



# ANTERO RESOURCES CORPORATION

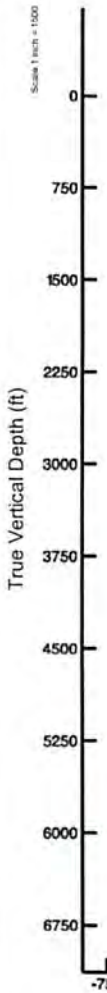
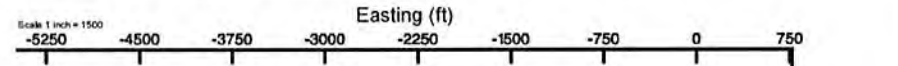
Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Melody Pad

Slot: Slot #06  
 Well: Bradford Unit 2H  
 Wellbore: Bradford Unit 2H PWB



Plot reference wellpath is Bradford Unit 2H PWB Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 347 (RKB)	* = Wellpath was transformed from a different geoidic datum
Measured depths are referenced to Patterson 347 (RKB)	North Reference: Grid north
Patterson 347 (RKB) to Mean Sea Level: 1100 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #06): -1135 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: harekK on 2016-08-01
	Database: WA_MPL_EASTERNUS_Defn

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Melody Pad	1708455.400	14292537.540	39°21'30.416"N	80°45'33.453"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #06	-17.76	10.52	1708465.920	14292519.790	39°21'30.240"N
Comment	Bradford Unit 2H				
Patterson 347 (RKB) to Mud line (At Slot: Slot #06)					25ft
Mean Sea Level to Mud line (At Slot: Slot #06)					-1135ft
Patterson 347 (RKB) to Mean Sea Level					1100ft



Gyrodata MS Gyro <8-3/4">(100'-5908.8') : 0.44° Inc, 100.00ft MD, 100.00ft TVD, 0.06ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #06	Bradford Unit 2H	Bradford Unit 2H AWP	Bradford Unit 2H AWP Proj: 13857'
Slot #06	Bradford Unit 2H	Bradford Unit 2H PWB	Bradford Unit 2H PWB Rev-B.0



User specified Dip: 66.78° Flatt: 52295 nT  
 Magnetic North is 7.70 degrees West of True North (at 7/11/2016)  
 Grid North is 0.15 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.15 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.85 degrees

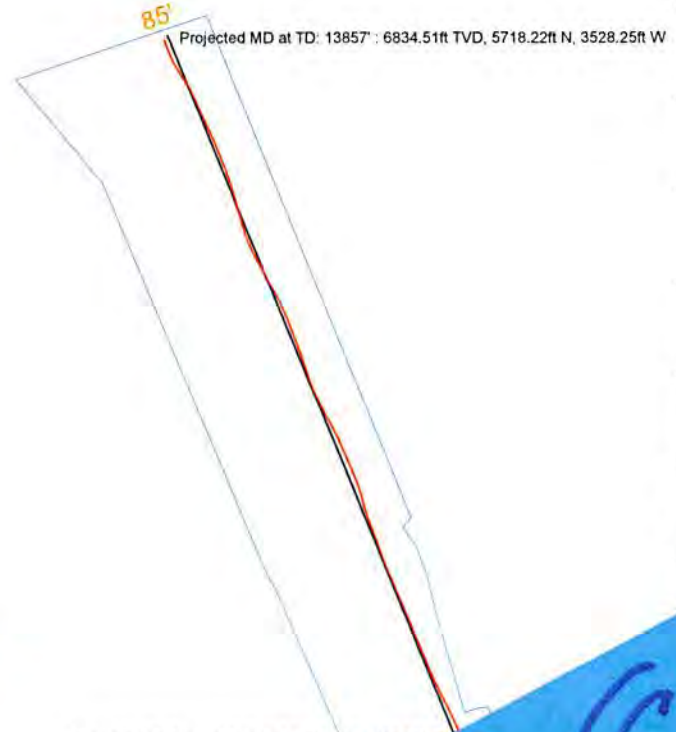
API #: 47-017-06535-0000  
 BHI Job #: 8050777  
 Rig: Patterson 347  
 Duration: 07.16.2016-07.19.2016

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BHI AT Curve <8-1/2">(5908.80')(5952'-13832') : 14.20° Inc, 5952.00ft MD, 5860.14ft TVD, -486.14ft VS

Marcellus: 7255' MD : 72.08° Inc, 7255.00ft MD, 6840.95ft TVD, 46.40ft VS

Projected MD at TD: 13857' : 89.75° Inc, 13857.00ft MD, 6834.51ft TVD, 6623.55ft VS



Gyrodata MS Gyro <8-3/4">(100'-5908.8') : 100.00ft MD, 100.00ft TVD, 0.06ft VS

Marcellus: 7255' MD : 6840.95ft TVD, 370.73ft VS

BHI AT Curve <8-1/2">(5908.80')(5952'-13832') : 5860.14ft TVD, -486.14ft VS

(C)  
 Bradford  
 2H

Azimuth 338.00° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



# Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Hareluk
Scale	0.999605	Report Generated	8/1/2016 at 10:36:47 AM
Convergence at slot	0.16° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Bradford_Unit_2H_AWP_Proj_13857_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-17.76	10.52	1708465.92	14292519.79	39°21'30.240"N	80°45'33.320"W
Facility Reference Pt			1708455.40	14292537.54	39°21'30.416"N	80°45'33.453"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 347 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 347 (RKB) to Mean Sea Level	1160.00ft
Vertical Reference Pt	Patterson 347 (RKB)	Patterson 347 (RKB) to Mud Line at Slot (Slot #06)	25.00ft
MD Reference Pt	Patterson 347 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	338.00°

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**Actual Wellpath Report**

Bradford Unit 2H AWP Proj: 13857

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**REFERENCE WELLPATH IDENTIFICATION**

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Melody Pad
Slot	Slot #06
Well	Bradford Unit 2H
Wellbore	Bradford Unit 2H AWB

**WELLPATH DATA (169 stations) † = interpolated/extrapolated station**

MD (m)	Inclination (°)	Azimuth (°)	TVD (m)	Vert Sect (m)	North (m)	East (m)	Grid East (m)	Grid North (m)	Grd North (m)	Latitude	Longitude	Closure (m)	Dir (°)	Closure (m)	DLS (m/100ft)	Build Rate (m/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.00	0.00	260.640	0.00	0.00	0.00	1708465.92	14292519.79	39°21'30.240"N	80°45'33.320"W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25.00	0.00	25.00	260.640	0.00	0.00	0.00	1708465.92	14292519.79	39°21'30.240"N	80°45'33.320"W	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.440	60.640	100.00	0.06	-0.05	-0.28	1708465.64	14292519.74	39°21'30.240"N	80°45'33.324"W	0.29	260.640	0.59	0.59	-132.48	Gyrodata MS Gyro <-3.4°> (100'-5908.8')		
200.00	0.470	61.900	200.00	0.25	-0.17	-1.07	1708464.65	14292519.62	39°21'30.238"N	80°45'33.334"W	1.08	261.118	0.03	0.03	1.26			
300.00	0.460	245.450	299.99	0.33	-0.39	-1.84	1708464.08	14292519.40	39°21'30.236"N	80°45'33.343"W	1.88	257.985	0.13	0.13	-16.45			
400.00	0.460	252.150	399.99	0.34	-0.68	-2.59	1708463.33	14292519.11	39°21'30.233"N	80°45'33.353"W	2.68	255.245	0.05	0.05	6.70			
500.00	0.270	236.860	499.98	0.25	-1.15	-3.50	1708462.43	14292518.64	39°21'30.229"N	80°45'33.365"W	3.68	251.819	0.30	0.30	-15.29			
600.00	1.300	222.450	599.97	-0.37	-2.33	-4.79	1708461.13	14292517.46	39°21'30.217"N	80°45'33.381"W	5.32	244.065	0.63	0.63	-14.40			
700.00	2.900	213.950	699.90	-2.27	-5.26	-6.97	1708458.96	14292514.53	39°21'30.188"N	80°45'33.409"W	8.73	232.924	1.63	1.63	-8.51			
800.00	3.780	212.090	799.73	-5.62	-10.16	-10.13	1708455.79	14292509.64	39°21'30.140"N	80°45'33.449"W	14.34	224.930	0.89	0.89	-1.86			
900.00	4.200	209.350	899.48	-9.84	-16.14	-13.68	1708452.25	14292503.66	39°21'30.081"N	80°45'33.495"W	21.15	220.277	0.46	0.46	-2.74			
1000.00	4.200	208.450	999.22	-14.48	-22.55	-17.22	1708448.71	14292497.25	39°21'30.018"N	80°45'33.540"W	28.37	217.358	0.07	0.07	-0.90			
1100.00	4.060	210.960	1098.96	-18.92	-28.81	-20.78	1708445.15	14292490.99	39°21'29.956"N	80°45'33.586"W	35.52	215.807	0.23	0.23	2.51			
1200.00	4.040	212.680	1198.71	-23.09	-34.81	-24.50	1708441.43	14292485.00	39°21'29.897"N	80°45'33.633"W	42.57	215.146	0.12	0.12	-0.02	1.72		
1300.00	3.750	210.660	1298.48	-27.11	-40.58	-28.08	1708437.86	14292478.22	39°21'29.840"N	80°45'33.679"W	49.35	214.674	0.32	0.32	-2.00			
1400.00	3.810	207.970	1398.26	-31.23	-46.33	-31.30	1708434.63	14292473.48	39°21'29.783"N	80°45'33.720"W	55.91	214.043	0.19	0.19	0.06	-2.71		
1500.00	3.310	206.910	1597.86	-40.41	-58.10	-35.93	1708430.00	14292467.71	39°21'29.667"N	80°45'33.779"W	68.31	211.732	0.80	0.80	-0.42	-12.25		
1600.00	3.300	210.490	1697.69	-44.06	-63.16	-38.70	1708427.24	14292456.66	39°21'29.617"N	80°45'33.815"W	74.07	211.496	0.21	0.21	3.58			
1700.00	3.490	206.460	1797.51	-47.83	-68.36	-41.51	1708424.42	14292451.46	39°21'29.565"N	80°45'33.851"W	79.98	211.268	0.30	0.30	4.03			
1800.00	3.950	215.010	1897.30	-51.73	-73.91	-44.85	1708421.09	14292445.91	39°21'29.511"N	80°45'33.893"W	86.45	211.248	0.72	0.72	8.55			
2000.00	3.870	213.980	1997.07	-55.49	-79.53	-48.71	1708417.23	14292440.29	39°21'29.455"N	80°45'33.943"W	93.26	211.486	0.11	0.11	-1.03			
2100.00	2.550	196.780	2096.91	-59.11	-84.46	-51.24	1708414.70	14292435.37	39°21'29.407"N	80°45'33.975"W	98.78	211.243	1.62	1.62	-17.20			
2200.00	2.130	184.580	2196.83	-62.51	-88.44	-52.03	1708413.91	14292431.35	39°21'29.367"N	80°45'33.985"W	102.61	210.466	0.65	0.65	-2.19			
2300.00	1.550	198.850	2296.78	-66.19	-91.57	-52.61	1708413.33	14292428.26	39°21'29.336"N	80°45'33.993"W	105.61	209.880	0.73	0.73	14.26			
2400.00	1.890	262.120	2396.74	-65.81	-93.08	-54.68	1708411.26	14292426.75	39°21'29.321"N	80°45'34.019"W	107.95	210.434	1.83	1.83	63.27			
2500.00	2.240	261.310	2496.66	-64.96	-93.60	-58.25	1708407.69	14292426.23	39°21'29.316"N	80°45'34.065"W	110.24	211.895	0.35	0.35	-0.81			
2600.00	1.970	223.510	2596.62	-65.23	-95.14	-61.36	1708404.58	14292424.69	39°21'29.301"N	80°45'34.104"W	113.21	212.821	1.39	1.39	-37.80			
2700.00	3.090	211.400	2696.52	-67.54	-98.69	-63.95	1708401.99	14292421.14	39°21'29.266"N	80°45'34.138"W	117.60	212.944	1.23	1.23	-12.11			
2800.00	7.120	208.540	2796.10	-73.09	-106.44	-68.32	1708397.63	14292413.40	39°21'29.190"N	80°45'34.193"W	126.47	212.695	4.04	4.03	-2.86			



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## Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

WELLPATH DATA (169 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
2900.00	6.770	205.650	2895.37	-81.00	-117.19	-73.83	1708392.12	14292402.64	39°21'29.084"N	80°45'34.264"W	138.51	212.211	0.49	-0.35	-2.89	
3000.00	7.850	208.850	2994.55	-89.28	-128.49	-79.68	1708386.27	14292391.35	39°21'28.972"N	80°45'34.339"W	151.19	211.804	1.15	1.08	3.20	
3100.00	10.860	210.010	3093.21	-99.40	-142.63	-87.69	1708378.27	14292377.22	39°21'28.833"N	80°45'34.441"W	167.43	211.582	3.02	3.01	1.16	
3200.00	13.640	214.500	3190.93	-111.71	-160.51	-99.08	1708366.88	14292359.34	39°21'28.656"N	80°45'34.587"W	188.63	211.686	2.94	2.78	4.49	
3300.00	12.900	216.500	3288.26	-124.05	-179.20	-112.40	1708353.57	14292340.66	39°21'28.472"N	80°45'34.757"W	211.53	212.097	0.87	-0.74	2.00	
3400.00	13.350	214.350	3385.64	-136.28	-197.70	-125.55	1708340.42	14292322.16	39°21'28.289"N	80°45'34.925"W	234.20	212.417	0.66	0.45	-2.15	
3500.00	14.220	216.230	3482.76	-149.14	-217.14	-139.33	1708326.65	14292302.73	39°21'28.097"N	80°45'35.101"W	258.00	212.685	0.98	0.87	1.88	
3600.00	13.220	211.780	3579.91	-162.36	-236.77	-152.61	1708313.37	14292283.11	39°21'27.904"N	80°45'35.271"W	281.69	212.803	1.45	-1.00	-4.45	
3700.00	13.950	215.920	3677.12	-175.52	-256.26	-165.70	1708300.28	14292263.64	39°21'27.712"N	80°45'35.438"W	305.16	212.888	1.22	0.73	4.14	
3800.00	15.110	218.720	3773.92	-188.30	-276.19	-180.93	1708285.07	14292243.71	39°21'27.515"N	80°45'35.633"W	330.17	213.228	1.36	1.16	2.80	
3900.00	14.160	211.920	3870.68	-201.88	-296.74	-195.55	1708270.45	14292223.17	39°21'27.312"N	80°45'35.820"W	355.38	213.384	1.96	-0.95	-6.80	
4000.00	13.000	214.470	3967.88	-215.30	-316.40	-208.38	1708257.62	14292203.52	39°21'27.118"N	80°45'35.984"W	378.85	213.369	1.31	-1.16	2.55	
4100.00	12.110	208.040	4065.50	-228.25	-334.93	-219.68	1708246.33	14292184.99	39°21'26.935"N	80°45'36.128"W	400.54	213.261	1.66	-0.89	-6.43	
4200.00	14.390	213.220	4162.83	-242.07	-354.58	-231.42	1708234.59	14292165.35	39°21'26.741"N	80°45'36.278"W	423.42	213.130	2.57	2.28	5.18	
4300.00	14.920	211.730	4259.58	-256.78	-375.93	-245.00	1708221.02	14292144.01	39°21'26.531"N	80°45'36.452"W	448.72	213.093	0.65	0.53	-1.49	
4400.00	15.070	216.040	4356.17	-271.28	-397.39	-259.42	1708206.61	14292122.56	39°21'26.319"N	80°45'36.636"W	474.57	213.136	1.12	0.15	4.31	
4500.00	14.770	217.780	4452.80	-284.57	-417.98	-274.87	1708191.15	14292101.98	39°21'26.116"N	80°45'36.834"W	500.26	213.330	0.54	-0.30	1.74	
4600.00	14.660	210.890	4549.53	-298.62	-438.91	-289.18	1708176.85	14292081.05	39°21'25.910"N	80°45'37.016"W	525.62	213.379	1.75	-0.11	-6.89	
4700.00	14.130	209.900	4646.39	-313.79	-460.35	-301.76	1708164.28	14292059.62	39°21'25.698"N	80°45'37.177"W	550.44	213.245	0.58	-0.53	-0.99	
4800.00	13.400	215.260	4743.52	-327.59	-480.40	-314.54	1708151.51	14292039.58	39°21'25.500"N	80°45'37.341"W	574.21	213.214	1.47	-0.73	5.36	
4900.00	13.100	210.340	4840.86	-340.78	-499.64	-326.95	1708139.10	14292020.35	39°21'25.310"N	80°45'37.499"W	597.11	213.200	1.17	-0.30	-4.92	
5000.00	13.960	211.340	4938.09	-354.91	-519.72	-338.95	1708127.10	14292000.27	39°21'25.112"N	80°45'37.653"W	620.48	213.111	0.89	0.86	1.00	
5100.00	14.960	209.650	5034.92	-370.12	-541.25	-351.61	1708114.45	14291978.76	39°21'24.900"N	80°45'37.815"W	645.43	213.009	1.09	1.00	-1.69	
5200.00	14.850	205.400	5131.56	-386.80	-564.04	-363.49	1708102.57	14291955.98	39°21'24.675"N	80°45'37.967"W	671.02	212.800	1.10	-0.11	-4.25	
5300.00	15.410	213.290	5228.10	-403.04	-586.72	-376.28	1708089.79	14291933.30	39°21'24.451"N	80°45'38.130"W	697.02	212.673	2.13	0.56	7.89	
5400.00	14.830	215.460	5324.64	-417.49	-608.25	-391.00	1708075.08	14291911.78	39°21'24.239"N	80°45'38.318"W	723.09	212.734	0.81	-0.58	2.17	
5500.00	13.490	215.750	5421.60	-430.60	-628.14	-405.24	1708060.84	14291891.89	39°21'24.042"N	80°45'38.500"W	747.52	212.828	1.34	-1.34	0.29	
5600.00	13.910	214.270	5518.75	-443.50	-647.54	-418.82	1708047.26	14291872.50	39°21'23.851"N	80°45'38.674"W	771.18	212.894	0.55	0.42	-1.48	
5700.00	13.420	220.780	5615.93	-455.48	-666.26	-433.17	1708032.92	14291853.79	39°21'23.666"N	80°45'38.857"W	794.70	213.030	1.61	-0.49	6.51	
5800.00	13.970	219.370	5713.09	-466.57	-684.38	-448.41	1708017.69	14291835.68	39°21'23.488"N	80°45'39.052"W	818.20	213.233	0.64	0.55	-1.41	



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## Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #06
Area	Doddridge Co., WV		Well	Bradford Unit 2H
Field	Doddridge		Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad			

WELLPATH DATA (169 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
5900.00	15.190	216.980	5809.86	-479.11	-704.18	-463.94	1708002.16	14291815.89	39°21'23.292"N	80°45'39.250"W	843.28	213.379	1.36	1.22	-2.39	
5908.80	15.260	216.720	5818.36	-480.30	-706.03	-465.33	1708000.77	14291814.04	39°21'23.274"N	80°45'39.268"W	845.58	213.388	1.11	0.80	-2.95	
5952.00	14.200	214.410	5860.14	-486.19	-714.96	-471.72	1707994.38	14291805.11	39°21'23.186"N	80°45'39.350"W	856.56	213.416	2.80	-2.45	-5.35	BHI AT Curve <8-1/2">(5908.80')(5952'-13832')
6046.00	14.710	212.170	5951.16	-499.55	-734.57	-484.59	1707981.52	14291785.51	39°21'22.992"N	80°45'39.514"W	880.02	213.413	0.81	0.54	-2.38	
6093.00	11.870	216.930	5996.90	-505.54	-743.49	-490.68	1707975.44	14291776.59	39°21'22.904"N	80°45'39.592"W	890.81	213.423	6.47	-6.04	10.13	
6140.00	12.290	244.310	6042.90	-508.36	-749.53	-498.10	1707968.02	14291770.56	39°21'22.845"N	80°45'39.687"W	899.94	213.606	12.11	0.89	58.26	
6187.00	14.070	264.240	6088.68	-507.08	-752.27	-508.29	1707957.83	14291767.82	39°21'22.818"N	80°45'39.816"W	907.90	214.046	10.32	3.79	42.40	
6234.00	14.380	272.110	6134.24	-503.10	-752.63	-519.81	1707946.32	14291767.46	39°21'22.815"N	80°45'39.963"W	914.69	214.631	4.16	0.66	16.74	
6281.00	15.750	275.160	6179.63	-497.81	-751.84	-532.00	1707934.13	14291768.25	39°21'22.823"N	80°45'40.118"W	921.03	215.283	3.37	2.91	6.49	
6328.00	20.180	275.500	6224.32	-491.15	-750.49	-546.43	1707919.71	14291769.60	39°21'22.837"N	80°45'40.302"W	928.34	216.058	9.43	9.43	0.72	
6375.00	24.750	276.860	6267.75	-482.65	-748.54	-564.27	1707901.87	14291771.55	39°21'22.857"N	80°45'40.529"W	937.40	217.010	9.79	9.72	2.89	
6422.00	27.750	279.100	6309.90	-472.25	-745.63	-584.85	1707881.30	14291774.45	39°21'22.886"N	80°45'40.791"W	947.64	218.110	6.72	6.38	4.77	
6469.00	30.300	280.790	6350.99	-460.17	-741.68	-607.31	1707858.55	14291778.40	39°21'22.925"N	80°45'41.077"W	958.60	219.311	5.70	5.43	3.60	
6516.00	33.410	282.730	6390.91	-446.38	-736.61	-631.58	1707834.59	14291783.47	39°21'22.976"N	80°45'41.385"W	970.30	220.610	6.97	6.62	4.13	
6563.00	36.720	285.670	6429.37	-430.41	-729.96	-657.74	1707808.44	14291790.12	39°21'23.043"N	80°45'41.718"W	982.58	222.021	7.90	7.04	6.26	
6595.00†	38.627	287.503	6454.70	-418.21	-724.37	-676.48	1707789.71	14291795.71	39°21'23.098"N	80°45'41.957"W	991.13	223.042	6.91	5.96	5.73	Sycamore: 6595' MD
6610.00	39.530	288.310	6466.35	-412.14	-721.46	-685.48	1707780.71	14291798.61	39°21'23.127"N	80°45'42.071"W	995.18	223.535	6.91	6.02	5.38	
6657.00	41.920	291.690	6501.97	-391.62	-710.96	-714.27	1707751.93	14291809.11	39°21'23.232"N	80°45'42.437"W	1007.79	225.133	6.92	5.09	7.19	
6704.00	44.220	293.180	6536.30	-369.14	-698.70	-743.93	1707722.28	14291821.36	39°21'23.354"N	80°45'42.814"W	1020.60	226.796	5.35	4.89	3.17	
6751.00	46.540	296.590	6569.32	-344.72	-684.61	-774.26	1707691.97	14291835.45	39°21'23.494"N	80°45'43.200"W	1033.53	228.516	7.14	4.94	7.26	
6798.00	47.540	302.990	6601.36	-317.71	-667.53	-804.07	1707662.17	14291852.53	39°21'23.663"N	80°45'43.579"W	1045.05	230.301	10.19	2.13	13.62	
6839.00†	49.019	307.585	6628.66	-291.97	-649.85	-829.03	1707637.22	14291870.20	39°21'23.839"N	80°45'43.896"W	1053.37	231.908	9.11	3.61	11.21	Middlesex: 6839' MD
6845.00	49.250	308.240	6632.58	-288.04	-647.06	-832.61	1707633.64	14291872.99	39°21'23.867"N	80°45'43.942"W	1054.48	232.148	9.11	3.86	10.91	
6893.00	52.390	310.500	6662.90	-255.38	-623.45	-861.36	1707604.90	14291896.59	39°21'24.101"N	80°45'44.307"W	1063.31	234.103	7.49	6.54	4.71	
6940.00	54.910	313.020	6690.76	-221.43	-598.23	-889.58	1707576.69	14291921.79	39°21'24.351"N	80°45'44.665"W	1072.02	236.080	6.88	5.36	5.36	
6987.00	55.930	317.160	6717.45	-185.80	-570.83	-916.88	1707549.40	14291949.18	39°21'24.622"N	80°45'45.012"W	1080.06	238.094	7.57	2.17	8.81	
7034.00	56.550	322.120	6743.58	-148.73	-541.07	-942.17	1707524.12	14291978.94	39°21'24.917"N	80°45'45.333"W	1086.48	240.132	8.87	1.32	10.55	
7067.00†	57.767	325.503	6761.47	-121.85	-518.70	-958.53	1707507.77	14292001.30	39°21'25.138"N	80°45'45.540"W	1089.88	241.581	9.37	3.69	10.25	Burkett: 7067' MD
7081.00	58.310	326.910	6768.89	-110.23	-508.82	-965.14	1707501.16	14292011.17	39°21'25.236"N	80°45'45.624"W	1091.05	242.202	9.37	3.88	10.05	
7123.00†	61.604	329.789	6789.91	-74.39	-477.88	-984.20	1707482.11	14292042.10	39°21'25.543"N	80°45'45.866"W	1094.08	244.101	9.83	7.84	6.86	Tully: 7123' MD



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Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Melody Pad
Slot	Slot #06
	Bradford Unit 2H
	Bradford Unit 2H AWP

MD	Inclination	Azimuth	TVD	Vert Sect	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
7128.00	66.000	330.120	6792.28	-70.03	-474.06	-986.40	1707479.91	14292045.92	39°21'25.580"N	80°45'45.894"W	1094.41	244.331	9.83	7.92	6.61
7175.00	66.080	331.010	6812.85	-28.14	-437.26	-1007.16	1707459.16	14292082.70	39°21'25.945"N	80°45'46.157"W	1097.99	246.532	8.86	8.88	1.89
7222.00	70.290	332.980	6830.31	15.25	-398.74	-1027.63	1707438.27	14292121.20	39°21'26.326"N	80°45'46.416"W	1102.28	248.793	9.77	8.96	4.19
7223.00	70.344	333.026	6830.65	16.19	-397.91	-1028.06	1707438.27	14292122.04	39°21'26.334"N	80°45'46.422"W	1102.38	248.841	6.95	5.40	4.64
7255.00	72.078	334.498	6840.85	-370.73	-104.45	-1292149.20	1707424.88	14292149.20	39°21'26.603"N	80°45'46.591"W	1105.47	250.405	6.95	5.42	4.58
7269.00	72.840	335.130	6845.17	59.72	-358.65	-1047.13	1707419.20	14292161.28	39°21'26.723"N	80°45'46.663"W	1106.85	251.093	6.95	5.44	4.53
7316.00	75.410	337.680	6858.03	-317.23	-1065.22	-1707401.12	14292202.68	14292202.68	39°21'27.132"N	80°45'47.892"W	1111.45	253.416	7.56	5.47	5.43
7363.00	79.070	340.510	6868.41	150.72	-274.42	-1081.56	1707384.79	14292245.48	39°21'27.556"N	80°45'47.099"W	1115.83	255.763	9.75	6.02	7.99
7402.00	82.840	341.720	6874.51	189.18	-237.98	-1094.03	1707372.33	14292281.91	39°21'27.916"N	80°45'47.256"W	1119.61	257.728	10.39	9.92	3.10
7463.00	89.720	345.620	6878.41	-179.60	-1111.12	-1707355.24	14292340.26	14292340.26	39°21'28.944"N	80°45'47.472"W	1125.54	260.818	12.81	11.11	6.39
7551.00	90.030	352.150	6878.60	-93.30	-1128.08	-1707338.29	14292426.53	14292426.53	39°21'29.347"N	80°45'47.685"W	1131.93	265.272	7.43	0.36	7.42
7646.00	89.820	351.580	6878.73	428.31	0.74	-1141.52	1707324.85	14292520.53	39°21'30.277"N	80°45'47.853"W	1141.52	270.037	0.64	-0.22	-0.60
7740.00	89.910	358.250	6878.95	521.42	91.29	-1165.94	1707300.44	14292611.05	39°21'31.173"N	80°45'48.161"W	1169.51	274.477	14.20	-14.20	-0.10
7834.00	89.910	358.410	6879.10	177.70	-1202.94	-1207263.46	14292697.42	14292697.42	39°21'32.028"N	80°45'48.629"W	1215.99	278.403	3.00	-3.00	-0.11
7927.00	89.970	356.310	6879.20	708.29	-1241.71	-1707224.70	14292781.92	14292781.92	39°21'32.664"N	80°45'49.119"W	1269.10	281.925	0.13	0.06	-0.11
8021.00	89.060	331.900	6879.17	802.00	346.42	-1283.50	1707182.93	14292866.07	39°21'33.697"N	80°45'49.649"W	1329.42	285.104	3.63	0.10	-3.63
8115.00	90.710	334.500	6878.54	895.66	430.31	-1325.87	1707140.57	14292949.93	39°21'34.528"N	80°45'50.185"W	1393.95	287.981	2.85	0.69	2.77
8210.00	90.030	335.790	6877.93	990.54	516.51	-1365.80	1707100.66	14293036.09	39°21'35.381"N	80°45'50.691"W	1460.20	290.715	1.53	-0.72	1.36
8304.00	90.620	337.790	6877.39	1084.51	602.89	-1402.85	1707063.63	14293122.44	39°21'36.235"N	80°45'51.160"W	1526.91	293.256	2.22	0.63	2.13
8398.00	90.060	337.270	6876.83	1178.50	689.75	-1438.77	1707027.72	14293209.27	39°21'37.095"N	80°45'51.614"W	1695.56	295.613	0.81	-0.60	-0.55
8492.00	90.340	337.350	6876.51	1272.50	776.48	-1475.03	1706991.47	14293295.96	39°21'37.953"N	80°45'52.073"W	1666.92	297.763	0.31	0.30	0.09
8586.00	90.280	337.500	6876.00	1366.49	863.28	-1511.12	1706955.40	14293382.72	39°21'38.812"N	80°45'52.529"W	1740.32	299.739	0.17	-0.06	0.16
8681.00	90.370	338.000	6875.46	1461.49	951.20	-1547.09	1706919.45	14293470.61	39°21'39.682"N	80°45'52.984"W	1816.11	301.585	0.53	0.09	0.53
8775.00	90.150	336.380	6875.03	1555.47	1037.84	-1583.53	1706883.02	14293557.22	39°21'40.539"N	80°45'53.445"W	1893.33	303.241	1.74	-0.23	-1.72
8869.00	90.180	337.010	6874.76	1649.45	1124.17	-1620.72	1706845.85	14293643.62	39°21'41.393"N	80°45'53.916"W	1972.43	304.746	0.67	0.03	0.67
8963.00	90.250	337.160	6874.41	1743.43	1210.76	-1657.32	1706809.26	14293730.07	39°21'42.250"N	80°45'54.379"W	2052.47	306.150	0.18	0.07	0.16
9057.00	90.370	337.290	6873.90	1837.42	1297.43	-1693.70	1706772.89	14293816.70	39°21'43.107"N	80°45'54.840"W	2133.53	307.453	0.19	0.13	0.14
9151.00	90.340	336.400	6873.32	1931.40	1383.85	-1730.67	1706735.94	14293903.09	39°21'43.962"N	80°45'55.307"W	2215.91	308.646	0.95	-0.03	-0.95
9245.00	90.400	338.950	6872.71	2025.39	1470.80	-1766.37	1706700.25	14293990.00	39°21'44.823"N	80°45'55.759"W	2298.54	309.783	2.71	0.06	2.71
9339.00	90.460	341.450	6872.01	2119.31	1559.23	-1798.21	1706668.43	14294078.40	39°21'45.697"N	80°45'56.181"W	2380.07	310.929	2.66	0.06	2.66

WELLPATH DATA (169 stations) † = interpolated/extrapolated station



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

WELLPATH DATA (169 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
9433.00	90.090	340.420	6871.55	2213.19	1648.07	-1828.91	1706637.74	14294167.21	39°21'46.576"N	80°45'56.549"W	2461.92	312.023	1.16	-0.39	-1.10	
9527.00	90.860	338.210	6870.77	2307.15	1736.00	-1862.11	1706604.55	14294255.10	39°21'47.446"N	80°45'56.969"W	2545.81	312.993	2.49	0.82	-2.35	
9622.00	90.280	341.630	6869.83	2402.08	1825.21	-1894.72	1706571.95	14294344.28	39°21'48.329"N	80°45'57.381"W	2630.85	313.930	3.65	-0.61	3.60	
9715.00	90.120	343.540	6869.50	2494.78	1913.94	-1922.55	1706544.13	14294432.97	39°21'49.206"N	80°45'57.733"W	2712.82	314.871	2.06	-0.17	2.05	
9810.00	90.030	343.920	6869.38	2589.30	2005.14	-1949.17	1706517.53	14294524.13	39°21'50.108"N	80°45'58.069"W	2796.40	315.811	0.41	-0.09	0.40	
9904.00	89.750	341.450	6869.56	2682.98	2094.87	-1977.14	1706489.56	14294613.83	39°21'50.996"N	80°45'58.422"W	2880.55	316.656	2.64	-0.30	-2.63	
9998.00	90.280	337.920	6869.54	2776.92	2183.01	-2009.77	1706456.95	14294701.93	39°21'51.868"N	80°45'58.834"W	2967.27	317.366	3.80	0.56	-3.76	
10092.00	90.060	335.790	6869.26	2870.90	2269.44	-2046.72	1706420.01	14294788.33	39°21'52.723"N	80°45'59.302"W	3056.04	317.954	2.28	-0.23	-2.27	
10186.00	90.120	336.770	6869.11	2964.86	2355.50	-2084.53	1706382.22	14294874.35	39°21'53.575"N	80°45'59.781"W	3145.41	318.492	1.04	0.06	1.04	
10280.00	89.750	337.410	6869.22	3058.84	2442.08	-2121.12	1706345.64	14294960.90	39°21'54.431"N	80°46'00.244"W	3234.64	319.023	0.79	-0.39	0.68	
10374.00	89.200	333.550	6870.08	3152.73	2527.58	-2160.12	1706306.65	14295046.37	39°21'55.277"N	80°46'00.737"W	3324.88	319.482	4.15	-0.59	-4.11	
10468.00	89.350	331.070	6871.27	3246.25	2610.80	-2203.80	1706263.00	14295129.56	39°21'56.101"N	80°46'01.291"W	3416.58	319.832	2.64	0.16	-2.64	
10562.00	89.450	333.780	6872.25	3339.79	2694.11	-2247.30	1706219.51	14295212.84	39°21'56.926"N	80°46'01.842"W	3508.37	320.167	2.88	0.11	2.88	
10656.00	90.620	333.300	6872.19	3433.51	2778.27	-2289.19	1706177.64	14295296.95	39°21'57.758"N	80°46'02.372"W	3599.88	320.513	1.35	1.24	-0.51	
10750.00	90.490	336.160	6871.28	3527.34	2863.26	-2329.31	1706137.54	14295381.91	39°21'58.599"N	80°46'02.980"W	3691.06	320.871	3.05	-0.14	3.04	
10845.00	90.310	341.710	6870.62	3622.29	2951.87	-2363.44	1706103.42	14295470.49	39°21'59.476"N	80°46'03.312"W	3781.45	321.317	5.85	-0.19	5.84	
10939.00	90.430	344.460	6870.01	3715.91	3041.79	-2390.79	1706076.08	14295560.38	39°22'00.366"N	80°46'03.657"W	3868.90	321.833	2.93	0.13	2.93	
11033.00	90.370	340.280	6869.36	3809.61	3131.36	-2419.25	1706047.63	14295649.91	39°22'01.252"N	80°46'04.017"W	3957.04	322.311	4.45	-0.06	-4.45	
11126.00	90.340	338.870	6868.78	3902.57	3218.51	-2451.70	1706015.19	14295737.02	39°22'02.114"N	80°46'04.427"W	4045.94	322.702	1.52	-0.03	-1.52	
11221.00	90.620	339.830	6867.98	3997.54	3307.40	-2485.20	1705981.70	14295825.88	39°22'02.993"N	80°46'04.851"W	4137.04	323.079	1.05	0.29	1.01	
11315.00	90.980	339.670	6866.67	4091.49	3395.58	-2517.74	1705949.18	14295914.02	39°22'03.866"N	80°46'05.262"W	4227.17	323.444	0.42	0.38	-0.17	
11409.00	90.650	337.850	6865.33	4185.47	3483.18	-2551.78	1705915.15	14296001.59	39°22'04.732"N	80°46'05.693"W	4317.89	323.773	1.97	-0.35	-1.94	
11503.00	90.680	335.730	6864.24	4279.43	3569.56	-2588.83	1705878.12	14296087.94	39°22'05.587"N	80°46'06.162"W	4409.51	324.049	2.26	0.03	-2.26	
11597.00	90.060	329.150	6863.64	4372.94	3652.85	-2632.29	1705834.67	14296171.19	39°22'06.411"N	80°46'06.712"W	4502.47	324.223	7.03	-0.66	-7.00	
11691.00	90.180	331.870	6863.44	4466.13	3734.66	-2678.56	1705788.42	14296252.97	39°22'07.221"N	80°46'07.299"W	4595.91	324.351	2.90	0.13	2.89	
11785.00	89.850	333.090	6863.41	4559.69	3818.03	-2721.99	1705745.01	14296336.30	39°22'08.046"N	80°46'07.849"W	4688.98	324.514	1.34	-0.35	1.30	
11879.00	90.060	330.700	6863.49	4653.15	3900.94	-2766.27	1705700.74	14296419.18	39°22'08.867"N	80°46'08.410"W	4782.21	324.658	2.55	0.22	-2.54	
11973.00	90.250	332.810	6863.23	4746.58	3983.74	-2810.76	1705656.28	14296501.95	39°22'09.686"N	80°46'08.974"W	4875.50	324.795	2.25	0.20	2.24	
12067.00	90.860	339.710	6862.32	4840.48	4069.73	-2848.57	1705618.48	14296587.90	39°22'10.537"N	80°46'09.453"W	4967.60	325.010	7.37	0.65	7.34	
12161.00	89.970	341.210	6861.64	4934.39	4158.31	-2880.01	1705587.05	14296676.45	39°22'11.413"N	80°46'09.850"W	5058.26	325.294	1.86	-0.95	1.60	

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# Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

WELLPATH DATA (169 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
12255.00	90.340	343.210	6861.39	5028.13	4247.81	-2908.73	1705558.34	14296765.91	39°22'12.298"N	80°46'10.213"W	5148.26	325.598	2.16	0.39	2.13	
12349.00	90.550	345.400	6860.66	5121.55	4338.29	-2934.16	1705532.93	14296856.36	39°22'13.193"N	80°46'10.534"W	5237.37	325.928	2.34	0.22	2.33	
12443.00	90.090	345.560	6860.13	5214.75	4429.29	-2957.72	1705509.37	14296947.32	39°22'14.093"N	80°46'10.831"W	5326.04	326.266	0.52	-0.49	0.17	
12537.00	90.280	342.430	6859.83	5308.22	4519.64	-2983.64	1705483.47	14297037.63	39°22'14.987"N	80°46'11.158"W	5415.64	326.569	3.34	0.20	-3.33	
12631.00	90.680	340.240	6859.04	5402.05	4608.68	-3013.72	1705453.40	14297126.64	39°22'15.868"N	80°46'11.538"W	5506.58	326.818	2.37	0.43	-2.33	
12725.00	91.080	339.170	6857.60	5496.00	4696.84	-3046.32	1705420.81	14297214.76	39°22'16.740"N	80°46'11.950"W	5598.24	327.033	1.22	0.43	-1.14	
12819.00	91.140	338.330	6855.78	5589.97	4784.43	-3080.38	1705386.76	14297302.32	39°22'17.606"N	80°46'12.381"W	5690.30	327.225	0.90	0.06	-0.89	
12913.00	91.020	336.750	6854.00	5683.95	4871.28	-3116.28	1705350.87	14297389.14	39°22'18.466"N	80°46'12.835"W	5782.78	327.392	1.69	-0.13	-1.68	
13007.00	91.230	334.990	6852.16	5777.86	4957.04	-3154.70	1705312.47	14297474.87	39°22'19.314"N	80°46'13.322"W	5875.75	327.527	1.89	0.22	-1.87	
13101.00	91.110	334.830	6850.24	5871.71	5042.16	-3194.55	1705272.63	14297559.95	39°22'20.157"N	80°46'13.827"W	5968.96	327.643	0.21	-0.13	-0.17	
13195.00	91.510	335.670	6848.09	5965.57	5127.50	-3233.90	1705233.30	14297645.26	39°22'21.001"N	80°46'14.325"W	6062.12	327.760	0.99	0.43	0.89	
13289.00	92.520	336.320	6844.79	6059.46	5213.31	-3272.11	1705195.10	14297731.04	39°22'21.850"N	80°46'14.809"W	6155.11	327.886	1.28	1.07	0.69	
13383.00	92.710	334.700	6840.50	6153.27	5298.77	-3311.04	1705156.19	14297816.45	39°22'22.696"N	80°46'15.302"W	6248.19	328.000	1.73	0.20	-1.72	
13477.00	91.140	326.140	6837.33	6246.30	5380.39	-3357.37	1705109.88	14297898.04	39°22'23.504"N	80°46'15.889"W	6341.97	328.036	9.25	-1.67	-9.11	
13571.00	91.080	327.670	6835.51	6338.51	5459.08	-3408.76	1705058.51	14297976.70	39°22'24.283"N	80°46'16.541"W	6435.93	328.019	1.52	-0.06	1.52	
13665.00	90.430	333.440	6834.27	6431.66	5540.85	-3455.01	1705012.28	14298058.44	39°22'25.092"N	80°46'17.127"W	6529.79	328.054	6.28	-0.69	6.24	
13759.00	89.780	338.540	6834.10	6525.57	5626.69	-3493.25	1704974.06	14298144.25	39°22'25.941"N	80°46'17.611"W	6622.87	328.167	5.47	-0.69	5.43	
13832.00	89.750	339.390	6834.40	6598.56	5694.82	-3519.45	1704947.87	14298212.35	39°22'26.615"N	80°46'17.943"W	6694.59	328.284	1.17	-0.04	1.16	
13857.00	89.750	339.390	6834.51	6623.55	5718.22	-3528.25	1704939.07	14298235.74	39°22'26.847"N	80°46'18.054"W	6719.12	328.325	0.00	0.00	0.00	Projected MD at TD: 13857'

HOLE & CASING SECTIONS - Ref Wellbore: Bradford Unit 2H AWB Ref Wellpath: Bradford Unit 2H AWP Proj: 13857'									
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	40.00	15.00	25.00	40.00	0.00	0.00	0.00	-0.01
13.375in Casing Surface	25.00	502.10	477.10	25.00	502.08	0.00	0.00	-1.16	-3.52
9.625in Casing Intermediate	25.00	2574.80	2549.80	25.00	2571.43	0.00	0.00	-94.57	-60.72





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# Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Bradford Unit 2H POE Rev-2	6836.00	-418.40	-1010.62	1707455.70	14292101.56	39°21'26.131"N	80°45'46.200"W	point
Bradford Unit 2H BHL Rev-2	6876.00	5753.56	-3504.21	1704963.11	14298271.07	39°22'27.196"N	80°46'17.747"W	point
Bradford Unit 2H LP Rev-1	6876.00	-232.80	-1085.60	1707380.75	14292287.08	39°21'27.967"N	80°45'47.149"W	point

WELLPATH COMPOSITION - Ref Wellbore: Bradford Unit 2H AWB Ref Wellpath: Bradford Unit 2H AWP Proj: 13857'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5908.80	Gyrodatab standard - Drop gyro or Multi-shot	01 Gyrodatab MS Gyro <8-3/4">(100'-5908.8')	Bradford Unit 2H AWB
5908.80	13832.00	BHI AutoTrak Curve (Short)	02 BHI AT Curve <8-1/2">(5908.80')(5952'-13832')	Bradford Unit 2H AWB
13832.00	13857.00	Blind Drilling (std)	Projection to bit	Bradford Unit 2H AWB



## Actual Wellpath Report

Bradford Unit 2H AWP Proj: 13857'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #06
Area	Doddridge Co., WV	Well	Bradford Unit 2H
Field	Doddridge	Wellbore	Bradford Unit 2H AWB
Facility	Melody Pad		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
100.00	0.440	260.640	100.00	Gyrodala MS Gyro <8-3/4">(100'-5908.8')	
5952.00	14.200	214.410	5860.14	BHI AT Curve <8-1/2">(5908.80')(5952'-13832')	
6595.00	38.627	287.503	6454.70	Sycamore: 6595' MD	
6839.00	49.019	307.585	6628.66	Middlesex: 6839' MD	
7067.00	57.767	325.503	6761.47	Burkett: 7067' MD	
7123.00	61.604	329.789	6789.91	Tully: 7123' MD	
7223.00	70.344	333.026	6830.65	Hamilton: 7223' MD	
7255.00	72.078	334.496	6840.95	Marcellus: 7255' MD	
13857.00	89.750	339.390	6834.51	Projected MD at TD: 13857'	

COMMENTS	
<p><b>Wellpath general comments</b>                      API #: 47-017-06535-0000                      BHI Job #: 8050777                      Rig: Patterson 347                      Duration: 07.16.2016-07.19.2016                      Gyrodala MS Gyro &lt;8-3/4"&gt;(100'-5908.8')                      BHI AT Curve &lt;8-1/2"&gt;(5908.80')(5952'-13832')                      Sycamore: 6595' MD                      Middlesex: 6839' MD                      Burkett: 7067' MD                      Tully: 7123' MD                      Hamilton: 7223' MD                      Marcellus: 7255' MD                      Projected MD at TD: 13857'</p>	<p style="writing-mode: vertical-rl; transform: rotate(180deg);">                         WV Department of                          Environmental Protection                            RECEIVED                          Office of Oil and Gas                            APR 24 2018                     </p>