



# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Field: Tyler  
 Facility: Vera Pad

Slot: Slot #13  
 Well: Emerger Unit 3H  
 Wellbore: Emerger Unit 3H PWB



API: 47-095-02379-0000  
 BHI Job #: 8695841  
 Rig: Frontier 22  
 Duration: 08/06/2017-08/09/2017

Plot reference wellpath is Emerger Unit 3H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	* = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Frontier 22 (RKB) to Mean Sea Level: 1169.5 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #13): -1145 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ddeloet on 2017-09-06
	Database: WA MPL EasternUS_Defn



Gyrodatta MS Gyro <17-1/2"> (100°-712') : 0.19° Inc, 109.50ft MD, 109.50ft TVD, 0.11ft VS

Gyrodatta MS Gyro <12-1/4"> (712°-744'-1038') : 0.26° Inc, 753.50ft MD, 753.49ft TVD, 2.79ft VS

WFT EM <12-1/4"> (1038°-1083'-2524') : 11.42° Inc, 1092.50ft MD, 1090.20ft TVD, -12.40ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #13	Emerger Unit 3H	Emerger Unit 3H AWB	Emerger Unit 3H AWP Proj: 15857*
Slot #13	Emerger Unit 3H	Emerger Unit 3H PWB	Emerger Unit 3H PWP Rev-B.0

WFT EM <8-3/4"> (2524°-2666'-6706') : 17.22° Inc, 2675.50ft MD, 2599.65ft TVD, -151.30ft VS

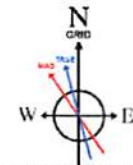
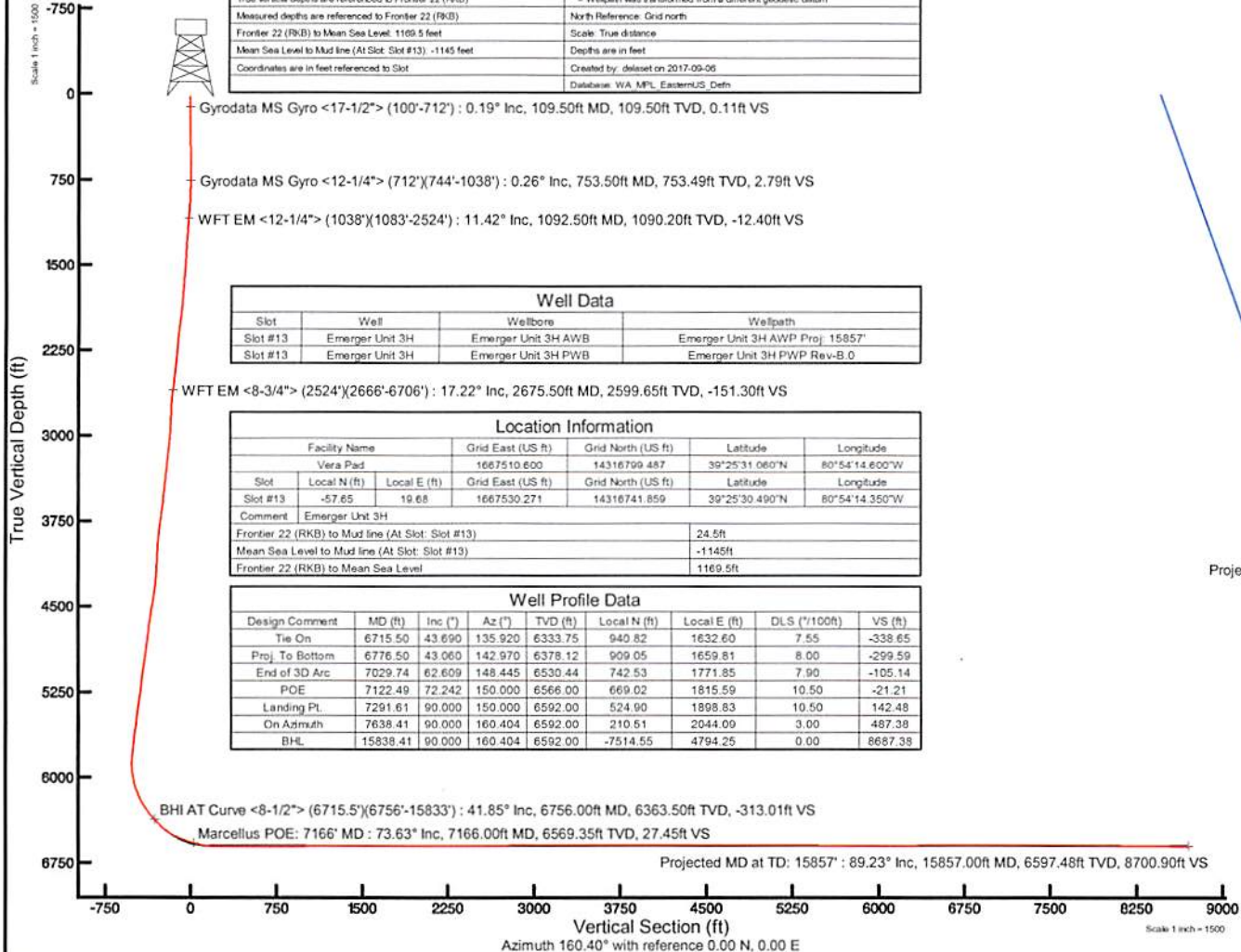
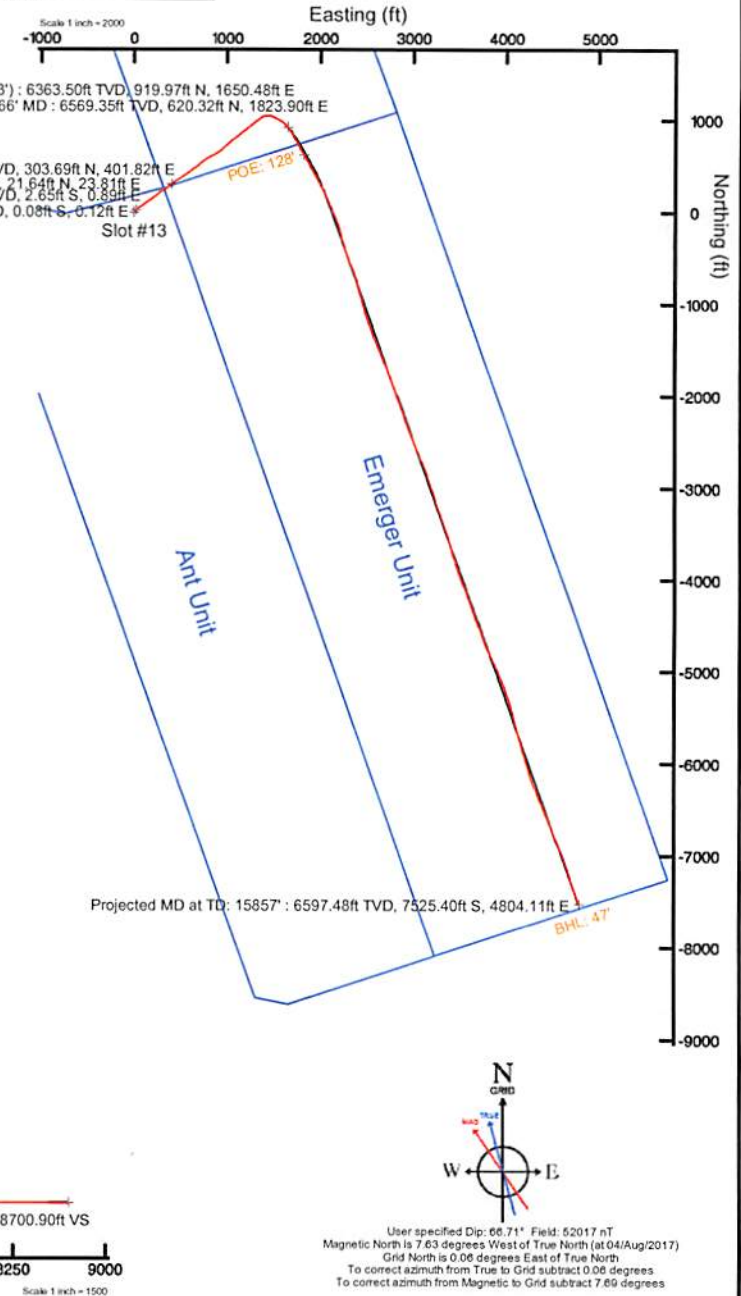
Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Vera Pad	1667510.600	14316799.487	39°25'31.060"N	80°54'14.600"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot #13	-57.65	19.68	1667530.271	14316741.859	80°54'14.350"W
Comment: Emerger Unit 3H					
Frontier 22 (RKB) to Mud line (At Slot: Slot #13)					24.5ft
Mean Sea Level to Mud line (At Slot: Slot #13)					-1145ft
Frontier 22 (RKB) to Mean Sea Level					1169.5ft

Well Profile Data								
Design Comment	MD (ft)	Inc. (")	Az. (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6715.50	43.690	135.920	6333.75	940.82	1632.60	7.55	-338.65
Proj. To Bottom	6776.50	43.060	142.970	6378.12	909.05	1659.81	8.00	-299.59
End of 3D Arc	7029.74	62.609	148.445	6530.44	742.53	1771.85	7.90	-105.14
POE	7122.49	72.242	150.000	6566.00	669.02	1815.59	10.50	-21.21
Landing Pt.	7291.61	90.000	150.000	6592.00	524.90	1898.83	10.50	142.48
On Azimuth	7638.41	90.000	160.404	6592.00	210.51	2044.09	3.00	487.38
BHL	15838.41	90.000	160.404	6592.00	-7514.55	4794.25	0.00	8687.38

BHI AT Curve <8-1/2"> (6715.5°-6756'-15833') : 41.85° Inc, 6756.00ft MD, 6363.50ft TVD, -313.01ft VS

Marcellus POE: 7166' MD : 73.63° Inc, 7166.00ft MD, 6569.35ft TVD, 27.45ft VS

Projected MD at TD: 15857' : 89.23° Inc, 15857.00ft MD, 6597.48ft TVD, 8700.90ft VS



User specified Dip: 66.71° Field: 52017 nT  
 Magnetic North is 7.63 degrees West of True North (at 04/Aug/2017)  
 Grid North is 0.08 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.08 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.69 degrees



# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	06/Sep/2017 at 16:59
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defn/Emerger_Unit_3H_AWP_Proj_15857_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-57.65	19.68	1667530.27	14316741.86	39°25'30.490"N	80°54'14.350"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	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1169.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #13)	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	160.40°

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Emerger Unit 3H AWP Proj: 15857

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWP
Facility	Vera Pad		

## WELLPATH DATA (202 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
0.00	0.00	124.540	0.00	0.00	0.00	0.00	1667530.27	14316741.86	39°25'30.490"N	80°54'14.350"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.00	124.540	24.50	0.00	0.00	0.00	1667530.27	14316741.86	39°25'30.490"N	80°54'14.350"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.190	124.540	109.50	0.11	-0.08	0.12	1667530.39	14316741.78	39°25'30.489"N	80°54'14.349"W	0.14	124.540	0.22	0.22	146.52	Syrodata MS Gyro <17-112"> (100°-712)
209.50	0.290	109.030	209.50	0.41	-0.26	0.49	1667530.76	14316741.60	39°25'30.487"N	80°54'14.344"W	0.55	117.533	0.12	0.10	-15.51	
309.50	0.340	143.430	309.50	0.85	-0.58	0.91	1667531.18	14316741.28	39°25'30.484"N	80°54'14.338"W	1.08	122.447	0.19	0.05	34.40	
409.50	0.430	141.170	409.50	1.49	-1.11	1.32	1667531.59	14316740.75	39°25'30.479"N	80°54'14.333"W	1.72	130.006	0.09	0.09	-2.26	
509.50	0.210	171.040	509.49	2.02	-1.58	1.58	1667531.85	14316740.28	39°25'30.474"N	80°54'14.330"W	2.24	134.953	0.27	-0.22	29.87	
609.50	0.280	200.720	609.49	2.39	-1.99	1.53	1667531.80	14316739.87	39°25'30.470"N	80°54'14.331"W	2.51	142.530	0.14	0.07	29.68	
709.50	0.520	225.700	709.49	2.76	-2.54	1.11	1667531.39	14316739.32	39°25'30.465"N	80°54'14.336"W	2.77	156.274	0.29	0.24	24.98	
721.50	0.520	228.420	721.49	2.81	-2.61	1.03	1667531.31	14316739.25	39°25'30.464"N	80°54'14.337"W	2.81	158.372	0.21	0.00	22.67	
753.50	0.260	327.830	753.49	2.79	-2.65	0.89	1667531.16	14316739.21	39°25'30.464"N	80°54'14.339"W	2.79	161.449	1.93	-0.81	310.66	Syrodata MS Gyro <12-1/4"> (712)(744)-1038)
808.50	1.470	26.530	808.48	2.18	-1.91	1.14	1667531.41	14316739.95	39°25'30.471"N	80°54'14.336"W	2.22	149.228	2.46	2.20	106.73	
837.50	2.420	30.300	837.47	1.53	-1.05	1.61	1667531.88	14316740.81	39°25'30.480"N	80°54'14.329"W	1.92	123.013	3.30	3.28	13.00	
867.50	3.500	35.320	867.43	0.59	0.25	2.46	1667532.73	14316742.11	39°25'30.492"N	80°54'14.319"W	2.47	84.266	3.70	3.60	16.73	
897.50	4.700	39.040	897.35	-0.57	1.95	3.76	1667534.03	14316743.81	39°25'30.509"N	80°54'14.302"W	4.24	62.626	4.09	4.00	12.40	
927.50	6.040	41.200	927.22	-1.98	4.09	5.58	1667535.85	14316745.95	39°25'30.530"N	80°54'14.279"W	6.92	53.741	4.52	4.47	7.20	
957.50	7.130	42.480	957.02	-3.62	6.65	7.87	1667538.14	14316748.51	39°25'30.556"N	80°54'14.250"W	10.31	49.812	3.67	3.63	4.27	
987.50	7.950	44.520	986.76	-5.40	9.50	10.59	1667540.85	14316751.36	39°25'30.584"N	80°54'14.215"W	14.23	48.084	2.87	2.73	6.80	
1017.50	9.130	46.590	1016.42	-7.27	12.62	13.77	1667544.04	14316754.47	39°25'30.615"N	80°54'14.174"W	18.68	47.498	4.06	3.93	6.90	
1047.50	10.230	48.410	1046.00	-9.23	16.02	17.49	1667547.76	14316757.88	39°25'30.648"N	80°54'14.127"W	23.72	47.510	3.81	3.67	6.07	
1092.50	11.420	48.250	1090.20	-12.40	21.64	23.81	1667554.07	14316763.49	39°25'30.704"N	80°54'14.046"W	32.17	47.724	2.65	2.64	-0.36	WFT EM <12-1/4"> (1038)(1063+2524)
1123.50	12.170	47.820	1120.54	-14.82	25.88	28.52	1667558.78	14316767.73	39°25'30.745"N	80°54'13.986"W	38.51	47.774	2.44	2.42	-1.39	
1155.50	12.780	47.710	1151.79	-17.48	30.53	33.63	1667563.89	14316772.37	39°25'30.791"N	80°54'13.921"W	45.42	47.772	1.91	1.91	-0.34	
1250.50	13.290	52.850	1244.34	-24.82	44.19	50.11	1667569.00	14316786.03	39°25'30.926"N	80°54'13.711"W	66.81	48.591	1.33	0.54	5.41	
1345.50	14.650	55.880	1336.53	-31.13	57.53	68.76	1667599.00	14316799.36	39°25'31.058"N	80°54'13.473"W	89.65	50.084	1.63	1.43	3.19	
1439.50	17.220	55.390	1426.91	-37.71	72.10	90.06	1667620.29	14316813.93	39°25'31.202"N	80°54'13.201"W	115.36	51.320	2.74	2.73	-0.52	
1534.50	17.010	54.150	1517.70	-45.24	88.22	112.89	1667643.12	14316830.05	39°25'31.361"N	80°54'12.910"W	143.28	51.993	0.44	-0.22	-1.31	
1628.50	17.020	52.570	1607.59	-53.30	104.64	134.96	1667665.18	14316846.45	39°25'31.523"N	80°54'12.629"W	170.77	52.213	0.49	0.01	-1.68	
1723.50	16.760	55.610	1698.49	-61.06	120.83	157.31	1667687.52	14316862.64	39°25'31.663"N	80°54'12.344"W	198.35	52.473	0.97	-0.27	3.20	
1817.50	16.780	56.890	1788.50	-67.73	135.92	179.82	1667710.02	14316877.73	39°25'31.831"N	80°54'12.057"W	225.41	52.915	0.33	0.00	1.15	

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# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #13
Area	Tyler County, WV		Well	Emerger Unit 3H
Field	Tyler		Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad			

WELLPATH DATA (202 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
1911.50	17.630	52.640	1878.30	-75.28	152.01	202.46	1667732.65	14316893.80	39°25'31.990"N	80°54'11.768"W	253.17	53.101	1.57	0.93	-4.31	
2006.50	20.130	52.140	1968.18	-84.79	170.77	226.80	1667756.99	14316912.56	39°25'32.175"N	80°54'11.457"W	283.91	53.022	2.64	2.63	-0.53	
2101.50	19.970	51.620	2057.43	-95.14	190.88	252.43	1667782.60	14316932.66	39°25'32.374"N	80°54'11.131"W	316.47	52.905	0.25	-0.17	-0.55	
2195.50	20.830	55.020	2145.53	-104.74	210.42	278.71	1667808.87	14316952.20	39°25'32.567"N	80°54'10.796"W	349.22	52.947	1.56	0.91	3.62	
2289.50	20.550	57.110	2233.47	-112.96	228.97	306.25	1667836.40	14316970.73	39°25'32.750"N	80°54'10.444"W	382.38	53.217	0.84	-0.30	2.22	
2378.50	20.520	57.200	2316.82	-120.12	245.90	332.48	1667862.62	14316987.66	39°25'32.917"N	80°54'10.110"W	413.53	53.514	0.05	-0.03	0.10	
2473.50	17.730	52.020	2406.57	-128.48	263.82	357.89	1667888.02	14317005.58	39°25'33.094"N	80°54'09.786"W	444.62	53.604	3.43	-2.94	-5.45	
2533.50	16.820	48.570	2463.86	-134.59	275.19	371.60	1667901.72	14317016.94	39°25'33.206"N	80°54'09.611"W	462.40	53.478	2.28	-1.52	-5.75	
2675.50	17.220	44.830	2599.65	-151.30	303.69	401.82	1667931.93	14317045.43	39°25'33.487"N	80°54'09.225"W	503.68	52.918	0.82	0.28	-2.63	MFT EM <8-3/4"> (2524')(2666'-6706')
2769.50	15.160	53.070	2689.93	-160.97	320.95	421.46	1667951.56	14317062.68	39°25'33.658"N	80°54'08.975"W	529.75	52.710	3.28	-2.19	8.77	
2864.50	14.760	62.500	2781.72	-166.34	334.00	442.13	1667972.22	14317075.73	39°25'33.786"N	80°54'08.711"W	554.11	52.931	2.59	-0.42	9.93	
2959.50	17.620	59.260	2872.95	-170.78	346.94	465.23	1667995.31	14317088.66	39°25'33.914"N	80°54'08.417"W	580.35	53.286	3.16	3.01	-3.41	
3056.50	20.030	57.650	2964.75	-177.28	363.34	491.88	1668021.96	14317105.05	39°25'34.076"N	80°54'08.077"W	611.53	53.548	2.54	2.48	-1.66	
3151.50	19.710	55.490	3054.10	-185.00	381.12	518.83	1668048.89	14317122.83	39°25'34.251"N	80°54'07.733"W	643.77	53.700	0.84	-0.34	-2.27	
3245.50	21.110	55.220	3142.19	-193.51	399.76	545.79	1668075.85	14317141.46	39°25'34.435"N	80°54'07.389"W	676.53	53.780	1.49	1.49	-0.29	
3340.50	20.810	52.880	3230.91	-203.07	419.70	573.30	1668103.34	14317161.39	39°25'34.632"N	80°54'07.039"W	710.51	53.793	0.94	-0.32	-2.46	
3435.50	20.600	54.140	3319.77	-212.83	439.68	600.30	1668130.33	14317181.36	39°25'34.829"N	80°54'06.694"W	744.10	53.780	0.52	-0.22	1.33	
3529.50	21.290	55.080	3407.56	-221.97	459.13	627.70	1668157.72	14317200.81	39°25'35.021"N	80°54'06.345"W	777.69	53.816	0.82	0.73	1.00	
3624.50	20.580	52.500	3496.29	-231.66	479.17	655.09	1668185.10	14317220.84	39°25'35.219"N	80°54'05.996"W	811.63	53.816	1.22	-0.75	-2.72	
3719.50	21.760	52.640	3584.88	-242.16	500.02	682.33	1668212.33	14317241.68	39°25'35.425"N	80°54'05.648"W	845.93	53.766	1.24	1.24	0.15	
3813.50	20.980	50.770	3672.42	-253.13	521.24	709.22	1668239.20	14317262.89	39°25'35.634"N	80°54'05.305"W	880.16	53.686	1.10	-0.83	-1.99	
3907.50	20.410	51.200	3760.35	-264.17	542.15	735.02	1668265.00	14317283.79	39°25'35.840"N	80°54'04.976"W	913.34	53.588	0.63	-0.61	0.46	
4002.50	19.890	51.230	3849.54	-274.93	562.65	760.53	1668290.50	14317304.28	39°25'36.043"N	80°54'04.651"W	946.04	53.506	0.55	-0.55	0.03	
4097.50	19.630	58.840	3938.96	-283.43	581.03	786.79	1668316.75	14317322.65	39°25'36.224"N	80°54'04.316"W	978.08	53.555	2.72	-0.27	8.01	
4192.50	22.130	64.380	4027.72	-288.51	597.03	816.59	1668346.53	14317338.65	39°25'36.382"N	80°54'03.936"W	1011.56	53.829	3.35	2.63	5.83	
4287.50	19.900	63.710	4116.40	-292.27	611.93	847.22	1668377.16	14317353.54	39°25'36.529"N	80°54'03.545"W	1045.11	54.160	2.36	-2.35	-0.71	
4381.50	21.140	57.120	4204.44	-298.03	628.22	875.81	1668405.73	14317369.82	39°25'36.690"N	80°54'03.181"W	1077.82	54.348	2.79	1.32	-7.01	
4476.50	20.370	54.010	4293.28	-306.63	647.23	903.57	1668433.48	14317388.83	39°25'36.877"N	80°54'02.827"W	1111.47	54.386	1.41	-0.81	-3.27	
4571.50	22.250	51.030	4381.78	-317.26	668.26	930.94	1668460.84	14317409.86	39°25'37.085"N	80°54'02.478"W	1145.96	54.328	2.28	1.98	-3.14	
4665.50	22.040	48.610	4468.85	-329.71	691.12	958.01	1668487.89	14317432.70	39°25'37.310"N	80°54'02.132"W	1181.28	54.193	1.00	-0.22	-2.57	

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WELLPATH DATA (202 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%/100ft)
4760.50	22.410	49.430	4556.79	-342.81	714.68	985.14	1668515.01	14317456.25	39°25'37.543"N	80°54'01.786"W	1217.07	54.040	0.51	0.86
4854.50	22.170	46.310	4643.77	-356.46	738.59	1011.57	1668541.44	14317480.15	39°25'37.779"N	80°54'01.449"W	1252.51	53.865	1.28	-3.32
4948.50	21.490	49.290	4731.03	-369.90	722.07	1037.45	1668567.30	14317503.62	39°25'38.011"N	80°54'01.119"W	1287.26	53.700	1.38	3.17
5043.50	22.420	53.400	4819.15	-381.46	784.22	1065.18	1668595.03	14317525.77	39°25'38.229"N	80°54'00.765"W	1322.73	53.638	1.89	4.33
5137.50	21.870	51.580	4906.21	-392.35	805.79	1093.29	1668623.13	14317547.33	39°25'38.442"N	80°54'00.407"W	1358.16	53.609	0.94	-1.94
5232.50	21.170	48.530	4994.59	-404.45	828.15	1120.01	1668649.83	14317569.67	39°25'38.663"N	80°54'00.066"W	1392.93	53.520	1.39	-3.21
5327.50	21.520	50.430	5083.08	-416.79	850.61	1146.30	1668676.11	14317592.12	39°25'38.885"N	80°53'59.731"W	1427.42	53.423	0.82	2.00
5421.50	21.580	53.280	5170.51	-427.77	871.92	1173.44	1668703.24	14317613.43	39°25'39.095"N	80°53'59.384"W	1461.92	53.386	0.86	3.03
5515.50	21.360	50.000	5257.99	-438.83	893.26	1200.41	1668730.20	14317634.77	39°25'39.306"N	80°53'59.040"W	1496.30	53.346	1.30	-3.49
5610.50	21.240	48.920	5346.50	-451.16	915.69	1226.64	1668756.42	14317657.18	39°25'39.527"N	80°53'58.706"W	1530.73	53.258	0.43	-1.14
5705.50	22.170	52.060	5434.77	-463.10	938.02	1253.75	1668783.52	14317679.51	39°25'39.747"N	80°53'58.360"W	1565.81	53.197	1.57	3.31
5799.50	21.820	53.820	5521.93	-473.67	959.24	1281.84	1668811.59	14317700.71	39°25'39.957"N	80°53'58.002"W	1601.01	53.191	0.79	1.87
5894.50	21.380	49.790	5610.26	-484.80	980.84	1309.31	1668839.06	14317722.31	39°25'40.170"N	80°53'57.651"W	1635.96	53.162	1.63	-4.24
5989.50	21.250	52.270	5698.76	-496.25	1002.56	1336.15	1668865.89	14317744.01	39°25'40.384"N	80°53'57.309"W	1670.46	53.118	0.96	2.61
6083.50	20.750	53.580	5786.52	-506.37	1022.87	1363.03	1668892.75	14317764.32	39°25'40.585"N	80°53'56.966"W	1704.14	53.114	0.73	1.39
6175.50	20.850	56.020	5816.44	-509.43	1029.42	1372.31	1668902.03	14317770.86	39°25'40.649"N	80°53'56.848"W	1715.50	53.125	2.73	7.63
6166.50	21.250	62.050	5845.37	-511.61	1035.13	1381.85	1668911.57	14317776.58	39°25'40.706"N	80°53'56.726"W	1726.56	53.163	7.10	19.45
6177.50	21.890	69.330	5874.20	-512.54	1039.81	1392.22	1668921.93	14317781.25	39°25'40.752"N	80°53'56.594"W	1737.66	53.245	8.87	23.48
6209.50	22.480	75.560	5903.84	-512.10	1043.44	1403.73	1668933.44	14317784.88	39°25'40.800"N	80°53'56.447"W	1749.06	53.375	7.58	19.47
6241.50	23.210	81.690	5933.33	-510.31	1045.88	1415.89	1668945.60	14317787.32	39°25'40.812"N	80°53'56.292"W	1760.29	53.548	7.78	19.16
6272.50	23.800	88.560	5961.77	-507.17	1046.92	1428.19	1668957.89	14317788.36	39°25'40.822"N	80°53'56.135"W	1770.81	53.757	9.04	22.16
6304.50	24.410	94.830	5990.98	-502.42	1046.52	1441.24	1668970.93	14317787.96	39°25'40.818"N	80°53'55.969"W	1781.12	54.016	8.22	19.59
6367.50	25.390	106.610	6048.09	-489.00	1041.57	1467.33	1668997.01	14317783.01	39°25'40.769"N	80°53'55.637"W	1799.42	54.631	8.11	18.90
6399.50	26.440	110.110	6076.87	-480.40	1037.16	1480.59	1669010.27	14317778.60	39°25'40.725"N	80°53'55.468"W	1807.72	54.989	5.80	10.94
6430.50	27.690	112.220	6104.48	-471.19	1032.06	1493.74	1669023.41	14317773.51	39°25'40.674"N	80°53'55.300"W	1815.61	55.358	5.08	6.81
6464.50	29.080	113.850	6132.63	-460.88	1026.11	1507.74	1669037.41	14317767.56	39°25'40.615"N	80°53'55.122"W	1823.78	55.762	4.97	5.09
6494.50	31.110	115.380	6160.31	-449.69	1019.42	1522.32	1669051.98	14317760.87	39°25'40.549"N	80°53'54.936"W	1832.12	56.192	6.78	4.78
6525.50	33.710	117.150	6186.48	-437.76	1012.06	1537.22	1669066.87	14317753.51	39°25'40.476"N	80°53'54.747"W	1840.46	56.640	8.93	5.71
6557.50	35.860	119.450	6212.77	-424.21	1003.40	1553.28	1669082.93	14317744.85	39°25'40.390"N	80°53'54.542"W	1849.19	57.138	7.87	7.19

Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Vera Pad
Slot	Well	Wellbore	
Slot #13	Emerger Unit 3H	Emerger Unit 3H AWB	

Actual Wellpath Report  
Emerger Unit 3H AWP Proj: 15857  
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# Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION		Slot #13
Operator	ANTERO RESOURCES CORPORATION	Emerger Unit 3H
Area	Tyler County, WV	Emerger Unit 3H AWB
Field	Tyler	
Facility	Vera Pad	

WELLPATH DATA (202 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (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
6588.50	37.010	123.180	6237.71	-409.92	993.83	1569.00	1669098.64	14317735.29	39°25'40.295"N	80°53'54.342"W	1857.27	57.649	8.05	3.71	12.03	
6620.50	38.610	126.830	6262.99	-393.93	982.57	1585.05	1669114.69	14317724.03	39°25'40.184"N	80°53'54.137"W	1864.90	58.205	8.59	5.00	11.41	
6651.50	41.070	129.630	6286.80	-377.11	970.27	1600.64	1669130.27	14317711.74	39°25'40.062"N	80°53'53.939"W	1871.76	58.777	9.82	7.94	9.03	
6683.50	43.230	132.470	6310.52	-358.40	956.17	1616.83	1669146.45	14317697.64	39°25'39.923"N	80°53'53.733"W	1878.40	59.401	9.00	6.75	8.88	
6715.50	43.690	135.920	6333.75	-338.65	940.82	1632.60	1669162.22	14317682.31	39°25'39.771"N	80°53'53.532"W	1884.29	60.046	7.55	1.44	10.78	
6756.00	41.850	142.990	6363.50	-313.01	919.97	1650.48	1669180.09	14317661.46	39°25'39.565"N	80°53'53.305"W	1889.56	60.865	12.69	-4.54	17.46	BHI AT Curve <8-1/2"> (6715.5')(6756'-15833')
6811.00	43.810	147.820	6403.84	-276.91	889.20	1671.67	1669201.27	14317630.70	39°25'39.260"N	80°53'53.035"W	1893.45	61.990	6.95	3.56	8.78	
6830.00†	46.128	148.767	6417.28	-263.78	877.77	1678.72	1669208.32	14317619.28	39°25'39.147"N	80°53'52.945"W	1894.36	62.396	12.70	12.20	4.99	Middlesex: 6830' MD
6859.00	49.680	150.080	6436.72	-242.66	859.25	1689.66	1669219.25	14317600.76	39°25'38.964"N	80°53'52.806"W	1895.59	63.045	12.70	12.25	4.53	
6906.00	54.520	150.620	6465.59	-206.15	827.02	1708.00	1669237.58	14317566.55	39°25'38.645"N	80°53'52.573"W	1897.69	64.163	10.34	10.30	1.15	
6954.00	59.850	151.270	6491.59	-166.38	791.77	1727.57	1669257.15	14317533.31	39°25'38.297"N	80°53'52.324"W	1900.37	65.377	11.16	11.10	1.35	
7001.00	64.610	151.180	6513.48	-125.33	755.33	1747.59	1669277.16	14317496.88	39°25'37.936"N	80°53'52.069"W	1903.83	66.625	10.13	10.13	-0.19	Burket: 7001' MD
7049.00	68.880	150.870	6532.43	-81.83	716.76	1768.95	1669298.51	14317458.33	39°25'37.555"N	80°53'51.798"W	1908.64	67.943	8.92	8.90	-0.65	
7078.00†	70.811	150.330	6542.42	-55.01	693.04	1782.31	1669311.87	14317434.62	39°25'37.320"N	80°53'51.628"W	1912.31	68.752	6.88	6.66	-1.84	Tully: 7078' MD
7096.00	72.010	150.010	6548.16	-38.22	678.24	1790.80	1669320.35	14317419.83	39°25'37.174"N	80°53'51.520"W	1914.93	69.256	6.88	6.66	-1.81	
7144.00	72.230	150.370	6562.90	6.74	638.60	1813.51	1669343.05	14317380.21	39°25'36.782"N	80°53'51.231"W	1922.66	70.601	0.85	0.46	0.75	
7166.00†	73.630	150.412	6569.35	27.45	620.32	1823.90	1669353.44	14317361.93	39°25'36.601"N	80°53'51.099"W	1926.50	71.216	6.36	6.36	0.19	Marcellus POE: 7166' MD
7191.00	75.220	150.460	6576.07	51.17	599.37	1835.78	1669365.31	14317340.99	39°25'36.394"N	80°53'50.948"W	1931.15	71.918	6.36	6.36	0.19	
7239.00	79.000	151.330	6586.77	97.31	558.50	1858.53	1669388.06	14317300.13	39°25'35.990"N	80°53'50.658"W	1940.63	73.274	8.07	7.87	1.81	
7286.00	84.050	151.880	6593.70	143.24	517.62	1880.63	1669410.15	14317259.27	39°25'35.585"N	80°53'50.377"W	1950.56	74.611	10.81	10.74	1.17	
7334.00	89.750	151.960	6596.29	190.62	475.35	1903.18	1669432.69	14317217.01	39°25'35.167"N	80°53'50.091"W	1961.64	75.976	11.88	11.88	0.17	
7428.00	89.820	150.390	6596.64	283.40	393.00	1948.50	1669477.99	14317134.70	39°25'34.353"N	80°53'49.514"W	1987.74	78.597	1.67	0.07	-1.67	
7523.00	89.850	151.800	6596.92	377.15	309.83	1994.42	1669523.89	14317051.57	39°25'33.530"N	80°53'48.930"W	2018.34	81.170	1.48	0.03	1.48	
7618.00	89.780	153.210	6597.22	471.25	225.57	2038.27	1669567.73	14316967.33	39°25'32.697"N	80°53'48.373"W	2050.72	83.685	1.49	-0.07	1.48	
7713.00	89.940	157.660	6597.46	565.87	139.19	2077.76	1669607.20	14316880.99	39°25'31.843"N	80°53'47.871"W	2082.42	86.168	4.69	0.17	4.68	
7809.00	90.250	156.940	6597.30	661.72	50.62	2114.81	1669644.23	14316792.46	39°25'30.967"N	80°53'47.400"W	2115.41	88.629	0.82	0.32	-0.75	
7903.00	90.180	155.920	6596.94	755.50	-35.53	2152.39	1669681.80	14316706.34	39°25'30.115"N	80°53'46.922"W	2152.69	90.946	1.09	-0.07	-1.09	
7998.00	90.490	162.130	6596.39	850.42	-124.19	2186.38	1669715.78	14316617.72	39°25'29.239"N	80°53'46.491"W	2189.91	93.251	6.54	0.33	6.54	
8093.00	90.310	165.470	6595.72	945.24	-215.40	2212.88	1669742.26	14316526.54	39°25'28.337"N	80°53'46.154"W	2223.34	95.560	3.52	-0.19	3.52	
8188.00	90.520	164.810	6595.04	1039.91	-307.22	2237.24	1669766.62	14316434.76	39°25'27.429"N	80°53'45.845"W	2258.24	97.819	0.73	0.22	-0.69	

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# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

WELLPATH DATA (202 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
8283.00	90.400	162.390	6594.27	1134.75	-398.35	2264.06	1669793.43	14316343.67	39°25'26.528"N	80°53'45.505"W	2298.84	99.979	2.55	-0.13	-2.55	
8378.00	90.060	160.210	6593.89	1229.73	-488.33	2294.52	1669823.87	14316253.73	39°25'25.638"N	80°53'45.118"W	2345.91	102.015	2.32	-0.36	-2.29	
8473.00	89.910	157.820	6593.92	1324.70	-577.02	2328.54	1669857.88	14316165.07	39°25'24.761"N	80°53'44.686"W	2398.97	103.918	2.52	-0.16	-2.52	
8567.00	90.000	160.430	6593.99	1418.67	-664.84	2362.03	1669891.35	14316077.28	39°25'23.893"N	80°53'44.260"W	2453.81	105.720	2.78	0.10	2.78	
8663.00	90.090	163.690	6593.92	1514.61	-756.16	2391.60	1669920.91	14315985.00	39°25'22.990"N	80°53'43.885"W	2508.29	107.546	3.40	0.09	3.40	
8757.00	90.150	164.530	6593.72	1608.42	-846.57	2417.33	1669946.63	14315895.63	39°25'22.096"N	80°53'43.558"W	2561.28	109.301	0.90	0.06	0.89	
8852.00	90.150	165.410	6593.47	1703.11	-938.32	2441.97	1669971.26	14315803.92	39°25'21.189"N	80°53'43.246"W	2616.04	111.019	0.93	0.00	0.93	
8947.00	90.220	164.370	6593.16	1797.82	-1030.03	2466.73	1669996.01	14315712.24	39°25'20.283"N	80°53'42.931"W	2673.15	112.664	1.10	0.07	-1.09	
9042.00	90.150	162.800	6592.86	1892.67	-1121.16	2493.58	1670022.85	14315621.15	39°25'19.382"N	80°53'42.591"W	2734.03	114.210	1.65	-0.07	-1.65	
9137.00	90.280	160.880	6592.50	1987.63	-1211.42	2523.18	1670052.44	14315530.92	39°25'18.489"N	80°53'42.215"W	2798.93	115.646	2.03	0.14	-2.02	
9232.00	90.150	158.240	6592.14	2082.61	-1300.43	2556.36	1670085.60	14315441.95	39°25'17.609"N	80°53'41.793"W	2868.12	116.963	2.78	-0.14	-2.78	
9327.00	90.220	157.590	6591.84	2177.52	-1388.46	2592.08	1670121.31	14315353.96	39°25'16.739"N	80°53'41.340"W	2940.52	118.176	0.69	0.07	-0.68	
9422.00	90.150	158.090	6591.53	2272.43	-1476.44	2627.91	1670157.13	14315266.01	39°25'15.869"N	80°53'40.884"W	3014.26	119.329	0.53	-0.07	0.53	
9517.00	90.120	157.420	6591.31	2367.33	-1564.37	2663.87	1670193.08	14315178.12	39°25'14.999"N	80°53'40.427"W	3089.25	120.424	0.71	-0.03	-0.71	
9613.00	90.060	158.000	6591.16	2463.22	-1653.20	2700.28	1670229.47	14315089.33	39°25'14.121"N	80°53'39.965"W	3166.16	121.476	0.61	-0.06	0.60	
9707.00	90.150	159.170	6590.98	2557.17	-1740.70	2734.61	1670263.78	14315001.85	39°25'13.256"N	80°53'39.529"W	3241.62	122.479	1.25	0.10	1.24	
9803.00	90.120	161.020	6590.76	2653.17	-1830.97	2767.29	1670296.45	14314911.63	39°25'12.363"N	80°53'39.114"W	3318.18	123.490	1.93	-0.03	1.93	
9898.00	90.220	161.280	6590.47	2748.16	-1920.87	2797.98	1670327.13	14314821.76	39°25'11.474"N	80°53'38.724"W	3393.88	124.470	0.29	0.11	0.27	
9993.00	90.090	160.660	6590.22	2843.15	-2010.68	2828.96	1670358.09	14314731.99	39°25'10.586"N	80°53'38.330"W	3470.71	125.403	0.67	-0.14	-0.65	
10088.00	90.120	160.580	6590.04	2938.15	-2100.29	2860.48	1670389.61	14314642.41	39°25'09.700"N	80°53'37.930"W	3548.74	126.288	0.09	0.03	-0.08	
10183.00	90.250	160.470	6589.74	3033.15	-2189.86	2892.15	1670421.26	14314552.88	39°25'08.815"N	80°53'37.528"W	3627.68	127.132	0.18	0.14	-0.12	
10278.00	90.120	160.420	6589.43	3128.15	-2279.38	2923.95	1670453.05	14314463.40	39°25'07.929"N	80°53'37.124"W	3707.43	127.938	0.15	-0.14	-0.05	
10372.00	90.120	158.620	6589.23	3222.13	-2367.43	2956.84	1670485.92	14314375.38	39°25'07.059"N	80°53'36.706"W	3787.83	128.683	1.91	0.00	-1.91	
10467.00	90.150	158.240	6589.01	3317.08	-2455.78	2991.76	1670520.84	14314287.06	39°25'06.185"N	80°53'36.263"W	3870.59	129.381	0.40	0.03	-0.40	
10562.00	90.060	157.820	6588.84	3412.00	-2543.88	3027.31	1670556.36	14314199.00	39°25'05.314"N	80°53'35.811"W	3954.23	130.041	0.45	-0.09	-0.44	
10657.00	90.090	157.200	6588.71	3506.87	-2631.65	3063.64	1670592.69	14314111.26	39°25'04.446"N	80°53'35.349"W	4038.75	130.662	0.65	0.03	-0.65	
10752.00	89.910	156.710	6588.71	3601.70	-2719.07	3100.83	1670629.86	14314023.88	39°25'03.582"N	80°53'34.877"W	4124.14	131.247	0.55	-0.19	-0.52	
10847.00	89.350	158.120	6589.32	3696.57	-2806.78	3137.32	1670666.33	14313936.20	39°25'02.714"N	80°53'34.413"W	4209.61	131.817	1.60	-0.59	1.48	
10942.00	90.090	163.540	6589.79	3791.53	-2896.48	3168.50	1670697.50	14313846.54	39°25'01.827"N	80°53'34.017"W	4292.90	132.432	5.76	0.78	5.71	
11037.00	90.060	162.590	6589.66	3886.42	-2987.36	3196.17	1670725.16	14313755.70	39°25'00.929"N	80°53'33.666"W	4374.91	133.066	1.00	-0.03	-1.00	

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# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

WELLPATH DATA (202 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
11132.00	90.460	160.470	6589.23	3981.40	-3077.46	3226.27	1670755.24	14313665.63	39°25'00.038"N	80°53'33.284"W	4458.65	133.648	2.27	0.42	-2.23	
11227.00	90.370	162.480	6588.55	4076.38	-3167.53	3256.45	1670785.41	14313575.60	39°24'59.147"N	80°53'32.901"W	4542.87	134.207	2.12	-0.09	2.12	
11322.00	90.150	161.270	6588.11	4171.34	-3257.81	3286.00	1670814.95	14313485.35	39°24'58.255"N	80°53'32.526"W	4627.22	134.753	1.29	-0.23	-1.27	
11417.00	90.220	159.670	6587.81	4266.34	-3347.34	3317.76	1670846.70	14313395.86	39°24'57.370"N	80°53'32.123"W	4712.98	135.254	1.69	0.07	-1.68	
11512.00	90.060	161.550	6587.58	4361.33	-3436.95	3349.29	1670878.22	14313306.29	39°24'56.484"N	80°53'31.722"W	4799.00	135.740	1.99	-0.17	1.98	
11606.00	89.970	162.380	6587.55	4455.30	-3526.33	3378.40	1670907.31	14313216.94	39°24'55.600"N	80°53'31.353"W	4883.50	136.227	0.89	-0.10	0.88	
11701.00	90.030	163.690	6587.55	4550.19	-3617.20	3406.12	1670935.02	14313126.11	39°24'54.701"N	80°53'31.001"W	4968.47	136.721	1.38	0.06	1.38	
11796.00	90.090	163.880	6587.45	4645.03	-3708.42	3432.64	1670961.54	14313034.93	39°24'53.800"N	80°53'30.664"W	5053.26	137.212	0.21	0.06	0.20	
11890.00	90.180	163.260	6587.23	4738.88	-3798.58	3459.23	1670988.11	14312944.80	39°24'52.908"N	80°53'30.327"W	5137.65	137.677	0.67	0.10	-0.66	
11984.00	90.060	161.490	6587.03	4832.82	-3888.16	3487.69	1671016.56	14312855.26	39°24'52.022"N	80°53'29.966"W	5223.20	138.108	1.89	-0.13	-1.88	
12078.00	89.940	159.430	6587.03	4926.82	-3976.74	3519.13	1671047.99	14312766.71	39°24'51.146"N	80°53'29.566"W	5310.25	138.494	2.20	-0.13	-2.19	
12173.00	89.570	159.060	6587.44	5021.80	-4065.58	3552.79	1671081.64	14312677.91	39°24'50.268"N	80°53'29.139"W	5399.19	138.851	0.55	-0.39	-0.39	
12268.00	89.880	160.710	6587.90	5116.79	-4154.78	3585.46	1671114.30	14312588.75	39°24'49.386"N	80°53'28.724"W	5487.96	139.207	1.77	0.33	1.74	
12363.00	89.480	161.170	6588.43	5211.78	-4244.57	3616.49	1671145.31	14312498.99	39°24'48.498"N	80°53'28.330"W	5576.32	139.568	0.64	-0.42	0.48	
12458.00	89.720	159.940	6589.09	5306.78	-4334.15	3648.11	1671176.92	14312409.45	39°24'47.613"N	80°53'27.929"W	5665.12	139.912	1.32	0.25	-1.29	
12552.00	89.750	157.720	6589.52	5400.74	-4421.80	3682.05	1671210.85	14312321.84	39°24'46.746"N	80°53'27.497"W	5754.11	140.216	2.36	0.03	-2.36	
12647.00	89.170	158.640	6590.42	5495.66	-4509.98	3717.36	1671246.14	14312233.68	39°24'45.874"N	80°53'27.049"W	5844.55	140.503	1.14	-0.61	0.97	
12742.00	90.090	159.670	6591.03	5590.63	-4598.76	3751.17	1671279.93	14312144.94	39°24'44.996"N	80°53'26.620"W	5934.63	140.796	1.45	0.97	1.08	
12837.00	90.000	159.460	6590.96	5685.62	-4687.78	3784.34	1671313.09	14312055.96	39°24'44.116"N	80°53'26.198"W	6024.66	141.087	0.24	-0.09	-0.22	
12932.00	89.940	156.050	6591.01	5780.51	-4775.70	3820.29	1671349.03	14311968.07	39°24'43.246"N	80°53'25.742"W	6115.71	141.342	3.59	-0.06	-3.59	
13027.00	89.600	154.700	6591.39	5875.14	-4862.06	3859.88	1671388.60	14311881.75	39°24'42.392"N	80°53'25.239"W	6207.92	141.555	1.47	-0.36	-1.42	
13123.00	89.880	154.890	6591.83	5970.68	-4948.92	3900.76	1671429.47	14311794.93	39°24'41.533"N	80°53'24.719"W	6301.40	141.755	0.35	0.29	0.20	
13217.00	89.690	157.970	6592.18	6064.44	-5035.06	3938.34	1671467.03	14311708.82	39°24'40.682"N	80°53'24.242"W	6392.37	141.968	3.28	-0.20	3.28	
13313.00	90.370	159.530	6592.13	6160.40	-5124.53	3973.13	1671501.81	14311619.38	39°24'39.797"N	80°53'23.800"W	6484.34	142.213	1.77	0.71	1.63	
13408.00	90.460	157.010	6591.44	6255.32	-5212.77	4008.30	1671536.97	14311531.18	39°24'38.924"N	80°53'23.353"W	6575.67	142.442	2.65	0.09	-2.65	
13503.00	90.800	163.880	6590.39	6350.26	-5302.23	4040.08	1671568.73	14311441.75	39°24'38.040"N	80°53'22.950"W	6666.03	142.694	7.24	0.36	7.23	
13597.00	90.370	164.300	6589.43	6444.06	-5392.63	4065.85	1671594.49	14311351.39	39°24'37.146"N	80°53'22.623"W	6753.63	142.985	0.64	-0.46	0.45	
13693.00	90.370	165.460	6588.81	6539.76	-5485.30	4090.89	1671619.52	14311258.76	39°24'36.230"N	80°53'22.305"W	6842.80	143.285	1.21	0.00	1.21	
13787.00	90.520	165.800	6588.08	6633.37	-5576.36	4114.21	1671642.84	14311167.74	39°24'35.330"N	80°53'22.009"W	6929.83	143.580	0.40	0.16	0.36	
13882.00	90.400	165.030	6587.32	6728.00	-5668.29	4138.14	1671666.75	14311075.84	39°24'34.421"N	80°53'21.706"W	7018.10	143.869	0.82	-0.13	-0.81	

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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Vera Pad
Slot	Well	Wellbore	
Slot #13	Emergen Unit 3H	Emergen Unit 3H AWB	

**REFERENCE WELLPATH IDENTIFICATION**

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
13977.00	89.880	163.840	6587.09	6822.76	-5759.81	4163.63	14310984.36	14310984.36	39°24'33.516"N	80°53'21.383"W	7107.12	144.138	1.37	-0.55	-1.25	
14702.00	90.030	163.430	6587.16	6917.61	-5850.96	4190.39	14310893.25	14310893.25	39°24'32.615"N	80°53'21.043"W	7196.74	144.390	0.46	0.16	-0.43	
14167.00	89.880	164.600	6587.24	7012.42	-5942.28	4216.56	14310801.96	14310801.96	39°24'31.712"N	80°53'20.711"W	7286.29	144.641	1.24	-0.16	1.23	
14261.00	90.000	163.490	6587.34	7106.23	-6032.66	4242.39	14310711.62	14310711.62	39°24'30.818"N	80°53'20.383"W	7375.02	144.884	1.19	0.13	-1.18	
14355.00	89.910	161.880	6587.41	7200.15	-6122.40	4270.37	14310621.92	14310621.92	39°24'29.931"N	80°53'20.028"W	7464.57	145.104	1.72	-0.10	-1.71	
14450.00	90.220	158.800	6587.30	7295.14	-6211.85	4302.33	14310532.50	14310532.50	39°24'29.046"N	80°53'19.623"W	7556.26	145.294	3.26	0.33	-3.24	
14546.00	89.970	157.070	6587.14	7391.05	-6300.81	4338.39	14310443.57	14310443.57	39°24'28.167"N	80°53'19.165"W	7649.96	145.451	1.82	-0.26	-1.80	
14641.00	89.850	159.760	6587.29	7485.98	-6389.14	4373.33	14310355.28	14310355.28	39°24'27.293"N	80°53'18.721"W	7742.56	145.609	2.83	-0.13	2.83	
14735.00	89.910	157.630	6587.49	7579.93	-6476.71	4407.49	14310267.74	14310267.74	39°24'26.427"N	80°53'18.287"W	7834.14	145.764	2.27	0.06	-2.27	
14831.00	89.940	157.020	6587.62	7675.80	-6565.29	4444.49	14310179.20	14310179.20	39°24'25.551"N	80°53'17.817"W	7928.22	145.903	0.64	0.03	-0.64	
14926.00	89.970	157.300	6587.69	7770.64	-6652.84	4481.37	14310091.68	14310091.68	39°24'24.686"N	80°53'17.349"W	8021.41	146.036	0.30	0.03	0.29	
15021.00	90.060	158.410	6587.67	7865.55	-6740.83	4517.18	14310003.73	14310003.73	39°24'23.816"N	80°53'16.894"W	8114.42	146.173	1.17	0.09	1.17	
15116.00	89.200	157.530	6588.28	7960.46	-6828.90	4552.81	14309915.70	14309915.70	39°24'22.945"N	80°53'16.441"W	8207.43	146.309	1.30	-0.91	-0.93	
15211.00	89.290	157.130	6588.53	8055.31	-6916.55	4589.42	14309828.09	14309828.09	39°24'22.078"N	80°53'15.976"W	8300.69	146.434	0.43	0.09	-0.42	
15306.00	89.290	158.870	6590.71	8150.22	-7004.62	4625.01	14309740.05	14309740.05	39°24'21.207"N	80°53'15.524"W	8393.77	146.564	1.83	0.00	1.83	
15401.00	89.290	160.290	6591.88	8245.20	-7093.64	4658.15	14309651.06	14309651.06	39°24'20.327"N	80°53'15.104"W	8486.35	146.708	1.49	0.00	1.49	
15496.00	89.380	163.430	6592.99	8340.15	-7183.90	4687.72	14309560.84	14309560.84	39°24'19.434"N	80°53'14.728"W	8578.06	146.874	3.31	0.09	3.31	
15590.00	89.230	163.830	6594.13	8433.99	-7274.08	4714.21	14309470.69	14309470.69	39°24'18.543"N	80°53'14.392"W	8668.11	147.053	0.45	-0.16	0.43	
15685.00	89.350	159.750	6595.31	8528.94	-7364.30	4743.89	14309380.51	14309380.51	39°24'17.651"N	80°53'14.016"W	8759.99	147.211	4.30	0.13	-4.29	
15780.00	89.260	159.300	6596.46	8623.92	-7453.29	4777.12	14309291.56	14309291.56	39°24'16.771"N	80°53'13.594"W	8852.82	147.343	0.48	-0.09	-0.47	
15833.00	89.230	159.570	6597.16	8676.91	-7502.91	4795.73	14309241.96	14309241.96	39°24'16.280"N	80°53'13.357"W	8904.65	147.414	0.51	-0.06	0.51	
15857.00	89.230	159.570	6597.48	8700.90	-7525.40	4804.11	14309219.48	14309219.48	39°24'16.058"N	80°53'13.251"W	8928.11	147.446	0.00	0.00	0.00	Projected MD at TD: 15857'

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# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Emerger Unit 3H AWB    Ref Wellpath: Emerger Unit 3H AWP Proj: 15857'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.07	0.10
17.5in Open Hole	104.50	723.70	619.20	104.50	723.69	-0.07	0.10	-2.62	1.02
13.375in Casing Surface	24.50	723.70	699.20	24.50	723.69	0.00	0.00	-2.62	1.02
12.25in Open Hole	723.70	2530.00	1806.30	723.69	2460.51	-2.62	1.02	274.52	370.84
9.625in Casing Intermediate	24.50	2530.00	2505.50	24.50	2460.51	0.00	0.00	274.52	370.84
8.75in Open Hole	2530.00	6776.50	4246.50	2460.51	6378.68	274.52	370.84	908.84	1658.59
8.5in Open Hole	6776.50	15857.00	9080.50	6378.68	6597.48	908.84	1658.59	-7525.40	4804.11
5.5in Casing Production	24.50	15857.00	15832.50	24.50	6597.48	0.00	0.00	-7525.40	4804.11

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Emerger Unit 3H POE - Rev-4	6566.00	669.02	1815.59	1669345.13	14317410.61	39°25'37.083"N	80°53'51.204"W	point
Emerger Unit 3H BHL - Rev-4	6592.00	-7514.55	4794.25	1672322.60	14309230.32	39°24'16.165"N	80°53'13.376"W	point
Emerger Unit 3H LP - Rev-3	6592.00	524.90	1898.83	1669428.34	14317266.55	39°25'35.657"N	80°53'50.145"W	point

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# Actual Wellpath Report

Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

WELLPATH COMPOSITION - Ref Wellbore: Emerger Unit 3H AWB Ref Wellpath: Emerger Unit 3H AWP Proj: 15857'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	721.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-712')	Emerger Unit 3H AWB
721.50	1047.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4">(712')(744'-1038')	Emerger Unit 3H AWB
1047.50	2533.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(1038')(1083'-2524')	Emerger Unit 3H AWB
2533.50	6715.50	ISCWSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2524')(2666'-6706')	Emerger Unit 3H AWB
6715.50	15833.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(6715.5')(6756'-15833')	Emerger Unit 3H AWB
15833.00	15857.00	Blind Drilling (std)	Projection to bit	Emerger Unit 3H AWB

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Emerger Unit 3H AWP Proj: 15857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Emerger Unit 3H
Field	Tyler	Wellbore	Emerger Unit 3H AWB
Facility	Vera Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-095-02379-0000 BHI Job #: 8695841 Rig: Frontier 22 Duration: 08/06/2017-08/09/2017 Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-712') Gyrodata MS Gyro &lt;12-1/4"&gt; (712')(744'-1038') WFT EM &lt;12-1/4"&gt; (1038')(1083'-2524') WFT EM &lt;8-3/4"&gt; (2524')(2666'-6706') BHI AT Curve &lt;8-1/2"&gt; (6715.5')(6756'-15833') Middlesex: 6830' MD Burket: 7001' MD Tully: 7078' MD Marcellus POE: 7166' MD Projected MD at TD: 15857'</p>

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