

ANTERO RESOURCES CORPORATION

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

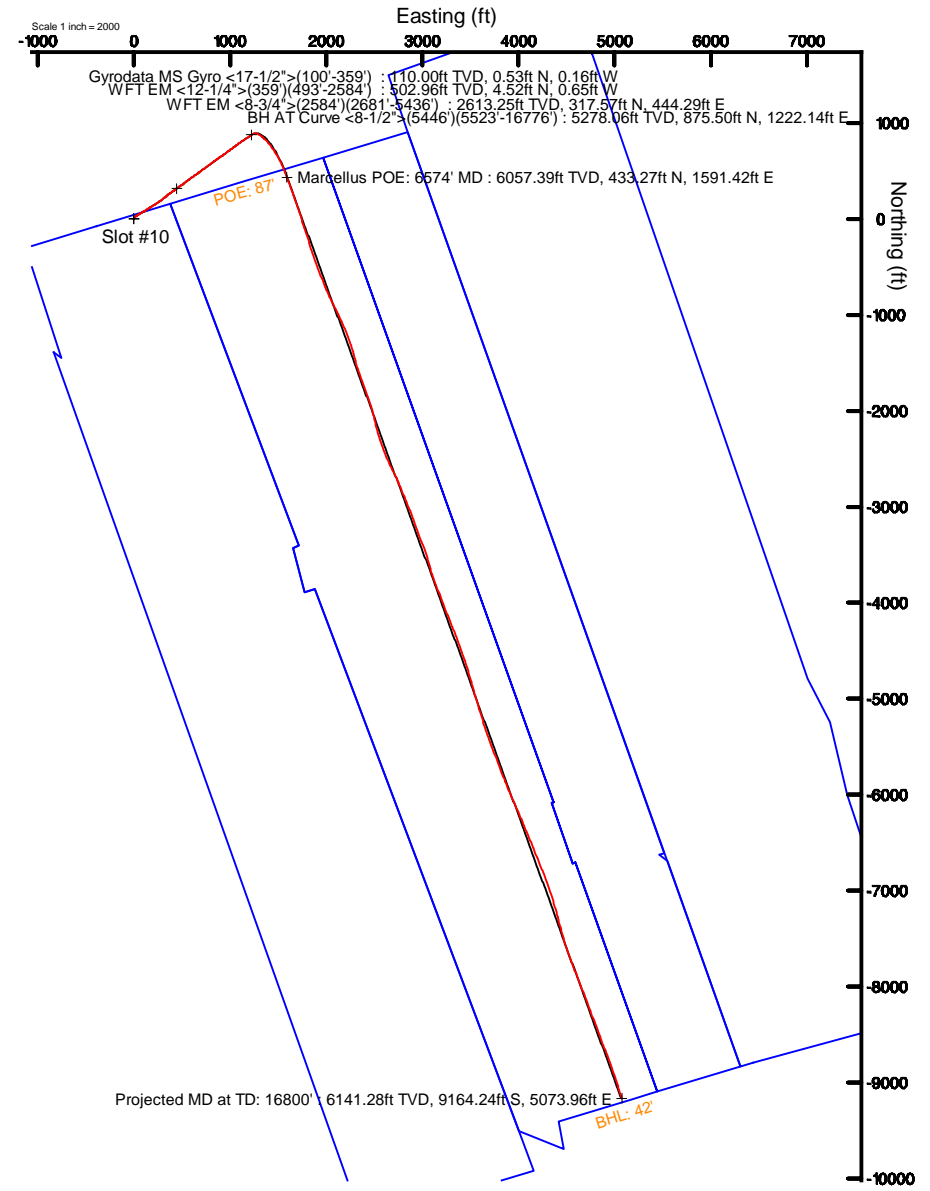
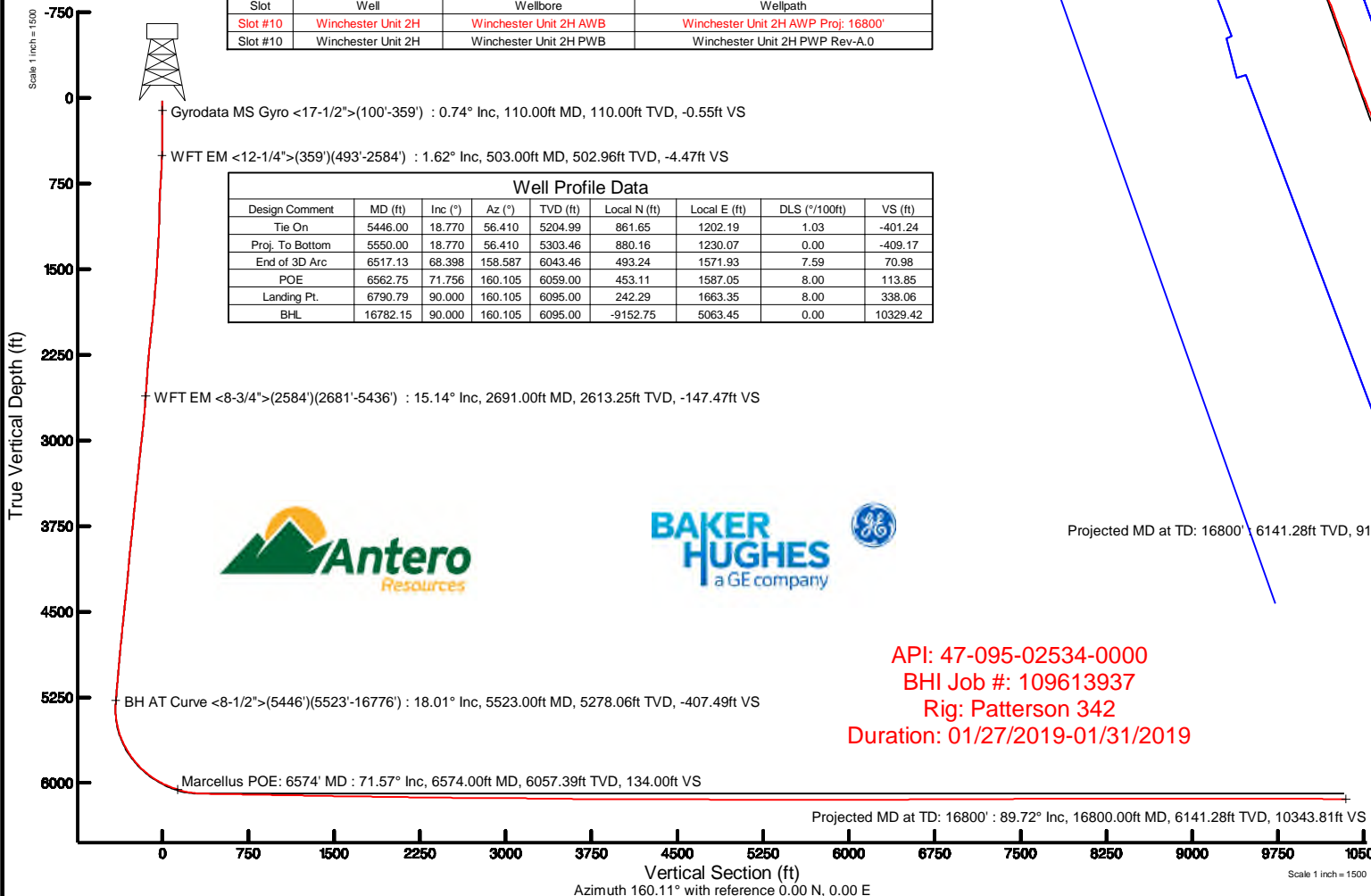
Slot: Slot #10
 Well: Winchester Unit 2H
 Wellbore: Winchester Unit 2H PWB

Plot reference wellpath is Winchester Unit 2H 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 #10): -799 feet	Created by: delaset on 2019-02-11
Coordinates are in feet referenced to Slot	Database: WA, MPL, EasternUS, Defn

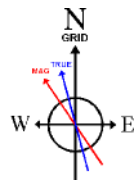
Location Information						
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Sine Pad		1652653.868	14313061.080	39°24'54.210"N	80°57'24.020"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #10	-3.01	44.74	1652698.588	14313058.067	39°24'54.180"N	80°57'23.450"W
Comment		Winchester Unit 2H				
Patterson 342 (RKB) to Ground level (At Slot: Slot #10)				25ft		
Mean Sea Level to Ground level (At Slot: Slot #10)				-799ft		
Patterson 342 (RKB) to Mean Sea Level				824ft		

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #10	Winchester Unit 2H	Winchester Unit 2H AWB	Winchester Unit 2H AWP Proj: 16800'
Slot #10	Winchester Unit 2H	Winchester Unit 2H PWB	Winchester Unit 2H PWP Rev-A.0

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	5446.00	18.770	56.410	5204.99	861.65	1202.19	-401.24
Proj. To Bottom	5550.00	18.770	56.410	5303.46	880.16	1230.07	-409.17
End of 3D Arc	6517.13	68.398	158.587	6043.46	493.24	1571.93	70.98
POE	6562.75	71.756	160.105	6059.00	453.11	1587.05	113.85
Landing Pt.	6790.79	90.000	160.105	6095.00	242.29	1663.35	338.06
BHL	16782.15	90.000	160.105	6095.00	-9152.75	5063.45	10329.42



API: 47-095-02534-0000
 BHI Job #: 109613937
 Rig: Patterson 342
 Duration: 01/27/2019-01/31/2019



User specified (HDGM) Dip: 66.52° Field: 51778 nT
 Magnetic North is 7.72 degrees West of True North (at 1/25/2019)
 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 7.75 degrees



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H 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	2/11/2019 at 4:37:04 PM
Convergence at slot	0.03° East	Database/Source file	WA_MPL_EasternUS_Defn/Winchester_Unit_2H_AWP_Proj_16800_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-3.01	44.74	1652698.59	14313058.07	39°24'54.180"N	80°57'23.450"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 #10)	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	160.11°



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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	343.390	0.00	0.00	0.00	0.00	1652698.59	14313058.07	39°24'54.180"N	80°57'23.450"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	343.390	25.00	0.00	0.00	0.00	1652698.59	14313058.07	39°24'54.180"N	80°57'23.450"W	0.00	0.000	0.00	0.00	0.00	
110.00	0.740	343.390	110.00	-0.55	0.53	-0.16	1652698.43	14313058.59	39°24'54.185"N	80°57'23.452"W	0.55	343.390	0.87	0.87	-19.54	Gyrodata MS Gyro <17-1/2">(100'-359')
210.00	0.370	330.120	209.99	-1.51	1.42	-0.50	1652698.09	14313059.49	39°24'54.194"N	80°57'23.456"W	1.51	340.578	0.39	-0.37	-13.27	
310.00	0.450	312.110	309.99	-2.18	1.97	-0.95	1652697.63	14313060.03	39°24'54.199"N	80°57'23.462"W	2.19	334.126	0.15	0.08	-18.01	
369.00	0.660	322.860	368.99	-2.70	2.39	-1.33	1652697.26	14313060.46	39°24'54.204"N	80°57'23.467"W	2.74	330.920	0.40	0.36	18.22	
503.00	1.620	37.300	502.96	-4.47	4.52	-0.65	1652697.94	14313062.58	39°24'54.225"N	80°57'23.458"W	4.56	351.814	1.18	0.72	55.55	WFT EM <12-1/4">(359')(493'-2584')
596.00	5.450	39.400	595.77	-7.44	8.98	2.95	1652701.54	14313067.04	39°24'54.269"N	80°57'23.412"W	9.45	18.201	4.12	4.12	2.26	
688.00	8.000	41.250	687.13	-12.76	17.17	9.95	1652708.53	14313075.23	39°24'54.350"N	80°57'23.323"W	19.84	30.089	2.78	2.77	2.01	
781.00	7.960	44.710	779.23	-18.64	26.61	18.74	1652717.33	14313084.67	39°24'54.443"N	80°57'23.211"W	32.55	35.162	0.52	-0.04	3.72	
872.00	7.850	52.610	869.37	-23.22	34.86	28.11	1652726.69	14313092.91	39°24'54.524"N	80°57'23.092"W	44.79	38.886	1.20	-0.12	8.68	
969.00	8.390	61.940	965.40	-26.21	42.21	39.62	1652738.20	14313100.26	39°24'54.597"N	80°57'22.945"W	57.90	43.188	1.47	0.56	9.62	
1064.00	9.630	62.250	1059.23	-28.29	49.17	52.77	1652751.34	14313107.22	39°24'54.666"N	80°57'22.777"W	72.13	47.022	1.31	1.31	0.33	
1159.00	12.140	60.080	1152.51	-31.11	57.86	68.46	1652767.03	14313115.90	39°24'54.751"N	80°57'22.577"W	89.64	49.800	2.68	2.64	-2.28	
1253.00	14.070	57.390	1244.06	-35.35	68.95	86.66	1652785.21	14313126.99	39°24'54.861"N	80°57'22.345"W	110.74	51.494	2.15	2.05	-2.86	
1348.00	16.260	58.320	1335.74	-40.61	82.16	107.71	1652806.25	14313140.19	39°24'54.991"N	80°57'22.077"W	135.46	52.665	2.32	2.31	0.98	
1443.00	17.560	60.390	1426.64	-45.75	96.22	131.48	1652830.02	14313154.25	39°24'55.130"N	80°57'21.774"W	162.93	53.803	1.51	1.37	2.18	
1538.00	17.380	57.490	1517.25	-51.27	110.93	155.91	1652854.44	14313168.95	39°24'55.276"N	80°57'21.463"W	191.35	54.569	0.94	-0.19	-3.05	
1632.00	17.930	56.680	1606.83	-57.70	126.42	179.84	1652878.36	14313184.44	39°24'55.429"N	80°57'21.158"W	219.83	54.894	0.64	0.59	-0.86	
1727.00	19.820	56.340	1696.71	-64.93	143.38	205.47	1652903.97	14313201.39	39°24'55.596"N	80°57'20.831"W	250.55	55.091	1.99	1.99	-0.36	
1822.00	21.760	57.060	1785.53	-72.74	161.89	233.65	1652932.15	14313219.89	39°24'55.779"N	80°57'20.472"W	284.26	55.284	2.06	2.04	0.76	
1916.00	21.630	56.170	1872.87	-80.84	181.01	262.67	1652961.15	14313239.00	39°24'55.968"N	80°57'20.102"W	318.99	55.429	0.38	-0.14	-0.95	
2011.00	20.040	53.980	1961.65	-89.59	200.33	290.38	1652988.85	14313258.31	39°24'56.159"N	80°57'19.749"W	352.78	55.399	1.86	-1.67	-2.31	
2106.00	18.280	50.470	2051.39	-99.12	219.38	315.04	1653013.50	14313277.36	39°24'56.347"N	80°57'19.435"W	383.90	55.148	2.21	-1.85	-3.69	
2201.00	18.170	50.810	2141.62	-109.02	238.23	338.01	1653036.46	14313296.20	39°24'56.533"N	80°57'19.142"W	413.53	54.824	0.16	-0.12	0.36	
2295.00	16.390	50.280	2231.38	-118.36	255.97	359.57	1653058.02	14313313.93	39°24'56.708"N	80°57'18.867"W	441.37	54.555	1.90	-1.89	-0.56	
2390.00	15.360	53.180	2322.76	-126.57	272.07	379.96	1653078.39	14313330.03	39°24'56.867"N	80°57'18.607"W	467.32	54.395	1.37	-1.08	3.05	
2485.00	14.930	56.630	2414.46	-133.09	286.34	400.25	1653098.68	14313344.30	39°24'57.008"N	80°57'18.349"W	492.13	54.420	1.05	-0.45	3.63	
2580.00	15.460	54.210	2506.14	-139.41	300.48	420.74	1653119.16	14313358.43	39°24'57.148"N	80°57'18.087"W	517.02	54.467	0.87	0.56	-2.55	
2594.00	15.220	54.500	2519.64	-140.42	302.64	423.75	1653122.17	14313360.58	39°24'57.169"N	80°57'18.049"W	520.72	54.466	1.80	-1.71	2.07	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
2691.00	15.140	53.470	2613.25	-147.47	317.57	444.29	1653142.70	14313375.51	39°24'57.317"N	80°57'17.787"W	546.12	54.444	0.29	-0.08	-1.06	WFT EM <8-3/4">(2584')(2681'-5436')
2786.00	16.990	55.740	2704.54	-154.47	332.77	465.74	1653164.14	14313390.71	39°24'57.467"N	80°57'17.514"W	572.41	54.454	2.06	1.95	2.39	
2881.00	18.890	55.550	2794.92	-161.78	349.29	489.89	1653188.28	14313407.21	39°24'57.630"N	80°57'17.206"W	601.66	54.512	2.00	2.00	-0.20	
2976.00	20.550	54.300	2884.34	-170.19	367.72	516.11	1653214.50	14313425.64	39°24'57.812"N	80°57'16.872"W	633.71	54.531	1.80	1.75	-1.32	
3076.00	20.680	53.060	2977.94	-180.15	388.57	544.48	1653242.85	14313446.48	39°24'58.018"N	80°57'16.510"W	668.91	54.486	0.46	0.13	-1.24	
3171.00	20.240	51.620	3066.95	-190.28	408.85	570.77	1653269.13	14313466.76	39°24'58.218"N	80°57'16.175"W	702.10	54.385	0.70	-0.46	-1.52	
3266.00	20.890	54.820	3155.90	-199.96	428.82	597.50	1653295.85	14313486.71	39°24'58.415"N	80°57'15.834"W	735.45	54.333	1.37	0.68	3.37	
3360.00	20.630	53.800	3243.79	-209.03	448.25	624.56	1653322.90	14313506.14	39°24'58.607"N	80°57'15.489"W	768.77	54.333	0.47	-0.28	-1.09	
3455.00	20.870	55.320	3332.63	-218.05	467.76	651.98	1653350.31	14313525.64	39°24'58.800"N	80°57'15.140"W	802.42	54.342	0.62	0.25	1.60	
3550.00	20.610	54.030	3421.48	-227.00	487.21	679.43	1653377.74	14313545.09	39°24'58.992"N	80°57'14.790"W	836.06	54.356	0.55	-0.27	-1.36	
3645.00	20.070	52.260	3510.55	-236.63	507.01	705.85	1653404.15	14313564.88	39°24'59.188"N	80°57'14.453"W	869.07	54.310	0.86	-0.57	-1.86	
3739.00	20.280	55.640	3598.79	-245.64	526.08	732.05	1653430.35	14313583.94	39°24'59.376"N	80°57'14.119"W	901.48	54.298	1.26	0.22	3.60	
3834.00	19.650	54.370	3688.08	-254.09	544.68	758.63	1653456.91	14313602.53	39°24'59.560"N	80°57'13.781"W	933.91	54.323	0.81	-0.66	-1.34	
3929.00	19.890	53.410	3777.48	-263.07	563.62	784.59	1653482.86	14313621.46	39°24'59.747"N	80°57'13.450"W	966.04	54.308	0.43	0.25	-1.01	
4024.00	20.460	51.910	3866.65	-272.90	583.49	810.63	1653508.89	14313641.32	39°24'59.943"N	80°57'13.118"W	998.79	54.254	0.81	0.60	-1.58	
4119.00	19.870	55.230	3955.83	-282.23	602.94	836.96	1653535.21	14313660.77	39°25'00.135"N	80°57'12.782"W	1031.52	54.231	1.36	-0.62	3.49	
4214.00	18.980	54.190	4045.42	-290.61	621.19	862.75	1653560.99	14313679.01	39°25'00.315"N	80°57'12.453"W	1063.12	54.246	1.01	-0.94	-1.09	
4308.00	19.080	55.290	4134.29	-298.73	638.88	887.78	1653586.01	14313696.69	39°25'00.490"N	80°57'12.134"W	1093.76	54.260	0.40	0.11	1.17	
4403.00	19.920	55.790	4223.84	-306.71	656.82	913.93	1653612.15	14313714.62	39°25'00.667"N	80°57'11.801"W	1125.47	54.296	0.90	0.88	0.53	
4498.00	20.490	54.290	4312.99	-315.24	675.63	940.81	1653639.02	14313733.42	39°25'00.853"N	80°57'11.458"W	1158.27	54.317	0.81	0.60	-1.58	
4593.00	20.680	52.890	4401.92	-324.74	695.45	967.69	1653665.89	14313753.24	39°25'01.049"N	80°57'11.116"W	1191.67	54.296	0.56	0.20	-1.47	
4688.00	19.780	52.800	4491.06	-334.49	715.29	993.87	1653692.06	14313773.07	39°25'01.245"N	80°57'10.782"W	1224.51	54.257	0.95	-0.95	-0.09	
4783.00	19.870	54.120	4580.43	-343.72	734.47	1019.76	1653717.93	14313792.24	39°25'01.434"N	80°57'10.452"W	1256.72	54.237	0.48	0.09	1.39	
4877.00	19.640	54.030	4668.90	-352.50	753.11	1045.48	1653743.65	14313810.88	39°25'01.618"N	80°57'10.124"W	1288.49	54.233	0.25	-0.24	-0.10	
4972.00	19.290	52.560	4758.47	-361.65	772.03	1070.86	1653769.02	14313829.79	39°25'01.805"N	80°57'09.801"W	1320.14	54.211	0.63	-0.37	-1.55	
5067.00	19.400	54.400	4848.11	-370.66	790.75	1096.15	1653794.30	14313848.50	39°25'01.990"N	80°57'09.478"W	1351.61	54.194	0.65	0.12	1.94	
5162.00	19.780	55.670	4937.61	-378.94	809.00	1122.26	1653820.39	14313866.75	39°25'02.170"N	80°57'09.146"W	1383.45	54.213	0.60	0.40	1.34	
5257.00	20.120	56.500	5026.91	-386.79	827.09	1149.16	1653847.28	14313884.82	39°25'02.349"N	80°57'08.803"W	1415.85	54.256	0.47	0.36	0.87	
5351.00	19.700	57.360	5115.29	-394.09	844.56	1175.98	1653874.10	14313902.29	39°25'02.521"N	80°57'08.461"W	1447.83	54.315	0.54	-0.45	0.91	
5446.00	18.770	56.410	5204.99	-401.24	861.65	1202.19	1653900.30	14313919.37	39°25'02.690"N	80°57'08.127"W	1479.09	54.370	1.03	-0.98	-1.00	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
5523.00	18.010	53.980	5278.06	-407.49	875.50	1222.14	1653920.24	14313933.22	39°25'02.827"N	80°57'07.872"W	1503.38	54.383	1.40	-0.99	-3.16	BH AT Curve <8-1/2">(5446')(5523'-16776')
5570.00	17.520	58.950	5322.82	-410.87	883.43	1234.08	1653932.17	14313941.14	39°25'02.905"N	80°57'07.720"W	1517.69	54.403	3.39	-1.04	10.57	
5618.00	17.460	73.870	5368.62	-411.80	889.16	1247.19	1653945.28	14313946.87	39°25'02.962"N	80°57'07.553"W	1531.70	54.514	9.32	-0.13	31.08	
5665.00	17.430	88.520	5413.48	-409.11	891.30	1261.01	1653959.09	14313949.01	39°25'02.983"N	80°57'07.377"W	1544.20	54.747	9.32	-0.06	31.17	
5712.00	17.980	102.150	5458.27	-403.04	889.95	1275.15	1653973.22	14313947.66	39°25'02.969"N	80°57'07.197"W	1555.00	55.088	8.88	1.17	29.00	
5759.00	19.320	111.500	5502.81	-394.05	885.57	1289.48	1653987.55	14313943.29	39°25'02.926"N	80°57'07.014"W	1564.29	55.520	6.96	2.85	19.89	
5807.00	21.520	119.300	5547.80	-382.13	878.35	1304.55	1654002.61	14313936.07	39°25'02.855"N	80°57'06.822"W	1572.69	56.048	7.28	4.58	16.25	
5854.00	24.200	126.460	5591.12	-367.58	868.41	1319.82	1654017.88	14313926.13	39°25'02.756"N	80°57'06.628"W	1579.89	56.656	8.21	5.70	15.23	
5901.00	26.890	130.970	5633.52	-350.28	855.71	1335.59	1654033.65	14313913.43	39°25'02.631"N	80°57'06.427"W	1586.21	57.352	7.06	5.72	9.60	
5948.00	29.710	133.650	5674.90	-330.56	840.70	1352.05	1654050.10	14313898.43	39°25'02.482"N	80°57'06.217"W	1592.11	58.127	6.58	6.00	5.70	
5995.00	32.830	136.130	5715.07	-308.49	823.47	1369.31	1654067.35	14313881.21	39°25'02.312"N	80°57'05.998"W	1597.85	58.978	7.18	6.64	5.28	
6042.00	36.060	138.950	5753.83	-283.94	803.85	1387.23	1654085.26	14313861.59	39°25'02.118"N	80°57'05.769"W	1603.30	59.909	7.66	6.87	6.00	
6090.00	39.570	140.800	5791.74	-256.32	781.34	1406.18	1654104.20	14313839.09	39°25'01.895"N	80°57'05.528"W	1608.67	60.941	7.68	7.31	3.85	
6137.00	42.660	143.260	5827.15	-226.95	756.97	1425.17	1654123.19	14313814.73	39°25'01.654"N	80°57'05.286"W	1613.73	62.025	7.42	6.57	5.23	
6184.00	45.710	145.030	5860.85	-195.45	730.41	1444.34	1654142.35	14313788.19	39°25'01.392"N	80°57'05.042"W	1618.53	63.174	7.00	6.49	3.77	
6231.00	48.800	146.770	5892.75	-162.00	701.83	1463.68	1654161.68	14313759.62	39°25'01.109"N	80°57'04.796"W	1623.25	64.382	7.11	6.57	3.70	
6279.00	51.980	148.570	5923.35	-125.89	670.58	1483.44	1654181.43	14313728.38	39°25'00.800"N	80°57'04.544"W	1627.97	65.675	7.23	6.62	3.75	
6297.00†	53.431	149.702	5934.26	-111.83	658.29	1490.79	1654188.78	14313716.09	39°25'00.679"N	80°57'04.451"W	1629.66	66.175	9.49	8.06	6.29	Middlesex: 6297' MD
6326.00	55.790	151.440	5951.05	-88.52	637.70	1502.40	1654200.38	14313695.51	39°25'00.475"N	80°57'04.303"W	1632.13	67.001	9.49	8.13	5.99	
6374.00	59.060	154.190	5976.89	-48.41	601.72	1520.86	1654218.83	14313659.55	39°25'00.119"N	80°57'04.068"W	1635.56	68.414	8.35	6.81	5.73	
6421.00	63.020	156.200	5999.65	-7.45	564.40	1538.09	1654236.06	14313622.24	39°24'59.750"N	80°57'03.849"W	1638.37	69.850	9.22	8.43	4.28	
6468.00	66.990	158.170	6019.51	35.08	525.14	1554.59	1654252.56	14313582.99	39°24'59.362"N	80°57'03.639"W	1640.89	71.335	9.26	8.45	4.19	
6479.00†	67.393	158.177	6023.77	45.22	515.72	1558.36	1654256.32	14313573.58	39°24'59.269"N	80°57'03.591"W	1641.48	71.689	3.66	3.66	0.06	Burkett: 6479' MD
6515.00	68.710	158.200	6037.23	78.59	484.73	1570.77	1654268.73	14313542.60	39°24'58.963"N	80°57'03.433"W	1643.86	72.850	3.66	3.66	0.06	
6547.00†	70.090	158.106	6048.48	108.53	456.92	1581.92	1654279.87	14313514.81	39°24'58.688"N	80°57'03.291"W	1646.58	73.889	4.32	4.31	-0.29	Tully: 6547' MD
6563.00	70.780	158.060	6053.84	123.59	442.94	1587.54	1654285.49	14313500.83	39°24'58.550"N	80°57'03.220"W	1648.18	74.410	4.32	4.31	-0.29	
6574.00†	71.566	158.212	6057.39	134.00	433.27	1591.42	1654289.37	14313491.17	39°24'58.454"N	80°57'03.170"W	1649.35	74.770	7.27	7.15	1.38	Marcellus POE: 6574' MD
6610.00	74.140	158.700	6068.01	168.38	401.28	1604.05	1654301.99	14313459.19	39°24'58.138"N	80°57'03.010"W	1653.48	75.955	7.27	7.15	1.36	
6657.00	78.040	159.830	6079.30	213.99	358.62	1620.20	1654318.13	14313416.54	39°24'57.716"N	80°57'02.804"W	1659.41	77.519	8.62	8.30	2.40	
6704.00	82.160	160.250	6087.38	260.28	315.11	1636.00	1654333.93	14313373.05	39°24'57.286"N	80°57'02.603"W	1666.07	79.098	8.81	8.77	0.89	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
6752.00	86.090	160.980	6092.29	308.01	270.08	1651.84	1654349.76	14313328.04	39°24'56.841"N	80°57'02.402"W	1673.77	80.714	8.33	8.19	1.52	
6799.00	89.080	161.210	6094.27	354.96	225.66	1667.05	1654364.97	14313283.64	39°24'56.402"N	80°57'02.208"W	1682.26	82.291	6.38	6.36	0.49	
6846.00	89.170	161.170	6094.99	401.95	181.17	1682.21	1654380.12	14313239.17	39°24'55.962"N	80°57'02.015"W	1691.93	83.853	0.21	0.19	-0.09	
6941.00	88.980	161.760	6096.53	496.91	91.11	1712.40	1654410.30	14313149.14	39°24'55.072"N	80°57'01.631"W	1714.82	86.954	0.65	-0.20	0.62	
7035.00	88.920	161.890	6098.25	590.85	1.82	1741.72	1654439.60	14313059.89	39°24'54.189"N	80°57'01.258"W	1741.72	89.940	0.15	-0.06	0.14	
7129.00	88.860	162.010	6100.07	684.78	-87.54	1770.84	1654468.71	14312970.56	39°24'53.306"N	80°57'00.888"W	1773.00	92.830	0.14	-0.06	0.13	
7224.00	88.950	162.270	6101.88	779.70	-177.94	1799.97	1654497.83	14312880.20	39°24'52.412"N	80°57'00.517"W	1808.74	95.646	0.29	0.09	0.27	
7319.00	88.950	163.230	6103.63	874.59	-268.65	1828.13	1654525.99	14312789.52	39°24'51.515"N	80°57'00.159"W	1847.77	98.360	1.01	0.00	1.01	
7413.00	88.920	162.180	6105.37	968.47	-358.39	1856.07	1654553.92	14312699.82	39°24'50.628"N	80°56'59.804"W	1890.36	100.929	1.12	-0.03	-1.12	
7508.00	88.770	160.200	6107.29	1063.43	-448.29	1886.70	1654584.53	14312609.96	39°24'49.740"N	80°56'59.414"W	1939.22	103.366	2.09	-0.16	-2.08	
7603.00	89.050	157.820	6109.09	1158.39	-536.96	1920.72	1654618.53	14312521.32	39°24'48.863"N	80°56'58.981"W	1994.36	105.619	2.52	0.29	-2.51	
7698.00	89.260	158.680	6110.50	1253.33	-625.19	1955.92	1654653.72	14312433.13	39°24'47.991"N	80°56'58.534"W	2053.40	107.726	0.93	0.22	0.91	
7792.00	88.860	157.400	6112.04	1347.25	-712.36	1991.06	1654688.85	14312346.00	39°24'47.129"N	80°56'58.086"W	2114.66	109.686	1.43	-0.43	-1.36	
7887.00	88.710	155.800	6114.05	1442.05	-799.52	2028.78	1654726.55	14312258.87	39°24'46.267"N	80°56'57.607"W	2180.64	111.509	1.69	-0.16	-1.68	
7981.00	88.800	153.020	6116.10	1535.55	-884.27	2069.37	1654767.13	14312174.15	39°24'45.430"N	80°56'57.090"W	2250.38	113.138	2.96	0.10	-2.96	
8075.00	89.230	153.710	6117.71	1628.89	-968.28	2111.50	1654809.24	14312090.17	39°24'44.599"N	80°56'56.554"W	2322.93	114.635	0.86	0.46	0.73	
8171.00	89.320	155.340	6118.93	1724.42	-1054.94	2152.79	1654850.51	14312003.55	39°24'43.742"N	80°56'56.028"W	2397.37	116.106	1.70	0.09	1.70	
8265.00	89.380	157.020	6119.99	1818.19	-1140.92	2190.75	1654888.46	14311917.60	39°24'42.892"N	80°56'55.545"W	2470.04	117.510	1.79	0.06	1.79	
8360.00	88.680	158.280	6121.60	1913.09	-1228.77	2226.87	1654924.56	14311829.79	39°24'42.024"N	80°56'55.086"W	2543.39	118.890	1.52	-0.74	1.33	
8454.00	89.230	162.610	6123.32	2007.05	-1317.32	2258.32	1654956.00	14311741.28	39°24'41.149"N	80°56'54.686"W	2614.44	120.256	4.64	0.59	4.61	
8548.00	89.200	165.370	6124.60	2100.82	-1407.65	2284.24	1654981.91	14311650.98	39°24'40.256"N	80°56'54.356"W	2683.14	121.643	2.94	-0.03	2.94	
8643.00	89.350	164.070	6125.81	2195.50	-1499.28	2309.27	1655006.93	14311559.39	39°24'39.350"N	80°56'54.038"W	2753.29	122.993	1.38	0.16	-1.37	
8738.00	89.170	162.440	6127.03	2290.34	-1590.25	2336.64	1655034.29	14311468.46	39°24'38.451"N	80°56'53.690"W	2826.44	124.238	1.73	-0.19	-1.72	
8832.00	89.200	158.800	6128.37	2384.32	-1678.90	2367.82	1655065.46	14311379.85	39°24'37.574"N	80°56'53.293"W	2902.63	125.338	3.87	0.03	-3.87	
8927.00	89.290	158.540	6129.62	2479.28	-1767.38	2402.38	1655100.00	14311291.40	39°24'36.700"N	80°56'52.854"W	2982.46	126.341	0.29	0.09	-0.27	
9021.00	89.320	161.460	6130.76	2573.26	-1855.70	2434.52	1655132.13	14311203.12	39°24'35.826"N	80°56'52.445"W	3061.13	127.316	3.11	0.03	3.11	
9116.00	89.320	162.830	6131.89	2668.19	-1946.11	2463.64	1655161.24	14311112.74	39°24'34.933"N	80°56'52.074"W	3139.57	128.306	1.44	0.00	1.44	
9210.00	89.540	165.640	6132.83	2761.93	-2036.56	2489.18	1655186.77	14311022.32	39°24'34.039"N	80°56'51.750"W	3216.15	129.289	3.00	0.23	2.99	
9305.00	89.600	166.730	6133.54	2856.40	-2128.81	2511.86	1655209.44	14310930.11	39°24'33.127"N	80°56'51.461"W	3292.61	130.281	1.15	0.06	1.15	
9400.00	89.880	165.270	6133.97	2950.89	-2220.98	2534.85	1655232.42	14310837.98	39°24'32.216"N	80°56'51.169"W	3370.19	131.224	1.56	0.29	-1.54	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
9495.00	89.910	162.200	6134.14	3045.69	-2312.17	2561.45	1655259.01	14310746.83	39°24'31.314"N	80°56'50.831"W	3450.67	132.072	3.23	0.03	-3.23	
9589.00	89.480	158.210	6134.64	3139.67	-2400.60	2593.28	1655290.82	14310658.44	39°24'30.440"N	80°56'50.426"W	3533.83	132.790	4.27	-0.46	-4.24	
9684.00	89.200	157.190	6135.74	3234.58	-2488.48	2629.32	1655326.85	14310570.58	39°24'29.571"N	80°56'49.968"W	3620.21	133.424	1.11	-0.29	-1.07	
9779.00	89.290	153.490	6136.99	3329.22	-2574.80	2668.95	1655366.46	14310484.30	39°24'28.718"N	80°56'49.463"W	3708.49	133.971	3.90	0.09	-3.89	
9874.00	89.010	153.690	6138.40	3423.60	-2659.87	2711.20	1655408.70	14310399.26	39°24'27.877"N	80°56'48.926"W	3798.10	134.453	0.36	-0.29	0.21	
9968.00	89.600	157.600	6139.54	3517.29	-2745.49	2749.95	1655447.44	14310313.69	39°24'27.030"N	80°56'48.433"W	3885.86	134.953	4.21	0.63	4.16	
10063.00	89.380	157.320	6140.39	3612.18	-2833.22	2786.37	1655483.84	14310225.98	39°24'26.163"N	80°56'47.970"W	3973.79	135.478	0.37	-0.23	-0.29	
10157.00	89.320	158.140	6141.45	3706.09	-2920.21	2821.99	1655519.44	14310139.03	39°24'25.303"N	80°56'47.516"W	4060.94	135.980	0.87	-0.06	0.87	
10251.00	89.290	157.780	6142.59	3800.02	-3007.33	2857.26	1655554.70	14310051.94	39°24'24.442"N	80°56'47.068"W	4148.25	136.466	0.38	-0.03	-0.38	
10346.00	89.480	160.830	6143.61	3894.99	-3096.19	2890.83	1655588.25	14309963.13	39°24'23.563"N	80°56'46.641"W	4235.95	136.965	3.22	0.20	3.21	
10441.00	89.780	160.190	6144.23	3989.99	-3185.74	2922.52	1655619.94	14309873.61	39°24'22.678"N	80°56'46.238"W	4323.20	137.467	0.74	0.32	-0.67	
10536.00	89.850	158.580	6144.53	4084.98	-3274.65	2955.97	1655653.37	14309784.73	39°24'21.799"N	80°56'45.812"W	4411.47	137.928	1.70	0.07	-1.69	
10630.00	90.060	158.650	6144.61	4178.95	-3362.18	2990.24	1655687.63	14309697.24	39°24'20.934"N	80°56'45.376"W	4499.54	138.351	0.24	0.22	0.07	
10724.00	89.780	158.980	6144.74	4272.92	-3449.83	3024.21	1655721.59	14309609.63	39°24'20.067"N	80°56'44.944"W	4587.72	138.761	0.46	-0.30	0.35	
10819.00	89.970	164.470	6144.95	4367.85	-3540.00	3053.99	1655751.35	14309519.49	39°24'19.176"N	80°56'44.565"W	4675.31	139.215	5.78	0.20	5.78	
10913.00	89.880	163.640	6145.07	4461.62	-3630.38	3079.81	1655777.17	14309429.14	39°24'18.283"N	80°56'44.237"W	4760.77	139.691	0.89	-0.10	-0.88	
11008.00	90.090	160.980	6145.09	4556.54	-3720.88	3108.68	1655806.02	14309338.68	39°24'17.388"N	80°56'43.870"W	4848.59	140.122	2.81	0.22	-2.80	
11103.00	90.000	159.520	6145.02	4651.54	-3810.29	3140.78	1655838.11	14309249.30	39°24'16.504"N	80°56'43.462"W	4937.90	140.502	1.54	-0.09	-1.54	
11198.00	89.940	159.150	6145.07	4746.53	-3899.18	3174.31	1655871.62	14309160.45	39°24'15.625"N	80°56'43.035"W	5027.91	140.851	0.39	-0.06	-0.39	
11293.00	89.820	159.410	6145.27	4841.52	-3988.04	3207.92	1655905.22	14309071.63	39°24'14.747"N	80°56'42.608"W	5118.12	141.187	0.30	-0.13	0.27	
11388.00	89.940	158.640	6145.47	4936.50	-4076.74	3241.92	1655939.21	14308982.97	39°24'13.870"N	80°56'42.175"W	5208.63	141.507	0.82	0.13	-0.81	
11483.00	90.060	157.960	6145.47	5031.46	-4165.01	3277.05	1655974.32	14308894.73	39°24'12.997"N	80°56'41.729"W	5299.65	141.804	0.73	0.13	-0.72	
11578.00	89.940	158.430	6145.47	5126.40	-4253.21	3312.34	1656009.59	14308806.57	39°24'12.125"N	80°56'41.280"W	5390.86	142.089	0.51	-0.13	0.49	
11672.00	90.000	159.820	6145.52	5220.39	-4341.04	3345.83	1656043.07	14308718.77	39°24'11.257"N	80°56'40.854"W	5480.80	142.377	1.48	0.06	1.48	
11766.00	89.850	158.880	6145.64	5314.38	-4429.00	3378.98	1656076.21	14308630.85	39°24'10.388"N	80°56'40.432"W	5570.77	142.659	1.01	-0.16	-1.00	
11861.00	89.850	159.650	6145.89	5409.37	-4517.84	3412.61	1656109.83	14308542.04	39°24'09.509"N	80°56'40.004"W	5661.88	142.934	0.81	0.00	0.81	
11955.00	89.780	161.740	6146.19	5503.36	-4606.55	3443.69	1656140.89	14308453.37	39°24'08.632"N	80°56'39.609"W	5751.46	143.220	2.22	-0.07	2.22	
12050.00	89.820	163.430	6146.52	5598.26	-4697.19	3472.12	1656169.31	14308362.76	39°24'07.736"N	80°56'39.248"W	5841.17	143.529	1.78	0.04	1.78	
12145.00	89.910	164.510	6146.75	5693.05	-4788.50	3498.35	1656195.54	14308271.49	39°24'06.834"N	80°56'38.914"W	5930.28	143.849	1.14	0.09	1.14	
12240.00	90.000	164.390	6146.82	5787.77	-4880.02	3523.82	1656220.99	14308180.01	39°24'05.929"N	80°56'38.591"W	6019.30	144.167	0.16	0.09	-0.13	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
12334.00	90.090	163.180	6146.75	5881.58	-4970.28	3550.07	1656247.23	14308089.78	39°24'05.037"N	80°56'38.257"W	6107.92	144.463	1.29	0.10	-1.29	
12429.00	90.180	162.880	6146.52	5976.45	-5061.14	3577.80	1656274.95	14307998.96	39°24'04.139"N	80°56'37.905"W	6198.05	144.743	0.33	0.09	-0.32	
12523.00	90.030	163.330	6146.35	6070.33	-5151.09	3605.11	1656302.25	14307909.05	39°24'03.249"N	80°56'37.557"W	6287.33	145.013	0.50	-0.16	0.48	
12618.00	90.090	162.860	6146.25	6165.20	-5241.98	3632.74	1656329.87	14307818.19	39°24'02.351"N	80°56'37.206"W	6377.71	145.278	0.50	0.06	-0.49	
12713.00	90.120	161.730	6146.08	6260.13	-5332.48	3661.63	1656358.75	14307727.73	39°24'01.456"N	80°56'36.839"W	6468.61	145.524	1.19	0.03	-1.19	
12807.00	90.180	160.000	6145.83	6354.11	-5421.28	3692.44	1656389.55	14307638.96	39°24'00.578"N	80°56'36.447"W	6559.30	145.741	1.84	0.06	-1.84	
12902.00	90.220	159.310	6145.50	6449.11	-5510.35	3725.47	1656422.56	14307549.93	39°23'59.698"N	80°56'36.027"W	6651.55	145.938	0.73	0.04	-0.73	
12996.00	90.340	157.910	6145.04	6543.07	-5597.88	3759.75	1656456.83	14307462.44	39°23'58.833"N	80°56'35.591"W	6743.29	146.113	1.49	0.13	-1.49	
13091.00	90.400	159.490	6144.43	6638.04	-5686.38	3794.26	1656491.32	14307373.97	39°23'57.958"N	80°56'35.152"W	6836.03	146.287	1.66	0.06	1.66	
13185.00	90.340	159.550	6143.82	6732.03	-5774.44	3827.15	1656524.20	14307285.95	39°23'57.087"N	80°56'34.734"W	6927.57	146.465	0.09	-0.06	0.06	
13280.00	90.220	158.360	6143.36	6827.01	-5863.10	3861.26	1656558.30	14307197.32	39°23'56.211"N	80°56'34.300"W	7020.35	146.632	1.26	-0.13	-1.25	
13374.00	90.340	157.240	6142.90	6920.93	-5950.13	3896.78	1656593.80	14307110.33	39°23'55.350"N	80°56'33.848"W	7112.59	146.779	1.20	0.13	-1.19	
13469.00	90.340	156.540	6142.33	7015.78	-6037.50	3934.06	1656631.07	14307022.99	39°23'54.486"N	80°56'33.374"W	7206.13	146.912	0.74	0.00	-0.74	
13564.00	90.280	155.890	6141.82	7110.56	-6124.43	3972.38	1656669.37	14306936.10	39°23'53.627"N	80°56'32.887"W	7299.89	147.032	0.69	-0.06	-0.68	
13658.00	90.280	156.700	6141.36	7204.35	-6210.50	4010.17	1656707.14	14306850.06	39°23'52.776"N	80°56'32.406"W	7392.68	147.149	0.86	0.00	0.86	
13753.00	90.310	157.600	6140.87	7299.22	-6298.04	4047.05	1656744.02	14306762.56	39°23'51.911"N	80°56'31.937"W	7486.25	147.276	0.95	0.03	0.95	
13848.00	90.310	157.080	6140.36	7394.11	-6385.71	4083.65	1656780.60	14306674.93	39°23'51.044"N	80°56'31.471"W	7579.81	147.401	0.55	0.00	-0.55	
13943.00	90.400	157.400	6139.77	7488.99	-6473.31	4120.41	1656817.34	14306587.36	39°23'50.178"N	80°56'31.004"W	7673.43	147.522	0.35	0.09	0.34	
14037.00	90.250	158.190	6139.23	7582.91	-6560.34	4155.93	1656852.85	14306500.37	39°23'49.318"N	80°56'30.552"W	7765.94	147.646	0.86	-0.16	0.84	
14132.00	90.060	158.240	6138.98	7677.85	-6648.55	4191.19	1656888.09	14306412.19	39°23'48.446"N	80°56'30.104"W	7859.34	147.773	0.21	-0.20	0.05	
14226.00	90.120	157.820	6138.83	7771.79	-6735.72	4226.35	1656923.24	14306325.05	39°23'47.584"N	80°56'29.657"W	7951.86	147.894	0.45	0.06	-0.45	
14320.00	90.120	158.230	6138.63	7865.73	-6822.89	4261.53	1656958.40	14306237.91	39°23'46.722"N	80°56'29.209"W	8044.41	148.011	0.44	0.00	0.44	
14416.00	90.030	159.960	6138.51	7961.71	-6912.57	4295.78	1656992.64	14306148.27	39°23'45.835"N	80°56'28.774"W	8138.64	148.141	1.80	-0.09	1.80	
14510.00	90.400	161.410	6138.15	8055.70	-7001.28	4326.87	1657023.72	14306059.60	39°23'44.958"N	80°56'28.378"W	8230.41	148.283	1.59	0.39	1.54	
14604.00	90.340	163.060	6137.55	8149.63	-7090.79	4355.55	1657052.39	14305970.13	39°23'44.074"N	80°56'28.014"W	8321.67	148.439	1.76	-0.06	1.76	
14699.00	89.880	163.960	6137.37	8244.46	-7181.88	4382.52	1657079.34	14305879.07	39°23'43.173"N	80°56'27.671"W	8413.43	148.608	1.06	-0.48	0.95	
14794.00	89.970	165.290	6137.49	8339.17	-7273.48	4407.70	1657104.52	14305787.51	39°23'42.268"N	80°56'27.351"W	8504.78	148.784	1.40	0.09	1.40	
14888.00	89.940	165.230	6137.56	8432.79	-7364.39	4431.62	1657128.43	14305696.64	39°23'41.369"N	80°56'27.047"W	8594.97	148.962	0.07	-0.03	-0.06	
14983.00	90.060	164.360	6137.56	8527.47	-7456.06	4456.54	1657153.33	14305605.00	39°23'40.463"N	80°56'26.731"W	8686.40	149.133	0.92	0.13	-0.92	
15078.00	89.780	163.540	6137.70	8622.25	-7547.36	4482.80	1657179.59	14305513.74	39°23'39.560"N	80°56'26.397"W	8778.27	149.292	0.91	-0.29	-0.86	



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH DATA (199 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
15172.00	89.910	161.020	6137.95	8716.18	-7636.89	4511.41	1657208.19	14305424.25	39°23'38.675"N	80°56'26.033"W	8869.89	149.428	2.68	0.14	-2.68	
15267.00	89.940	159.000	6138.07	8811.17	-7726.16	4543.88	1657240.65	14305335.01	39°23'37.793"N	80°56'25.620"W	8963.28	149.540	2.13	0.03	-2.13	
15362.00	89.970	158.080	6138.15	8906.14	-7814.57	4578.64	1657275.39	14305246.63	39°23'36.919"N	80°56'25.178"W	9057.12	149.634	0.97	0.03	-0.97	
15456.00	90.000	158.860	6138.17	9000.10	-7902.01	4613.14	1657309.87	14305159.23	39°23'36.054"N	80°56'24.740"W	9150.02	149.724	0.83	0.03	0.83	
15551.00	90.000	158.900	6138.17	9095.08	-7990.63	4647.37	1657344.09	14305070.65	39°23'35.178"N	80°56'24.304"W	9243.82	149.818	0.04	0.00	0.04	
15645.00	89.940	158.890	6138.22	9189.06	-8078.33	4681.21	1657377.92	14304982.99	39°23'34.311"N	80°56'23.874"W	9336.65	149.909	0.06	-0.06	-0.01	
15739.00	89.880	159.350	6138.37	9283.04	-8166.15	4714.72	1657411.41	14304895.20	39°23'33.443"N	80°56'23.448"W	9429.45	150.000	0.49	-0.06	0.49	
15834.00	89.970	159.010	6138.50	9378.03	-8254.95	4748.48	1657445.16	14304806.43	39°23'32.565"N	80°56'23.019"W	9523.25	150.091	0.37	0.09	-0.36	
15928.00	89.880	159.430	6138.62	9472.02	-8342.83	4781.83	1657478.50	14304718.59	39°23'31.696"N	80°56'22.595"W	9616.07	150.180	0.46	-0.10	0.45	
16022.00	90.060	159.330	6138.67	9566.01	-8430.81	4814.94	1657511.59	14304630.64	39°23'30.826"N	80°56'22.174"W	9708.87	150.269	0.22	0.19	-0.11	
16117.00	89.820	159.440	6138.77	9661.00	-8519.73	4848.38	1657545.02	14304541.76	39°23'29.947"N	80°56'21.748"W	9802.68	150.357	0.28	-0.25	0.12	
16212.00	89.970	159.530	6138.94	9756.00	-8608.70	4881.68	1657578.30	14304452.82	39°23'29.068"N	80°56'21.325"W	9896.49	150.444	0.18	0.16	0.09	
16306.00	89.850	159.260	6139.09	9849.99	-8696.69	4914.76	1657611.37	14304364.87	39°23'28.198"N	80°56'20.905"W	9989.36	150.528	0.31	-0.13	-0.29	
16400.00	89.940	160.170	6139.26	9943.98	-8784.86	4947.35	1657643.95	14304276.74	39°23'27.326"N	80°56'20.490"W	10082.16	150.613	0.97	0.10	0.97	
16495.00	89.630	160.810	6139.62	10038.98	-8874.40	4979.07	1657675.66	14304187.23	39°23'26.441"N	80°56'20.087"W	10175.77	150.705	0.75	-0.33	0.67	
16590.00	89.750	161.240	6140.13	10133.97	-8964.24	5009.96	1657706.54	14304097.43	39°23'25.553"N	80°56'19.694"W	10269.24	150.800	0.47	0.13	0.45	
16684.00	89.630	162.330	6140.64	10227.92	-9053.53	5039.34	1657735.91	14304008.18	39°23'24.670"N	80°56'19.321"W	10361.53	150.899	1.17	-0.13	1.16	
16776.00	89.720	162.840	6141.16	10319.84	-9141.31	5066.88	1657763.43	14303920.43	39°23'23.803"N	80°56'18.971"W	10451.64	151.001	0.56	0.10	0.55	
16800.00	89.720	162.840	6141.28	10343.81	-9164.24	5073.96	1657770.51	14303897.51	39°23'23.576"N	80°56'18.881"W	10475.13	151.028	0.00	0.00	0.00	Projected MD at TD: 16800'



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Winchester Unit 2H AWB Ref Wellpath: Winchester Unit 2H AWP Proj: 16800'

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	108.00	0.00	0.00	0.50	-0.15
17.5in Open Hole	108.00	390.00	282.00	108.00	389.99	0.50	-0.15	2.61	-1.44
13.375in Casing Surface	25.00	390.00	365.00	25.00	389.99	0.00	0.00	2.61	-1.44
12.25in Open Hole	390.00	2633.50	2243.50	389.99	2557.76	2.61	-1.44	308.68	432.16
9.625in Casing Intermediate	25.00	2633.50	2608.50	25.00	2557.76	0.00	0.00	308.68	432.16
8.75in Open Hole	2633.50	5550.00	2916.50	2557.76	5303.75	308.68	432.16	880.21	1228.96
8.5in Open Hole	5550.00	16800.00	11250.00	5303.75	6141.28	880.21	1228.96	-9164.24	5073.96
5.5in Casing Production	25.00	16800.00	16775.00	25.00	6141.28	0.00	0.00	-9164.24	5073.96

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Winchester Unit 2H - POE - Rev-1	6059.00	453.11	1587.05	1654285.00	14313511.00	39°24'58.650"N	80°57'03.226"W	point
Winchester Unit 2H - BHL - Rev-1	6095.00	-9152.75	5063.45	1657760.00	14303909.00	39°23'23.690"N	80°56'19.015"W	point
Winchester Unit 2H - LP - Rev-1	6095.00	242.29	1663.35	1654361.27	14313300.26	39°24'56.566"N	80°57'02.255"W	point



Actual Wellpath Report

Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

WELLPATH COMPOSITION - Ref Wellbore: Winchester Unit 2H AWB Ref Wellpath: Winchester Unit 2H AWP Proj: 16800'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	369.00	Gyrodata standard - Drop gyro or Multi-shot	01_Gyrodata MS Gyro <17-1/2">(100'-359')	Winchester Unit 2H AWB
369.00	2594.00	ISCWSA MWD, Rev. 4 (Standard)	02_WFT EM <12-1/4">(359')(493'-2584')	Winchester Unit 2H AWB
2594.00	5446.00	ISCWSA MWD, Rev. 4 (Standard)	03_WFT EM <8-3/4">(2584')(2681'-5436')	Winchester Unit 2H AWB
5446.00	16776.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2">(5446')(5523'-16776')	Winchester Unit 2H AWB
16776.00	16800.00	Blind Drilling (std)	Projection to bit	Winchester Unit 2H AWB



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Winchester Unit 2H AWP Proj: 16800'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Tyler County, WV	Well	Winchester Unit 2H
Field	Tyler	Wellbore	Winchester Unit 2H AWB
Facility	Sine Pad		

COMMENTS
<p>Wellpath general comments API: 47-095-02534-0000 BHI Job #: 109613937 Rig: Patterson 342 Duration: 01/27/2019-01/31/2019 Gyrodata MS Gyro <17-1/2">(100'-359') WFT EM <12-1/4">(359')(493'-2584') WFT EM <8-3/4">(2584')(2681'-5436') BH AT Curve <8-1/2">(5446')(5523'-16776') Middlesex: 6297' MD Burkett: 6479' MD Tully: 6547' MD Marcellus POE: 6574' MD Projected MD at TD: 16800'</p>