RKB)  
 Frontier 22 (RKB) to Mean Sea Level: 1169.5 feet  
 Mean Sea Level to Mud line (At Slot Slot #14): -1145 feet  
 Coordinates are in feet referenced to Slot

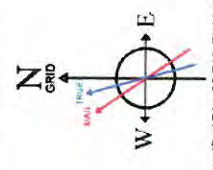
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Vera Pad	14316799.487	392531.060N	80°54'14.600"W
Slot	Local N (ft)	Local E (ft)	Local S (ft)
Slot #14	46.75	22.83	14316732.760
Slot #14	1667533.419	14316732.760	392530.400N
Slot #14	14316732.760	392530.400N	80°54'14.310"W
Frontier 22 (RKB) to Mud line (At Slot Slot #14)			
Frontier 22 (RKB) to Mud line (At Slot Slot #14)	24.5ft		
Mean Sea Level to Mud line (At Slot Slot #14)			
Mean Sea Level to Mud line (At Slot Slot #14)	-1145ft		
Frontier 22 (RKB) to Mean Sea Level			
Frontier 22 (RKB) to Mean Sea Level	1169.5ft		

API: 47-095-02356-0000  
 BHI Job #: 8692045  
 Rig: Frontier 22  
 Duration: 07/31/2017-08/04/2017

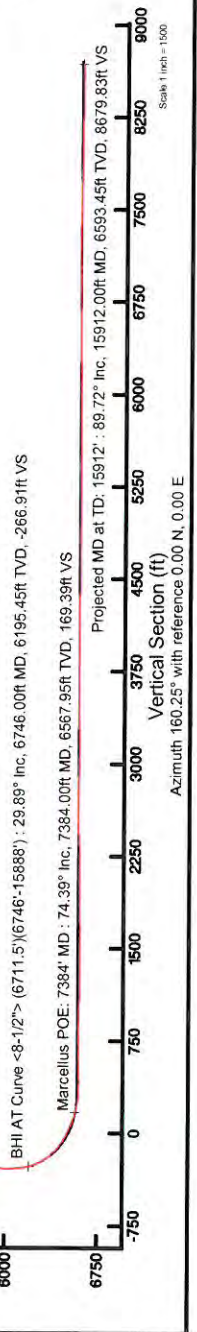


Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)
Tie On	6711.50	30.470	90.190	6165.62	1058.85	2138.82
Proj. To Bottom	6772.50	31.530	98.630	6217.93	1056.41	2170.07
POE	7325.90	74.510	151.490	6557.00	776.14	2466.00
Landing Pt	7519.42	90.000	151.490	6583.00	608.16	2557.24
On Azimuth	7889.89	90.000	160.252	6583.00	270.39	2708.54
BHL	15929.60	90.000	160.252	6583.00	-7296.49	5425.03
WFT EM <8-3/4>: (2479)(2568-6702): 14.52° Inc, 2577.50ft MD, 2503.42ft TVD, -63.94ft VS						
Gyrodatta MS Gyro 7-1/2: (6711.5)(6746-15888): 6195.45ft TVD, 0.05ft VS						
WFT EM <12-1/4>: (691)(763-2479): 0.38° Inc, 772.50ft MD, 772.49ft TVD, 0.88ft VS						
Gyrodatta MS Gyro <17-1/2>: 0.10° Inc, 109.50ft MD, 109.50ft TVD, 0.05ft VS						
BHI AT Curve <8-1/2>: (6711.5)(6746-15888): 6195.45ft TVD, 169.39ft VS						
BHI AT Curve <8-1/2>: (6711.5)(6746-15888): 6195.45ft TVD, 1057.71ft N, 2156.09ft E						
POE: (6711.5)(6746-15888): 6195.45ft TVD, 716.11ft N, 2495.79ft E						
Marcellus POE: 7384° MD: 6567.95ft TVD, 716.11ft N, 2495.79ft E						

Well Data		
Slot	Well	Wellbore
Slot #14	Emerger Unit 4H	Emerger Unit 4H AWB
Slot #14	Emerger Unit 4H	Emerger Unit 4H PWB
		Emerger Unit 4H PWB Rev-A-0



User specified Dip: 66.71° Field: 52020 nT  
 Magnetic North is 7.63 degrees West of True North (at 27 Jul 2017)  
 Grid North is 0.06 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.06 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.69 degrees



Scale 1 inch = 1500



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #14
Well	Emerger Unit 4H
Wellbore	Emerger Unit 4H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.06° East
Software System	WellArchitect@ 5.0
User	Delaset
Report Generated	11/Aug/2017 at 11:34
Database/Source file	WA_MPL_EasternUS_Defn/Emerger_Unit_4H_AWP_Proj_15912_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-66.75	22.83	1667533.42	14316732.76	39°25'30.400"N	80°54'14.310"W
Facility Reference Pt			1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	Frontier 22 (RKB)
MD Reference Pt	Frontier 22 (RKB)
Field Vertical Reference	Mean Sea Level
	Frontier 22 (RKB) to Facility Vertical Datum
	Frontier 22 (RKB) to Mean Sea Level
	Frontier 22 (RKB) to Mud Line at Slot (Slot #14)
	Section Origin
	Section Azimuth
	24.50ft
	1169.50ft
	24.50ft
	N 0.00, E 0.00 ft
	160.25°



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #14
ANTERO RESOURCES CORPORATION	Well	Emerger Unit 4H
Tyler County, WV	Wellbore	Emerger Unit 4H AWB
Tyler		
Vera Pad		

## WELLPATH DATA (194 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	0.000	204.960	0.00	0.00	0.00	0.00	1667533.42	14316732.76	39°25'30.400"N	80°54'14.310"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	204.960	24.50	0.00	0.00	0.00	1667533.42	14316732.76	39°25'30.400"N	80°54'14.310"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.100	204.960	109.50	0.05	-0.07	-0.03	1667533.39	14316732.69	39°25'30.399"N	80°54'14.310"W	0.07	204.960	0.12	0.12	-182.40	Gyrodatta MS Gyro <17-172"> (100'-691')
209.50	0.150	60.060	209.50	0.09	-0.08	0.05	1667533.46	14316732.68	39°25'30.399"N	80°54'14.309"W	0.09	150.791	0.24	0.05	-144.90	
309.50	0.230	17.120	309.50	-0.09	0.18	0.22	1667533.54	14316732.94	39°25'30.402"N	80°54'14.307"W	0.28	51.043	0.16	0.08	-42.94	
409.50	0.220	99.470	409.50	-0.16	0.34	0.47	1667533.88	14316733.10	39°25'30.403"N	80°54'14.304"W	0.57	54.195	0.30	-0.01	82.35	
509.50	0.290	111.850	509.50	0.10	0.21	0.89	1667534.31	14316732.97	39°25'30.402"N	80°54'14.299"W	0.92	76.696	0.09	0.07	12.38	
609.50	0.300	198.160	609.50	0.48	-0.13	1.04	1667534.46	14316732.63	39°25'30.399"N	80°54'14.297"W	1.05	97.227	0.40	0.01	86.31	
700.50	0.400	202.370	700.50	0.90	-0.65	0.85	1667534.27	14316732.11	39°25'30.394"N	80°54'14.299"W	1.07	127.554	0.11	0.11	4.63	
772.50	0.380	7.510	772.49	0.88	-0.65	0.78	1667534.20	14316732.11	39°25'30.394"N	80°54'14.300"W	1.02	129.574	1.07	-0.03	229.36	MFT EM <12-1/4"> (691')(763'-2479)
802.50	1.150	32.930	802.49	0.60	-0.30	0.96	1667534.38	14316732.46	39°25'30.397"N	80°54'14.298"W	1.01	107.169	2.74	2.57	84.73	
862.50	3.140	44.250	862.45	-0.48	1.39	2.44	1667535.85	14316734.14	39°25'30.414"N	80°54'14.279"W	2.80	60.356	3.37	3.32	18.87	
928.50	5.950	50.840	928.23	-2.41	4.85	6.35	1667539.77	14316737.60	39°25'30.448"N	80°54'14.229"W	7.99	52.674	4.34	4.27	9.98	
991.50	8.000	56.260	990.76	-4.56	9.35	12.54	1667545.95	14316742.10	39°25'30.492"N	80°54'14.150"W	15.64	53.295	3.40	3.24	8.60	
1094.50	9.020	64.870	1053.07	-6.08	13.88	20.65	1667554.06	14316746.63	39°25'30.537"N	80°54'14.047"W	24.88	56.100	2.59	1.62	13.67	
1149.50	11.180	60.870	1146.59	-8.28	21.53	35.44	1667568.85	14316754.28	39°25'30.612"N	80°54'13.856"W	41.47	58.728	2.39	2.27	-4.21	
1243.50	13.400	61.490	1238.43	-11.43	31.16	52.98	1667586.37	14316763.91	39°25'30.707"N	80°54'13.634"W	61.46	59.535	2.37	2.36	0.66	
1338.50	15.990	65.410	1330.32	-14.21	41.86	74.55	1667607.94	14316774.61	39°25'30.813"N	80°54'13.359"W	85.50	60.685	2.92	2.73	4.13	
1432.50	19.100	63.790	1419.94	-17.03	54.05	100.13	1667633.51	14316786.78	39°25'30.933"N	80°54'12.933"W	113.78	61.642	3.35	3.31	-1.72	
1526.50	20.090	62.160	1508.49	-21.03	68.38	128.20	1667661.57	14316801.11	39°25'31.074"N	80°54'12.675"W	145.30	61.926	1.20	1.05	-1.73	
1621.50	19.200	65.080	1597.97	-24.74	82.58	156.80	1667690.16	14316815.31	39°25'31.215"N	80°54'12.311"W	177.22	62.226	1.39	-0.94	3.07	
1715.50	19.220	68.850	1686.74	-26.51	94.68	185.25	1667718.59	14316827.40	39°25'31.334"N	80°54'11.948"W	208.04	62.929	1.32	0.02	4.01	
1810.50	18.460	65.730	1776.65	-28.08	106.50	213.54	1667748.88	14316839.22	39°25'31.450"N	80°54'11.587"W	238.63	63.493	1.33	-0.80	-3.28	
1905.50	16.790	57.690	1867.20	-32.25	120.02	238.86	1667772.18	14316852.73	39°25'31.584"N	80°54'11.265"W	267.32	63.322	3.10	-1.76	-8.46	
2000.50	18.350	59.380	1957.76	-38.05	134.97	263.32	1667796.64	14316867.68	39°25'31.731"N	80°54'10.953"W	295.90	62.862	1.73	1.64	1.78	
2095.50	18.660	58.770	2047.85	-43.90	150.47	289.19	1667822.49	14316883.17	39°25'31.884"N	80°54'10.623"W	325.99	62.512	0.38	0.33	-0.64	
2189.50	21.030	61.980	2136.27	-49.31	166.19	316.94	1667850.23	14316898.88	39°25'32.039"N	80°54'10.289"W	357.87	62.329	2.77	2.52	3.41	
2284.50	21.630	63.280	2224.78	-53.89	182.07	347.63	1667880.91	14316914.76	39°25'32.196"N	80°54'09.878"W	392.42	62.357	0.80	0.63	1.37	
2379.50	20.560	64.770	2313.39	-57.61	197.06	378.36	1667911.63	14316929.74	39°25'32.344"N	80°54'09.486"W	426.60	62.489	1.26	-1.13	1.57	
2488.50	14.560	64.100	2417.27	-60.91	211.21	408.03	1667941.28	14316943.89	39°25'32.483"N	80°54'09.106"W	459.45	62.632	5.51	-5.50	-0.61	



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #14
ANTERO RESOURCES CORPORATION	Emerger Unit 4H
Tyler County, WV	Emerger Unit 4H AWB
Tyler	
Vera Pad	

## WELLPATH DATA (194 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
2577.50	14.520	60.790	2503.42	-63.94	221.54	427.83	1667961.07	14316954.21	39°25'32.585"N	80°54'08.855"W	481.79	62.623	0.93	-0.04	-3.72	WFT EM <8-3/4"> (2479')(2568'-8'702')
2671.50	17.680	64.460	2393.72	-67.32	233.45	451.00	1667984.24	14316986.12	39°25'32.703"N	80°54'08.560"W	507.84	62.633	3.53	3.36	3.90	
2766.50	21.180	63.720	2663.30	-70.73	247.27	479.41	1668012.64	14316979.93	39°25'32.839"N	80°54'08.197"W	539.42	62.716	3.69	3.68	-0.78	
2860.50	26.370	58.680	2769.30	-76.85	265.66	512.50	1668045.71	14316998.31	39°25'33.020"N	80°54'07.776"W	577.26	62.600	5.92	5.52	-5.36	
2955.50	26.640	60.110	2854.31	-84.83	287.24	548.99	1668082.18	14317019.88	39°25'33.233"N	80°54'07.310"W	619.59	62.381	0.73	0.28	1.51	
3050.50	26.130	65.260	2939.43	-90.40	306.61	586.46	1668119.64	14317039.25	39°25'33.424"N	80°54'06.832"W	661.77	62.399	2.47	-0.54	5.42	
3144.50	26.360	68.140	3023.74	-92.97	323.04	624.62	1668157.79	14317056.67	39°25'33.566"N	80°54'06.346"W	703.22	62.653	1.38	0.24	3.06	
3239.50	27.010	67.950	3108.62	-94.61	338.99	664.19	1668197.35	14317071.62	39°25'33.743"N	80°54'05.841"W	745.70	62.961	0.69	0.68	-0.20	
3334.50	26.760	65.980	3193.36	-97.07	355.80	703.72	1668236.86	14317088.42	39°25'33.909"N	80°54'05.337"W	788.56	63.179	0.97	-0.26	-2.07	
3428.50	27.940	63.900	3276.85	-101.08	374.10	742.83	1668275.95	14317106.71	39°25'34.090"N	80°54'04.839"W	831.72	63.269	1.62	1.26	-2.21	
3523.50	28.420	61.330	3360.59	-107.05	394.74	782.65	1668315.76	14317127.34	39°25'34.293"N	80°54'04.331"W	876.57	63.235	1.37	0.51	-2.71	
3617.50	29.390	60.550	3442.88	-114.40	416.81	822.37	1668355.46	14317149.41	39°25'34.511"N	80°54'03.825"W	921.97	63.122	1.11	1.03	-0.83	
3712.50	28.100	60.710	3526.17	-122.04	439.22	862.18	1668395.25	14317171.80	39°25'34.732"N	80°54'03.317"W	967.61	63.004	1.36	-1.36	0.17	
3806.50	26.760	65.910	3609.61	-127.31	458.69	900.81	1668433.87	14317191.27	39°25'34.924"W	80°54'02.824"W	1010.87	63.015	2.92	-1.43	5.53	
3900.50	27.950	62.960	3693.11	-131.71	477.35	939.76	1668472.80	14317209.91	39°25'35.108"N	80°54'02.328"W	1054.04	63.072	1.92	1.27	-3.14	
3995.50	28.410	62.240	3776.85	-137.68	497.99	979.58	1668512.61	14317230.55	39°25'35.311"N	80°54'01.820"W	1098.90	63.052	0.60	0.48	-0.76	
4089.50	28.690	62.550	3859.41	-143.82	518.81	1019.40	1668552.41	14317251.36	39°25'35.517"N	80°54'01.312"W	1143.82	63.027	0.34	0.30	0.33	
4184.50	28.500	64.900	3942.83	-148.99	538.94	1050.16	1668593.15	14317271.48	39°25'35.715"N	80°54'00.793"W	1189.28	63.053	1.20	-0.20	2.47	
4279.50	28.690	63.060	4026.24	-153.96	558.88	1101.01	1668633.99	14317291.42	39°25'35.912"N	80°54'00.272"W	1234.74	63.087	0.95	0.20	-1.94	
4373.50	28.320	63.560	4108.85	-159.38	579.03	1141.09	1668674.05	14317311.56	39°25'36.111"N	80°53'59.761"W	1279.60	63.095	0.47	-0.39	0.53	
4468.50	27.190	61.260	4192.92	-165.40	599.50	1180.30	1668713.25	14317332.02	39°25'36.313"N	80°53'59.261"W	1323.83	63.073	1.64	-1.19	-2.42	
4563.50	27.700	60.620	4277.23	-172.48	620.77	1218.57	1668751.50	14317353.28	39°25'36.522"N	80°53'58.773"W	1367.58	63.004	0.62	0.54	-0.67	
4657.50	26.090	63.340	4361.06	-178.62	640.77	1256.09	1668789.00	14317373.27	39°25'36.720"N	80°53'58.294"W	1410.08	62.972	2.16	-1.71	2.89	
4847.50	27.770	62.150	4529.23	-193.22	683.96	1333.18	1668826.07	14317394.38	39°25'36.928"N	80°53'57.809"W	1453.62	62.914	3.36	2.58	-4.72	
4941.50	28.870	64.020	4612.01	-198.76	704.11	1372.91	1668866.78	14317416.45	39°25'37.146"N	80°53'57.311"W	1498.39	62.841	1.82	-0.81	3.46	
5036.50	29.540	64.040	4694.95	-203.78	724.39	1414.54	1668905.78	14317436.59	39°25'37.344"N	80°53'56.805"W	1542.94	62.848	1.45	1.11	1.99	
5131.50	29.930	62.110	4777.45	-209.67	745.73	1456.55	1668947.39	14317456.86	39°25'37.544"N	80°53'56.274"W	1589.24	62.883	0.77	0.77	0.02	
5225.50	27.050	69.810	4860.08	-213.16	764.09	1497.36	1669030.18	14317478.19	39°25'37.755"N	80°53'55.738"W	1636.35	62.888	1.09	0.41	-2.03	
5320.50	28.490	67.730	4944.14	-214.32	780.13	1538.60	1669071.40	14317512.54	39°25'37.936"N	80°53'55.218"W	1681.04	62.965	4.96	-3.06	8.19	
											1725.08	63.113	1.83	1.52	-2.19	



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #14
Operator	ANTERO RESOURCES CORPORATION	Well	Emerger Unit 4H
Area	Tyler County, WV	Wellbore	Emerger Unit 4H AWB
Field	Tyler		
Facility	Vera Pad		

WELLPATH DATA (194 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
5414.50	29.500	64.760	5026.36	-217.52	798.50	1580.29	1669.113.07	14317530.94	39°25'38.275"N	80°53'54.161"W	1770.57	63.193	1.87	1.07	-3.16	
5509.50	28.070	65.210	5109.62	-221.72	817.84	1621.74	1669154.51	14317550.27	39°25'38.466"N	80°53'53.632"W	1816.29	63.238	1.52	-1.51	0.47	
5604.50	27.750	64.140	5193.57	-226.04	836.86	1661.93	1669194.68	14317569.29	39°25'38.653"N	80°53'53.120"W	1860.74	63.273	0.63	-0.34	-1.13	
5698.50	29.270	62.720	5276.17	-231.38	856.94	1702.31	1669234.79	14317589.36	39°25'38.851"N	80°53'52.608"W	1905.60	63.276	1.77	1.62	-1.51	
5793.50	29.570	61.560	5358.92	-237.97	878.75	1743.30	1669276.02	14317611.16	39°25'39.066"N	80°53'52.082"W	1952.26	63.249	0.68	0.32	-1.23	
5888.50	29.400	63.140	5441.62	-244.40	900.45	1784.71	1669317.42	14317632.85	39°25'39.280"N	80°53'51.554"W	1999.01	63.227	0.84	-0.18	1.67	
5983.50	29.380	62.260	5524.39	-250.53	921.84	1826.14	1669358.83	14317654.23	39°25'39.491"N	80°53'51.026"W	2045.62	63.215	0.46	-0.02	-0.93	
6077.50	28.250	63.140	5606.75	-256.49	942.62	1866.40	1669399.07	14317675.00	39°25'39.696"N	80°53'50.513"W	2090.93	63.204	1.28	-1.20	0.94	
6172.50	28.030	65.300	5690.53	-261.19	962.11	1906.74	1669439.39	14317694.48	39°25'39.888"N	80°53'49.998"W	2135.72	63.225	1.10	-0.23	2.27	
6267.50	27.940	62.200	5774.42	-266.24	981.82	1946.70	1669479.34	14317714.18	39°25'40.083"N	80°53'49.489"W	2180.28	63.236	1.53	-0.09	-3.26	
6362.50	28.150	59.950	5858.27	-273.36	1003.42	1985.79	1669518.41	14317735.78	39°25'40.296"N	80°53'48.990"W	2224.91	63.193	1.14	0.22	-2.37	
6425.50	27.750	58.640	5913.92	-278.97	1018.49	2011.18	1669543.79	14317750.84	39°25'40.444"N	80°53'48.667"W	2254.37	63.142	1.16	-0.63	-2.08	
6457.50	27.400	60.100	5942.29	-281.77	1026.04	2023.92	1669556.53	14317758.39	39°25'40.519"N	80°53'48.504"W	2269.15	63.117	2.38	-1.09	4.56	
6488.50	27.300	62.180	5969.82	-284.02	1032.91	2036.39	1669569.00	14317765.26	39°25'40.587"N	80°53'48.345"W	2283.38	63.105	3.10	-0.32	6.71	
6520.50	27.070	66.630	5998.25	-285.52	1039.26	2049.64	1669582.23	14317771.60	39°25'40.649"N	80°53'48.176"W	2298.06	63.113	6.39	0.22	13.91	
6552.50	26.960	69.910	6026.72	-286.02	1044.67	2063.20	1669595.80	14317777.01	39°25'40.702"N	80°53'48.003"W	2312.60	63.145	4.85	-1.28	10.25	
6584.50	27.070	73.590	6055.23	-285.64	1049.22	2077.00	1669609.59	14317781.56	39°25'40.747"N	80°53'47.827"W	2326.97	63.199	5.23	0.34	11.50	
6616.50	29.330	76.820	6083.44	-284.32	1053.06	2091.62	1669624.20	14317785.40	39°25'40.785"N	80°53'47.641"W	2341.75	63.276	8.52	7.06	10.09	
6647.50	30.330	80.380	6110.33	-282.08	1056.10	2106.73	1669639.31	14317788.44	39°25'40.815"N	80°53'47.448"W	2356.62	63.375	6.56	3.23	11.48	
6679.50	30.130	84.890	6137.98	-278.63	1058.17	2122.70	1669655.27	14317790.50	39°25'40.835"N	80°53'47.245"W	2371.83	63.504	7.12	-0.62	14.09	
6711.50	30.470	90.190	6165.62	-273.83	1058.85	2138.82	1669671.38	14317791.19	39°25'40.842"N	80°53'47.039"W	2386.57	63.662	8.42	1.06	16.56	
6746.00	29.890	97.480	6195.45	-266.91	1057.71	2156.09	1669688.65	14317790.04	39°25'40.830"N	80°53'46.819"W	2401.56	63.869	10.75	-1.68	21.13	BHI AT Curve <8-1/2"> (6711.5)\(6746'-15888')
6772.00	30.220	101.510	6217.96	-260.55	1055.56	2168.93	1669701.48	14317787.89	39°25'40.809"N	80°53'46.655"W	2412.15	64.049	7.86	1.27	15.50	
6819.00	32.590	111.670	6258.10	-246.02	1048.52	2192.30	1669724.84	14317780.86	39°25'40.739"N	80°53'46.358"W	2430.14	64.439	12.33	5.04	21.62	
6868.00	36.550	119.480	6298.46	-226.23	1036.45	2217.29	1669749.82	14317768.80	39°25'40.619"N	80°53'46.040"W	2447.57	64.947	12.12	8.08	15.94	
6915.00	40.600	125.450	6335.21	-203.05	1020.68	2241.95	1669774.47	14317753.03	39°25'40.463"N	80°53'45.726"W	2463.36	65.522	11.70	8.62	12.70	
6962.00	44.220	130.970	6369.91	-176.18	1001.05	2266.80	1669799.31	14317733.41	39°25'40.269"N	80°53'45.409"W	2478.00	66.173	11.04	7.70	11.74	
7009.00	48.210	135.140	6402.44	-146.00	977.87	2291.55	1669824.05	14317710.24	39°25'40.040"N	80°53'45.094"W	2491.47	66.891	10.63	8.49	8.87	
7029.00†	50.199	136.267	6415.50	-132.23	967.04	2302.12	1669834.61	14317699.41	39°25'39.932"N	80°53'44.960"W	2496.98	67.214	10.82	9.94	5.64	Middlesex: 7029' MD
7057.00	53.000	137.740	6432.90	-112.07	950.99	2317.08	1669849.57	14317683.36	38°25'39.774"N	80°53'44.769"W	2504.64	67.686	10.82	10.00	5.26	



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #14
Well	Emerger Unit 4H
Wellbore	Emerger Unit 4H AWB

WELLPATH DATA (194 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
7104.00	56.880	139.570	6459.89	-76.30	922.10	2342.47	1669874.95	14317654.49	39°25'39.488"N	80°53'44.446"W	2517.43	68.513	8.85	8.26	3.89	
7152.00	61.460	140.820	6484.48	-37.59	890.44	2368.84	1669901.31	14317622.84	39°25'39.175"N	80°53'44.111"W	2530.67	69.399	9.80	9.54	2.60	
7199.00	65.080	141.540	6505.62	-2.08	857.74	2395.15	1669927.61	14317590.15	39°25'38.851"N	80°53'43.776"W	2544.10	70.297	7.82	7.70	1.53	
7211.00†	65.483	141.741	6510.64	12.41	849.19	2401.92	1669934.37	14317581.61	39°25'38.767"N	80°53'43.690"W	2547.61	70.529	3.69	3.36	1.67	Burket: 7211' MD
7245.00	66.660	142.320	6524.83	42.80	823.97	2421.60	1669954.04	14317556.40	39°25'38.517"N	80°53'43.439"W	2557.94	71.209	3.69	3.36	1.65	
7285.00†	70.492	144.561	6540.17	80.22	792.57	2444.87	1669977.31	14317525.01	39°25'38.206"N	80°53'43.143"W	2570.13	72.039	10.39	9.12	5.34	Tully: 7288 MD
7293.00	70.950	144.820	6541.82	84.76	788.72	2447.60	1669980.04	14317521.16	39°25'38.168"N	80°53'43.108"W	2571.54	72.139	10.39	9.16	5.19	
7340.00	74.010	146.750	6555.97	128.16	751.66	2472.79	1670005.22	14317484.11	39°25'37.802"N	80°53'42.788"W	2584.51	73.092	7.60	6.51	4.11	
7384.00†	74.394	147.462	6567.95	169.39	716.11	2495.79	1670028.20	14317448.58	39°25'37.450"N	80°53'42.495"W	2596.49	73.990	1.78	0.87	1.62	Marcellus POE: 7384' MD
7387.00	74.420	147.510	6568.76	172.20	713.67	2497.34	1670029.76	14317446.14	39°25'37.426"N	80°53'42.476"W	2597.31	74.052	1.78	0.87	1.61	
7435.00	76.900	149.760	6580.65	217.75	673.96	2521.54	1670053.94	14317406.45	39°25'37.033"N	80°53'42.168"W	2610.05	75.036	6.88	5.17	4.69	
7482.00	81.230	152.350	6589.56	263.29	633.59	2543.86	1670076.25	14317366.10	39°25'36.634"N	80°53'41.884"W	2621.57	76.014	10.68	9.21	5.51	
7530.00	86.000	155.240	6594.90	310.67	590.81	2564.91	1670097.30	14317323.33	39°25'36.211"N	80°53'41.616"W	2632.07	77.029	11.60	9.94	6.02	
7577.00	89.540	158.490	6596.73	357.54	547.63	2583.35	1670115.73	14317280.17	39°25'35.784"N	80°53'41.382"W	2640.76	78.031	10.22	7.53	6.91	
7626.00	89.820	161.000	6597.00	406.53	501.67	2600.31	1670132.69	14317234.22	39°25'35.330"N	80°53'41.167"W	2648.26	79.080	5.15	0.57	5.12	
7721.00	91.170	160.820	6596.18	501.52	411.90	2631.38	1670163.75	14317144.49	39°25'34.442"N	80°53'40.772"W	2663.42	81.104	1.43	1.42	-0.19	
7815.00	89.820	156.980	6595.37	595.47	324.22	2665.21	1670197.56	14317056.85	39°25'33.575"N	80°53'40.342"W	2684.86	83.064	4.33	-1.44	-4.09	
7911.00	90.340	155.840	6595.24	691.25	236.24	2703.63	1670235.97	14316968.91	39°25'32.705"N	80°53'39.854"W	2713.93	85.006	1.31	0.54	-1.19	
8006.00	89.970	154.760	6594.98	785.90	149.94	2743.33	1670275.65	14316882.64	39°25'31.852"N	80°53'39.349"W	2747.42	86.872	1.20	-0.39	-1.14	
8100.00	89.880	154.480	6595.10	879.44	65.01	2783.62	1670315.92	14316797.74	39°25'31.012"N	80°53'38.837"W	2784.38	88.862	0.31	-0.10	-0.30	
8195.00	89.690	153.370	6595.46	974.03	-21.03	2823.88	1670356.16	14316711.73	39°25'30.161"N	80°53'38.325"W	2823.96	90.427	0.96	-0.20	0.94	
8290.00	88.800	156.910	6596.71	1068.78	-107.90	2862.30	1670394.57	14316624.90	39°25'29.302"N	80°53'37.837"W	2864.33	92.159	1.87	-0.94	1.62	
8385.00	89.020	161.030	6598.52	1163.72	-196.54	2896.38	1670428.64	14316536.30	39°25'28.425"N	80°53'37.404"W	2903.04	93.882	4.34	0.23	4.34	
8480.00	89.910	165.750	6599.41	1258.54	-287.55	2923.53	1670455.77	14316445.33	39°25'27.526"N	80°53'37.060"W	2937.63	95.617	5.06	0.94	4.97	
8574.00	90.370	163.230	6599.18	1352.28	-378.12	2948.66	1670480.90	14316354.80	39°25'26.630"N	80°53'36.741"W	2972.80	97.307	2.73	0.49	-2.68	
8669.00	90.400	160.600	6598.54	1447.22	-468.41	2978.15	1670510.37	14316264.53	39°25'25.737"N	80°53'36.366"W	3014.76	98.938	2.77	0.03	-2.77	
8764.00	90.490	164.550	6597.80	1542.13	-559.03	3006.59	1670538.80	14316173.95	39°25'24.841"N	80°53'36.005"W	3058.12	100.533	4.16	0.09	4.16	
8859.00	90.120	161.530	6597.29	1637.00	-649.89	3034.30	1670566.50	14316083.13	39°25'23.943"N	80°53'35.654"W	3103.11	102.089	3.20	-0.39	-3.18	
8953.00	90.400	158.380	6596.87	1730.99	-738.18	3066.51	1670598.70	14315994.87	39°25'23.070"N	80°53'35.244"W	3154.11	103.535	3.36	0.30	-3.35	
9047.00	90.340	156.850	6596.26	1824.88	-825.10	3102.31	1670634.48	14315908.06	39°25'22.211"N	80°53'34.790"W	3210.16	104.894	1.63	-0.06	-1.63	



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #14
Well	Emerger Unit 4H
Wellbore	Emerger Unit 4H AWB

WELLPATH DATA (194 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
9142.00	90.120	158.100	6595.88	1919.77	-912.85	3138.70	1670670.86	14315820.28	39°25'21.343"N	80°53'34.327"W	3268.75	106.216	1.34	-0.23	1.32	
9237.00	90.150	162.170	6595.65	2014.75	-1002.17	3170.98	1670703.12	14315730.99	39°25'20.460"N	80°53'33.917"W	3325.57	107.539	4.28	0.03	4.28	
9332.00	90.220	167.680	6595.35	2109.39	-1093.87	3195.67	1670727.81	14315639.33	39°25'19.553"N	80°53'33.604"W	3377.70	108.896	5.80	0.07	5.80	
9426.00	90.710	167.090	6594.58	2202.66	-1185.60	3216.20	1670748.33	14315547.64	39°25'18.846"N	80°53'33.344"W	3427.77	110.236	0.82	0.52	-0.63	
9522.00	91.540	163.310	6592.70	2298.27	-1278.38	3240.72	1670772.83	14315494.90	39°25'17.729"N	80°53'33.033"W	3483.74	111.528	4.03	0.86	-3.94	
9616.00	92.650	158.550	6589.26	2392.17	-1367.13	3271.40	1670803.50	14315366.18	39°25'16.852"N	80°53'32.643"W	3545.57	112.680	5.20	1.18	-5.06	
9711.00	93.020	154.040	6584.56	2486.80	-1453.99	3309.53	1670841.62	14315279.36	39°25'15.993"N	80°53'32.159"W	3614.84	113.717	4.76	0.39	-4.75	
9806.00	89.350	151.030	6582.60	2580.90	-1538.24	3353.33	1670885.40	14315195.14	39°25'15.159"N	80°53'31.602"W	3689.30	114.642	5.00	-3.86	-3.71	
9900.00	88.860	154.420	6584.06	2674.06	-1621.76	3396.39	1670928.45	14315111.65	39°25'14.333"N	80°53'31.054"W	3763.72	115.524	3.64	-0.52	-0.52	
9995.00	88.920	168.150	6585.80	2768.80	-1708.71	3434.58	1670966.63	14315024.74	39°25'13.474"N	80°53'30.569"W	3836.15	116.450	3.93	0.06	3.93	
10089.00	89.940	162.080	6585.84	2862.77	-1797.08	3466.55	1670998.58	14314936.40	39°25'12.600"N	80°53'30.163"W	3904.67	117.403	4.32	1.09	4.18	
10184.00	89.660	161.500	6587.17	2957.74	-1887.32	3496.24	1671028.25	14314846.19	39°25'11.708"N	80°53'29.786"W	3973.12	118.361	0.68	-0.29	-0.81	
10280.00	90.120	160.550	6587.36	3053.73	-1978.10	3527.45	1671059.45	14314755.45	39°25'10.810"N	80°53'29.390"W	4044.23	119.283	1.10	0.48	-0.99	
10374.00	89.690	161.920	6587.51	3147.71	-2067.11	3557.69	1671089.68	14314666.48	39°25'09.930"N	80°53'29.006"W	4114.62	120.158	1.53	-0.46	1.46	
10470.00	90.460	164.380	6587.39	3243.58	-2158.98	3585.51	1671117.49	14314574.65	39°25'09.022"N	80°53'28.653"W	4185.34	121.054	2.69	0.80	2.56	
10565.00	90.520	160.860	6586.57	3338.48	-2249.62	3613.88	1671145.85	14314484.04	39°25'08.125"N	80°53'28.293"W	4256.87	121.902	3.71	0.06	-3.71	
10660.00	90.120	159.140	6586.04	3433.48	-2338.89	3646.37	1671178.33	14314394.81	39°25'07.243"N	80°53'27.880"W	4332.02	122.677	1.86	-0.42	-1.81	
10754.00	90.150	160.010	6585.82	3527.47	-2426.98	3679.18	1671211.12	14314306.76	39°25'06.372"N	80°53'27.463"W	4407.56	123.411	0.93	0.03	0.93	
10849.00	90.150	159.270	6585.57	3622.46	-2516.04	3712.23	1671244.16	14314217.73	39°25'05.491"N	80°53'27.044"W	4484.54	124.128	0.78	0.00	-0.78	
10944.00	90.520	159.130	6585.02	3717.44	-2604.85	3745.96	1671277.88	14314128.96	39°25'04.613"N	80°53'26.615"W	4562.62	124.814	0.42	0.39	-0.15	
11039.00	90.060	157.350	6584.54	3812.38	-2693.07	3781.18	1671313.08	14314040.77	39°25'03.741"N	80°53'26.168"W	4642.19	125.460	1.94	-0.48	-1.87	
11133.00	89.420	161.080	6584.96	3906.35	-2780.94	3814.53	1671346.42	14313952.94	39°25'02.872"N	80°53'25.744"W	4720.62	126.093	4.03	-0.68	3.97	
11228.00	89.540	164.190	6585.83	4001.25	-2871.59	3842.88	1671374.76	14313862.32	39°25'01.975"N	80°53'25.384"W	4797.27	126.769	3.28	0.13	3.27	
11322.00	90.340	163.430	6585.92	4095.07	-2961.86	3869.09	1671400.96	14313772.08	39°25'01.083"N	80°53'25.052"W	4872.63	127.435	1.17	0.85	-0.81	
11417.00	90.030	160.390	6585.62	4190.01	-3052.16	3898.58	1671430.44	14313681.83	39°25'00.190"N	80°53'24.677"W	4951.22	128.057	3.22	-0.33	-3.20	
11511.00	89.260	159.840	6586.20	4294.01	-3140.55	3930.56	1671462.40	14313593.47	39°24'59.316"N	80°53'24.271"W	5031.14	128.625	1.01	-0.82	-0.59	
11606.00	89.660	162.520	6587.10	4378.99	-3230.46	3961.20	1671493.03	14313503.60	39°24'58.427"N	80°53'23.882"W	5111.45	129.198	2.85	0.42	2.82	
11701.00	89.510	161.210	6587.78	4473.94	-3320.73	3990.77	1671522.58	14313413.36	39°24'57.534"N	80°53'23.507"W	5191.68	129.764	1.39	-0.16	-1.38	
11797.00	89.200	158.550	6588.86	4569.93	-3410.86	4023.78	1671555.59	14313323.27	39°24'56.643"N	80°53'23.088"W	5274.92	130.287	2.79	-0.32	-2.77	
11892.00	89.450	157.540	6589.98	4664.85	-3498.97	4059.30	1671589.09	14313235.20	39°24'55.772"N	80°53'22.637"W	5359.17	130.760	1.10	0.26	-1.06	



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #14
ANTERO RESOURCES CORPORATION	Well	Emerger Unit 4H
Tyler County, WV	Wellbore	Emerger Unit 4H AWP
Tyler		
Vera Pad		

## WELLPATH DATA (194 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
11987.00	89.880	159.090	6590.54	4759.79	-3587.24	4094.40	1671626.18	14313146.96	39°24'54.899"N	80°53'22.191"W	5443.56	131.223	1.69	0.45	1.63	
12081.00	90.150	161.720	6590.51	4853.78	-3675.79	4125.92	1671657.69	14313058.45	39°24'54.024"N	80°53'21.790"W	5525.82	131.698	2.81	0.29	2.80	
12176.00	90.710	162.830	6589.80	4948.72	-3766.27	4154.84	1671696.60	14312968.00	39°24'53.129"N	80°53'21.423"W	5607.81	132.192	1.31	0.59	1.17	
12272.00	89.910	160.530	6589.28	5044.68	-3857.40	4185.02	1671716.76	14312876.91	39°24'52.228"N	80°53'21.040"W	5691.56	132.667	2.54	-0.83	-2.40	
12366.00	90.000	159.280	6589.36	5138.67	-3945.67	4217.31	1671749.04	14312788.67	39°24'51.355"N	80°53'20.630"W	5775.30	133.094	1.33	0.10	-1.33	
12461.00	90.430	153.740	6589.00	5233.43	-4032.77	4255.16	1671786.87	14312701.61	39°24'50.494"N	80°53'20.149"W	5862.56	133.463	5.85	0.45	-5.83	
12556.00	89.820	152.810	6588.79	5327.73	-4117.62	4297.88	1671829.58	14312616.79	39°24'49.655"N	80°53'19.606"W	5952.02	133.773	1.17	-0.64	-0.98	
12650.00	89.820	155.480	6589.09	5421.19	-4202.20	4338.87	1671870.55	14312532.25	39°24'48.818"N	80°53'19.088"W	6040.22	134.083	2.84	0.00	2.84	
12744.00	89.880	157.420	6589.33	5514.98	-4288.37	4376.43	1671908.09	14312446.11	39°24'47.966"N	80°53'18.608"W	6127.25	134.418	2.06	0.06	2.06	
12838.00	90.030	160.650	6589.41	5608.94	-4376.13	4410.06	1671941.71	14312358.38	39°24'47.098"N	80°53'18.181"W	6212.82	134.779	3.44	0.18	3.44	
12932.00	90.000	163.620	6589.38	5702.88	-4465.59	4438.89	1671970.53	14312288.96	39°24'46.214"N	80°53'17.815"W	6296.45	135.172	3.16	-0.03	3.16	
13027.00	90.120	163.800	6589.28	5797.71	-4556.77	4465.54	1671997.17	14312177.81	39°24'45.312"N	80°53'17.477"W	6380.07	135.579	0.23	0.13	0.19	
13122.00	90.250	163.010	6588.98	5892.56	-4647.82	4492.67	1672024.29	14312086.81	39°24'44.412"N	80°53'17.133"W	6464.23	135.972	0.84	0.14	-0.83	
13217.00	90.180	165.690	6588.62	5987.31	-4739.29	4518.30	1672049.90	14311995.38	39°24'43.508"N	80°53'16.808"W	6547.96	136.367	2.82	-0.07	2.82	
13313.00	90.280	165.410	6588.23	6082.90	-4832.25	4542.25	1672073.85	14311902.45	39°24'42.589"N	80°53'16.504"W	6631.94	136.772	0.31	0.10	-0.29	
13408.00	90.340	165.000	6587.72	6177.54	-4924.10	4566.51	1672098.10	14311810.64	39°24'41.681"N	80°53'16.197"W	6715.63	137.158	0.44	0.06	-0.43	
13502.00	90.680	160.520	6586.98	6271.42	-5013.85	4594.36	1672125.94	14311720.92	39°24'40.793"N	80°53'15.843"W	6800.50	137.500	4.78	0.36	-4.77	
13597.00	90.770	164.510	6585.68	6366.32	-5104.43	4622.90	1672154.46	14311630.38	39°24'39.898"N	80°53'15.481"W	6886.68	137.834	4.20	0.09	4.20	
13692.00	90.120	164.270	6584.94	6461.07	-5195.92	4648.46	1672180.01	14311538.92	39°24'38.993"N	80°53'15.157"W	6971.79	138.183	0.73	-0.68	-0.25	
13787.00	90.920	158.210	6584.08	6556.01	-5285.83	4678.99	1672210.54	14311449.05	39°24'38.104"N	80°53'14.769"W	7059.25	138.485	6.43	0.84	-6.38	
13883.00	90.860	161.410	6582.59	6651.98	-5375.91	4712.12	1672243.65	14311359.01	39°24'37.213"N	80°53'14.349"W	7148.74	138.765	3.33	-0.06	3.33	
13978.00	91.080	157.320	6580.98	6746.94	-5464.78	4745.59	1672277.10	14311270.17	39°24'36.335"N	80°53'13.924"W	7237.71	139.029	4.31	0.23	-4.31	
14073.00	90.580	156.690	6579.60	6841.77	-5552.23	4782.69	1672314.19	14311182.76	39°24'35.470"N	80°53'13.452"W	7328.12	139.258	0.85	-0.53	-0.66	
14168.00	90.800	158.430	6578.46	6936.66	-5640.02	4818.95	1672350.44	14311095.00	39°24'34.602"N	80°53'12.992"W	7418.37	139.489	1.85	0.23	1.83	
14262.00	89.540	160.070	6578.18	7030.64	-5727.92	4852.25	1672383.73	14311007.14	39°24'33.733"N	80°53'12.569"W	7506.89	139.731	2.20	-1.34	1.74	
14358.00	89.660	160.510	6578.85	7126.64	-5818.29	4884.63	1672416.09	14310916.80	39°24'32.839"N	80°53'12.158"W	7596.85	139.986	0.48	0.12	0.46	
14453.00	89.940	157.330	6579.18	7221.60	-5906.92	4918.79	1672450.24	14310828.21	39°24'31.963"N	80°53'11.724"W	7686.76	140.215	3.36	0.29	-3.35	
14547.00	88.490	158.540	6580.47	7315.51	-5994.03	4954.10	1672485.53	14310741.14	39°24'31.101"N	80°53'11.276"W	7776.34	140.426	2.01	-1.54	1.29	
14642.00	89.380	161.980	6582.24	7410.48	-6083.41	4986.18	1672517.60	14310651.79	39°24'30.217"N	80°53'10.868"W	7865.74	140.661	3.74	0.94	3.62	
14736.00	88.520	161.680	6583.96	7504.42	-6172.71	5015.48	1672546.89	14310562.53	39°24'29.334"N	80°53'10.496"W	7953.45	140.905	0.97	-0.91	-0.32	





# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'  
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #14
Well	Emerger Unit 4H
Wellbore	Emerger Unit 4H AWB

WELLPATH DATA (194 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
ft	°	°	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft/100ft	ft/100ft	ft/100ft	
14831.00	88.980	159.700	6586.03	7599.39	-8262.34	5046.89	1672578.28	14310472.93	39°24'28.448"N	80°53'10.098"W	8042.89	141.134	2.14	0.48	-2.08	
14926.00	90.000	157.020	6586.88	7694.33	-6350.63	5081.92	1672613.30	14310384.68	39°24'27.575"N	80°53'09.653"W	8133.66	141.332	3.02	1.07	-2.82	
15021.00	89.290	158.350	6587.47	7789.23	-6438.51	5117.99	1672649.35	14310296.83	39°24'26.706"N	80°53'09.195"W	8224.86	141.519	1.59	-0.75	1.40	
15116.00	89.450	160.580	6588.51	7884.21	-6527.47	5151.31	1672682.66	14310207.91	39°24'25.827"N	80°53'08.772"W	8315.27	141.720	2.35	0.17	2.35	
15211.00	89.420	158.980	6589.45	7979.20	-6616.60	5184.14	1672715.48	14310118.81	39°24'24.945"N	80°53'08.355"W	8405.64	141.921	1.68	-0.03	-1.68	
15307.00	89.480	156.610	6590.37	8075.10	-6705.47	5220.42	1672751.74	14310029.98	39°24'24.066"N	80°53'07.894"W	8498.01	142.098	2.47	0.06	-2.47	
15402.00	89.260	158.980	6591.41	8170.00	-6793.42	5256.31	1672787.62	14309942.07	39°24'23.197"N	80°53'07.438"W	8589.49	142.270	2.51	-0.23	2.49	
15496.00	89.780	162.460	6592.00	8263.98	-6882.13	5287.35	1672818.64	14309853.39	39°24'22.319"N	80°53'07.044"W	8678.69	142.466	3.74	0.55	3.70	
15591.00	89.780	162.330	6592.57	8358.91	-6972.68	5316.08	1672847.36	14309762.88	39°24'21.424"N	80°53'06.680"W	8768.06	142.678	0.14	0.00	-0.14	
15686.00	90.150	161.960	6592.62	8453.86	-7063.10	5345.21	1672876.48	14309672.49	39°24'20.530"N	80°53'06.310"W	8857.69	142.882	0.55	0.39	-0.39	
15781.00	89.690	158.840	6592.76	8548.84	-7152.59	5377.07	1672908.33	14309583.04	39°24'19.645"N	80°53'05.906"W	8948.32	143.065	3.32	-0.48	-3.28	
15875.00	89.690	159.670	6593.27	8642.83	-7240.49	5410.36	1672941.61	14309495.18	39°24'18.776"N	80°53'05.483"W	9038.62	143.232	0.88	0.00	0.88	
15888.00	89.720	159.930	6593.33	8655.83	-7252.69	5414.85	1672946.10	14309482.98	39°24'18.655"N	80°53'05.426"W	9051.09	143.255	2.01	0.23	2.00	
15912.00	89.720	159.930	6593.45	8679.83	-7275.23	5423.09	1672954.33	14309460.45	39°24'18.433"N	80°53'05.322"W	9074.08	143.298	0.00	0.00	0.00	Projected MD at ID: 15912'

HOLE & CASING SECTIONS - Ref Wellbore: Emerger Unit 4H AWB Ref Wellpath: Emerger Unit 4H AWP Proj: 15912'														
String/Diameter	Start MD		End MD		Interval		Start TVD		End TVD		Start N/S	Start E/W	End N/S	End E/W
	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft				
20in Conductor	24.50	104.50	104.50	80.00	80.00	24.50	104.50	104.50	104.50	0.00	0.00	0.00	-0.06	-0.03
17.5in Open Hole	104.50	723.70	723.70	619.20	619.20	104.50	723.69	723.69	723.69	-0.06	-0.03	-0.03	-0.75	0.80
13.375in Casing Surface	24.50	723.70	723.70	699.20	699.20	24.50	723.69	723.69	723.69	0.00	0.00	0.00	-0.75	0.80
12.25in Open Hole	723.70	2530.00	2530.00	1806.30	1806.30	723.69	2457.43	2457.43	2457.43	-0.75	0.80	0.80	215.89	417.34
9.625in Casing Intermediate	24.50	2530.00	2530.00	2505.50	2505.50	24.50	2457.43	2457.43	2457.43	0.00	0.00	0.00	215.89	417.34



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #14
ANTERO RESOURCES CORPORATION	Well	Emerger Unit 4H
Area	Wellbore	Emerger Unit 4H AWB
Field		
Facility		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Emerger Unit 4H POE - Rev-2	6557.00	776.14	2466.00	1669998.42	14317508.59	39°25'38.044"N	80°53'42.874"W	point
Emerger Unit 4H BHL - Rev-2	6583.00	-7296.49	5425.03	1672956.27	14309439.20	39°24'18.222"N	80°53'05.297"W	point
Emerger Unit 4H LP - Rev-1	6583.00	608.16	2557.24	1670089.64	14317340.67	39°25'36.383"N	80°53'41.714"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Emerger Unit 4H AWB Ref Wellpath: Emerger Unit 4H AWP Proj: 15912'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	700.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">-(100'-691')	Emerger Unit 4H AWB
700.50	2488.50	ISCWSA MWD, Rev. 4 (Standard)	02 WFT EM <12-1/4">-(691')\763'-2479)	Emerger Unit 4H AWB
2488.50	6711.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <8-3/4">(2479)\2568'-6702)	Emerger Unit 4H AWB
6711.50	15888.00	BHI AutoTrak Curve (Short)	04 BHI AT Curve <8-1/2"> (6711.5)\(6746'-15888')	Emerger Unit 4H AWB
15888.00	15912.00	Blind Drilling (std)	Projection to bit	Emerger Unit 4H AWB



# Actual Wellpath Report

Emerger Unit 4H AWP Proj: 15912'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #14
ANTERO RESOURCES CORPORATION	Well	Emerger Unit 4H
Tyler County, WV	Wellbore	Emerger Unit 4H AWB
Tyler		
Vera Pad		

## COMMENTS

**Wellpath general comments**  
 API: 47-095-02356-0000  
 BHI Job #: 8692045  
 Rig: Frontier 22  
 Duration: 07/31/2017-08/04/2017  
 Gyrodata MS Gyro <17-1/2"> (100'-691')  
 WFT EM <12-1/4"> (691')(763'-2479')  
 WFT EM <8-3/4"> (2479')(2568'-6702')  
 BHI AT Curve <8-1/2"> (6711.5')(6746'-15888')  
 Middlesex: 7029' MD  
 Burket: 7211' MD  
 Tully: 7288' MD  
 Marcellus POE: 7384' MD  
 Projected MD at TD: 15912'