



ANTERO RESOURCES CORPORATION



Location: Doddridge Co., WV
 Field: Doddridge
 Facility: Middle Pad
 Slot: Slot #01
 Well: Caboose Unit 1H
 Wellbore: Caboose Unit 1H PWB

Plot reference wellpath is Caboose Unit 1H PWB Rev-A.0
 True vertical depths are referenced to Frontier 32 (RKB)
 Measured depths are referenced to Frontier 32 (RKB)
 Frontier 32 (RKB) to Mean Sea Level: 875 feet
 Mean Sea Level to Ground level (At Slot Slot #01): -843 feet
 Coordinates are in feet referenced to Slot
 Grid System: NAD27 / UTM Zone 17 North, US feet
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Created by: mcrnfb on 2018-05-15
 Database: WA_MPL_EASTERNS_Defn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Middle Pad	1695090.990	14279417.889	80°48'24.020"W
Slot	Local N (ft)	Grid East (US ft)	Longitude
Slot #01	0.00	1695090.990	80°48'24.020"W
Comment	Caboose Unit 1H		
Frontier 32 (RKB) to Ground level (At Slot Slot #01)	32R		
Mean Sea Level to Ground level (At Slot Slot #01)	-843R		
Frontier 32 (RKB) to Mean Sea Level	875R		

Gyrodata MS Gyro <17-1/2"> (100'-500') : 0.80° Inc, 117.00R MD, 117.00R TVD, 0.03R VS
 Directional ONE MWD <12-1/4"> (500')(558'-2575') : 0.27° Inc, 576.00R MD, 576.98R TVD, 1.56R VS

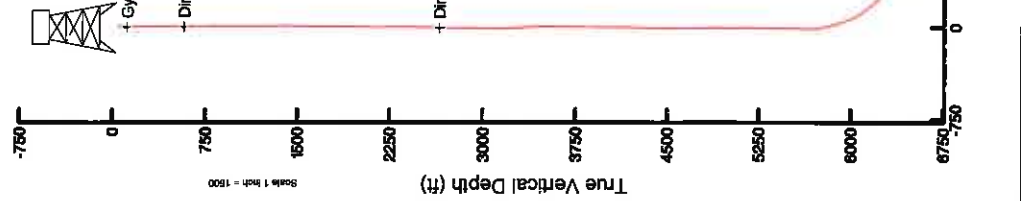
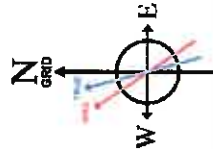
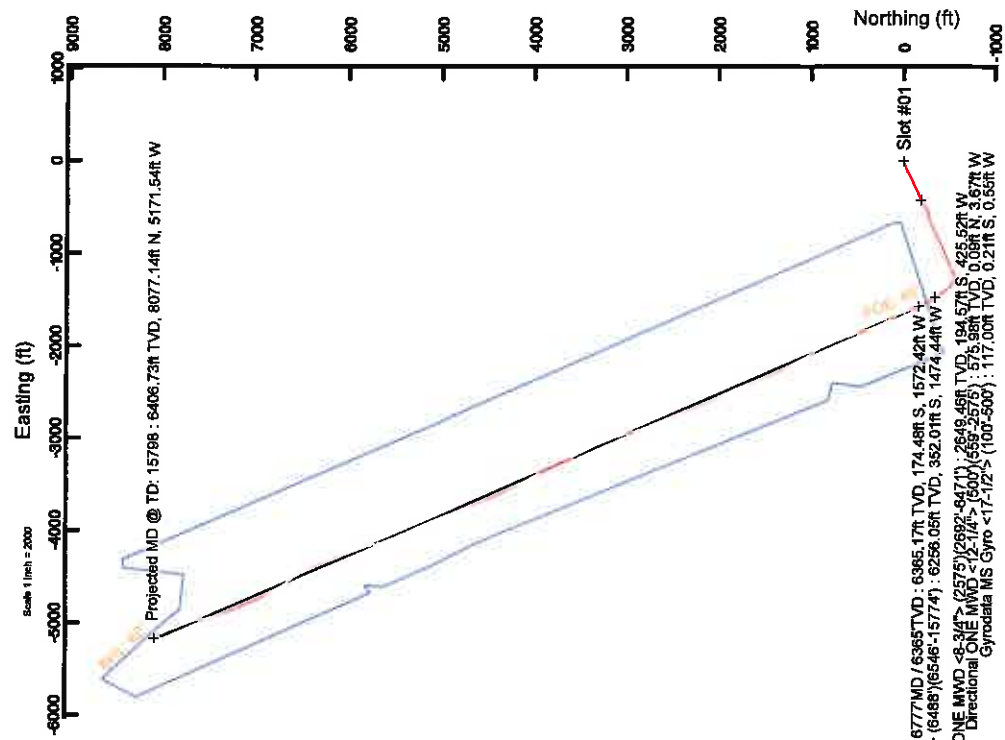
Well Profile Data						
Design Comment	MD (ft)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100R)
Tie On	6488.00	47.460	327.880	6219.33	-390.02	10.86
Proj. to Bottom	5570.00	56.090	327.880	6270.02	-1484.85	10.52
End of 3D Arc	6678.83	62.616	330.314	6325.47	-255.19	6.30
POE	6779.10	68.464	336.351	6387.00	-173.67	8.00
Landing Pt.	6994.46	90.000	336.351	6407.00	-1658.04	10.00
BHL	15696.93	90.000	336.351	6407.00	-5148.92	0.00

Directional ONE MWD <8-3/4"> (2575')(2692'-6471') : 16.42° Inc, 2709.00R MD, 2646.46R TVD, -7.54R VS

Well Data		
Slot	Well	Wellpath
Slot #01	Caboose Unit 1H PWB	Caboose Unit 1H PWB Rev-A.0
Slot #01	Caboose Unit 1H PWB	Caboose Unit 1H PWB Rev-A.0

POE Marcellus: 6777MD / 6385TVD : 6385.17R TVD, 174.48R S, 1572.42R W +
 BHAT Curve <8-1/2"> (6488')(6546'-15774') : 6256.05R TVD, 352.01R S, 1474.44R W +
 Directional ONE MWD <8-3/4"> (2575')(2692'-6471') : 2649.46R TVD, 194.57R S, 425.52R W
 Directional ONE MWD <12-1/4"> (500')(558'-2575') : 576.98R TVD, 0.09R N, 3.87R W
 Gyrodata MS Gyro <17-1/2"> (100'-500') : 117.00R TVD, 0.21R S, 0.55R W
 User specified Dip: 86.54° Field: 52020 RT
 Magnetic North is 7.64 degrees West of True North (at 4/4/2018)
 Grid North is 0.12 degrees East of True North
 To correct azimuth from True to Grid subtract 0.12 degrees
 To correct azimuth from Magnetic to Grid subtract 7.76 degrees

API: 47-017-06816-0000
 BH Job #: 9091793
 Rig: Frontier 32
 Duration: 04/05/18 - 04/08/18



BHAT Curve <8-1/2"> (6488')(6546'-15774') : 53.92° Inc, 6546.00R MD, 6256.05R TVD, 269.03R VS
 POE Marcellus: 6777MD / 6385TVD : 70.02° Inc, 6777.00R MD, 6385.17R TVD, 470.94R VS
 Projected MD @ TD: 15798 : 90.00° Inc, 15798.00R MD, 6406.73R TVD, 9473.32R VS
 Scale: 1 inch = 1500
 Azimuth 336.35° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798'

Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION		
Operator	ANTERO RESOURCES CORPORATION	Slot #01
Area	Doddridge Co., WV	Caboose Unit 1H
Field	Doddridge	Caboose Unit 1H AWB
Facility	Middle Pad	

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999603
Convergence at slot	0.12° East
Software System	WellArchitect® 5.1
User	Mccrerib
Report Generated	5/15/2018 at 4:38:32 PM
Database/Source file	WA_MPL_EASTERNUS_Defn/Caboose_Unit_1H_AWP_Proj_15798_.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	1695090.99	14279417.69	39°19'21.010"N	80°48'24.020"W
Facility Reference Pt			1695090.99	14279417.69	39°19'21.010"N	80°48'24.020"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	Frontier 32 (RKB)
MD Reference Pt	Frontier 32 (RKB)
Field Vertical Reference	Mean Sea Level
	Frontier 32 (RKB) to Facility Vertical Datum
	Frontier 32 (RKB) to Mean Sea Level
	Frontier 32 (RKB) to Ground Level at Slot (Slot #01)
	Section Origin
	Section Azimuth
	875.00ft
	875.00ft
	32.00ft
	N 0.00, E 0.00 ft
	336.35°

02/08/2019



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798

Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Doddridge Co., WV	Well	Caboose Unit 1H
Field	Doddridge	Wellbore	Caboose Unit 1H AWB
Facility	Middle Pad		

WELLPATH DATA (192 stations) \pm = interpolated/extrapolated station																	
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sec (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	0.00	0.00	0.00	0.00	0.00	1685090.99	14279417.69	39°19'21.010"N	80°48'24.020"W	0.00	0.000	0.00	0.00	0.00		
32.00	0.00	249.210	32.00	0.00	0.00	0.00	1685090.99	14279417.69	39°19'21.010"N	80°48'24.020"W	0.00	0.000	0.00	0.00	0.00		
117.00	0.800	249.210	117.00	0.03	-0.21	-0.55	1685090.44	14279417.48	39°19'21.008"N	80°48'24.027"W	0.59	249.210	0.94	0.94	-130.34	Gyrodata MS Gyro <17-1/2"> (100'-500')	
217.00	0.440	270.200	216.99	0.22	-0.46	-1.59	1685089.40	14279417.23	39°19'21.006"N	80°48'24.040"W	1.66	253.975	0.42	-0.36	20.99		
317.00	0.730	278.040	316.99	0.72	-0.36	-2.60	1685088.39	14279417.33	39°19'21.007"N	80°48'24.053"W	2.63	262.224	0.30	0.26	8.84		
417.00	0.050	339.770	416.98	1.11	-0.21	-3.25	1685087.74	14279417.47	39°19'21.008"N	80°48'24.061"W	3.26	266.221	0.71	-0.68	60.73		
517.00	0.270	291.800	516.98	1.32	-0.09	-3.48	1685087.51	14279417.60	39°19'21.009"N	80°48'24.064"W	3.48	268.583	0.24	0.22	-47.97		
617.00	0.270	334.780	616.98	1.56	0.09	-3.67	1685087.32	14279417.78	39°19'21.011"N	80°48'24.067"W	3.67	271.424	0.34	0.00	0.00	72.85	Directional ONE MWD <12-1/4"> (500') (559'-2575')
866.00	1.120	266.070	865.98	2.06	0.22	-4.64	1685086.35	14279417.91	39°19'21.012"N	80°48'24.079"W	4.64	272.750	1.17	0.94	-76.34		
757.00	2.720	253.860	756.92	2.65	-0.44	-7.60	1685083.39	14279417.25	39°19'21.008"N	80°48'24.117"W	7.61	266.688	1.80	1.76	-13.42		
847.00	4.790	246.740	846.72	2.95	-2.52	-13.10	1685077.89	14279415.17	39°19'20.985"N	80°48'24.187"W	13.34	259.131	2.35	2.30	-7.91		
937.00	6.970	247.060	936.25	3.05	-6.13	-21.59	1685069.41	14279411.56	39°19'20.950"N	80°48'24.285"W	22.44	254.149	2.42	2.42	0.38		
1025.00	8.940	246.710	1023.39	3.15	-10.91	-32.79	1685058.22	14279406.78	39°19'20.903"N	80°48'24.437"W	34.55	251.588	2.24	2.24	-0.40		
1113.00	10.320	246.210	1110.15	3.18	-16.80	-46.28	1685044.73	14279400.90	39°19'20.845"N	80°48'24.609"W	49.23	250.051	1.57	1.57	-0.57		
1202.00	12.280	248.750	1197.42	3.55	-23.44	-62.40	1685028.82	14279394.25	39°19'20.780"N	80°48'24.815"W	66.66	249.407	2.27	2.20	2.85		
1290.00	14.180	248.470	1283.08	4.35	-30.79	-81.15	1685009.88	14279386.91	39°19'20.707"N	80°48'25.053"W	86.79	249.220	2.16	2.16	-0.32		
1378.00	15.900	247.750	1368.07	5.04	-39.31	-102.33	1684988.70	14279378.39	39°19'20.624"N	80°48'25.323"W	109.62	248.985	1.97	1.95	-0.82		
1466.00	16.470	243.760	1452.58	4.77	-49.39	-124.68	1684966.36	14279366.32	39°19'20.524"N	80°48'25.608"W	134.11	248.388	1.42	0.65	-4.53		
1554.00	17.270	242.420	1536.79	3.31	-60.96	-147.45	1684943.60	14279356.76	39°19'20.411"N	80°48'25.898"W	159.55	247.539	1.01	0.91	-1.52		
1642.00	16.640	242.820	1620.87	1.84	-72.76	-170.23	1684920.82	14279344.98	39°19'20.294"N	80°48'26.188"W	185.13	246.857	0.73	-0.72	0.45		
1730.00	16.340	244.120	1705.35	0.38	-83.92	-192.58	1684898.49	14279333.80	39°19'20.185"N	80°48'26.473"W	210.07	246.454	0.54	-0.34	1.48		
1819.00	17.040	245.840	1790.60	-0.22	-94.72	-215.74	1684875.33	14279323.01	39°19'20.078"N	80°48'26.768"W	235.62	246.298	0.96	0.79	1.93		
1907.00	17.860	246.970	1874.54	-0.19	-105.28	-239.94	1684851.15	14279312.45	39°19'19.974"N	80°48'27.076"W	262.02	246.309	1.03	0.95	1.28		
1995.00	15.610	242.240	1958.81	-0.89	-116.08	-262.85	1684828.24	14279301.65	39°19'19.868"N	80°48'27.368"W	287.34	246.172	3.01	-2.58	-5.37		
2083.00	14.530	242.390	2043.78	-2.50	-126.72	-283.11	1684807.98	14279291.02	39°19'19.764"N	80°48'27.626"W	310.18	245.888	1.23	-1.23	0.17		
2171.00	14.320	244.560	2129.01	-3.61	-136.51	-302.72	1684788.39	14279281.24	39°19'19.667"N	80°48'27.876"W	332.08	245.728	0.66	-0.24	2.47		
2259.00	14.940	248.480	2214.16	-3.52	-145.34	-323.10	1684768.02	14279272.40	39°19'19.590"N	80°48'28.135"W	354.28	245.780	1.33	0.70	4.45		
2348.00	13.420	249.410	2300.44	-2.55	-153.18	-343.44	1684747.68	14279264.57	39°19'19.503"N	80°48'28.394"W	376.06	245.962	1.73	-1.71	1.04		
2436.00	13.680	246.760	2386.00	-1.93	-160.88	-362.57	1684728.57	14279256.87	39°19'19.428"N	80°48'28.638"W	396.66	246.072	0.76	0.30	-3.01		
2524.00	14.680	241.390	2471.32	-2.82	-170.33	-381.92	1684709.22	14279247.43	39°19'19.335"N	80°48'28.884"W	418.18	245.964	1.88	1.14	-6.10		



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798'

Page 3 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Doddridge Co., WY	Well	Caboose Unit 1H
Field	Doddridge	Wellbore	Caboose Unit 1H AWB
Facility	Middle Pad		

WELLPATH DATA (192 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Comments
2592.00	15.510	240.350	2536.97	-4.51	-178.95	-397.38	1694683.76	14279233.81	39°19'19.250"N	80°48'29.081"W	435.82	245.757	1.28	1.22	-1.33	
2709.00	16.420	241.530	2649.46	-7.54	-194.57	-425.52	1694665.64	14279223.19	39°19'19.096"N	80°48'29.440"W	467.89	245.427	0.83	0.78	1.01	Directional ONE MWD -8-3/4" > (2675) (2692-6471)
2797.00	16.800	240.720	2733.78	-9.83	-206.72	-447.54	1694643.63	14279211.05	39°19'18.976"N	80°48'29.720"W	492.98	245.208	0.51	0.43	-0.92	
2885.00	17.380	241.900	2817.90	-12.10	-219.13	-470.23	1694620.95	14279198.64	39°19'18.854"N	80°48'30.009"W	514.44	245.014	0.77	0.66	1.34	
2973.00	16.550	245.490	2902.07	-13.30	-230.52	-493.23	1694587.96	14279187.26	39°19'18.742"N	80°48'30.302"W	544.44	244.850	1.52	-0.94	4.08	
3062.00	15.910	241.340	2987.53	-14.56	-241.63	-515.47	1694575.73	14279176.15	39°19'18.633"N	80°48'30.586"W	569.29	244.884	1.49	-0.72	-4.96	
3150.00	18.110	243.360	3071.67	-16.33	-253.56	-538.28	1694552.93	14279164.24	39°19'18.515"N	80°48'30.876"W	595.01	244.778	2.59	2.50	2.30	
3238.00	17.660	252.970	3155.44	-15.50	-263.60	-563.27	1694527.94	14279154.20	39°19'18.417"N	80°48'31.194"W	621.90	244.922	3.39	-0.51	10.92	
3326.00	17.440	257.090	3239.35	-11.50	-270.45	-588.89	1694502.33	14279147.35	39°19'18.349"N	80°48'31.521"W	648.02	245.333	1.43	0.25	4.68	
3414.00	18.310	257.390	3323.10	-6.40	-278.42	-615.23	1694478.00	14279141.38	39°19'18.291"N	80°48'31.856"W	674.48	245.806	0.99	0.99	0.34	
3503.00	17.410	254.940	3407.81	-1.73	-282.93	-641.74	1694449.51	14279134.87	39°19'18.227"N	80°48'32.193"W	701.34	246.208	1.32	-1.01	-2.75	
3591.00	16.770	247.740	3491.93	0.54	-291.16	-666.20	1694425.05	14279126.65	39°19'18.146"N	80°48'32.505"W	727.05	246.393	2.51	-0.73	-8.18	
3679.00	14.790	241.360	3576.62	-0.13	-301.35	-687.81	1694403.45	14279116.46	39°19'18.046"N	80°48'32.780"W	750.93	246.340	2.99	-2.25	-7.25	
3768.00	15.210	243.920	3662.59	-1.81	-311.93	-708.27	1694383.00	14279105.88	39°19'17.942"N	80°48'33.041"W	773.91	246.231	0.88	0.47	2.88	
3856.00	15.840	244.760	3747.37	-2.43	-322.13	-729.50	1694361.78	14279095.69	39°19'17.842"N	80°48'33.311"W	797.46	246.175	0.78	0.72	0.95	
3944.00	16.870	244.590	3831.81	-3.16	-332.73	-751.90	1694339.39	14279085.09	39°19'17.737"N	80°48'33.586"W	822.23	246.130	1.17	1.17	-0.18	
4032.00	16.540	243.770	3916.10	-4.12	-343.74	-774.67	1694316.63	14279074.08	39°19'17.629"N	80°48'33.866"W	847.51	246.072	0.46	-0.38	-0.93	
4120.00	16.220	241.740	4000.53	-5.67	-355.10	-796.73	1694294.58	14279062.73	39°19'17.517"N	80°48'34.167"W	872.28	245.978	0.75	-0.36	-2.31	
4209.00	15.580	244.700	4086.12	-7.01	-366.09	-818.48	1694272.83	14279051.74	39°19'17.409"N	80°48'34.445"W	896.63	245.902	1.16	-0.72	3.33	
4297.00	15.880	245.150	4170.83	-7.80	-376.20	-840.08	1694251.23	14279041.64	39°19'17.309"N	80°48'34.720"W	920.48	245.877	0.37	0.34	0.51	
4385.00	17.010	239.530	4255.23	-9.38	-387.79	-862.11	1694229.22	14279030.05	39°19'17.195"N	80°48'35.000"W	945.31	245.781	2.22	1.28	-6.39	
4474.00	17.680	240.290	4340.18	-12.36	-401.09	-885.07	1694206.27	14279016.76	39°19'17.084"N	80°48'35.293"W	971.71	245.621	0.79	0.75	0.55	
4562.00	17.020	244.290	4424.18	-14.23	-413.30	-908.28	1694183.07	14279004.55	39°19'16.944"N	80°48'35.588"W	997.90	245.533	1.55	-0.75	4.55	
4650.00	16.150	247.290	4508.52	-14.49	-423.61	-931.18	1694160.18	14278994.25	39°19'16.843"N	80°48'35.880"W	1023.01	245.538	1.39	-0.99	3.41	
4739.00	15.680	246.580	4594.11	-14.24	-433.17	-953.63	1694137.74	14278984.69	39°19'16.749"N	80°48'36.166"W	1047.40	245.571	0.57	-0.53	-0.80	
4827.00	16.020	246.790	4678.76	-13.10	-442.68	-975.50	1694115.67	14278975.18	39°19'16.655"N	80°48'36.447"W	1071.43	245.596	0.39	0.39	0.24	
4915.00	17.770	250.230	4762.97	-14.10	-452.01	-996.50	1694091.88	14278965.86	39°19'16.563"N	80°48'36.750"W	1096.96	245.666	2.29	1.98	3.91	
5003.00	18.180	250.000	4846.67	-11.32	-461.25	-1025.04	1694066.36	14278956.62	39°19'16.473"N	80°48'37.075"W	1124.04	245.773	0.47	0.47	-0.28	
5092.00	18.560	244.420	4931.61	-10.86	-471.48	-1049.53	1694041.88	14278946.40	39°19'16.372"N	80°48'37.387"W	1150.57	245.809	2.61	-1.82	-6.27	
5180.00	18.810	245.570	5015.45	-11.47	-482.76	-1073.76	1694017.65	14278935.12	39°19'16.281"N	80°48'37.696"W	1177.30	245.792	2.59	2.56	1.31	



Actual Wellpath Report
Caboose Unit 1H AWP Proj: 15798'
Page 4 of 10



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Doddridge Co., WV	Well	Caboose Unit 1H
Field	Doddridge	Wellbore	Caboose Unit 1H AWB
Facility	Middle Pad		

WELLPATH DATA (192 stations) t = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US RL)	Grid North (US RL)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
5269.00	18.770	248.360	5089.71	-11.17	-493.97	-1100.14	1693991.29	14278923.91	39°19'16.15"N	80°48'38.032"W	1295.95	245.819	1.01	-0.04	3.13	
5397.00	16.920	245.500	5183.47	-10.86	-504.51	-1124.95	1693966.49	14278913.38	39°19'16.04"N	80°48'38.348"W	1232.90	245.845	2.33	-2.10	-3.25	
5445.00	16.860	244.800	5267.67	-11.40	-515.26	-1148.17	1693943.28	14278902.64	39°19'15.94"N	80°48'38.643"W	1258.48	245.881	0.24	-0.05	-0.80	
5534.00	14.860	243.700	5353.32	-12.27	-525.75	-1169.96	1693921.50	14278892.15	39°19'15.838"N	80°48'38.921"W	1282.66	245.802	2.52	-2.48	-1.24	
5622.00	12.780	241.720	5438.80	-13.57	-535.30	-1188.51	1693902.85	14278882.61	39°19'15.744"N	80°48'39.157"W	1303.50	245.764	2.20	-2.14	-2.28	
5710.00	13.350	244.860	5524.63	-14.60	-544.21	-1206.29	1693885.18	14278873.70	39°19'15.656"N	80°48'39.384"W	1323.36	245.718	1.05	0.85	3.68	
5789.00	14.330	244.390	5610.94	-15.23	-553.32	-1225.53	1693865.95	14278864.59	39°19'15.567"N	80°48'39.629"W	1344.65	245.701	1.11	1.10	-0.64	
5887.00	15.560	253.990	5695.98	-14.03	-561.28	-1246.70	1693844.79	14278856.63	39°19'15.489"N	80°48'39.898"W	1367.22	245.762	3.14	1.40	10.91	
5983.00	16.270	267.790	5738.31	-10.98	-563.15	-1258.54	1693832.96	14278854.77	39°19'15.470"N	80°48'40.049"W	1378.78	245.893	8.73	1.61	31.36	
5975.00	17.430	283.780	5780.44	-4.73	-561.81	-1271.10	1693820.39	14278856.10	39°19'15.484"N	80°48'40.209"W	1389.73	246.155	10.82	2.64	38.34	
6019.00	19.350	293.680	5822.20	4.63	-557.33	-1284.19	1693807.31	14278860.58	39°19'15.528"N	80°48'40.375"W	1399.91	246.540	8.26	4.36	22.27	
6063.00	22.120	294.950	5945.47	16.20	-550.82	-1298.38	1693793.12	14278866.99	39°19'15.592"N	80°48'40.556"W	1410.43	247.008	6.39	6.30	3.11	
6107.00	22.440	295.620	5904.06	28.78	-543.79	-1313.47	1693779.05	14278874.12	39°19'15.663"N	80°48'40.748"W	1421.58	247.510	0.93	0.73	1.52	
6152.00	23.640	299.800	5945.47	42.53	-535.59	-1329.04	1693762.48	14278882.31	39°19'15.744"N	80°48'40.945"W	1432.90	248.051	4.51	2.67	9.29	
6196.00	26.580	308.750	5985.33	58.35	-525.04	-1344.38	1693747.14	14278892.86	39°19'15.849"N	80°48'41.140"W	1443.27	248.667	10.90	6.86	20.34	
6240.00	30.080	316.250	6024.06	77.44	-510.80	-1359.89	1693731.84	14278906.99	39°19'15.989"N	80°48'41.335"W	1452.51	249.408	11.33	7.95	17.05	
6284.00	33.100	320.540	6061.54	99.37	-493.68	-1374.86	1693716.58	14278924.23	39°19'16.160"N	80°48'41.529"W	1460.89	250.250	8.55	6.86	9.75	
6328.00	34.720	322.210	6098.08	123.08	-474.48	-1390.27	1693701.27	14278943.40	39°19'16.349"N	80°48'41.723"W	1469.01	251.156	4.25	3.88	3.80	
6372.00	37.590	321.670	6133.58	148.22	-454.05	-1408.28	1693685.27	14278963.82	39°19'16.562"N	80°48'41.926"W	1477.78	252.106	6.54	6.50	-1.23	
6416.00	41.130	324.670	6167.60	175.38	-431.70	-1422.97	1693668.58	14278986.16	39°19'16.779"N	80°48'42.138"W	1487.02	253.123	9.15	8.07	6.82	
6460.00	44.510	326.860	6199.87	204.77	-408.98	-1439.78	1693651.78	14279010.87	39°19'17.018"N	80°48'42.351"W	1496.19	254.216	8.39	7.68	4.98	
6488.00	47.460	327.880	6219.33	224.66	-390.02	-1450.63	1693640.94	14279027.83	39°19'17.185"N	80°48'42.489"W	1502.15	254.961	10.86	10.54	3.64	
6546.00	53.920	327.990	6256.05	269.03	-352.01	-1474.44	1693617.14	14279065.82	39°19'17.562"N	80°48'42.791"W	1515.98	256.573	11.14	11.14	0.198H AT Curve <-8-1/2"> (6488') (6546-15774')	
6598.00	58.340	329.020	6285.58	312.61	-314.49	-1497.42	1693594.17	14279103.33	39°19'17.933"N	80°48'43.082"W	1530.08	258.139	8.49	8.34	1.94	
6618.00	59.381	329.611	6295.41	328.75	-300.50	-1505.71	1693585.67	14279117.31	39°19'18.071"N	80°48'43.187"W	1535.41	258.713	6.09	5.48	3.11	Surket 6618'WD / 6285'TVD
6648.00	60.920	330.460	6309.34	352.89	-279.46	-1517.84	1693575.65	14279138.34	39°19'18.280"N	80°48'43.341"W	1543.36	258.588	6.09	5.50	3.03	
6679.00	62.250	331.532	6325.05	381.79	-254.08	-1531.91	1693559.69	14279163.71	39°19'18.531"N	80°48'43.519"W	1552.84	260.583	4.96	4.06	3.25	Jully 6679'WD / 6325'TVD
6694.00	62.870	332.010	6331.96	395.06	-242.35	-1538.21	1693553.39	14279175.44	39°19'18.647"N	80°48'43.599"W	1557.19	261.046	4.96	4.07	3.19	
6741.00	66.820	333.310	6361.93	437.50	-204.56	-1557.74	1693533.87	14279213.21	39°19'19.021"N	80°48'43.847"W	1571.11	262.519	8.77	8.40	2.77	
6755.00	68.064	333.841	6357.30	450.41	-192.98	-1563.49	1693528.12	14279224.79	39°19'19.135"N	80°48'43.920"W	1575.36	262.963	9.55	8.88	3.78	Hamilton 6755'D / 6357'TVD



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798
Page 5 of 10



REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Caboose Unit 1H
Area	Doddridge Co., WV	Wellbore	Caboose Unit 1H AWB
Field	Doddridge		
F-acility	Middle Pad		

WELLPATH DATA (192 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
6777.00	70.021	334.657	6365.17	470.84	-174.48	-1572.42	1693519.20	14279243.28	39°19'19.318"N	80°48'44.033"W	1582.07	283.688	9.55	8.90	3.71	POE Marcellus: 6777 MD / 6365 TVD
6790.00	71.180	335.130	6369.49	483.20	-163.38	-1577.62	1693514.00	14279254.38	39°19'19.428"N	80°48'44.099"W	1586.06	284.087	9.55	8.91	3.64	
6837.00	76.080	336.870	6382.73	528.28	-122.19	-1595.95	1693495.68	14279295.54	39°19'19.836"N	80°48'44.331"W	1600.82	285.622	11.01	10.43	3.70	
6885.00	79.920	338.150	6392.71	575.21	-78.82	-1613.90	1693477.73	14279338.06	39°19'20.268"N	80°48'44.572"W	1615.82	287.204	8.41	8.00	2.67	
6932.00	81.200	339.100	6400.42	621.54	-35.95	-1630.80	1693460.84	14279382.06	39°19'20.682"N	80°48'44.772"W	1631.18	288.748	3.38	2.72	2.02	
6980.00	85.320	338.430	6408.05	669.15	8.77	-1648.06	1693443.59	14279426.46	39°19'21.131"N	80°48'44.990"W	1648.08	270.305	8.69	8.58	-1.40	
7023.00	90.120	336.480	6407.76	712.10	48.44	-1664.53	1693427.13	14279466.11	39°19'21.523"N	80°48'45.199"W	1665.23	271.667	12.05	11.16	-4.53	
7075.00	89.880	331.830	6407.76	764.04	95.23	-1687.19	1693404.47	14279515.88	39°19'21.988"N	80°48'45.486"W	1689.87	273.230	8.95	-0.46	-8.94	
7170.00	89.480	331.640	6408.29	859.73	178.90	-1732.18	1693359.50	14279596.52	39°19'22.814"N	80°48'46.056"W	1741.39	275.897	0.47	-0.42	-0.20	
7265.00	90.370	337.200	6408.42	953.65	264.73	-1772.79	1693318.91	14279682.32	39°19'23.663"N	80°48'46.871"W	1792.44	278.493	6.47	0.94	6.40	
7361.00	89.970	338.300	6408.13	1049.61	353.75	-1808.73	1693292.98	14279771.29	39°19'24.544"N	80°48'47.026"W	1843.00	281.066	0.73	-0.42	0.60	
7456.00	90.030	338.070	6408.08	1239.60	530.28	-1878.03	1693247.69	14279859.46	39°19'25.416"N	80°48'47.473"W	1896.25	283.477	0.25	0.06	-0.24	
7551.00	90.370	339.320	6407.75	1334.39	618.96	-1913.06	1693212.71	14279947.74	39°19'26.290"N	80°48'47.916"W	1952.42	285.759	0.66	0.00	0.66	
7646.00	90.310	338.150	6407.19	1429.31	707.49	-1947.51	1693178.69	14280036.40	39°19'27.167"N	80°48'48.346"W	2010.70	287.929	0.74	0.38	0.65	
7741.00	90.060	335.890	6406.98	1525.29	795.86	-1984.99	1693144.25	14280124.89	39°19'28.043"N	80°48'48.782"W	2072.04	289.865	1.23	-0.06	-1.23	
7837.00	89.940	331.880	6406.97	1714.02	964.99	-2068.25	1693106.79	14280213.23	39°19'28.917"N	80°48'49.257"W	2138.59	291.848	2.37	-0.26	-2.36	
7932.00	89.940	333.140	6406.88	1620.24	881.61	-2025.86	1693065.94	14280298.95	39°19'29.766"N	80°48'49.775"W	2209.38	293.518	2.90	-0.13	-2.89	
8026.00	89.910	331.250	6407.19	1809.69	1049.41	-2114.96	1692976.87	14280382.30	39°19'30.591"N	80°48'50.325"W	2283.20	295.002	1.34	0.00	-1.34	
8122.00	89.940	331.770	6407.22	1904.32	1132.74	-2160.58	1692931.27	14280466.68	39°19'31.426"N	80°48'50.904"W	2361.00	296.390	0.66	-0.03	-0.66	
8217.00	90.000	331.770	6407.27	1997.99	1215.40	-2205.35	1692886.52	14280549.98	39°19'32.250"N	80°48'51.483"W	2439.51	297.667	0.11	0.03	0.11	
8311.00	89.940	334.190	6407.32	2093.82	1300.91	-2248.96	1692842.93	14280632.60	39°19'33.068"N	80°48'52.050"W	2518.08	298.860	0.45	0.06	0.45	
8502.00	90.220	336.690	6407.19	2188.80	1387.31	-2288.44	1692803.46	14280718.08	39°19'33.914"N	80°48'52.603"W	2598.11	300.047	2.52	-0.06	2.52	
8597.00	90.520	337.690	6406.58	2283.79	1474.88	-2325.27	1692766.65	14280804.45	39°19'34.769"N	80°48'53.103"W	2676.12	301.225	2.65	0.29	2.63	
8691.00	90.000	337.770	6406.15	2377.76	1561.86	-2360.89	1692731.04	14280891.98	39°19'35.635"N	80°48'53.569"W	2753.57	302.386	1.10	0.32	1.05	
8786.00	89.000	339.330	6406.15	2472.68	1650.28	-2395.63	1692696.31	14281087.31	39°19'37.070"N	80°48'54.460"W	2830.77	303.487	0.56	-0.55	0.08	
8881.00	89.940	337.780	6406.20	2567.61	1738.70	-2430.36	1692661.60	14281155.70	39°19'38.370"N	80°48'54.900"W	2909.03	304.562	1.64	0.00	1.64	
8976.00	89.820	335.780	6406.40	2662.60	1826.00	-2467.82	1692624.16	14281242.96	39°19'39.109"N	80°48'55.374"W	2988.27	305.580	1.63	-0.06	-1.63	
9071.00	89.940	334.670	6406.60	2757.58	1912.26	-2507.83	1692584.36	14281329.18	39°19'39.962"N	80°48'55.878"W	3069.92	306.499	2.11	-0.13	-2.11	
9167.00	89.850	334.390	6406.78	2853.53	1998.93	-2548.81	1692543.10	14281415.82	39°19'40.819"N	80°48'56.402"W	3153.56	307.328	1.18	0.13	-1.17	
											3239.24	308.105	0.31	-0.09	-0.28	



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798'
Page 6 of 10



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Doddridge Co., WV	Well	Caboose Unit 1H
Field	Doddridge	Wellbore	Caboose Unit 1H AWB
Facility	Middle Pad		

WELLPATH DATA (192 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
9282.00	89.940	335.280	6406.95	2948.50	2084.91	-2589.31	1692502.72	14281501.77	39°19'41.670"N	80°48'56.913"W	3324.36	308.841	0.94	0.08	0.94	
9357.00	89.940	335.100	6407.05	3043.48	2171.14	-2629.17	1692462.87	14281567.96	39°19'42.523"N	80°48'57.418"W	3409.75	309.550	0.19	0.00	-0.19	
9451.00	89.860	336.810	6407.38	3137.47	2256.98	-2667.47	1692424.59	14281673.77	39°19'43.372"N	80°48'57.904"W	3494.19	310.235	1.84	-0.30	1.82	
9545.00	89.880	339.830	6407.76	3232.41	2345.25	-2702.56	1692389.51	14281762.00	39°19'44.245"N	80°48'58.348"W	3578.27	310.951	3.19	0.23	3.18	
9641.00	90.000	339.190	6407.86	3327.28	2434.24	-2735.81	1692356.27	14281850.96	39°19'45.126"N	80°48'58.789"W	3661.99	311.662	0.89	0.13	-0.67	
9736.00	90.030	337.980	6407.83	3422.19	2522.68	-2770.50	1692321.60	14281939.36	39°19'46.000"N	80°48'59.208"W	3746.94	312.319	1.27	0.03	-1.27	
9831.00	89.970	337.110	6407.83	3517.17	2610.47	-2806.78	1692285.32	14282027.12	39°19'46.869"N	80°48'59.667"W	3833.09	312.925	0.92	-0.06	-0.92	
9926.00	89.910	336.450	6407.93	3612.16	2697.78	-2844.24	1692247.88	14282114.39	39°19'47.732"N	80°49'00.142"W	3920.17	313.486	0.70	-0.06	-0.69	
10021.00	90.090	336.200	6407.93	3707.14	2785.43	-2880.86	1692211.28	14282202.01	39°19'48.599"N	80°49'00.605"W	4007.24	314.035	1.85	0.19	1.84	
10116.00	90.060	339.790	6407.81	3802.04	2874.12	-2914.91	1692177.24	14282290.66	39°19'49.477"N	80°49'01.037"W	4093.56	314.596	1.87	-0.03	1.67	
10210.00	90.060	339.860	6407.71	3895.87	2962.35	-2947.33	1692144.83	14282378.86	39°19'50.349"N	80°49'01.447"W	4178.79	315.146	0.07	0.00	0.07	
10305.00	90.370	340.580	6407.35	3990.65	3051.74	-2979.48	1692112.70	14282468.21	39°19'51.234"N	80°49'01.854"W	4265.02	315.686	0.93	0.33	0.78	
10398.00	89.940	337.040	6406.50	4083.46	3139.09	-3011.39	1692080.80	14282556.53	39°19'52.098"N	80°49'02.256"W	4349.99	316.189	1.40	0.00	-1.40	
10492.00	89.940	335.930	6406.50	4177.41	3226.34	-3046.36	1692045.84	14282642.74	39°19'52.961"N	80°49'02.700"W	4437.29	316.643	2.43	-0.46	-2.38	
10586.00	90.090	334.680	6406.45	4271.41	3312.83	-3083.86	1692008.35	14282728.90	39°19'53.813"N	80°49'03.175"W	4525.82	317.047	1.19	0.16	-1.18	
10680.00	90.000	333.180	6406.50	4365.39	3397.93	-3123.14	1691969.10	14282814.27	39°19'54.658"N	80°49'03.673"W	4615.18	317.413	1.34	-0.16	-1.33	
10774.00	89.970	332.190	6406.52	4459.30	3482.37	-3164.44	1691927.81	14282898.67	39°19'55.493"N	80°49'04.196"W	4705.38	317.798	1.60	0.06	-1.60	
10867.00	89.910	334.250	6406.62	4552.11	3564.99	-3207.12	1691885.15	14282981.26	39°19'56.311"N	80°49'04.737"W	4795.29	318.025	1.07	-0.03	-1.06	
10961.00	90.580	338.900	6406.22	4645.97	3648.91	-3249.47	1691842.81	14283065.14	39°19'57.141"N	80°49'05.274"W	4886.06	318.314	2.19	-0.06	2.19	
11055.00	89.910	338.510	6405.82	4739.94	3735.14	-3286.83	1691805.47	14283151.34	39°19'57.994"N	80°49'05.747"W	4975.99	318.653	5.00	0.71	4.96	
11148.00	89.910	338.510	6405.82	4832.86	3821.78	-3320.60	1691771.71	14283237.95	39°19'58.851"N	80°49'06.175"W	5062.85	319.014	0.93	-0.72	-0.42	
11242.00	89.940	332.620	6405.94	4926.81	3907.33	-3359.47	1691732.86	14283323.46	39°19'59.697"N	80°49'06.668"W	5152.98	319.311	6.27	0.03	-6.27	
11336.00	90.060	330.190	6405.94	5020.45	3989.86	-3404.46	1691687.89	14283405.95	39°20'00.514"N	80°49'07.238"W	5244.93	319.527	2.99	0.13	-2.99	
11430.00	90.030	330.700	6405.87	5113.95	4071.82	-3450.82	1691641.54	14283487.89	39°20'01.323"N	80°49'07.826"W	5337.26	319.718	0.54	-0.03	0.54	
11524.00	90.000	333.500	6405.85	5207.89	4154.99	-3494.94	1691597.58	14283570.72	39°20'02.145"N	80°49'08.384"W	5429.10	319.930	2.98	-0.03	2.98	
11618.00	89.910	333.400	6405.92	5301.57	4238.78	-3536.82	1691555.58	14283654.78	39°20'02.977"N	80°49'08.916"W	5520.54	320.159	0.14	-0.10	-0.11	
11712.00	89.970	335.950	6406.02	5395.45	4322.94	-3578.68	1691513.73	14283736.91	39°20'03.810"N	80°49'09.447"W	5612.02	320.381	0.34	0.06	0.33	
11805.00	89.970	335.950	6406.07	5488.41	4407.11	-3618.23	1691474.20	14283823.04	39°20'04.642"N	80°49'09.948"W	5702.12	320.614	2.41	0.00	2.41	
11899.00	90.000	338.660	6406.09	5582.39	4493.82	-3664.50	1691437.95	14283909.72	39°20'05.500"N	80°49'10.407"W	5792.22	320.881	2.88	0.03	-2.88	
11993.00	89.970	339.000	6406.12	5676.30	4581.47	-3688.44	1691404.02	14283997.34	39°20'06.367"N	80°49'10.837"W	5881.71	321.163	0.96	-0.03	0.96	



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798
Page 7 of 10



02/08/2019

REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #01
Operator	ANTERO RESOURCES CORPORATION	Well	Caboose Unit 1H
Area	Doddridge Co., WV	Wellbore	Caboose Unit 1H AWB
Field	Doddridge		
Facility	Middle Pad		

WELLPATH DATA (192 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 (F/100ft)	Build Rate (F/100ft)	Turn Rate (F/100ft)	Comments
12087.00	89.940	338.650	6406.19	5770.22	4869.13	-3722.40	1691370.08	14284084.96	39°20'07.234"N	80°49'11.267"W	6971.35	321.437	0.37	-0.03	-0.37	
12181.00	89.630	338.490	6406.54	5864.15	4756.63	-3756.74	1691335.74	14284172.42	39°20'08.099"N	80°49'11.702"W	6061.24	321.699	0.37	-0.33	-0.17	
12275.00	89.650	338.610	6406.97	5958.07	4844.12	-3791.12	1691301.38	14284259.88	39°20'08.965"N	80°49'12.137"W	6151.26	321.952	0.27	0.23	0.13	
12368.00	89.880	338.540	6407.19	6051.00	4930.89	-3825.09	1691267.43	14284346.41	39°20'08.821"N	80°49'12.567"W	6240.43	322.197	0.08	0.03	-0.08	
12462.00	89.940	339.050	6407.34	6144.92	5018.33	-3859.09	1691233.44	14284434.01	39°20'10.688"N	80°49'12.988"W	6330.57	322.440	0.65	0.06	0.64	
12556.00	90.090	337.480	6407.31	6238.86	5105.84	-3893.90	1691198.65	14284521.29	39°20'11.552"N	80°49'13.439"W	6421.08	322.688	1.68	0.16	-1.67	
12650.00	90.120	336.220	6407.14	6332.86	5192.07	-3930.85	1691161.71	14284607.69	39°20'12.407"N	80°49'13.907"W	6512.23	322.871	1.34	0.03	-1.34	
12743.00	90.160	334.790	6406.90	6425.84	5276.70	-3969.41	1691123.16	14284692.28	39°20'13.244"N	80°49'14.385"W	6603.01	323.048	1.54	0.06	-1.54	
12836.00	89.880	335.430	6406.85	6518.82	5361.06	-4008.55	1691084.04	14284776.61	39°20'14.078"N	80°49'14.891"W	6693.98	323.214	0.76	-0.32	0.68	
12930.00	90.030	336.540	6406.92	6612.82	5446.92	-4046.80	1691045.80	14284862.44	39°20'14.928"N	80°49'15.376"W	6785.69	323.389	1.19	0.16	1.18	
13024.00	90.030	337.960	6406.87	6706.80	5533.60	-4083.15	1691008.46	14284949.09	39°20'15.785"N	80°49'15.836"W	6876.99	323.577	1.51	0.00	1.51	
13117.00	90.340	339.940	6406.57	6799.70	5620.39	-4118.56	1690976.07	14285035.84	39°20'16.644"N	80°49'16.259"W	6966.70	323.760	2.15	0.33	2.13	
13211.00	90.340	339.840	6406.01	6893.52	5708.66	-4148.88	1690943.77	14285124.07	39°20'17.517"N	80°49'16.688"W	7057.05	323.992	0.11	0.00	-0.11	
13306.00	90.220	339.740	6405.55	6987.35	5796.87	-4181.35	1690911.31	14285212.25	39°20'18.389"N	80°49'17.080"W	7147.55	324.187	0.17	-0.13	-0.11	
13398.00	90.090	338.970	6405.30	7080.22	5883.90	-4214.14	1690878.53	14285299.24	39°20'19.250"N	80°49'17.495"W	7237.35	324.389	0.84	-0.14	-0.83	
13492.00	90.310	338.250	6404.97	7174.15	5971.42	-4248.42	1690844.26	14285386.73	39°20'20.116"N	80°49'17.929"W	7328.50	324.570	0.80	0.23	-0.77	
13586.00	90.120	339.030	6404.62	7268.07	6058.96	-4282.66	1690810.04	14285474.24	39°20'20.982"N	80°49'18.362"W	7419.72	324.746	0.85	-0.20	0.83	
13679.00	90.030	339.600	6404.50	7360.95	6145.97	-4316.51	1690777.20	14285561.21	39°20'21.842"N	80°49'18.778"W	7509.76	324.925	0.82	-0.10	0.81	
13773.00	90.030	337.650	6404.45	7454.87	6233.50	-4349.77	1690742.96	14285648.70	39°20'22.708"N	80°49'19.212"W	7601.12	325.092	2.07	0.00	-2.07	
13867.00	89.910	335.080	6404.50	7548.86	6319.60	-4387.46	1690705.27	14285734.77	39°20'23.580"N	80°49'19.690"W	7693.32	325.226	2.76	-0.13	-2.76	
13960.00	89.910	333.180	6404.65	7641.79	6403.27	-4428.06	1690664.70	14285818.41	39°20'24.387"N	80°49'20.204"W	7785.21	325.335	2.02	0.00	-2.02	
14054.00	89.850	332.370	6404.84	7735.60	6486.66	-4471.06	1690621.71	14285901.96	39°20'25.214"N	80°49'20.750"W	7878.43	325.423	0.86	-0.06	-0.86	
14148.00	89.750	329.790	6405.17	7829.20	6569.13	-4516.51	1690576.28	14285984.20	39°20'26.028"N	80°49'21.326"W	7971.97	325.490	2.75	-0.11	-2.74	
14241.00	89.970	328.840	6405.40	7921.48	6649.10	-4563.97	1690528.84	14286064.14	39°20'26.820"N	80°49'21.928"W	8064.76	325.534	1.05	0.24	-1.02	
14335.00	89.970	329.720	6405.45	8014.78	6729.91	-4611.99	1690480.84	14286144.92	39°20'27.616"N	80°49'22.537"W	8158.56	325.577	0.84	0.00	0.84	
14429.00	89.860	330.570	6405.57	8108.23	6811.44	-4658.77	1690434.08	14286226.42	39°20'28.426"N	80°49'23.131"W	8252.27	325.629	0.93	-0.10	0.93	
14523.00	89.860	329.880	6405.77	8201.68	6892.96	-4705.58	1690387.29	14286307.90	39°20'29.233"N	80°49'23.724"W	8345.98	325.680	0.97	0.00	-0.97	
14616.00	89.970	334.610	6405.94	8294.40	6975.16	-4749.02	1690343.87	14286390.07	39°20'30.046"N	80°49'24.275"W	8438.36	325.751	5.30	0.03	5.30	
14710.00	89.970	338.460	6406.09	8388.38	7061.37	-4786.44	1690306.46	14286476.24	39°20'30.899"N	80°49'24.749"W	8530.70	325.869	4.10	0.00	4.10	
14803.00	89.940	337.400	6406.21	8481.34	7147.55	-4821.38	1690271.53	14286562.38	39°20'31.751"N	80°49'25.192"W	8621.67	325.988	1.14	0.03	-1.14	



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798'
Page 8 of 10



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #01
Area	Doddridge Co., WV	Caboose Unit 1H
Field	Doddridge	Caboose Unit 1H AWB
Facility	Middle Pad	

WELLPATH DATA (192 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
14897.00	89.940	337.670	6406.31	8575.32	7234.42	-4857.30	1690235.63	14286649.22	39°20'32.810"N	80°49'25.647"W	8713.79	326.122	0.29	0.00	0.29	
14990.00	89.750	340.300	6406.56	8688.21	7321.23	-4890.65	1680202.29	14286736.00	39°20'33.469"N	80°49'26.089"W	8804.48	326.257	2.84	-0.20	2.83	
15084.00	90.060	343.130	6406.71	8761.79	7410.47	-4920.14	1690172.81	14286825.21	39°20'34.352"N	80°49'26.442"W	8895.10	326.418	3.03	0.33	3.07	
15178.00	90.030	344.640	6406.64	8854.98	7500.77	-4946.23	1690146.73	14286915.47	39°20'35.245"N	80°49'26.772"W	8984.81	326.598	1.61	-0.03	1.61	
15271.00	90.060	349.210	6406.57	8947.16	7590.14	-4971.98	1690120.98	14287004.80	39°20'36.128"N	80°49'27.098"W	9073.63	326.773	1.54	0.03	-1.54	
15365.00	90.000	340.460	6406.52	9040.72	7679.44	-5001.28	1690091.70	14287094.07	39°20'37.012"N	80°49'27.468"W	9164.42	326.926	2.93	-0.06	-2.93	
15459.00	89.940	338.200	6406.57	9134.59	7767.39	-5034.46	1690058.54	14287181.98	39°20'37.882"N	80°49'27.888"W	9256.24	327.051	2.41	-0.06	-2.40	
15554.00	90.000	338.980	6406.62	9229.52	7855.83	-5068.14	1690023.87	14287270.39	39°20'38.756"N	80°49'28.328"W	9349.34	327.167	0.82	0.06	0.82	
15647.00	89.870	335.720	6406.64	9322.49	7941.64	-5104.95	1689988.08	14287356.17	39°20'39.605"N	80°49'28.782"W	9440.88	327.267	3.51	-0.03	-3.51	
15741.00	89.940	333.140	6406.71	9418.43	8028.43	-5145.51	1689947.53	14287440.92	39°20'40.444"N	80°49'29.298"W	9534.14	327.337	2.74	-0.03	-2.74	
15798.00	90.000	332.700	6406.73	9449.37	8055.81	-5160.54	1689932.51	14287470.29	39°20'40.735"N	80°49'29.486"W	9586.99	327.356	1.35	0.18	-1.33	
15798.00	90.000	332.700	6406.73	9473.32	8077.14	-5171.54	1689921.51	14287491.61	39°20'40.946"N	80°49'29.626"W	9590.88	327.370	0.00	0.00	0.00	Projected MD @ TD: 15798

HOLE & CASING SECTIONS - Ref Wellbore: Caboose Unit 1H AWB Ref Wellpath: Caboose Unit 1H AWP Proj: 15798'

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	32.00	112.00	80.00	32.00	112.00	0.00	0.00	-0.19	-0.49
17.5in Open Hole	112.00	551.00	439.00	112.00	550.98	-0.19	-0.49	0.00	-3.61
13.375in Casing Intermediate	32.00	551.00	519.00	32.00	550.98	0.00	0.00	0.00	-3.61
12.25in Open Hole	551.00	2666.00	2115.00	550.98	2608.17	0.00	-3.61	-188.80	-414.96
9.625in Casing Intermediate	32.00	2666.00	2634.00	32.00	2608.17	0.00	0.00	-188.80	-414.96
8.75in Open Hole	2666.00	6570.00	3904.00	2608.17	6269.84	-188.80	-414.96	-335.31	-1484.78
8.5in Open Hole	6570.00	15798.00	9228.00	6269.84	6406.73	-335.31	-1484.78	8077.14	-5171.54
5.5in Casing Production	32.00	15798.00	15766.00	32.00	6406.73	0.00	0.00	8077.14	-5171.54



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798'
Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #01
Area	Doddridge Co., WV	Well	Caboose Unit 1H
Field	Doddridge	Wellbore	Caboose Unit 1H AWB
Facility	Middle Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Caboose Unit 1H POE Rev-1	6367.00	-173.67	-1573.67	1693517.95	14279244.09	39°19'19.326"N	80°48'44.049"W	point
Caboose Unit 1H BHL Rev-1	6407.00	7990.61	-5148.92	1699944.12	14287405.12	39°20'40.090"N	80°49'29.340"W	point
Caboose Unit 1H LP Rev-1	6407.00	18.99	-1658.04	1699433.61	14279436.67	39°19'21.232"N	80°48'45.117"W	point

WELLPATH COMPOSITION - Ref Wellbore: Caboose Unit 1H AWB Ref Wellpath: Caboose Unit 1H AWP Proj: 15798'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment
32.00	517.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2"> (100'-500')
517.00	2592.00	ISCVSA MWD, Rev. 4 (Standard)	02 Directional ONE MWD <12-1/4"> (500')(559'-2576')
2592.00	6488.00	ISCVSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <8-3/4"> (2576')(2692'-6471')
6488.00	15774.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2"> (6488')(6546'-15774')
15774.00	15798.00	Blind Drilling (std)	Projection to bit
			Wellbore
			Caboose Unit 1H AWB
			Caboose Unit 1H AWB
			Caboose Unit 1H AWB
			Caboose Unit 1H AWB



Actual Wellpath Report

Caboose Unit 1H AWP Proj: 15798
Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	Slot	Slot #01	
ANTERO RESOURCES CORPORATION	Well	Caboose Unit 1H	
Doddridge Co., WV	Wellbore	Caboose Unit 1H AWB	
Doddridge			
Middle Pad			

COMMENTS
<p>Wellpath general comments API: 47-017-06818-0000 BH Job #: 9091793 Rig: Frontier 32 Duration: 04/05/18 - 04/08/18 Gyrodatta MS Gyro <17-1/2"> (100'-500') Directional ONE MWD <12-1/4"> (500')(559'-2575') Directional ONE MWD <8-3/4"> (2575')(2692'-6471') BH AT Curve <8-1/2"> (6488')(6546'-15774') Burket: 6618'MD / 6295'TVD Tully: 6679'MD / 6325'TVD Hamilton: 6755'D / 6357'TVD POE Marcellus: 6777'MD / 6365'TVD Projected MD @ TD: 15798</p>

02/08/2019