

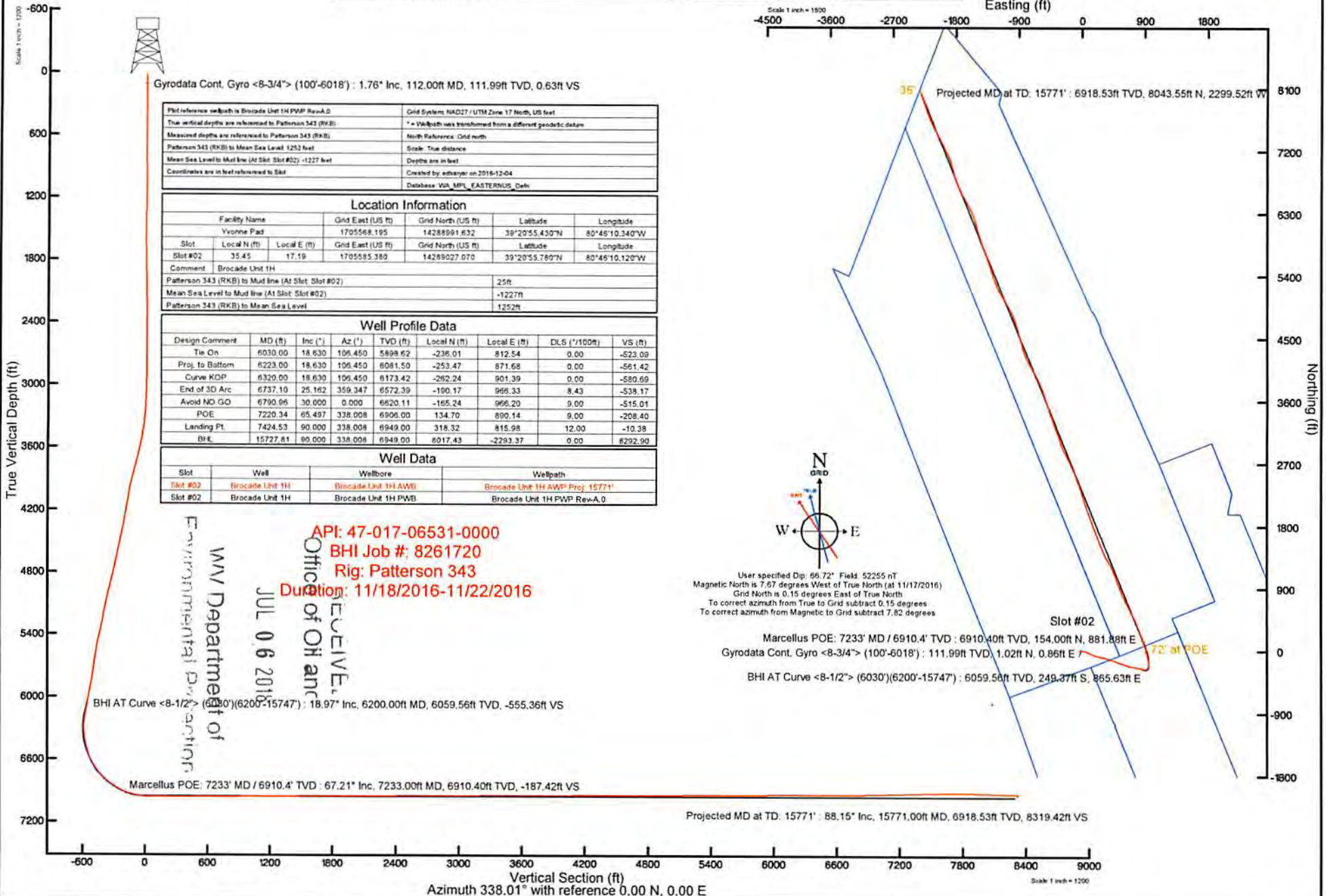


ANTERO RESOURCES CORPORATION



Location: Doddridge Co., WV
Field: Doddridge
Facility: Yvonne Pad

Slot: Slot #02
Well: Brocade Unit 1H
Wellbore: Brocade Unit 1H PWB





Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999605	Report Generated	12/4/2016 at 2:59:27 PM
Convergence at slot	0.15° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Brocade_Unit_1H_AWP_Proj_15771_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	35.45	17.19	1705585.38	14289027.07	39°20'55.780"N	80°46'10.120"W
Facility Reference Pt			1705568.20	14288991.63	39°20'55.430"N	80°46'10.340"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 343 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 343 (RKB) to Mean Sea Level	1252.00ft
Vertical Reference Pt	Patterson 343 (RKB)	Patterson 343 (RKB) to Mud Line at Slot (Slot #02)	25.00ft
MD Reference Pt	Patterson 343 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	338.01°

RECEIVED
 Office of Oil and Gas
 JUL 06 2018
 WV Department of Environmental Protection



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'

Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 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	39.950	0.00	0.00	0.00	0.00	1705585.38	14289027.07	39°20'55.780"N	80°46'10.120"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	39.950	25.00	0.00	0.00	0.00	1705585.38	14289027.07	39°20'55.780"N	80°46'10.120"W	0.00	0.000	0.00	0.00	0.00	
112.00	1.760	39.950	111.99	0.63	1.02	0.86	1705586.24	14289028.09	39°20'55.790"N	80°46'10.109"W	1.34	39.950	2.02	2.02	45.92	Gyrodata Cont. Gyro <8-3/4"> (100'-6018')
212.00	0.830	70.740	211.96	1.32	2.44	2.53	1705587.91	14289029.51	39°20'55.804"N	80°46'10.088"W	3.51	46.007	1.13	-0.93	30.79	
312.00	0.790	88.200	311.95	1.04	2.70	3.90	1705589.28	14289029.77	39°20'55.807"N	80°46'10.070"W	4.74	55.299	0.25	-0.04	17.46	
412.00	0.790	84.250	411.94	0.61	2.79	5.28	1705590.65	14289029.86	39°20'55.807"N	80°46'10.053"W	5.97	62.113	0.05	0.00	-3.95	
512.00	0.440	62.020	511.94	0.46	3.04	6.30	1705591.68	14289030.11	39°20'55.810"N	80°46'10.040"W	7.00	64.236	0.42	-0.35	-22.23	
612.00	0.290	299.240	611.93	0.70	3.34	6.42	1705591.80	14289030.41	39°20'55.813"N	80°46'10.038"W	7.24	62.477	0.64	-0.15	-122.78	
712.00	2.150	262.020	711.91	1.35	3.21	4.34	1705589.72	14289030.28	39°20'55.812"N	80°46'10.065"W	5.40	53.531	1.93	1.86	-37.22	
812.00	2.530	262.840	811.82	2.37	2.67	0.29	1705585.67	14289029.74	39°20'55.806"N	80°46'10.116"W	2.69	6.249	0.38	0.38	0.82	
912.00	2.290	263.560	911.74	3.47	2.17	-3.88	1705581.50	14289029.24	39°20'55.802"N	80°46'10.169"W	4.45	299.238	0.24	-0.24	0.72	
1012.00	1.840	255.100	1011.67	4.20	1.54	-7.42	1705577.96	14289028.61	39°20'55.795"N	80°46'10.214"W	7.58	281.699	0.54	-0.45	-8.46	
1112.00	1.700	247.840	1111.62	4.40	0.56	-10.34	1705575.04	14289027.63	39°20'55.786"N	80°46'10.252"W	10.36	273.121	0.26	-0.14	-7.26	
1212.00	1.530	235.890	1211.58	4.11	-0.74	-12.82	1705572.56	14289026.33	39°20'55.773"N	80°46'10.283"W	12.85	266.679	0.38	-0.17	-11.95	
1312.00	1.150	217.090	1311.56	3.32	-2.29	-14.53	1705570.85	14289024.78	39°20'55.758"N	80°46'10.305"W	14.71	261.033	0.58	-0.38	-18.80	
1412.00	0.620	200.780	1411.54	2.40	-3.60	-15.33	1705570.05	14289023.47	39°20'55.745"N	80°46'10.315"W	15.75	256.787	0.58	-0.53	-16.31	
1512.00	0.180	83.350	1511.54	1.96	-4.09	-15.37	1705570.02	14289022.98	39°20'55.740"N	80°46'10.316"W	15.90	255.106	0.72	-0.44	-117.43	
1612.00	0.680	13.220	1611.54	2.41	-3.49	-15.08	1705570.31	14289023.58	39°20'55.746"N	80°46'10.312"W	15.47	256.960	0.64	0.50	-70.13	
1712.00	0.960	358.670	1711.53	3.68	-2.08	-14.96	1705570.43	14289024.99	39°20'55.760"N	80°46'10.311"W	15.10	262.098	0.35	0.28	-14.55	
1812.00	1.040	358.410	1811.51	5.31	-0.33	-15.00	1705570.38	14289026.74	39°20'55.777"N	80°46'10.311"W	15.01	268.734	0.08	0.08	-0.26	
1912.00	1.070	359.820	1911.50	7.03	1.51	-15.03	1705570.35	14289028.58	39°20'55.795"N	80°46'10.311"W	15.11	275.734	0.04	0.03	1.41	
2012.00	1.070	0.690	2011.48	8.76	3.38	-15.02	1705570.36	14289030.45	39°20'55.814"N	80°46'10.311"W	15.40	282.667	0.02	0.00	0.87	
2112.00	0.970	1.860	2111.46	10.39	5.16	-14.98	1705570.40	14289032.22	39°20'55.831"N	80°46'10.311"W	15.85	288.988	0.10	-0.10	1.17	
2212.00	0.290	32.710	2211.46	11.31	5.22	-14.82	1705570.57	14289033.28	39°20'55.842"N	80°46'10.308"W	16.07	292.751	0.74	-0.68	30.85	
2312.00	0.250	39.230	2311.46	11.56	6.60	-14.55	1705570.84	14289033.66	39°20'55.846"N	80°46'10.305"W	15.97	294.396	0.05	-0.04	6.52	
2412.00	0.270	32.480	2411.46	11.81	6.96	-14.28	1705571.10	14289034.03	39°20'55.849"N	80°46'10.302"W	15.89	295.998	0.04	0.02	-6.75	
2512.00	0.300	23.660	2511.45	12.13	7.40	-14.05	1705571.34	14289034.47	39°20'55.853"N	80°46'10.299"W	15.88	297.787	0.05	0.03	-8.82	
2612.00	0.320	11.800	2611.45	12.54	7.92	-13.89	1705571.50	14289034.98	39°20'55.859"N	80°46'10.297"W	15.99	299.685	0.07	0.02	-11.86	
2712.00	0.400	36.920	2711.45	12.95	8.47	-13.62	1705571.76	14289035.54	39°20'55.864"N	80°46'10.293"W	16.04	301.872	0.17	0.08	25.12	
2812.00	2.570	83.980	2811.41	12.52	8.98	-11.18	1705574.20	14289036.05	39°20'55.869"N	80°46'10.262"W	14.34	308.779	2.32	2.17	47.06	

ent o



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
2912.00	2.540	81.340	2911.31	11.39	9.55	-6.76	1705578.62	14289036.62	39°20'55.875"N	80°46'10.206"W	11.70	324.709	0.12	-0.03	-2.64	
3012.00	3.880	92.940	3011.16	9.45	9.71	-1.19	1705584.19	14289036.78	39°20'55.876"N	80°46'10.135"W	9.78	353.007	1.48	1.34	11.60	
3112.00	6.180	93.780	3110.76	5.68	9.18	7.56	1705592.94	14289036.25	39°20'55.871"N	80°46'10.023"W	11.89	39.460	2.30	2.30	0.84	
3212.00	6.970	97.010	3210.11	0.40	8.09	18.95	1705604.33	14289035.16	39°20'55.859"N	80°46'09.878"W	20.61	66.889	0.87	0.79	3.23	
3312.00	9.100	101.710	3309.12	-6.93	5.74	32.72	1705618.09	14289032.81	39°20'55.836"N	80°46'09.703"W	33.22	80.046	2.23	2.13	4.70	
3412.00	11.200	109.040	3407.55	-17.69	0.97	49.65	1705635.01	14289028.04	39°20'55.788"N	80°46'09.488"W	49.66	88.882	2.46	2.10	7.33	
3512.00	14.020	110.130	3505.13	-32.19	-6.37	70.20	1705655.56	14289020.70	39°20'55.715"N	80°46'09.227"W	70.49	95.184	2.83	2.82	1.09	
3612.00	17.360	112.280	3601.39	-50.74	-16.20	95.39	1705680.73	14289010.88	39°20'55.617"N	80°46'08.906"W	96.75	99.637	3.39	3.34	2.15	
3712.00	19.700	113.430	3696.20	-73.16	-28.56	124.66	1705709.99	14288998.52	39°20'55.495"N	80°46'08.534"W	127.89	102.902	2.37	2.34	1.15	
3812.00	20.730	113.490	3790.04	-97.78	-42.31	156.36	1705741.68	14288984.77	39°20'55.358"N	80°46'08.131"W	161.99	105.143	1.03	1.03	0.06	
3912.00	21.010	113.350	3883.48	-123.15	-56.47	189.05	1705774.36	14288970.62	39°20'55.217"N	80°46'07.715"W	197.31	106.632	0.28	0.28	-0.14	
4012.00	17.440	106.540	3977.90	-145.25	-67.85	219.89	1705805.18	14288959.25	39°20'55.104"N	80°46'07.323"W	230.12	107.148	4.21	-3.57	-6.81	
4112.00	16.350	102.590	4073.59	-162.57	-75.18	247.99	1705833.27	14288951.92	39°20'55.031"N	80°46'06.966"W	259.14	106.866	1.58	-1.09	-3.95	
4212.00	16.740	103.460	4169.45	-178.92	-81.60	275.74	1705861.01	14288945.50	39°20'54.966"N	80°46'06.613"W	287.56	106.486	0.46	0.39	0.87	
4312.00	16.780	101.350	4265.20	-195.20	-87.80	303.89	1705889.15	14288939.31	39°20'54.905"N	80°46'06.255"W	316.32	106.114	0.61	0.04	-2.11	
4412.00	17.040	104.700	4360.88	-211.89	-94.36	332.22	1705917.47	14288932.75	39°20'54.839"N	80°46'05.894"W	345.36	105.856	1.01	0.26	3.35	
4512.00	18.470	107.470	4456.11	-230.71	-102.83	361.50	1705946.74	14288924.28	39°20'54.754"N	80°46'05.522"W	375.84	105.879	1.66	1.43	2.77	
4612.00	18.910	106.270	4550.84	-250.81	-112.13	392.17	1705977.39	14288914.99	39°20'54.662"N	80°46'05.132"W	407.88	105.956	0.58	0.44	-1.20	
4712.00	19.320	105.340	4645.33	-270.88	-121.04	423.68	1706008.89	14288906.08	39°20'54.573"N	80°46'04.731"W	440.63	105.944	0.51	0.41	-0.93	
4812.00	18.550	108.320	4739.92	-291.20	-130.42	454.73	1706039.93	14288896.70	39°20'54.479"N	80°46'04.336"W	473.06	106.003	1.24	-0.77	2.98	
4912.00	19.600	111.440	4834.43	-313.02	-141.55	485.45	1706070.63	14288885.58	39°20'54.369"N	80°46'03.945"W	505.66	106.256	1.46	1.05	3.12	
5012.00	20.240	111.430	4928.44	-336.44	-154.00	517.16	1706102.33	14288873.13	39°20'54.245"N	80°46'03.542"W	539.60	106.583	0.64	0.64	-0.01	
5112.00	19.320	110.350	5022.54	-359.48	-166.07	548.77	1706133.93	14288861.06	39°20'54.125"N	80°46'03.140"W	573.35	106.837	0.99	-0.92	-1.08	
5212.00	16.000	108.310	5117.82	-379.54	-176.16	577.37	1706162.52	14288850.98	39°20'54.024"N	80°46'02.776"W	603.65	106.967	3.38	-3.32	-2.04	
5312.00	17.380	107.170	5213.60	-397.88	-184.90	604.73	1706189.87	14288842.25	39°20'53.937"N	80°46'02.428"W	632.36	107.001	1.42	1.38	-1.14	
5412.00	18.570	107.790	5308.72	-417.50	-194.17	634.16	1706219.29	14288832.97	39°20'53.845"N	80°46'02.054"W	663.22	107.024	1.21	1.19	0.62	
5512.00	18.170	107.880	5403.62	-437.69	-203.82	664.16	1706249.28	14288823.33	39°20'53.749"N	80°46'01.672"W	694.73	107.061	0.40	-0.40	0.09	
5612.00	18.260	107.820	5498.61	-457.71	-213.41	693.92	1706279.02	14288813.75	39°20'53.653"N	80°46'01.294"W	725.99	107.095	0.09	0.09	-0.06	
5712.00	15.710	101.160	5594.45	-475.15	-220.82	722.12	1706307.21	14288806.34	39°20'53.579"N	80°46'00.935"W	755.13	107.003	3.20	-2.55	-6.66	
5812.00	14.970	96.110	5690.69	-488.64	-224.82	748.25	1706333.33	14288802.34	39°20'53.539"N	80°46'00.603"W	781.29	106.723	1.53	-0.74	-5.05	

Department of
 Oil and Gas
 Well Path Protection



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	["/100ft]	["/100ft]	["/100ft]	
5912.00	17.880	97.520	5786.60	-502.29	-228.20	776.31	1706361.39	14288798.96	39°20'53.505"N	80°46'00.246"W	809.16	106.381	2.94	2.91	1.41	
6012.00	18.700	105.270	5881.56	-519.56	-234.43	807.00	1706392.06	14288792.73	39°20'53.442"N	80°45'59.855"W	840.37	106.199	2.56	0.82	7.75	
6030.00	18.630	106.450	5898.62	-523.09	-236.01	812.54	1706397.60	14288791.16	39°20'53.427"N	80°45'59.785"W	846.13	106.196	2.13	-0.39	6.56	
6200.00	18.970	101.850	6059.56	-555.36	-249.37	865.63	1706450.67	14288777.80	39°20'53.293"N	80°45'59.109"W	900.84	106.071	0.89	0.20	-2.71	BHI AT Curve <8-1/2"> (6030')(6200'-15747')
6265.00	19.300	100.530	6120.97	-567.02	-253.51	886.53	1706471.56	14288773.67	39°20'53.252"N	80°45'58.844"W	922.07	105.958	0.84	0.51	-2.03	
6312.00	17.440	100.140	6165.57	-574.94	-256.16	901.10	1706486.13	14288771.01	39°20'53.225"N	80°45'58.658"W	936.81	105.869	3.97	-3.96	-0.83	
6359.00	15.380	92.640	6210.66	-581.29	-257.69	914.27	1706499.28	14288769.48	39°20'53.210"N	80°45'58.491"W	949.89	105.741	6.28	-4.38	-15.96	
6406.00	14.150	78.940	6256.12	-584.98	-256.88	926.13	1706511.15	14288770.29	39°20'53.218"N	80°45'58.340"W	961.10	105.502	7.85	-2.62	-29.15	
6453.00	12.990	63.130	6301.82	-585.62	-253.39	936.49	1706521.50	14288773.78	39°20'53.252"N	80°45'58.208"W	970.16	105.140	8.24	-2.47	-33.64	
6501.00	12.360	48.150	6348.66	-583.41	-247.52	945.13	1706530.13	14288779.65	39°20'53.310"N	80°45'58.097"W	977.00	104.676	6.95	-1.31	-31.21	
6548.00	12.410	34.990	6394.58	-578.95	-240.02	951.77	1706536.78	14288787.14	39°20'53.383"N	80°45'58.013"W	981.57	104.154	5.99	0.11	-28.00	
6595.00	15.220	22.080	6440.23	-571.76	-230.17	956.99	1706541.99	14288797.00	39°20'53.481"N	80°45'57.946"W	984.28	103.523	8.84	5.98	-27.47	
6642.00	17.190	13.150	6485.36	-561.65	-217.68	960.89	1706545.89	14288809.47	39°20'53.604"N	80°45'57.896"W	985.24	102.764	6.75	4.19	-19.00	
6690.00	21.240	7.330	6530.68	-548.26	-202.14	963.62	1706548.61	14288825.01	39°20'53.758"N	80°45'57.861"W	984.59	101.847	9.32	8.44	-12.12	
6737.00	25.290	3.430	6573.86	-531.76	-183.67	965.30	1706550.30	14288843.47	39°20'53.940"N	80°45'57.839"W	982.62	100.773	9.21	8.62	-8.30	
6784.00	28.990	357.370	6615.68	-511.94	-162.26	965.38	1706550.38	14288864.88	39°20'54.152"N	80°45'57.837"W	978.92	99.541	9.82	7.87	-12.89	
6831.00	32.880	348.430	6656.01	-488.62	-138.36	962.30	1706547.30	14288888.76	39°20'54.388"N	80°45'57.875"W	972.19	98.182	12.79	8.28	-19.02	
6878.00	36.820	345.620	6694.57	-462.10	-112.21	956.24	1706541.24	14288914.91	39°20'54.647"N	80°45'57.952"W	962.80	96.693	9.05	8.38	-5.98	
6882.00†	37.136	345.683	6697.77	-459.72	-109.88	955.64	1706540.64	14288917.24	39°20'54.670"N	80°45'57.959"W	961.94	96.559	7.95	7.89	1.58	Middlesex: 6882' MD / 6697.8' TVD
6925.00	40.530	346.310	6731.26	-433.02	-83.72	949.12	1706534.13	14288943.38	39°20'54.928"N	80°45'58.041"W	952.81	95.041	7.95	7.89	1.46	
6973.00	45.070	348.460	6766.47	-400.86	-51.90	942.03	1706527.04	14288975.19	39°20'55.243"N	80°45'58.130"W	943.46	93.153	9.93	9.46	4.48	
7020.00	49.090	346.740	6798.47	-366.93	-18.30	934.62	1706519.63	14289008.78	39°20'55.575"N	80°45'58.224"W	934.80	91.122	8.96	8.55	-3.66	
7065.00†	53.350	344.926	6826.65	-332.19	15.70	926.02	1706511.04	14289042.77	39°20'55.912"N	80°45'58.332"W	926.16	89.029	9.97	9.47	-4.03	Burkett: 7065' MD / 6826.7' TVD
7067.00	53.540	344.850	6827.84	-330.59	17.25	925.61	1706510.62	14289044.32	39°20'55.927"N	80°45'58.337"W	925.77	88.932	9.97	9.50	-3.79	
7114.00	57.800	343.240	6854.35	-292.00	54.56	914.93	1706499.94	14289081.60	39°20'56.296"N	80°45'58.472"W	916.55	86.588	9.49	9.06	-3.43	
7124.00†	58.306	343.006	6859.64	-283.55	62.68	912.46	1706497.48	14289089.72	39°20'56.376"N	80°45'58.503"W	914.61	86.071	5.43	5.06	-2.34	Tully: 7124' MD / 6859.6' TVD
7161.00	60.180	342.160	6878.56	-251.86	93.01	902.94	1706487.97	14289120.04	39°20'56.676"N	80°45'58.623"W	907.72	84.119	5.43	5.07	-2.29	
7208.00	64.860	340.500	6900.24	-210.24	132.50	889.59	1706474.62	14289139.51	39°20'57.067"N	80°45'58.792"W	899.40	81.529	10.44	9.96	-3.53	
7233.00†	67.211	340.046	6910.40	-187.42	154.00	881.88	1706466.91	14289181.01	39°20'57.280"N	80°45'58.889"W	895.22	80.094	9.55	9.40	-1.81	Marcellus POE: 7233' MD / 6910.4' TVD
7255.00	69.280	339.660	6918.55	-167.00	173.18	874.84	1706459.87	14289200.18	39°20'57.469"N	80°45'58.978"W	891.82	78.803	9.55	9.41	-1.76	

RECEIVED
 OH and Gas
 J 6 2018
 Department of
 Environmental Protection



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 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
7302.00	74.870	339.920	6933.01	-122.32	215.13	859.40	1706444.44	14289242.12	39°20'57.884"N	80°45'59.173"W	885.92	75.946	11.91	11.89	0.55	
7349.00	79.950	339.570	6943.25	-76.48	258.15	843.52	1706428.57	14289285.12	39°20'58.310"N	80°45'59.374"W	882.14	72.984	10.83	10.81	-0.74	
7396.00	85.100	339.890	6949.36	-29.92	301.85	827.38	1706412.44	14289328.80	39°20'58.742"N	80°45'59.578"W	880.73	69.957	10.98	10.96	0.68	
7443.00	89.750	340.230	6951.47	16.99	345.98	811.38	1706396.43	14289372.91	39°20'59.179"N	80°45'59.780"W	882.06	66.906	9.92	9.89	0.72	
7537.00	89.080	335.450	6952.43	110.96	433.00	775.93	1706361.00	14289459.90	39°21'00.040"N	80°46'00.229"W	888.57	60.837	5.13	-0.71	-5.09	
7632.00	89.200	334.300	6953.86	205.80	519.00	735.60	1706320.69	14289545.87	39°21'00.891"N	80°46'00.739"W	900.26	54.795	1.22	0.13	-1.21	
7726.00	90.000	332.910	6954.52	299.52	603.20	693.82	1706278.92	14289630.03	39°21'01.724"N	80°46'01.269"W	919.36	48.997	1.71	0.85	-1.48	
7820.00	90.060	332.520	6954.47	393.12	686.74	650.72	1706235.85	14289713.54	39°21'02.551"N	80°46'01.814"W	946.07	43.458	0.42	0.06	-0.41	
7914.00	90.710	335.930	6953.83	486.90	771.37	609.86	1706194.99	14289798.14	39°21'03.388"N	80°46'02.332"W	983.33	38.330	3.69	0.69	3.63	
8009.00	90.800	337.620	6952.58	581.86	858.66	572.40	1706157.55	14289885.39	39°21'04.252"N	80°46'02.806"W	1031.96	33.688	1.78	0.09	1.78	
8103.00	90.090	337.290	6951.85	675.85	945.48	536.36	1706121.53	14289972.17	39°21'05.111"N	80°46'03.262"W	1087.02	29.566	0.83	-0.76	-0.35	
8198.00	90.520	342.840	6951.35	770.75	1034.75	503.98	1706089.16	14290061.41	39°21'05.994"N	80°46'03.671"W	1150.96	25.969	5.86	0.45	5.84	
8293.00	90.650	338.430	6950.38	865.63	1124.35	472.49	1706057.68	14290150.97	39°21'06.881"N	80°46'04.069"W	1219.59	22.794	4.64	0.14	-4.64	
8387.00	90.400	334.200	6949.51	959.56	1210.40	434.74	1706019.95	14290236.99	39°21'07.732"N	80°46'04.547"W	1286.11	19.757	4.51	-0.27	-4.50	
8481.00	90.370	326.170	6948.88	1052.61	1291.89	388.04	1705973.27	14290318.45	39°21'08.539"N	80°46'05.138"W	1348.91	16.719	8.54	-0.03	-8.54	
8576.00	90.460	335.200	6948.19	1146.73	1374.64	341.58	1705926.82	14290401.16	39°21'09.358"N	80°46'05.727"W	1416.44	13.955	9.51	0.09	9.51	
8670.00	90.400	337.690	6947.49	1240.69	1460.80	304.02	1705889.28	14290487.29	39°21'10.210"N	80°46'06.202"W	1492.10	11.756	2.65	-0.06	2.65	
8764.00	90.460	337.730	6946.78	1334.68	1547.77	268.37	1705853.64	14290574.23	39°21'11.071"N	80°46'06.653"W	1570.87	9.837	0.08	0.06	0.04	
8859.00	90.310	339.540	6946.14	1429.67	1636.24	233.76	1705819.05	14290662.66	39°21'11.946"N	80°46'07.091"W	1652.85	8.130	1.91	-0.16	1.91	
8953.00	90.250	339.000	6945.68	1523.65	1724.15	200.49	1705785.79	14290750.54	39°21'12.816"N	80°46'07.512"W	1735.77	6.633	0.58	-0.06	-0.57	
9047.00	90.310	340.340	6945.22	1617.60	1812.29	167.83	1705753.14	14290838.64	39°21'13.688"N	80°46'07.925"W	1820.05	5.291	1.43	0.06	1.43	
9142.00	90.250	338.640	6944.76	1712.57	1901.27	134.55	1705719.87	14290927.58	39°21'14.568"N	80°46'08.345"W	1906.02	4.048	1.79	-0.06	-1.79	
9236.00	90.220	340.810	6944.37	1806.52	1989.44	101.97	1705687.31	14291015.72	39°21'15.440"N	80°46'08.757"W	1992.05	2.934	2.31	-0.03	2.31	
9331.00	90.120	340.310	6944.09	1901.42	2079.02	70.36	1705655.71	14291105.26	39°21'16.326"N	80°46'09.157"W	2080.21	1.938	0.54	-0.11	-0.53	
9425.00	90.180	341.470	6943.85	1995.30	2167.84	39.58	1705624.95	14291194.05	39°21'17.205"N	80°46'09.546"W	2168.20	1.046	1.24	0.06	1.23	
9519.00	90.340	343.440	6943.42	2089.01	2257.16	11.25	1705596.62	14291283.63	39°21'18.091"N	80°46'09.904"W	2257.49	0.285	2.10	0.17	2.10	
9613.00	90.280	342.240	6942.91	2182.68	2347.27	-16.48	1705568.90	14291373.41	39°21'18.980"N	80°46'10.254"W	2347.33	359.598	1.28	-0.06	-1.28	
9708.00	90.250	341.460	6942.47	2277.46	2437.64	-46.08	1705539.32	14291463.64	39°21'19.873"N	80°46'10.627"W	2437.98	358.917	0.82	-0.03	-0.82	
9802.00	90.220	336.680	6942.09	2371.42	2528.31	-79.65	1705509.77	14291551.38	39°21'20.741"N	80°46'11.052"W	2526.57	358.194	5.09	-0.03	-5.09	
9896.00	90.310	336.340	6941.65	2465.39	2618.52	-117.11	1705468.31	14291637.56	39°21'21.594"N	80°46'11.526"W	2614.15	357.432	0.37	0.10	-0.36	

10/18/2016 1:57 PM
 W.A. [unreadable]
 [unreadable] 10/18/2016
 [unreadable] [unreadable]



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 stations)																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	("/100ft)	("/100ft)	("/100ft)	
9990.00	90.220	335.610	6941.22	2559.32	2697.38	-155.38	1705430.06	14291723.38	39°21'22.444"N	80°46'12.011"W	2701.85	356.703	0.78	-0.10	-0.78	
10085.00	90.310	332.700	6940.78	2654.10	2782.87	-196.79	1705388.67	14291808.83	39°21'23.290"N	80°46'12.535"W	2789.82	355.955	3.06	0.09	-3.06	
10179.00	90.340	334.410	6940.24	2747.81	2867.03	-238.65	1705346.82	14291892.96	39°21'24.122"N	80°46'13.065"W	2876.94	355.242	1.82	0.03	1.82	
10273.00	90.280	339.040	6939.73	2841.76	2953.35	-275.79	1705309.70	14291979.25	39°21'24.977"N	80°46'13.535"W	2966.20	354.665	4.93	-0.06	4.93	
10368.00	90.280	341.990	6939.27	2936.66	3042.90	-307.47	1705278.03	14292068.76	39°21'25.862"N	80°46'13.935"W	3058.39	354.230	3.11	0.00	3.11	
10462.00	90.340	338.670	6938.76	3030.56	3131.40	-339.11	1705246.41	14292157.23	39°21'26.738"N	80°46'14.335"W	3149.71	353.819	3.53	0.06	-3.53	
10556.00	90.220	338.590	6938.30	3124.56	3218.94	-373.36	1705212.17	14292244.73	39°21'27.604"N	80°46'14.769"W	3240.52	353.384	0.15	-0.13	-0.09	
10651.00	90.250	341.750	6937.91	3219.48	3308.29	-405.58	1705179.96	14292334.05	39°21'28.488"N	80°46'15.176"W	3333.06	353.011	3.33	0.03	3.33	
10745.00	90.250	341.740	6937.50	3313.28	3397.56	-435.02	1705150.53	14292423.28	39°21'29.371"N	80°46'15.548"W	3425.30	352.704	0.01	0.00	-0.01	
10839.00	90.280	341.080	6937.07	3407.11	3486.65	-464.99	1705120.57	14292512.34	39°21'30.252"N	80°46'15.927"W	3517.52	352.404	0.70	0.03	-0.70	
10933.00	90.280	339.860	6936.61	3501.02	3575.24	-496.41	1705089.16	14292600.89	39°21'31.129"N	80°46'16.324"W	3609.54	352.095	1.30	0.00	-1.30	
11028.00	90.280	342.180	6936.14	3595.88	3665.07	-527.31	1705058.28	14292690.68	39°21'32.017"N	80°46'16.714"W	3702.81	351.813	2.44	0.00	2.44	
11122.00	90.400	340.840	6935.59	3689.70	3754.21	-557.12	1705028.48	14292779.79	39°21'32.899"N	80°46'17.091"W	3795.33	351.559	1.43	0.13	-1.43	
11216.00	90.090	336.680	6935.18	3783.67	3841.81	-591.17	1704994.45	14292867.35	39°21'33.766"N	80°46'17.521"W	3887.03	351.252	4.44	-0.33	-4.43	
11311.00	90.220	333.490	6934.93	3878.54	3927.96	-631.18	1704954.45	14292953.47	39°21'34.618"N	80°46'18.028"W	3978.35	350.871	3.36	0.14	-3.36	
11405.00	90.340	331.170	6934.47	3972.07	4011.20	-674.83	1704910.82	14293036.68	39°21'35.442"N	80°46'18.581"W	4067.57	350.450	2.47	0.13	-2.47	
11499.00	90.220	329.860	6934.01	4066.26	4098.02	-721.09	1704864.57	14293118.47	39°21'36.252"N	80°46'19.167"W	4156.06	350.008	1.40	-0.13	-1.39	
11594.00	90.120	334.010	6933.73	4159.71	4176.83	-765.78	1704819.91	14293202.24	39°21'37.081"N	80°46'19.734"W	4246.45	349.611	4.37	-0.11	4.37	
11689.00	90.220	340.410	6933.44	4254.65	4264.37	-802.56	1704783.14	14293289.75	39°21'37.947"N	80°46'20.199"W	4339.23	349.342	6.74	0.11	6.74	
11783.00	90.250	343.820	6933.06	4348.36	4353.81	-831.42	1704754.29	14293379.15	39°21'38.832"N	80°46'20.564"W	4432.49	349.189	3.63	0.03	3.63	
11877.00	90.400	344.220	6932.52	4441.87	4444.18	-857.30	1704728.42	14293469.48	39°21'39.726"N	80°46'20.890"W	4526.11	349.082	0.45	0.16	0.43	
11971.00	90.430	344.400	6931.84	4535.30	4534.67	-882.72	1704703.01	14293559.94	39°21'40.621"N	80°46'21.211"W	4619.79	348.985	0.19	0.03	0.19	
12066.00	89.600	345.510	6931.82	4629.89	4626.42	-907.38	1704678.36	14293651.65	39°21'41.528"N	80°46'21.522"W	4714.56	348.903	1.46	-0.87	1.17	
12160.00	90.180	343.180	6932.00	4723.02	4716.92	-932.74	1704653.01	14293742.12	39°21'42.423"N	80°46'21.842"W	4808.26	348.814	2.55	0.62	-2.48	
12254.00	90.280	336.640	6931.62	4816.92	4805.15	-965.01	1704620.75	14293830.32	39°21'43.296"N	80°46'22.250"W	4901.10	348.644	6.96	0.11	-6.96	
12349.00	90.250	332.940	6931.18	4911.79	4891.09	-1005.47	1704580.31	14293916.22	39°21'44.147"N	80°46'22.762"W	4993.37	348.383	3.89	-0.03	-3.89	
12443.00	90.430	330.330	6930.62	5005.16	4973.80	-1050.12	1704535.67	14293998.89	39°21'44.965"N	80°46'23.328"W	5083.44	348.078	2.78	0.19	-2.78	
12538.00	90.220	330.300	6930.09	5099.30	5056.33	-1097.17	1704488.65	14294081.39	39°21'45.782"N	80°46'23.925"W	5173.99	347.757	0.22	-0.22	-0.03	
12632.00	90.430	329.130	6929.55	5192.32	5137.50	-1144.57	1704441.26	14294162.53	39°21'46.585"N	80°46'24.526"W	5263.45	347.440	1.26	0.22	-1.24	
12727.00	89.480	331.250	6929.63	5286.43	5219.92	-1191.80	1704394.06	14294244.92	39°21'47.401"N	80°46'25.124"W	5354.24	347.139	2.45	-1.00	2.23	



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 7 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 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
12821.00	90.830	341.630	6929.37	5380.26	5305.96	-1229.32	1704356.55	14294330.93	39°21'48.253"N	80°46'25.599"W	5446.51	346.956	11.14	1.44	11.04	
12916.00	90.430	340.750	6928.33	5475.11	5395.88	-1259.95	1704325.94	14294420.81	39°21'49.142"N	80°46'25.986"W	5541.03	346.857	1.02	-0.42	-0.93	
13010.00	90.120	343.340	6927.88	5568.87	5485.30	-1288.92	1704296.97	14294510.19	39°21'50.027"N	80°46'26.352"W	5634.70	346.777	2.77	-0.33	2.76	
13104.00	90.370	343.430	6927.47	5662.45	5575.37	-1315.80	1704270.10	14294600.23	39°21'50.917"N	80°46'26.692"W	5728.53	346.721	0.28	0.27	0.10	
13199.00	90.180	341.650	6927.02	5757.15	5665.99	-1344.30	1704241.61	14294690.81	39°21'51.814"N	80°46'27.052"W	5823.28	346.653	1.88	-0.20	-1.87	
13293.00	90.400	335.210	6926.54	5851.10	5753.36	-1378.84	1704207.09	14294778.14	39°21'52.678"N	80°46'27.489"W	5916.28	346.523	6.85	0.23	-6.85	
13388.00	90.430	341.420	6925.85	5946.05	5841.59	-1413.92	1704172.02	14294866.34	39°21'53.551"N	80°46'27.932"W	6010.27	346.394	6.54	0.03	6.54	
13482.00	90.400	343.040	6925.17	6039.79	5931.10	-1442.61	1704143.34	14294955.81	39°21'54.436"N	80°46'28.295"W	6104.02	346.330	1.72	-0.03	1.72	
13576.00	89.940	341.660	6924.89	6133.51	6020.67	-1471.11	1704114.85	14295045.35	39°21'55.322"N	80°46'28.655"W	6197.80	346.269	1.55	-0.49	-1.47	
13671.00	90.120	347.500	6924.84	6227.85	6112.21	-1496.36	1704089.61	14295136.86	39°21'56.228"N	80°46'28.973"W	6292.71	346.244	6.15	0.19	6.15	
13765.00	89.940	342.860	6924.79	6321.09	6203.06	-1520.40	1704065.59	14295227.67	39°21'57.126"N	80°46'29.277"W	6386.67	346.228	4.94	-0.19	-4.94	
13859.00	89.850	337.370	6924.97	6414.99	6291.42	-1552.36	1704033.64	14295315.99	39°21'58.000"N	80°46'29.681"W	6480.11	346.140	5.84	-0.10	-5.84	
13954.00	90.030	332.860	6925.07	6509.84	6377.58	-1592.32	1703993.69	14295402.12	39°21'58.853"N	80°46'30.187"W	6573.36	345.981	4.75	0.19	-4.75	
14048.00	89.720	329.930	6925.27	6603.21	6460.10	-1637.32	1703948.71	14295484.60	39°21'59.670"N	80°46'30.757"W	6664.36	345.778	3.13	-0.33	-3.12	
14142.00	90.490	328.990	6925.10	6696.16	6541.06	-1685.09	1703900.96	14295565.53	39°22'00.471"N	80°46'31.363"W	6754.62	345.554	1.29	0.82	-1.00	
14235.00	91.290	333.200	6923.65	6788.45	6622.44	-1730.02	1703856.04	14295646.88	39°22'01.276"N	80°46'31.932"W	6844.68	345.359	4.61	0.86	4.53	
14330.00	91.170	340.310	6921.61	6883.35	6709.65	-1767.48	1703818.60	14295734.06	39°22'02.139"N	80°46'32.407"W	6938.55	345.242	7.48	-0.13	7.48	
14426.00	91.170	339.420	6919.65	6979.27	6799.77	-1800.52	1703785.57	14295824.14	39°22'03.031"N	80°46'32.824"W	7034.11	345.169	0.93	0.00	-0.93	
14520.00	91.290	345.330	6917.63	7072.94	6889.29	-1828.96	1703757.14	14295913.63	39°22'03.916"N	80°46'33.184"W	7127.94	345.132	6.29	0.13	6.29	
14615.00	91.260	346.870	6915.52	7166.97	6981.49	-1851.78	1703734.34	14296005.78	39°22'04.828"N	80°46'33.471"W	7222.90	345.145	1.62	-0.03	1.62	
14709.00	91.290	339.680	6913.42	7260.49	7071.43	-1878.81	1703707.32	14296095.69	39°22'05.718"N	80°46'33.813"W	7316.76	345.121	7.65	0.03	-7.65	
14804.00	91.350	334.590	6911.23	7355.42	7158.91	-1915.70	1703670.44	14296183.14	39°22'06.583"N	80°46'34.280"W	7410.80	345.019	5.36	0.06	-5.36	
14898.00	91.230	333.210	6909.12	7449.15	7243.30	-1957.04	1703629.12	14296267.50	39°22'07.418"N	80°46'34.803"W	7503.03	344.880	1.47	-0.13	-1.47	
14992.00	91.320	332.820	6907.03	7542.77	7327.05	-1999.68	1703586.49	14296351.21	39°22'08.247"N	80°46'35.344"W	7595.02	344.735	0.43	0.10	-0.41	
15086.00	91.230	331.820	6904.93	7636.28	7410.27	-2043.34	1703542.85	14296434.39	39°22'09.071"N	80°46'35.897"W	7686.83	344.584	1.07	-0.10	-1.06	
15181.00	91.230	332.660	6902.90	7730.78	7494.31	-2087.58	1703498.63	14296518.41	39°22'09.902"N	80°46'36.457"W	7779.63	344.435	0.88	0.00	0.88	
15275.00	88.650	334.070	6902.99	7824.46	7578.33	-2129.71	1703456.51	14296602.39	39°22'10.734"N	80°46'36.991"W	7871.90	344.303	3.13	-2.74	1.50	
15369.00	87.880	337.020	6905.84	7918.32	7663.85	-2168.60	1703417.64	14296687.87	39°22'11.580"N	80°46'37.484"W	7964.76	344.200	3.24	-0.82	3.14	
15463.00	88.550	340.800	6908.77	8012.24	7751.49	-2202.40	1703383.85	14296775.48	39°22'12.447"N	80°46'37.911"W	8058.30	344.139	4.08	0.71	4.02	
15558.00	88.030	341.690	6911.60	8107.05	7841.41	-2232.94	1703353.33	14296865.36	39°22'13.336"N	80°46'38.297"W	8153.14	344.105	1.08	-0.55	0.94	



Actual Wellpath Report

Brocade Unit 1H AWP Proj: 15771'
Page 8 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

WELLPATH DATA (183 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
15652.00	88.180	339.990	6914.71	8200.88	7930.15	-2263.77	1703322.51	14296954.07	39°22'14.214"N	80°46'38.687"W	8246.93	344.068	1.81	0.16	-1.81	
15747.00	88.150	344.170	6917.76	8295.57	8020.47	-2292.98	1703293.31	14297044.36	39°22'15.108"N	80°46'39.056"W	8341.80	344.045	4.40	-0.03	4.40	
15771.00	88.150	344.170	6918.53	8319.42	8043.55	-2299.52	1703286.77	14297067.42	39°22'15.336"N	80°46'39.139"W	8365.79	344.046	0.00	0.00	0.00	Projected MD at TD: 15771'

TARGETS								
Name	TVD (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Shape
Brocade Unit 1H POE - Rev-1	6906.00	134.70	890.14	1706475.16	14289161.72	39°20'57.089"N	80°45'58.785"W	point
Brocade Unit 1H BHL - Rev-1	6949.00	8017.43	-2293.37	1703292.92	14297041.32	39°22'15.078"N	80°46'39.061"W	point
Brocade Unit 1H LP - Rev-1	6949.00	318.32	815.98	1706401.04	14289345.26	39°20'58.905"N	80°45'59.723"W	point

WELLPATH COMPOSITION - Ref Wellbore: Brocade Unit 1H AWB				Ref Wellpath: Brocade Unit 1H AWP Proj: 15771'	
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment	Wellbore	
25.00	6030.00	Gyrodatta relative depth - Continuous gyro	01_Gyrodatta Cont. Gyro <8-3/4">(100'-6018')	Brocade Unit 1H AWB	
6030.00	15747.00	BHI AutoTrak Curve (Short)	02_AT Curve <8-1/2">(6030')(6200'-15747')	Brocade Unit 1H AWB	
15747.00	15771.00	Blind Drilling (std)	Projection to bit	Brocade Unit 1H AWB	

RECEIVED

Office of Oil and Gas

JUN 16 2018

WV Department of
Environmental Protection



Actual Wellpath Report
 Brocade Unit 1H AWP Proj: 15771'
 Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Doddridge Co., WV	Well	Brocade Unit 1H
Field	Doddridge	Wellbore	Brocade Unit 1H AWB
Facility	Yvonne Pad		

COMMENTS
<p>Wellpath general comments API: 47-017-06531-0000 BHI Job #: 8261720 Rig: Patterson 343 Duration: 11/18/2016-11/22/2016 Gyrodata Cont. Gyro <8-3/4"> (100'-6018') BHI AT Curve <8-1/2"> (6030')(6200'-15747') Middlesex: 6882' MD Burkett: 7065' MD Tully: 7124' MD Marcellus POE: 7233' MD Projected MD at TD: 15771'</p>

RECEIVED
 Office of Oil and Gas
 JUL 06 2018
 WV Department of
 Environmental Protection