



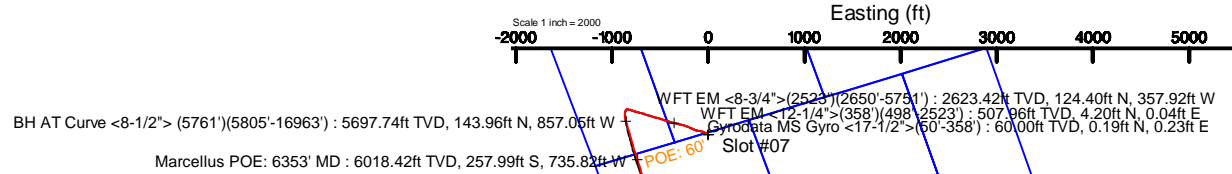
ANTERO RESOURCES CORPORATION

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

Slot: Slot #07
 Well: Remington Unit 1H
 Wellbore: Remington Unit 1H PWB



API: 47-095-02533-0000
 BHI Job #: 109650444
 Rig: Patterson 342
 Duration: 02/16/2019-02/20/2019



Plot reference wellpath is Remington Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 824 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #07): -799 feet	Created by: delaset on 2019-02-22
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

Gyrodata MS Gyro <17-1/2">(50'-358') : 0.99° Inc, 60.00ft MD, 60.00ft TVD, -0.10ft VS

WFT EM <12-1/4">(358')(498'-2523') : 0.93° Inc, 508.00ft MD, 507.96ft TVD, -3.94ft VS

Location Information						
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Sine Pad		1652653.868	14313061.080	39°24'54.210"N	80°57'24.020"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #07	0.00	0.00	1652653.868	14313061.080	39°24'54.210"N	80°57'24.020"W
Comment						
Remington Unit 1H						
Patterson 342 (RKB) to Ground level (At Slot: Slot #07)					25ft	
Mean Sea Level to Ground level (At Slot: Slot #07)					-799ft	
Patterson 342 (RKB) to Mean Sea Level					824ft	

WFT EM <8-3/4">(2523')(2650'-5751') : 10.01° Inc, 2660.00ft MD, 2623.42ft TVD, -237.82ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5761.00	25.330	168.380	5658.38	163.07	-861.56	8.08	-444.09
Proj. To Bottom	5834.00	30.910	168.950	5722.73	129.35	-854.82	7.65	-410.07
End of 3D Arc	6299.69	72.766	163.656	6004.23	-217.13	-765.26	9.03	-53.68
POE	6337.09	73.782	160.294	6015.00	-251.18	-754.17	9.03	-17.89
Landing Pt.	6607.39	90.000	160.294	6053.00	-502.26	-664.24	6.00	248.82
BHL	16961.75	90.000	160.294	6053.00	-10250.20	2827.27	0.00	10603.18

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #07	Remington Unit 1H	Remington Unit 1H AWB	Remington Unit 1H AWP Proj: 16987'
Slot #07	Remington Unit 1H	Remington Unit 1H PWB	Remington Unit 1H PWP Rev-A.0

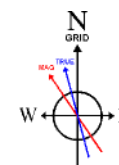
BH AT Curve <8-1/2"> (5761')(5805'-16963') : 27.72° Inc, 5805.00ft MD, 5697.74ft TVD, -424.57ft VS

Marcellus POE: 6353' MD : 73.47° Inc, 6353.00ft MD, 6018.42ft TVD, -5.29ft VS

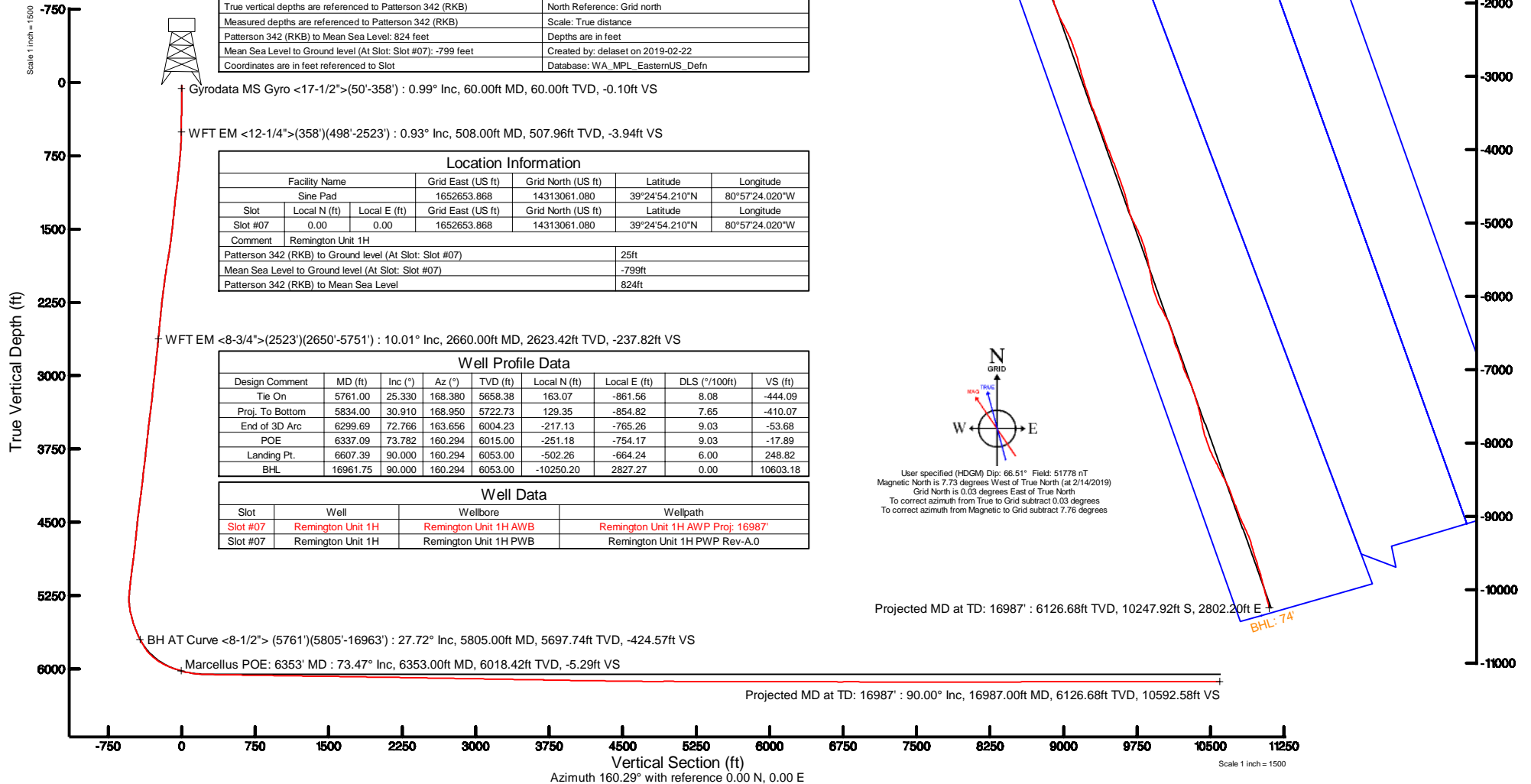
Projected MD at TD: 16987' : 90.00° Inc, 16987.00ft MD, 6126.68ft TVD, 10592.58ft VS

Projected MD at TD: 16987' : 6126.68ft TVD, 10247.92ft S, 2802.20ft E

BHL: 74'



User specified (HDGM) Dip: 66.51° Field: 51778 nT
 Magnetic North is 7.73 degrees West of True North (at 2/14/2019)
 Grid North is 0.03 degrees East of True North
 To correct azimuth from True to Grid subtract 0.03 degrees
 To correct azimuth from Magnetic to Grid subtract 7.76 degrees





Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine 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	2/22/2019 at 8:35:47 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EasternUS_Defn/Remington_Unit_1H_AWP_Proj_16987.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1652653.87	14313061.08	39°24'54.210"N	80°57'24.020"W
Facility Reference Pt			1652653.87	14313061.08	39°24'54.210"N	80°57'24.020"W
Field Reference Pt			0.00	0.00	0°00'00.000"	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	824.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Ground Level at Slot (Slot #07)	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	160.29°



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	50.700	0.00	0.00	0.00	0.00	1652653.87	14313061.08	39°24'54.210"N	80°57'24.020"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	50.700	25.00	0.00	0.00	0.00	1652653.87	14313061.08	39°24'54.210"N	80°57'24.020"W	0.00	0.000	0.00	0.00	0.00	
60.00	0.990	50.700	60.00	-0.10	0.19	0.23	1652654.10	14313061.27	39°24'54.212"N	80°57'24.017"W	0.30	50.700	2.83	2.83	144.86	Gyrodata MS Gyro <17-1/2">(50'-358')
85.00	0.890	46.290	84.99	-0.25	0.46	0.54	1652654.41	14313061.54	39°24'54.215"N	80°57'24.013"W	0.71	49.499	0.49	-0.40	-17.64	
110.00	0.970	46.590	109.99	-0.42	0.74	0.84	1652654.70	14313061.82	39°24'54.217"N	80°57'24.009"W	1.12	48.391	0.32	0.32	1.20	
135.00	0.950	56.040	134.99	-0.55	1.00	1.16	1652655.03	14313062.08	39°24'54.220"N	80°57'24.005"W	1.53	49.173	0.64	-0.08	37.80	
160.00	0.620	56.020	159.99	-0.64	1.19	1.45	1652655.31	14313062.27	39°24'54.222"N	80°57'24.002"W	1.88	50.423	1.32	-1.32	-0.08	
185.00	0.520	63.170	184.98	-0.68	1.32	1.66	1652655.53	14313062.40	39°24'54.223"N	80°57'23.999"W	2.12	51.455	0.49	-0.40	28.60	
210.00	0.580	56.430	209.98	-0.73	1.44	1.87	1652655.73	14313062.52	39°24'54.224"N	80°57'23.996"W	2.36	52.282	0.35	0.24	-26.96	
235.00	0.440	12.640	234.98	-0.84	1.61	1.99	1652655.86	14313062.69	39°24'54.226"N	80°57'23.995"W	2.56	51.115	1.61	-0.56	-175.16	
260.00	0.660	331.400	259.98	-1.06	1.83	1.94	1652655.81	14313062.91	39°24'54.228"N	80°57'23.995"W	2.67	46.785	1.75	0.88	-164.96	
285.00	0.640	322.710	284.98	-1.34	2.06	1.79	1652655.66	14313063.14	39°24'54.230"N	80°57'23.997"W	2.73	40.940	0.40	-0.08	-34.76	
310.00	0.570	328.680	309.98	-1.59	2.28	1.64	1652655.51	14313063.36	39°24'54.233"N	80°57'23.999"W	2.81	35.731	0.38	-0.28	23.88	
335.00	0.670	329.490	334.98	-1.86	2.51	1.50	1652655.37	14313063.59	39°24'54.235"N	80°57'24.001"W	2.93	30.867	0.40	0.40	3.24	
360.00	0.610	328.020	359.98	-2.13	2.75	1.36	1652655.23	14313063.83	39°24'54.237"N	80°57'24.003"W	3.07	26.255	0.25	-0.24	-5.88	
368.00	0.610	323.690	367.97	-2.22	2.82	1.31	1652655.18	14313063.90	39°24'54.238"N	80°57'24.003"W	3.11	24.893	0.58	0.00	-54.13	
508.00	0.930	312.960	507.96	-3.94	4.20	0.04	1652653.91	14313065.28	39°24'54.251"N	80°57'24.020"W	4.20	0.505	0.25	0.23	-7.66	WFT EM <12-1/4">(358')(498'-2523')
600.00	2.870	300.850	599.91	-6.38	5.89	-2.49	1652651.38	14313066.96	39°24'54.268"N	80°57'24.052"W	6.39	337.099	2.14	2.11	-13.16	
693.00	5.090	303.280	692.68	-11.47	9.35	-7.94	1652645.94	14313070.42	39°24'54.302"N	80°57'24.121"W	12.26	319.665	2.39	2.39	2.61	
786.00	6.710	303.660	785.18	-19.13	14.62	-15.91	1652637.97	14313075.70	39°24'54.355"N	80°57'24.223"W	21.61	312.588	1.74	1.74	0.41	
879.00	7.790	297.530	877.44	-28.12	20.55	-26.02	1652627.86	14313081.62	39°24'54.413"N	80°57'24.351"W	33.15	308.297	1.43	1.16	-6.59	
975.00	9.540	292.400	972.34	-38.23	26.59	-39.14	1652614.74	14313087.65	39°24'54.473"N	80°57'24.519"W	47.32	304.183	1.99	1.82	-5.34	
1070.00	11.010	288.320	1065.82	-49.10	32.44	-55.04	1652598.85	14313093.50	39°24'54.531"N	80°57'24.721"W	63.88	300.514	1.73	1.55	-4.29	
1165.00	11.980	285.400	1158.91	-60.36	37.91	-73.15	1652580.74	14313098.97	39°24'54.585"N	80°57'24.952"W	82.39	297.392	1.19	1.02	-3.07	
1259.00	11.240	280.550	1250.99	-70.59	42.18	-91.57	1652562.34	14313103.24	39°24'54.627"N	80°57'25.186"W	100.81	294.731	1.30	-0.79	-5.16	
1354.00	11.810	280.920	1344.07	-80.20	45.71	-110.21	1652543.70	14313106.77	39°24'54.662"N	80°57'25.424"W	119.32	292.527	0.61	0.60	0.39	
1449.00	10.000	285.930	1437.35	-89.97	49.82	-127.69	1652526.23	14313110.88	39°24'54.703"N	80°57'25.647"W	137.07	291.313	2.15	-1.91	5.27	
1544.00	9.650	290.680	1530.96	-99.93	54.89	-143.07	1652510.85	14313115.95	39°24'54.753"N	80°57'25.843"W	153.24	290.990	0.93	-0.37	5.00	
1638.00	11.140	292.300	1623.42	-111.11	61.12	-158.85	1652495.08	14313122.18	39°24'54.815"N	80°57'26.044"W	170.20	291.046	1.62	1.59	1.72	
1733.00	12.340	295.220	1716.43	-124.43	68.93	-176.52	1652477.42	14313129.98	39°24'54.892"N	80°57'26.269"W	189.50	291.330	1.41	1.26	3.07	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 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
1828.00	13.390	296.260	1809.04	-139.50	78.12	-195.57	1652458.37	14313139.17	39°24'54.983"N	80°57'26.511"W	210.60	291.775	1.13	1.11	1.09	
1923.00	13.890	292.520	1901.37	-155.08	87.36	-215.97	1652437.98	14313148.40	39°24'55.074"N	80°57'26.771"W	232.97	292.023	1.07	0.53	-3.94	
2018.00	12.750	287.290	1993.81	-169.05	94.84	-236.52	1652417.45	14313155.88	39°24'55.148"N	80°57'27.033"W	254.82	291.850	1.74	-1.20	-5.51	
2113.00	12.650	283.980	2086.49	-181.13	100.47	-256.62	1652397.35	14313161.51	39°24'55.204"N	80°57'27.289"W	275.59	291.381	0.77	-0.11	-3.48	
2208.00	12.190	285.060	2179.27	-192.62	105.59	-276.40	1652377.58	14313166.63	39°24'55.255"N	80°57'27.541"W	295.88	290.908	0.54	-0.48	1.14	
2302.00	11.000	285.780	2271.35	-203.49	110.61	-294.61	1652359.37	14313171.64	39°24'55.305"N	80°57'27.773"W	314.69	290.578	1.28	-1.27	0.77	
2397.00	10.590	283.720	2364.66	-213.56	115.14	-311.82	1652342.18	14313176.18	39°24'55.349"N	80°57'27.992"W	332.39	290.267	0.59	-0.43	-2.17	
2492.00	10.470	281.980	2458.07	-222.90	119.00	-328.74	1652325.26	14313180.04	39°24'55.388"N	80°57'28.208"W	349.62	289.900	0.36	-0.13	-1.83	
2533.00	10.230	281.140	2498.40	-226.73	120.48	-335.96	1652318.05	14313181.51	39°24'55.402"N	80°57'28.300"W	356.91	289.729	0.69	-0.59	-2.05	
2660.00	10.010	279.080	2623.42	-237.82	124.40	-357.92	1652296.09	14313185.43	39°24'55.441"N	80°57'28.580"W	378.92	289.166	0.33	-0.17	-1.62	WFT EM <8-3/4">(2523')(2650'-5751')
2754.00	9.580	289.680	2716.06	-246.72	128.33	-373.35	1652280.66	14313189.35	39°24'55.480"N	80°57'28.776"W	394.79	288.968	1.97	-0.46	11.28	
2849.00	9.580	291.320	2809.73	-256.93	133.86	-388.16	1652265.86	14313194.89	39°24'55.535"N	80°57'28.965"W	410.59	289.027	0.29	0.00	1.73	
2944.00	10.200	285.310	2903.33	-266.95	138.96	-403.64	1652250.39	14313199.98	39°24'55.585"N	80°57'29.162"W	426.89	288.997	1.27	0.65	-6.33	
3043.00	10.960	288.510	3000.64	-277.80	144.26	-421.02	1652233.02	14313205.28	39°24'55.638"N	80°57'29.383"W	445.05	288.914	0.97	0.77	3.23	
3138.00	10.390	286.850	3094.00	-288.49	149.61	-437.78	1652216.26	14313210.63	39°24'55.691"N	80°57'29.597"W	462.64	288.868	0.68	-0.60	-1.75	
3233.00	9.730	284.510	3187.54	-298.11	154.10	-453.75	1652200.30	14313215.12	39°24'55.735"N	80°57'29.800"W	479.21	288.759	0.82	-0.69	-2.46	
3328.00	10.720	289.610	3281.03	-308.22	159.08	-469.85	1652184.21	14313220.10	39°24'55.784"N	80°57'30.006"W	496.05	288.705	1.41	1.04	5.37	
3423.00	11.910	288.220	3374.18	-319.85	165.11	-487.48	1652166.58	14313226.12	39°24'55.844"N	80°57'30.230"W	514.69	288.711	1.29	1.25	-1.46	
3518.00	11.510	285.600	3467.20	-331.35	170.73	-505.92	1652148.15	14313231.74	39°24'55.900"N	80°57'30.465"W	533.95	288.647	0.70	-0.42	-2.76	
3612.00	10.910	283.120	3559.41	-341.59	175.27	-523.62	1652130.46	14313236.28	39°24'55.945"N	80°57'30.691"W	552.17	288.507	0.82	-0.64	-2.64	
3707.00	10.890	285.900	3652.70	-351.69	179.77	-541.01	1652113.08	14313240.77	39°24'55.989"N	80°57'30.912"W	570.09	288.381	0.55	-0.02	2.93	
3802.00	10.640	285.970	3746.03	-362.03	184.64	-558.07	1652096.02	14313245.64	39°24'56.037"N	80°57'31.129"W	587.82	288.307	0.26	-0.26	0.07	
3897.00	11.180	286.860	3839.31	-372.64	189.72	-575.31	1652078.79	14313250.73	39°24'56.088"N	80°57'31.349"W	605.79	288.251	0.60	0.57	0.94	
3992.00	10.880	287.640	3932.55	-383.56	195.11	-592.67	1652061.43	14313256.11	39°24'56.141"N	80°57'31.570"W	623.96	288.222	0.35	-0.32	0.82	
4086.00	10.090	285.450	4024.98	-393.69	199.99	-609.06	1652045.05	14313260.99	39°24'56.189"N	80°57'31.779"W	641.06	288.178	0.94	-0.84	-2.33	
4181.00	11.250	286.080	4118.34	-403.90	204.78	-625.99	1652028.13	14313265.77	39°24'56.237"N	80°57'31.995"W	658.63	288.114	1.23	1.22	0.66	
4276.00	12.340	290.370	4211.33	-415.85	210.88	-644.41	1652009.72	14313271.87	39°24'56.297"N	80°57'32.229"W	678.04	288.120	1.47	1.15	4.52	
4371.00	11.790	289.750	4304.24	-428.56	217.69	-663.06	1651991.07	14313278.68	39°24'56.365"N	80°57'32.467"W	697.88	288.175	0.59	-0.58	-0.65	
4465.00	11.450	286.060	4396.31	-440.12	223.52	-681.07	1651973.08	14313284.51	39°24'56.422"N	80°57'32.696"W	716.81	288.169	0.87	-0.36	-3.93	
4560.00	11.270	284.690	4489.45	-450.87	228.48	-699.11	1651955.04	14313289.47	39°24'56.471"N	80°57'32.926"W	735.50	288.098	0.34	-0.19	-1.44	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
4655.00	10.950	282.740	4582.67	-460.96	232.82	-716.89	1651937.27	14313293.81	39°24'56.514"N	80°57'33.153"W	753.75	287.992	0.52	-0.34	-2.05	
4750.00	10.400	281.560	4676.02	-470.25	236.53	-734.09	1651920.07	14313297.51	39°24'56.551"N	80°57'33.372"W	771.25	287.859	0.62	-0.58	-1.24	
4845.00	10.940	286.910	4769.38	-480.08	240.87	-751.12	1651903.05	14313301.85	39°24'56.594"N	80°57'33.589"W	788.79	287.780	1.19	0.57	5.63	
4939.00	10.750	290.010	4861.71	-491.00	246.46	-767.89	1651886.29	14313307.45	39°24'56.649"N	80°57'33.802"W	806.47	287.795	0.65	-0.20	3.30	
5034.00	11.570	290.240	4954.91	-502.78	252.79	-785.15	1651869.03	14313313.77	39°24'56.712"N	80°57'34.022"W	824.84	287.847	0.86	0.86	0.24	
5129.00	12.250	287.540	5047.86	-515.00	259.13	-803.70	1651850.49	14313320.10	39°24'56.775"N	80°57'34.259"W	844.44	287.870	0.93	0.72	-2.84	
5224.00	10.990	282.750	5140.92	-525.96	264.16	-822.14	1651832.06	14313325.14	39°24'56.825"N	80°57'34.494"W	863.54	287.813	1.67	-1.33	-5.04	
5319.00	10.580	277.630	5234.24	-534.83	267.32	-839.62	1651814.59	14313328.29	39°24'56.856"N	80°57'34.716"W	881.15	287.660	1.10	-0.43	-5.39	
5350.00	9.580	262.310	5264.77	-536.67	267.35	-845.00	1651809.21	14313328.32	39°24'56.856"N	80°57'34.785"W	886.28	287.557	9.20	-3.23	-49.42	
5382.00	8.980	245.560	5296.35	-537.02	265.96	-849.91	1651804.30	14313326.93	39°24'56.843"N	80°57'34.847"W	890.55	287.376	8.61	-1.88	-52.34	
5414.00	9.310	225.120	5327.96	-535.71	263.10	-854.02	1651800.19	14313324.08	39°24'56.814"N	80°57'34.900"W	893.63	287.123	10.15	1.03	-63.87	
5445.00	11.150	211.730	5358.47	-532.78	258.78	-857.37	1651796.84	14313319.76	39°24'56.772"N	80°57'34.943"W	895.58	286.795	9.66	5.94	-43.19	
5477.00	12.810	202.830	5389.77	-528.23	252.88	-860.38	1651793.84	14313313.86	39°24'56.713"N	80°57'34.981"W	896.77	286.379	7.75	5.19	-27.81	
5508.00	14.270	194.450	5419.91	-522.54	246.01	-862.67	1651791.55	14313306.99	39°24'56.645"N	80°57'35.010"W	897.06	285.917	7.88	4.71	-27.03	
5540.00	15.940	188.740	5450.81	-515.41	237.85	-864.32	1651789.90	14313298.83	39°24'56.565"N	80°57'35.031"W	896.45	285.386	6.98	5.22	-17.84	
5571.00	17.180	185.320	5480.52	-507.52	229.08	-865.39	1651788.83	14313290.07	39°24'56.478"N	80°57'35.045"W	895.20	284.827	5.09	4.00	-11.03	
5603.00	17.830	182.860	5511.04	-498.71	219.48	-866.07	1651788.15	14313280.47	39°24'56.383"N	80°57'35.054"W	893.45	284.221	3.08	2.03	-7.69	
5635.00	18.750	180.790	5541.42	-489.37	209.45	-866.39	1651787.83	14313270.44	39°24'56.284"N	80°57'35.058"W	891.34	283.590	3.52	2.88	-6.47	
5666.00	20.290	177.700	5570.64	-479.58	199.09	-866.24	1651787.98	14313260.09	39°24'56.182"N	80°57'35.056"W	888.82	282.944	5.98	4.97	-9.97	
5698.00	21.800	174.630	5600.51	-468.52	187.63	-865.46	1651788.76	14313248.64	39°24'56.068"N	80°57'35.046"W	885.57	282.232	5.84	4.72	-9.59	
5730.00	23.000	170.620	5630.09	-456.62	175.55	-863.89	1651790.33	14313236.56	39°24'55.949"N	80°57'35.026"W	881.54	281.486	6.07	3.75	-12.53	
5761.00	25.330	168.380	5658.38	-444.09	163.07	-861.56	1651792.65	14313224.09	39°24'55.826"N	80°57'34.996"W	876.86	280.718	8.08	7.52	-7.23	
5805.00	27.720	165.190	5697.74	-424.57	143.96	-857.05	1651797.16	14313204.98	39°24'55.637"N	80°57'34.939"W	869.06	279.535	6.32	5.43	-7.25	BH AT Curve <8-1/2"> (5761')(5805'-16963')
5854.00	28.710	162.580	5740.92	-401.46	121.71	-850.61	1651803.60	14313182.74	39°24'55.417"N	80°57'34.857"W	859.28	278.143	3.23	2.02	-5.33	
5901.00	33.090	162.880	5781.24	-377.35	98.67	-843.45	1651810.75	14313159.71	39°24'55.189"N	80°57'34.766"W	849.20	276.672	9.32	9.32	0.64	
5948.00	39.220	162.780	5819.17	-349.66	72.19	-835.27	1651818.93	14313133.24	39°24'54.927"N	80°57'34.662"W	838.38	274.939	13.04	13.04	-0.21	
5995.00	44.890	163.010	5854.06	-318.22	42.11	-826.02	1651828.18	14313103.17	39°24'54.630"N	80°57'34.544"W	827.09	272.918	12.07	12.06	0.49	
6042.00	50.370	163.410	5885.72	-283.56	8.87	-816.00	1651838.20	14313069.95	39°24'54.301"N	80°57'34.417"W	816.04	270.623	11.68	11.66	0.85	
6065.00†	53.032	164.076	5899.97	-265.54	-8.45	-810.94	1651843.25	14313052.63	39°24'54.130"N	80°57'34.352"W	810.99	269.403	11.80	11.58	2.90	Middlesex: 6065' MD
6090.00	55.930	164.750	5914.49	-245.25	-28.05	-805.48	1651848.71	14313033.04	39°24'53.936"N	80°57'34.283"W	805.97	268.006	11.80	11.59	2.69	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
6137.00	60.010	164.840	5939.42	-205.54	-66.49	-795.03	1651859.16	14312994.61	39°24'53.556"N	80°57'34.150"W	797.81	265.219	8.68	8.68	0.19	
6184.00	64.730	164.420	5961.21	-164.03	-106.63	-784.00	1651870.19	14312954.49	39°24'53.160"N	80°57'34.010"W	791.21	262.255	10.07	10.04	-0.89	
6231.00	68.920	163.050	5979.70	-120.91	-148.10	-771.89	1651882.29	14312913.04	39°24'52.750"N	80°57'33.856"W	785.97	259.139	9.31	8.91	-2.91	
6254.00†	70.385	162.542	5987.70	-99.36	-168.70	-765.51	1651888.67	14312892.45	39°24'52.546"N	80°57'33.775"W	783.88	257.572	6.70	6.37	-2.21	Burkett: 6254' MD
6279.00	71.980	162.000	5995.76	-75.71	-191.23	-758.30	1651895.87	14312869.92	39°24'52.323"N	80°57'33.683"W	782.05	255.846	6.70	6.38	-2.17	
6326.00	71.810	161.030	6010.37	-31.05	-233.60	-744.14	1651910.03	14312827.57	39°24'51.905"N	80°57'33.503"W	779.95	252.572	1.99	-0.36	-2.06	
6336.00†	72.427	161.125	6013.44	-21.54	-242.61	-741.05	1651913.11	14312818.57	39°24'51.816"N	80°57'33.463"W	779.76	251.873	6.23	6.17	0.95	Tully: 6336' MD
6353.00†	73.475	161.285	6018.42	-5.29	-257.99	-735.82	1651918.35	14312803.19	39°24'51.664"N	80°57'33.397"W	779.74	250.678	6.23	6.17	0.94	Marcellus POE: 6353' MD
6374.00	74.770	161.480	6024.17	14.91	-277.13	-729.37	1651924.79	14312784.06	39°24'51.474"N	80°57'33.315"W	780.25	249.195	6.23	6.17	0.93	
6421.00	77.810	162.990	6035.30	60.54	-320.61	-715.44	1651938.71	14312740.60	39°24'51.045"N	80°57'33.138"W	784.00	245.862	7.18	6.47	3.21	
6468.00	80.700	164.260	6044.07	106.63	-364.91	-702.43	1651951.72	14312696.32	39°24'50.607"N	80°57'32.972"W	791.56	242.548	6.70	6.15	2.70	
6515.00	84.240	164.230	6050.22	153.10	-409.75	-689.78	1651964.36	14312651.50	39°24'50.163"N	80°57'32.811"W	802.30	239.289	7.53	7.53	-0.06	
6563.00	87.720	164.090	6053.59	200.87	-455.80	-676.71	1651977.43	14312605.46	39°24'49.708"N	80°57'32.645"W	815.90	236.038	7.26	7.25	-0.29	
6610.00	88.920	164.510	6054.97	247.73	-501.03	-664.00	1651990.13	14312560.25	39°24'49.261"N	80°57'32.483"W	831.82	232.963	2.70	2.55	0.89	
6657.00	89.170	164.090	6055.75	294.61	-546.27	-651.28	1652002.85	14312515.03	39°24'48.814"N	80°57'32.321"W	850.05	230.012	1.04	0.53	-0.89	
6752.00	89.010	161.230	6057.26	389.51	-636.93	-622.98	1652031.14	14312424.41	39°24'47.918"N	80°57'31.961"W	890.94	224.365	3.01	-0.17	-3.01	
6846.00	88.860	159.160	6059.01	483.49	-725.35	-591.14	1652062.97	14312336.02	39°24'47.044"N	80°57'31.556"W	935.72	219.179	2.21	-0.16	-2.20	
6941.00	89.010	160.360	6060.77	578.46	-814.47	-558.28	1652095.82	14312246.94	39°24'46.163"N	80°57'31.138"W	987.44	214.429	1.27	0.16	1.26	
7035.00	89.170	161.810	6062.27	672.44	-903.38	-527.81	1652126.27	14312158.07	39°24'45.284"N	80°57'30.750"W	1046.27	210.296	1.55	0.17	1.54	
7129.00	89.140	164.060	6063.65	766.33	-993.22	-500.23	1652153.84	14312068.26	39°24'44.396"N	80°57'30.399"W	1112.08	206.732	2.39	-0.03	2.39	
7224.00	88.980	165.140	6065.21	861.04	-1084.80	-475.00	1652179.05	14311976.72	39°24'43.491"N	80°57'30.079"W	1184.24	203.647	1.15	-0.17	1.14	
7319.00	88.920	163.040	6066.95	955.81	-1176.14	-448.97	1652205.08	14311885.41	39°24'42.588"N	80°57'29.747"W	1258.92	200.893	2.21	-0.06	-2.21	
7413.00	89.080	159.560	6068.59	1049.77	-1265.15	-418.84	1652235.20	14311796.44	39°24'41.708"N	80°57'29.364"W	1332.68	198.318	3.71	0.17	-3.70	
7508.00	89.110	157.490	6070.09	1144.71	-1353.54	-384.07	1652269.96	14311708.09	39°24'40.834"N	80°57'28.922"W	1406.97	195.841	2.18	0.03	-2.18	
7603.00	89.050	155.500	6071.62	1239.48	-1440.64	-346.19	1652307.82	14311621.02	39°24'39.973"N	80°57'28.439"W	1481.65	193.512	2.10	-0.06	-2.09	
7698.00	89.080	155.930	6073.17	1334.17	-1527.22	-307.12	1652346.87	14311534.47	39°24'39.117"N	80°57'27.942"W	1557.80	191.370	0.45	0.03	0.45	
7792.00	89.140	153.520	6074.63	1427.70	-1612.21	-266.99	1652386.98	14311449.52	39°24'38.277"N	80°57'27.431"W	1634.17	189.403	2.56	0.06	-2.56	
7887.00	89.820	153.080	6075.49	1521.99	-1697.07	-224.31	1652429.65	14311364.69	39°24'37.438"N	80°57'26.888"W	1711.83	187.529	0.85	0.07	-0.46	
7981.00	88.950	160.400	6076.50	1615.74	-1783.37	-187.22	1652466.73	14311278.43	39°24'36.585"N	80°57'26.416"W	1793.17	185.993	7.84	-0.93	7.79	
8075.00	89.020	165.170	6078.17	1709.61	-1873.12	-159.41	1652494.52	14311188.72	39°24'35.698"N	80°57'26.062"W	1879.89	184.864	5.07	0.07	5.07	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 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
8171.00	89.080	165.910	6079.76	1805.20	-1966.06	-135.44	1652518.48	14311095.81	39°24'34.779"N	80°57'25.758"W	1970.72	183.941	0.77	0.06	0.77	
8265.00	88.890	160.240	6081.43	1899.03	-2055.94	-108.09	1652545.82	14311005.97	39°24'33.891"N	80°57'25.410"W	2058.78	183.010	6.03	-0.20	-6.03	
8360.00	89.020	156.510	6083.16	1993.95	-2144.22	-73.09	1652580.81	14310917.72	39°24'33.018"N	80°57'24.964"W	2145.47	181.952	3.93	0.14	-3.93	
8454.00	89.380	153.700	6084.47	2087.54	-2229.47	-33.53	1652620.35	14310832.50	39°24'32.175"N	80°57'24.461"W	2229.72	180.862	3.01	0.38	-2.99	
8548.00	89.110	152.200	6085.71	2180.76	-2313.18	9.21	1652663.08	14310748.83	39°24'31.348"N	80°57'23.917"W	2313.20	179.772	1.62	-0.29	-1.60	
8643.00	88.980	153.280	6087.29	2274.92	-2397.62	52.72	1652706.57	14310664.43	39°24'30.513"N	80°57'23.363"W	2398.20	178.740	1.14	-0.14	1.14	
8738.00	88.980	156.350	6088.99	2369.46	-2483.56	93.13	1652746.97	14310578.52	39°24'29.663"N	80°57'22.849"W	2485.31	177.852	3.23	0.00	3.23	
8832.00	88.920	159.890	6090.71	2463.37	-2570.76	128.15	1652781.97	14310491.35	39°24'28.801"N	80°57'22.403"W	2573.95	177.146	3.77	-0.06	3.77	
8927.00	89.080	161.320	6092.37	2558.35	-2660.35	159.70	1652813.50	14310401.79	39°24'27.916"N	80°57'22.002"W	2665.14	176.565	1.51	0.17	1.51	
9021.00	89.020	163.920	6093.93	2652.25	-2750.04	187.77	1652841.56	14310312.14	39°24'27.029"N	80°57'21.645"W	2756.45	176.094	2.77	-0.06	2.77	
9116.00	89.010	165.680	6095.56	2746.94	-2841.70	212.67	1652866.45	14310220.52	39°24'26.123"N	80°57'21.328"W	2849.65	175.720	1.85	-0.01	1.85	
9210.00	88.980	165.270	6097.21	2840.54	-2932.68	236.24	1652890.02	14310129.57	39°24'25.224"N	80°57'21.028"W	2942.18	175.394	0.44	-0.03	-0.44	
9305.00	89.050	162.910	6098.84	2935.31	-3024.02	262.28	1652916.04	14310038.27	39°24'24.321"N	80°57'20.697"W	3035.38	175.043	2.48	0.07	-2.48	
9400.00	89.050	161.100	6100.42	3030.25	-3114.36	291.62	1652945.37	14309947.97	39°24'23.428"N	80°57'20.324"W	3127.98	174.651	1.91	0.00	-1.91	
9495.00	89.050	162.500	6101.99	3125.20	-3204.59	321.29	1652975.03	14309857.77	39°24'22.536"N	80°57'19.946"W	3220.66	174.275	1.47	0.00	1.47	
9589.00	89.140	162.610	6103.48	3219.11	-3294.26	349.47	1653003.19	14309768.14	39°24'21.649"N	80°57'19.588"W	3312.74	173.945	0.15	0.10	0.12	
9684.00	89.010	160.620	6105.01	3314.07	-3384.39	379.42	1653033.14	14309678.05	39°24'20.758"N	80°57'19.207"W	3405.60	173.603	2.10	-0.14	-2.09	
9779.00	89.010	159.070	6106.65	3409.05	-3473.56	412.15	1653065.85	14309588.92	39°24'19.877"N	80°57'18.791"W	3497.93	173.233	1.63	0.00	-1.63	
9874.00	89.110	157.310	6108.21	3503.97	-3561.74	447.44	1653101.13	14309500.77	39°24'19.005"N	80°57'18.342"W	3589.74	172.840	1.86	0.11	-1.85	
9968.00	89.080	159.420	6109.69	3597.90	-3649.11	482.09	1653135.77	14309413.44	39°24'18.142"N	80°57'17.901"W	3680.81	172.474	2.24	-0.03	2.24	
10063.00	88.950	160.330	6111.33	3692.88	-3738.29	514.77	1653168.43	14309324.29	39°24'17.260"N	80°57'17.485"W	3773.57	172.160	0.97	-0.14	0.96	
10157.00	88.950	159.420	6113.05	3786.87	-3826.54	547.11	1653200.76	14309236.08	39°24'16.388"N	80°57'17.074"W	3865.45	171.863	0.97	0.00	-0.97	
10251.00	89.010	159.680	6114.72	3880.84	-3914.60	579.95	1653233.58	14309148.05	39°24'15.517"N	80°57'16.656"W	3957.33	171.573	0.28	0.06	0.28	
10346.00	88.950	158.610	6116.41	3975.81	-4003.36	613.76	1653267.38	14309059.33	39°24'14.640"N	80°57'16.226"W	4050.14	171.284	1.13	-0.06	-1.13	
10441.00	89.290	158.430	6117.87	4070.75	-4091.75	648.54	1653302.15	14308970.97	39°24'13.766"N	80°57'15.783"W	4142.83	170.994	0.40	0.36	-0.19	
10536.00	89.080	158.470	6119.23	4165.69	-4180.10	683.44	1653337.03	14308882.66	39°24'12.893"N	80°57'15.339"W	4235.60	170.714	0.23	-0.22	0.04	
10630.00	89.540	160.080	6120.36	4259.67	-4268.01	716.70	1653370.28	14308794.79	39°24'12.024"N	80°57'14.916"W	4327.77	170.468	1.78	0.49	1.71	
10724.00	88.710	160.310	6121.79	4353.65	-4356.44	748.54	1653402.11	14308706.39	39°24'11.149"N	80°57'14.511"W	4420.28	170.250	0.92	-0.88	0.24	
10819.00	89.480	161.060	6123.29	4448.64	-4446.08	779.96	1653433.51	14308616.79	39°24'10.263"N	80°57'14.111"W	4513.97	170.050	1.13	0.81	0.79	
10913.00	88.920	159.770	6124.61	4542.63	-4534.63	811.47	1653465.01	14308528.27	39°24'09.388"N	80°57'13.710"W	4606.66	169.854	1.50	-0.60	-1.37	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 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
11008.00	89.510	163.830	6125.91	4637.57	-4624.85	841.13	1653494.66	14308438.09	39°24'08.496"N	80°57'13.333"W	4700.72	169.692	4.32	0.62	4.27	
11103.00	89.780	167.450	6126.50	4732.13	-4716.86	864.68	1653518.21	14308346.11	39°24'07.587"N	80°57'13.034"W	4795.46	169.612	3.82	0.28	3.81	
11198.00	90.030	166.180	6126.65	4826.52	-4809.36	886.35	1653539.87	14308253.66	39°24'06.672"N	80°57'12.758"W	4890.35	169.558	1.36	0.26	-1.34	
11293.00	90.340	159.400	6126.35	4921.37	-4900.05	914.44	1653567.95	14308163.00	39°24'05.776"N	80°57'12.401"W	4984.65	169.429	7.14	0.33	-7.14	
11388.00	89.660	151.410	6126.35	5015.95	-4986.36	953.95	1653607.44	14308076.72	39°24'04.923"N	80°57'11.898"W	5076.79	169.169	8.44	-0.72	-8.41	
11483.00	88.580	153.020	6127.81	5109.99	-5070.39	998.23	1653651.70	14307992.72	39°24'04.092"N	80°57'11.335"W	5167.72	168.862	2.04	-1.14	1.69	
11578.00	90.400	159.030	6128.65	5204.68	-5157.15	1036.81	1653690.26	14307906.00	39°24'03.234"N	80°57'10.844"W	5260.34	168.633	6.61	1.92	6.33	
11672.00	90.060	159.470	6128.28	5298.66	-5245.05	1070.11	1653723.55	14307818.14	39°24'02.365"N	80°57'10.420"W	5353.10	168.469	0.59	-0.36	0.47	
11766.00	89.600	162.760	6128.55	5392.64	-5333.98	1100.53	1653753.96	14307729.24	39°24'01.486"N	80°57'10.033"W	5446.33	168.342	3.53	-0.49	3.50	
11861.00	89.750	165.680	6129.09	5487.40	-5425.39	1126.36	1653779.78	14307637.87	39°24'00.582"N	80°57'09.705"W	5541.08	168.271	3.08	0.16	3.07	
11955.00	90.030	167.460	6129.27	5580.83	-5516.81	1148.20	1653801.60	14307546.48	39°23'59.679"N	80°57'09.427"W	5635.03	168.243	1.92	0.30	1.89	
12050.00	89.970	168.340	6129.27	5674.99	-5609.70	1168.11	1653821.51	14307453.63	39°23'58.761"N	80°57'09.174"W	5730.03	168.237	0.93	-0.06	0.93	
12145.00	90.150	169.890	6129.17	5768.87	-5702.99	1186.05	1653839.44	14307360.38	39°23'57.838"N	80°57'08.947"W	5825.02	168.252	1.64	0.19	1.63	
12240.00	90.060	171.970	6129.00	5862.23	-5796.80	1201.02	1653854.41	14307266.61	39°23'56.911"N	80°57'08.756"W	5919.91	168.295	2.19	-0.09	2.19	
12334.00	90.090	164.410	6128.88	5955.27	-5888.74	1220.25	1653873.63	14307174.71	39°23'56.002"N	80°57'08.512"W	6013.84	168.293	8.04	0.03	-8.04	
12429.00	90.120	161.080	6128.70	6050.17	-5979.45	1248.42	1653901.79	14307084.03	39°23'55.106"N	80°57'08.154"W	6108.39	168.207	3.51	0.03	-3.51	
12523.00	90.990	158.320	6127.79	6144.15	-6067.60	1281.03	1653934.38	14306995.92	39°23'54.234"N	80°57'07.739"W	6201.35	168.078	3.08	0.93	-2.94	
12618.00	90.090	149.740	6126.89	6238.49	-6152.92	1322.59	1653975.93	14306910.63	39°23'53.391"N	80°57'07.210"W	6293.46	167.869	9.08	-0.95	-9.03	
12713.00	89.820	150.280	6126.97	6331.96	-6235.20	1370.08	1654023.39	14306828.38	39°23'52.577"N	80°57'06.606"W	6383.95	167.607	0.64	-0.28	0.57	
12807.00	89.880	155.220	6127.22	6425.12	-6318.74	1413.10	1654066.40	14306744.88	39°23'51.751"N	80°57'06.058"W	6474.83	167.394	5.26	0.06	5.26	
12902.00	88.980	159.120	6128.16	6519.96	-6406.28	1449.95	1654103.24	14306657.37	39°23'50.886"N	80°57'05.590"W	6568.32	167.247	4.21	-0.95	4.11	
12996.00	88.550	164.030	6130.19	6613.88	-6495.41	1479.65	1654132.92	14306568.28	39°23'50.005"N	80°57'05.212"W	6661.81	167.167	5.24	-0.46	5.22	
13091.00	89.970	167.380	6131.42	6708.43	-6587.45	1503.10	1654156.36	14306476.28	39°23'49.095"N	80°57'04.914"W	6756.76	167.147	3.83	1.49	3.53	
13185.00	90.550	158.140	6130.99	6802.24	-6677.13	1530.93	1654184.18	14306386.64	39°23'48.209"N	80°57'04.560"W	6850.38	167.086	9.85	0.62	-9.83	
13280.00	89.230	158.710	6131.17	6897.19	-6765.47	1565.86	1654219.10	14306298.33	39°23'47.335"N	80°57'04.116"W	6944.31	166.968	1.51	-1.39	0.60	
13374.00	89.970	161.410	6131.83	6991.18	-6853.82	1597.91	1654251.14	14306210.01	39°23'46.462"N	80°57'03.708"W	7037.63	166.876	2.98	0.79	2.87	
13469.00	90.000	163.260	6131.85	7086.11	-6944.34	1626.74	1654279.95	14306119.53	39°23'45.567"N	80°57'03.341"W	7132.33	166.816	1.95	0.03	1.95	
13564.00	90.000	158.810	6131.85	7181.08	-7034.16	1657.60	1654310.81	14306029.75	39°23'44.679"N	80°57'02.949"W	7226.83	166.740	4.68	0.00	-4.68	
13658.00	89.880	152.330	6131.95	7274.71	-7119.70	1696.46	1654349.65	14305944.24	39°23'43.834"N	80°57'02.455"W	7319.02	166.598	6.89	-0.13	-6.89	
13753.00	89.880	156.990	6132.15	7369.23	-7205.53	1737.11	1654390.28	14305858.44	39°23'42.985"N	80°57'01.937"W	7411.97	166.446	4.91	0.00	4.91	



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 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
13848.00	89.880	162.480	6132.35	7464.19	-7294.62	1770.00	1654423.16	14305769.39	39°23'42.104"N	80°57'01.519"W	7506.29	166.361	5.78	0.00	5.78	
13943.00	90.030	163.060	6132.42	7559.10	-7385.35	1798.14	1654451.29	14305678.69	39°23'41.208"N	80°57'01.161"W	7601.10	166.316	0.63	0.16	0.61	
14037.00	89.880	163.960	6132.50	7652.95	-7475.49	1824.82	1654477.96	14305588.60	39°23'40.317"N	80°57'00.822"W	7694.99	166.282	0.97	-0.16	0.96	
14132.00	90.150	165.880	6132.47	7747.63	-7567.21	1849.54	1654502.66	14305496.91	39°23'39.410"N	80°57'00.508"W	7789.96	166.265	2.04	0.28	2.02	
14226.00	89.880	168.740	6132.45	7840.92	-7658.90	1870.18	1654523.30	14305405.25	39°23'38.503"N	80°57'00.246"W	7883.93	166.278	3.06	-0.29	3.04	
14321.00	90.060	169.990	6132.50	7934.73	-7752.27	1887.72	1654540.83	14305311.92	39°23'37.581"N	80°57'00.023"W	7978.80	166.315	1.33	0.19	1.32	
14416.00	90.000	163.850	6132.45	8029.05	-7844.76	1909.20	1654562.31	14305219.47	39°23'36.666"N	80°56'59.750"W	8073.74	166.322	6.46	-0.06	-6.46	
14510.00	89.850	160.260	6132.57	8122.99	-7934.17	1938.16	1654591.25	14305130.09	39°23'35.782"N	80°56'59.382"W	8167.47	166.273	3.82	-0.16	-3.82	
14604.00	90.060	161.400	6132.64	8216.98	-8022.96	1969.03	1654622.11	14305041.34	39°23'34.905"N	80°56'58.989"W	8261.05	166.211	1.23	0.22	1.21	
14699.00	90.060	157.700	6132.54	8311.96	-8111.96	2002.21	1654655.28	14304952.38	39°23'34.025"N	80°56'58.567"W	8355.40	166.135	3.89	0.00	-3.89	
14794.00	90.250	153.400	6132.29	8406.61	-8198.42	2041.53	1654694.57	14304865.96	39°23'33.170"N	80°56'58.067"W	8448.78	166.017	4.53	0.20	-4.53	
14888.00	90.370	152.090	6131.78	8499.79	-8281.98	2084.57	1654737.60	14304782.43	39°23'32.344"N	80°56'57.519"W	8540.29	165.872	1.40	0.13	-1.39	
14983.00	90.340	154.610	6131.19	8594.09	-8366.88	2127.18	1654780.19	14304697.56	39°23'31.505"N	80°56'56.977"W	8633.05	165.735	2.65	-0.03	2.65	
15078.00	90.250	151.700	6130.70	8688.34	-8451.63	2170.07	1654823.07	14304612.85	39°23'30.667"N	80°56'56.431"W	8725.78	165.600	3.06	-0.09	-3.06	
15172.00	90.280	152.530	6130.27	8781.38	-8534.71	2214.04	1654867.01	14304529.80	39°23'29.845"N	80°56'55.872"W	8817.22	165.457	0.88	0.03	0.88	
15267.00	90.310	158.900	6129.78	8876.03	-8621.26	2253.09	1654906.05	14304443.28	39°23'28.990"N	80°56'55.375"W	8910.81	165.354	6.71	0.03	6.71	
15362.00	90.550	160.530	6129.06	8971.02	-8710.36	2286.02	1654938.97	14304354.22	39°23'28.109"N	80°56'54.956"W	9005.35	165.294	1.73	0.25	1.72	
15456.00	90.370	158.200	6128.31	9065.00	-8798.32	2319.14	1654972.08	14304266.29	39°23'27.239"N	80°56'54.535"W	9098.84	165.233	2.49	-0.19	-2.48	
15551.00	90.430	159.310	6127.65	9159.96	-8886.86	2353.57	1655006.49	14304177.79	39°23'26.364"N	80°56'54.097"W	9193.24	165.167	1.17	0.06	1.17	
15645.00	90.340	158.360	6127.01	9253.93	-8974.52	2387.50	1655040.41	14304090.17	39°23'25.498"N	80°56'53.666"W	9286.67	165.103	1.02	-0.10	-1.01	
15739.00	90.000	156.740	6126.74	9347.82	-9061.39	2423.40	1655076.29	14304003.33	39°23'24.639"N	80°56'53.209"W	9379.86	165.027	1.76	-0.36	-1.72	
15834.00	89.910	153.610	6126.81	9442.43	-9147.60	2463.28	1655116.16	14303917.15	39°23'23.787"N	80°56'52.702"W	9473.46	164.929	3.30	-0.09	-3.29	
15928.00	89.880	156.500	6126.98	9536.02	-9232.83	2502.92	1655155.78	14303831.96	39°23'22.944"N	80°56'52.198"W	9566.07	164.832	3.07	-0.03	3.07	
16022.00	90.060	160.700	6127.03	9629.96	-9320.33	2537.21	1655190.06	14303744.50	39°23'22.079"N	80°56'51.762"W	9659.50	164.772	4.47	0.19	4.47	
16117.00	90.220	165.240	6126.80	9724.83	-9411.14	2565.03	1655217.86	14303653.73	39°23'21.181"N	80°56'51.408"W	9754.43	164.754	4.78	0.17	4.78	
16212.00	90.090	163.830	6126.54	9819.57	-9502.69	2590.36	1655243.18	14303562.20	39°23'20.276"N	80°56'51.086"W	9849.42	164.752	1.49	-0.14	-1.48	
16306.00	89.940	161.360	6126.52	9913.49	-9592.38	2618.47	1655271.29	14303472.55	39°23'19.390"N	80°56'50.729"W	9943.35	164.732	2.63	-0.16	-2.63	
16400.00	89.660	162.230	6126.85	10007.45	-9681.68	2647.84	1655300.64	14303383.29	39°23'18.507"N	80°56'50.355"W	10037.23	164.704	0.97	-0.30	0.93	
16495.00	90.000	163.920	6127.13	10102.34	-9772.56	2675.49	1655328.29	14303292.45	39°23'17.609"N	80°56'50.004"W	10132.18	164.689	1.81	0.36	1.78	
16590.00	90.090	165.120	6127.05	10197.08	-9864.11	2700.85	1655353.63	14303200.93	39°23'16.704"N	80°56'49.681"W	10227.18	164.687	1.27	0.09	1.26	



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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

WELLPATH DATA (215 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
16684.00	90.030	166.560	6126.95	10290.63	-9955.25	2723.84	1655376.62	14303109.83	39°23'15.803"N	80°56'49.389"W	10321.16	164.698	1.53	-0.06	1.53	
16779.00	90.120	165.400	6126.83	10385.16	-10047.42	2746.86	1655399.62	14303017.70	39°23'14.892"N	80°56'49.097"W	10416.13	164.710	1.22	0.09	-1.22	
16874.00	90.030	164.410	6126.71	10479.85	-10139.14	2771.60	1655424.35	14302926.01	39°23'13.985"N	80°56'48.782"W	10511.13	164.711	1.05	-0.09	-1.04	
16963.00	90.000	164.210	6126.68	10568.63	-10224.82	2795.67	1655448.41	14302840.36	39°23'13.138"N	80°56'48.476"W	10600.13	164.708	0.23	-0.03	-0.22	
16987.00	90.000	164.210	6126.68	10592.58	-10247.92	2802.20	1655454.94	14302817.28	39°23'12.910"N	80°56'48.393"W	10624.13	164.707	0.00	0.00	0.00	Projected MD at TD: 16987'

HOLE & CASING SECTIONS - Ref Wellbore: Remington Unit 1H AWB Ref Wellpath: Remington Unit 1H AWP Proj: 16987'

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	25.00	108.00	83.00	25.00	107.99	0.00	0.00	0.72	0.81
17.5in Open Hole	108.00	379.40	271.40	107.99	379.37	0.72	0.81	2.92	1.24
13.375in Casing Surface	25.00	379.40	354.40	25.00	379.37	0.00	0.00	2.92	1.24
12.25in Open Hole	379.40	2617.40	2238.00	379.37	2581.48	2.92	1.24	123.18	-350.59
9.625in Casing Intermediate	25.00	2617.40	2592.40	25.00	2581.48	0.00	0.00	123.18	-350.59
8.75in Open Hole	2617.40	5834.00	3216.60	2581.48	5723.35	123.18	-350.59	130.84	-853.39
8.5in Open Hole	5834.00	16987.00	11153.00	5723.35	6126.68	130.84	-853.39	-10247.92	2802.20
5.5in Casing Production	25.00	16987.00	16962.00	25.00	6126.68	0.00	0.00	-10247.92	2802.20



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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Remington Unit 1H - POE - Rev-1	6015.00	-251.18	-754.17	1651900.00	14312810.00	39°24'51.731"N	80°57'33.631"W	point
Remington Unit 1H - LP - Rev-1	6053.00	-502.26	-664.24	1651989.90	14312559.02	39°24'49.249"N	80°57'32.486"W	point
Remington Unit 1H - BHL - Rev-1	6053.00	-10250.20	2827.27	1655480.00	14302815.00	39°23'12.887"N	80°56'48.074"W	point

WELLPATH COMPOSITION - Ref Wellbore: Remington Unit 1H AWB Ref Wellpath: Remington Unit 1H AWP Proj: 16987'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	368.00	Gyrodata standard - Drop gyro or Multi-shot	01_Gyrodata MS Gyro <17-1/2">(50'-358')	Remington Unit 1H AWB
368.00	2533.00	ISCWSA MWD, Rev. 4 (Standard)	02_WFT EM <12-1/4">(358')(498'-2523')	Remington Unit 1H AWB
2533.00	5761.00	ISCWSA MWD, Rev. 4 (Standard)	03_WFT EM <8-3/4">(2523')(2650'-5751')	Remington Unit 1H AWB
5761.00	16963.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2"> (5761')(5805'-16963')	Remington Unit 1H AWB
16963.00	16987.00	Blind Drilling (std)	Projection to bit	Remington Unit 1H AWB



Actual Wellpath Report

Remington Unit 1H AWP Proj: 16987'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	Remington Unit 1H
Field	Tyler	Wellbore	Remington Unit 1H AWB
Facility	Sine Pad		

COMMENTS
<p>Wellpath general comments API: 47-095-02533-0000 BHI Job #: 109650444 Rig: Patterson 342 Duration: 02/16/2019-02/20/2019 Gyrodata MS Gyro <17-1/2">(50'-358') WFT EM <12-1/4">(358')(498'-2523') WFT EM <8-3/4">(2523')(2650'-5751') BH AT Curve <8-1/2"> (5761')(5805'-16963') Middlesex: 6065' MD Burkett: 6254' MD Tully: 6336' MD Marcellus POE: 6353' MD Projected MD at TD: 16987'</p>