



# ANTERO RESOURCES CORPORATION

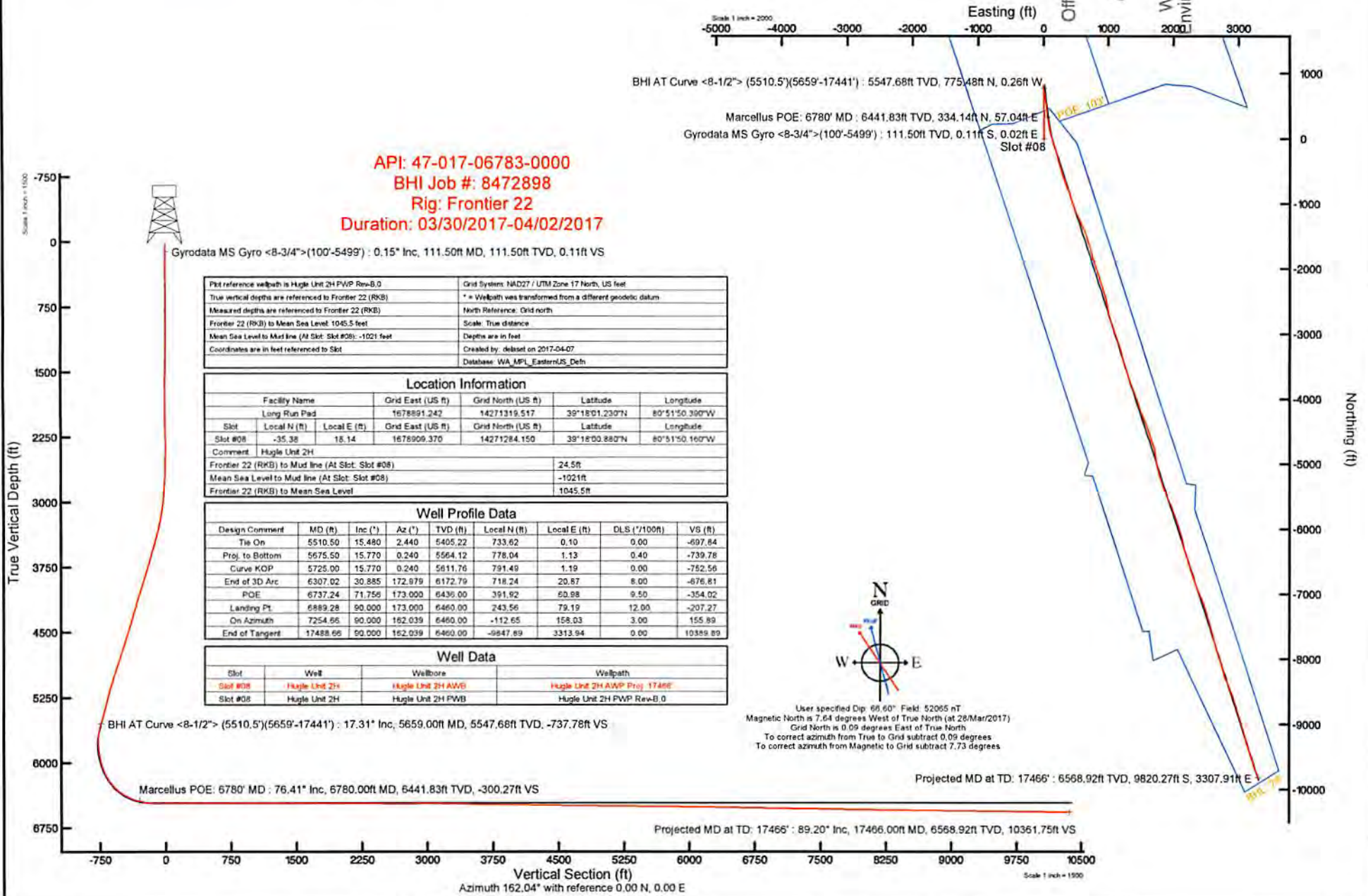
Location: Doddridge Co., WV  
 Field: Doddridge  
 Facility: Long Run Pad

Slot: Slot #08  
 Well: Hugle Unit 2H  
 Wellbore: Hugle Unit 2H PWB

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WV Department of  
 Environmental Protection



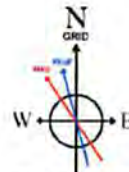
API: 47-017-06783-0000  
 BHI Job #: 8472898  
 Rig: Frontier 22  
 Duration: 03/30/2017-04/02/2017

Plot reference wellpath is Hugle Unit 2H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Frontier 22 (RKB) to Mean Sea Level: 1045.5 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #08): -1021 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: ddbset on 2017-04-07
	Database: WA_MPL_EasternUS_Def

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Long Run Pad	1678891.242	14271319.517	39°18'01.230"N	80°51'50.390"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #08	-35.38	18.14	1678909.370	14271284.150
Comment	Hugle Unit 2H			
Frontier 22 (RKB) to Mud line (At Slot: Slot #08)	24.5ft			
Mean Sea Level to Mud line (At Slot: Slot #08)	-1021ft			
Frontier 22 (RKB) to Mean Sea Level	1045.5ft			

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	5510.50	15.480	2.440	5405.22	733.62	0.10	-697.64
Proj. to Bottom	5675.50	15.770	0.240	5564.12	778.04	1.13	-739.78
Curve KOP	5725.00	15.770	0.240	5611.76	791.49	1.19	-752.56
End of 3D Arc	6307.02	30.885	172.979	6172.79	718.24	20.87	-676.81
POE	6737.24	71.756	173.000	6436.00	391.92	60.98	-354.02
Landing Pt	6889.28	90.000	173.000	6460.00	243.56	79.19	-207.27
On Azimuth	7254.66	90.000	162.039	6460.00	-112.65	158.03	155.89
End of Tangent	17488.66	90.000	162.039	6460.00	-9847.89	3313.94	10369.89

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #08	Hugle Unit 2H	Hugle Unit 2H AWP	Hugle Unit 2H AWP Proj 17466'
Slot #08	Hugle Unit 2H	Hugle Unit 2H PWB	Hugle Unit 2H PWP Rev-B.0



User specified Dip: 66.60° Field: 52065 nT  
 Magnetic North is 7.64 degrees West of True North (at 28/Mar/2017)  
 Grid North is 0.09 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.09 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.73 degrees

Vertical Section (ft)  
 Azimuth 162.04° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Hugle Unit 2H
Field	Doddridge	Wellbore	Hugle Unit 2H AWB
Facility	Long Run Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Delaset
Scale	0.999602	Report Generated	07/Apr/2017 at 13:22
Convergence at slot	0.09° East	Database/Source file	WA_MPL_EasternUS_Defn/Hugle_Unit_2H_AWP_Proj_17466_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-35.38	18.14	1678909.37	14271284.15	39°18'00.880"N	80°51'50.160"W
Facility Reference Pt			1678891.24	14271319.52	39°18'01.230"N	80°51'50.390"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1045.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #08)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	162.04°







# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Long Run Pad
Slot	Slot #08
Well	Hugle Unit 2H
Wellbore	Hugle Unit 2H AWB

WELLPATH DATA (201 stations) † = interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(°)	(°)	(m)	(°)
5815.00	5.260	355.250	5699.97	-769.17	807.66	-2.81	1678906.56	14272091.48	39°18'08.863"N	80°51'50.180"W	807.66	359.801
5862.00	0.920	339.200	5746.89	-771.64	810.16	-3.12	1678906.25	14272093.98	39°18'08.887"N	80°51'50.184"W	810.16	359.779
5910.00	4.160	191.240	5794.85	-770.51	808.81	-3.60	1678905.77	14272092.63	39°18'08.874"N	80°51'50.190"W	808.82	359.745
5957.00	7.420	191.930	5841.61	-766.39	804.17	-4.56	1678904.81	14272087.99	39°18'08.828"N	80°51'50.203"W	804.18	359.675
6005.00	9.120	191.530	5889.11	-760.39	797.41	-5.96	1678903.41	14272081.24	39°18'08.761"N	80°51'50.221"W	797.43	359.572
6052.00	11.020	186.800	5935.38	-753.07	789.29	-7.24	1678902.13	14272073.13	39°18'08.681"N	80°51'50.237"W	789.33	359.475
6101.00	14.010	173.460	5983.22	-743.00	778.75	-7.12	1678902.26	14272062.59	39°18'08.577"N	80°51'50.236"W	778.78	359.476
6148.00	16.900	168.170	6028.52	-730.62	766.41	-5.07	1678904.30	14272050.25	39°18'08.455"N	80°51'50.210"W	766.42	359.621
6196.00	20.140	170.010	6074.03	-715.50	751.43	-2.20	1678907.17	14272035.28	39°18'08.307"N	80°51'50.174"W	751.44	359.832
6243.00	24.890	169.160	6117.43	-697.66	733.74	1.06	1678910.43	14272017.60	39°18'08.132"N	80°51'50.132"W	733.74	0.083
6291.00	29.720	167.550	6160.07	-675.78	712.19	5.53	1678914.90	14271996.05	39°18'07.919"N	80°51'50.076"W	712.21	0.445
6338.00	33.760	168.260	6200.04	-651.19	688.02	10.70	1678920.07	14271971.89	39°18'07.680"N	80°51'50.011"W	688.10	0.891
6386.00	38.240	169.580	6238.86	-623.19	660.33	16.10	1678925.47	14271944.22	39°18'07.406"N	80°51'49.943"W	660.53	1.397
6433.00	42.980	171.400	6292.65	-592.95	630.17	21.13	1678930.49	14271914.07	39°18'07.108"N	80°51'49.879"W	630.52	1.921
6481.00	47.940	172.980	6308.19	-559.28	596.28	25.76	1678933.12	14271880.20	39°18'06.773"N	80°51'49.821"W	596.84	2.474
6528.00	53.180	173.250	6338.04	-523.68	560.26	30.11	1678939.47	14271844.19	39°18'06.417"N	80°51'49.766"W	561.07	3.076
6576.00	58.250	172.930	6365.07	-484.76	520.90	34.88	1678944.24	14271804.84	39°18'06.028"N	80°51'49.706"W	522.07	3.831
6612.00	62.087	173.046	6382.97	-454.11	489.91	38.69	1678948.05	14271773.87	39°18'05.722"N	80°51'49.658"W	491.44	4.516
6623.00	63.260	173.080	6388.02	-444.52	460.21	39.87	1678949.23	14271764.17	39°18'05.626"N	80°51'49.644"W	481.86	4.746
6671.00	66.980	173.570	6408.21	-401.82	436.97	44.93	1678954.28	14271720.94	39°18'05.198"N	80°51'49.580"W	439.27	5.871
6699.00	67.726	173.577	6411.29	-394.59	429.63	45.76	1678955.11	14271713.61	39°18'05.126"N	80°51'49.570"W	432.06	6.079
6718.00	71.360	173.610	6424.92	-358.79	393.33	49.83	1678959.18	14271677.32	39°18'04.767"N	80°51'49.519"W	396.47	7.221
6755.00	74.805	172.959	6435.69	-324.08	358.18	53.97	1678963.32	14271642.18	39°18'04.419"N	80°51'49.467"W	362.22	8.569
6766.00	75.830	172.770	6438.48	-313.63	347.62	55.30	1678964.64	14271631.63	39°18'04.315"N	80°51'49.450"W	351.99	9.038
6780.00	76.413	172.473	6441.83	-300.27	334.14	57.04	1678966.39	14271618.15	39°18'04.182"N	80°51'49.428"W	338.97	9.688
6813.00	77.790	171.780	6449.20	-268.60	302.28	61.45	1678970.79	14271586.30	39°18'03.867"N	80°51'49.373"W	308.46	11.491
6861.00	80.950	170.780	6458.05	-222.04	256.65	68.60	1678977.94	14271539.70	39°18'03.406"N	80°51'49.282"W	264.69	15.021
6908.00	86.260	170.690	6463.69	-175.93	209.61	76.11	1678985.45	14271493.68	39°18'02.951"N	80°51'49.188"W	223.00	19.956
6957.00	89.600	170.780	6465.89	-127.55	161.31	83.99	1678993.33	14271445.40	39°18'02.473"N	80°51'49.089"W	181.87	27.505
7052.00	90.830	166.490	6465.53	-33.20	68.20	102.71	1679012.03	14271352.32	39°18'01.553"N	80°51'48.852"W	123.29	56.416
7052.00	-4.52											

† = interpolated/extrapolated station

MD (m) Inclination (°) Azimuth (°) TVD (m) Vert Sect (m) North (m) East (m) Grid East (m) Grid North (m) Latitude (°) Longitude (°) Closure Dist (m) Closure Dir (°)

DLS (°) Build Rate (°/100m) Turn Rate (°/100m) Comments



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Long Run Pad
Well	Hugle Unit 2H
Wellbore	Hugle Unit 2H AWB
Slot	Slot #08

WELLPATH DATA (201 stations)													
MD	Inclination	Azimuth	TVP	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(°)	(m)	
7148.00	90.150	161.260	6464.71	62.71	-23.99	129.36	1679038.68	14271260.17	80°51'48.515"W	131.56	100.507	5.49	
7243.00	89.420	160.710	6465.07	157.69	-113.80	160.31	1679069.62	14271170.39	80°51'48.123"W	196.60	125.371	0.96	
7338.00	89.940	165.960	6465.60	252.63	-204.78	187.54	1679096.84	14271079.45	80°51'47.778"W	277.68	137.516	5.55	
7433.00	90.180	167.830	6465.50	347.29	-297.30	209.08	1679118.37	14270986.97	80°51'47.506"W	363.46	144.883	1.98	
7528.00	90.220	163.560	6465.17	442.07	-389.34	232.55	1679141.83	14270894.97	80°51'47.209"W	453.50	149.150	4.49	
7623.00	90.220	160.750	6464.80	537.06	-479.76	261.66	1679170.92	14270804.59	80°51'46.841"W	546.47	151.392	2.96	
7718.00	89.910	162.600	6464.70	632.05	-569.93	291.53	1679200.78	14270714.44	80°51'46.463"W	640.17	152.910	1.97	
7813.00	89.880	161.960	6464.87	727.05	-660.43	320.44	1679229.68	14270623.99	80°51'46.097"W	734.06	154.117	-0.03	
7908.00	89.080	156.450	6465.73	821.90	-749.20	354.15	1679263.38	14270535.25	80°51'45.669"W	828.69	154.699	5.86	
8004.00	89.720	159.840	6466.74	917.85	-838.28	389.88	1679299.10	14270446.21	80°51'45.217"W	924.51	155.057	3.59	
8099.00	89.970	161.630	6467.00	1012.63	-928.01	421.07	1679330.27	14270356.51	80°51'44.822"W	1019.07	155.595	2.11	
8193.00	89.880	162.630	6467.12	1106.63	-1017.52	449.76	1679358.95	14270267.03	80°51'44.459"W	1112.49	156.154	0.86	
8288.00	89.820	157.610	6467.37	1201.54	-1106.83	482.05	1679391.23	14270177.76	80°51'44.050"W	1207.25	156.466	5.28	
8383.00	89.970	155.210	6467.52	1295.77	-1192.84	522.32	1679431.48	14270091.79	80°51'43.539"W	1302.18	156.352	5.69	
8477.00	89.170	156.220	6468.25	1388.82	-1277.28	563.57	1679472.72	14270007.38	80°51'43.016"W	1396.09	156.192	3.83	
8572.00	90.250	156.120	6468.73	1483.28	-1364.01	602.33	1679511.46	14269920.68	80°51'42.525"W	1491.09	156.174	1.21	
8668.00	90.140	155.930	6468.37	1578.97	-1452.71	639.03	1679548.14	14269832.02	80°51'42.060"W	1587.05	156.256	2.93	
8762.00	90.340	165.110	6467.94	1672.92	-1542.08	668.03	1679577.13	14269742.69	80°51'41.692"W	1680.56	156.578	6.58	
8857.00	90.340	160.630	6467.38	1767.89	-1632.84	696.00	1679605.09	14269651.96	80°51'41.338"W	1774.99	156.914	4.72	
8952.00	89.820	165.970	6467.24	1862.83	-1723.80	723.29	1679632.37	14269561.04	80°51'40.993"W	1869.39	157.238	5.65	
9047.00	89.880	163.800	6467.49	1957.71	-1815.51	748.06	1679657.13	14269469.37	80°51'40.680"W	1963.58	157.606	2.29	
9141.00	89.750	161.390	6467.80	2051.70	-1905.20	776.18	1679685.24	14269379.72	80°51'40.324"W	2057.24	157.834	2.57	
9238.00	89.780	162.000	6468.60	2241.64	-2084.56	838.81	1679747.84	14269200.42	80°51'39.531"W	2247.00	158.081	2.31	
9331.00	89.720	162.450	6469.38	2431.61	-2266.13	894.78	1679803.79	14269018.93	80°51'38.822"W	2436.38	158.454	1.12	
9426.00	89.780	163.510	6468.97	2336.63	-2175.29	866.97	1679775.99	142689109.73	80°51'38.174"W	2341.69	158.270	1.69	
9521.00	89.720	161.310	6469.89	2526.61	-2356.41	924.32	1679833.32	14268828.68	80°51'38.448"W	2531.22	158.582	-0.06	
9616.00	89.660	161.310	6469.89	2526.61	-2356.41	924.32	1679833.32	14268828.68	80°51'38.448"W	2531.22	158.582	-0.06	
9711.00	89.690	164.780	6470.43	2621.58	-2447.27	952.02	1679861.01	14268744.24	80°51'37.834"W	2625.92	158.743	3.65	
9807.00	89.750	170.030	6470.90	2717.12	-2540.92	972.95	1679881.93	14268650.46	80°51'37.524"W	2720.83	159.048	5.47	
9902.00	90.370	171.910	6470.80	2810.97	-2634.74	987.85	1679896.83	14268560.46	80°51'37.646"W	2813.85	159.447	2.08	
												0.65	
													1.98

Turn Rate	Comments
(°/100m)	(°/100m)
5.45	-0.71
-0.58	-0.77
5.53	0.55
1.97	0.25
-4.49	0.04
-2.96	0.00
7718.00	-0.33
7813.00	-0.03
7908.00	-0.84
8004.00	0.67
8099.00	0.26
8193.00	-0.10
8288.00	-0.06
8383.00	0.16
8477.00	-0.85
8572.00	3.73
8668.00	0.42
8762.00	2.93
8857.00	6.57
8952.00	-4.72
9047.00	5.62
9141.00	-2.28
9238.00	-1.66
9331.00	2.31
9426.00	1.69
9521.00	-1.12
9616.00	-1.20
9711.00	3.65
9807.00	5.47
9902.00	1.98



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Long Run Pad
Slot	Wellbore
Slot #08	Hugle Unit 2H AWB

MD	Inclination	Azimuth	TVD	Vert Sect	North	North	East	Grid East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(US m)	(US m)	(US m)	(°)	(°)	(m)	(°)	(m)	(°/100m)	(°/100m)	
9997.00	91.820	166.250	6468.99	2905.19	-2727.97	1005.84	1679914.81	14268557.28	39°17'33.902"N	80°51'37.419"W	2907.49	159.760	6.15	153	-5.96			
10092.00	89.880	161.020	6467.58	3000.11	-2819.07	1032.59	1679941.55	14268466.21	39°17'33.002"N	80°51'37.080"W	3002.23	159.883	5.87	-2.04	-5.51			
10187.00	89.110	160.760	6468.41	3095.08	-2908.83	1063.69	1679972.64	14268376.48	39°17'32.114"N	80°51'36.687"W	3097.21	159.914	0.86	-0.81	-0.27			
10282.00	88.860	161.410	6470.10	3190.05	-2998.69	1094.48	1680003.42	14268286.66	39°17'31.225"N	80°51'36.297"W	3192.18	159.949	0.73	-0.26	0.68			
10378.00	89.140	159.740	6471.77	3286.00	-3089.20	1126.41	1680035.32	14268196.18	39°17'30.330"N	80°51'35.892"W	3288.16	159.967	1.76	0.29	-1.74			
10472.00	89.080	159.720	6473.23	3379.92	-3177.37	1158.97	1680067.87	14268108.05	39°17'29.458"N	80°51'35.480"W	3382.14	159.960	0.07	-0.06	-0.02			
10567.00	89.230	162.560	6474.63	3474.88	-3267.25	1189.67	1680098.56	14268018.20	39°17'28.570"N	80°51'35.091"W	3477.10	159.992	2.99	0.16	4.58			
10662.00	89.230	168.910	6475.91	3569.75	-3358.87	1214.67	1680123.57	14267926.62	39°17'27.664"N	80°51'34.775"W	3571.76	160.118	4.58	0.00	4.58			
10756.00	89.110	162.710	6477.27	3663.61	-3449.56	1239.30	1680148.17	14267835.97	39°17'26.767"N	80°51'34.464"W	3665.42	160.239	4.47	-0.13	-4.47			
10851.00	89.110	160.420	6478.75	3758.59	-3539.67	1269.33	1680178.19	14267745.90	39°17'25.876"N	80°51'34.084"W	3760.38	160.272	2.41	0.00	-2.41			
10945.00	89.170	162.380	6480.16	3852.57	-3628.74	1299.31	1680208.16	14267656.86	39°17'24.995"N	80°51'33.704"W	3854.34	160.300	2.09	0.06	2.09			
11040.00	89.200	160.760	6481.51	3947.55	-3718.86	1329.34	1680238.18	14267566.78	39°17'24.104"N	80°51'33.324"W	3949.31	160.330	1.71	0.03	-1.71			
11136.00	89.200	158.470	6482.85	4043.44	-3808.78	1362.89	1680271.71	14267476.89	39°17'23.216"N	80°51'32.899"W	4045.28	160.311	2.54	0.00	-2.54			
11231.00	89.050	168.470	6484.30	4138.24	-3897.10	1397.87	1680306.68	14267388.61	39°17'22.341"N	80°51'32.456"W	4140.22	160.267	0.22	-0.16	0.16			
11326.00	89.230	160.950	6485.73	4233.14	-3986.19	1430.80	1680339.60	14267299.56	39°17'21.460"N	80°51'32.039"W	4235.20	160.255	2.62	0.19	2.61			
11420.00	89.350	163.270	6486.89	4327.13	-4075.63	1459.67	1680368.46	14267210.15	39°17'20.576"N	80°51'31.673"W	4329.13	160.295	2.47	0.13	2.47			
11515.00	89.290	160.340	6488.02	4422.11	-4165.86	1489.33	1680398.11	14267119.95	39°17'19.683"N	80°51'31.298"W	4424.09	160.328	3.08	-0.06	-3.08			
11610.00	89.140	156.260	6489.32	4516.88	-4254.10	1524.45	1680433.21	14267031.75	39°17'18.811"N	80°51'30.853"W	4519.00	160.285	4.30	-0.16	-4.29			
11704.00	89.380	156.340	6490.54	4610.40	-4340.17	1562.23	1680470.97	14266945.72	39°17'17.959"N	80°51'30.374"W	4612.77	160.204	0.27	0.26	0.09			
11799.00	89.450	161.520	6491.51	4705.22	-4428.78	1596.37	1680505.10	14266857.14	39°17'17.083"N	80°51'29.942"W	4707.71	160.178	5.45	0.07	5.45			
11894.00	89.230	162.750	6492.60	4800.21	-4519.19	1625.51	1680534.23	14266766.76	39°17'16.189"N	80°51'29.573"W	4802.65	160.217	1.32	-0.23	1.29			
11988.00	89.200	162.000	6493.89	4894.20	-4608.77	1653.97	1680562.68	14266677.22	39°17'15.303"N	80°51'29.213"W	4896.57	160.258	0.80	-0.03	-0.80			
12083.00	89.110	160.670	6495.29	4989.18	-4698.76	1684.37	1680593.06	14266587.27	39°17'14.413"N	80°51'28.828"W	4991.54	160.279	1.40	-0.09	-1.40			
12179.00	89.350	168.010	6496.58	5085.03	-4791.13	1710.26	1680618.95	14266494.94	39°17'13.500"N	80°51'28.501"W	5087.23	160.355	7.65	0.25	7.65			
12273.00	89.420	172.300	6497.69	5178.06	-4883.72	1726.33	1680635.01	14266402.39	39°17'12.685"N	80°51'28.298"W	5179.86	160.532	4.56	0.07	4.56			
12369.00	89.480	173.500	6498.51	5272.34	-4978.98	1738.19	1680646.87	14266307.17	39°17'11.643"N	80°51'28.149"W	5273.66	160.756	1.25	0.06	1.25			
12464.00	89.570	163.960	6499.35	5366.58	-5072.03	1756.74	1680665.40	14266214.15	39°17'10.723"N	80°51'27.915"W	5367.65	160.896	10.04	0.03	-10.04			
12558.00	89.480	164.950	6500.18	5460.49	-5162.59	1781.93	1680690.58	14266123.63	39°17'09.827"N	80°51'27.596"W	5461.47	160.957	1.05	-0.03	1.05			
12653.00	89.540	162.110	6500.99	5555.44	-5253.68	1808.86	1680717.50	14266032.57	39°17'08.927"N	80°51'27.256"W	5556.36	161.001	2.99	0.06	-2.99			
12748.00	89.380	160.290	6501.89	5650.43	-5343.60	1839.47	1680748.10	14265942.69	39°17'08.037"N	80°51'26.868"W	5651.35	161.005	1.92	-0.17	-1.92			



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17465  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Long Run Pad
Slot	Hugle Unit 2H
Well	Hugle Unit 2H
Wellbore	Hugle Unit 2H AWB

WELLPATH DATA (201 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(m)	(m)	(°)	(°)	(m)	(°)
1284.00	89.320	158.240	6502.98	5746.30	-5433.37	1873.45	1680782.07	14265852.95	39°17'07.150"N	80°51'26.438"W	5747.29	160.976
12938.00	89.388	156.310	6504.05	5839.97	-5520.07	1809.76	1680818.37	14265766.29	39°17'06.292"N	80°51'25.978"W	5841.09	160.916
13034.00	89.320	156.400	6505.13	5935.49	-5608.00	1948.26	1680856.85	14265678.39	39°17'05.422"N	80°51'25.490"W	5936.79	160.842
13129.00	89.350	158.750	6506.24	6030.19	-5695.81	1984.50	1680893.07	14265590.62	39°17'04.554"N	80°51'25.031"W	6031.62	160.791
13224.00	89.380	159.740	6507.29	6125.07	-5784.64	2018.16	1680926.72	14265501.83	39°17'03.676"N	80°51'24.605"W	6126.58	160.767
13319.00	89.260	161.940	6508.42	6220.03	-5874.36	2049.34	1680957.89	14265412.14	39°17'02.788"N	80°51'24.210"W	6221.57	160.768
13413.00	88.950	162.610	6509.89	6314.02	-5963.89	2077.95	1680986.49	14265322.65	39°17'01.908"N	80°51'23.848"W	6315.52	160.791
13507.00	89.290	163.720	6511.33	6407.99	-6053.85	2105.17	1681013.70	14265232.73	39°17'01.013"N	80°51'23.503"W	6409.43	160.825
13602.00	88.740	166.950	6512.96	6502.81	-6145.73	2129.22	1681037.73	14265140.89	39°17'00.105"N	80°51'23.200"W	6504.11	160.891
13697.00	88.830	167.740	6514.98	6597.38	-6238.40	2150.02	1681058.53	14265048.25	39°16'59.188"N	80°51'22.937"W	6598.50	160.984
13793.00	88.950	168.780	6516.84	6693.14	-6331.41	2173.63	1681082.13	14264955.27	39°16'58.269"N	80°51'22.638"W	6694.13	161.052
13888.00	89.080	160.970	6518.47	6788.11	-6421.93	2202.39	1681110.87	14264864.79	39°16'57.374"N	80°51'22.275"W	6789.08	161.071
13983.00	88.950	163.700	6520.10	6883.09	-6512.43	2231.21	1681139.68	14264774.33	39°16'56.479"N	80°51'21.910"W	6884.04	161.088
14078.00	89.050	164.040	6521.76	6978.03	-6603.67	2257.60	1681166.06	14264683.12	39°16'55.577"N	80°51'21.576"W	6978.91	161.126
14173.00	89.110	159.720	6523.29	7072.99	-6693.93	2287.13	1681195.58	14264592.90	39°16'54.684"N	80°51'21.202"W	7073.87	161.136
14268.00	89.020	161.920	6524.84	7167.95	-6783.64	2318.34	1681226.78	14264503.23	39°16'53.797"N	80°51'20.807"W	7168.85	161.132
14363.00	89.140	159.970	6526.36	7262.92	-6873.42	2349.35	1681257.77	14264413.49	39°16'52.909"N	80°51'20.415"W	7263.83	161.129
14458.00	89.140	157.880	6527.79	7357.75	-6961.99	2383.65	1681292.07	14264324.95	39°16'52.033"N	80°51'19.980"W	7358.74	161.100
14553.00	89.010	154.470	6529.32	7452.21	-7048.80	2422.17	1681330.57	14264238.17	39°16'51.175"N	80°51'19.492"W	7453.36	161.036
14648.00	89.050	159.290	6530.93	7546.78	-7136.13	2459.46	1681367.84	14264150.87	39°16'50.311"N	80°51'19.020"W	7548.07	160.984
14743.00	89.050	163.190	6532.51	7641.74	-7226.06	2490.00	1681398.37	14264060.99	39°16'49.422"N	80°51'18.633"W	7643.03	160.987
14839.00	89.080	163.930	6534.08	7737.70	-7318.12	2517.16	1681425.53	14263968.96	39°16'48.511"N	80°51'18.290"W	7738.93	161.019
14934.00	88.980	163.410	6535.68	7832.64	-7409.27	2543.87	1681452.22	14263877.84	39°16'47.610"N	80°51'17.952"W	7833.81	161.051
15028.00	89.080	163.880	6537.28	7926.59	-7499.46	2570.34	1681478.68	14263787.70	39°16'46.718"N	80°51'17.617"W	7927.70	161.082
15123.00	89.230	165.410	6538.68	8021.48	-7591.05	2595.49	1681503.82	14263696.14	39°16'45.812"N	80°51'17.299"W	8022.51	161.124
15218.00	89.420	165.760	6539.80	8116.29	-7683.05	2619.14	1681527.46	14263604.17	39°16'44.903"N	80°51'17.000"W	8117.22	161.176
15312.00	89.290	165.960	6540.85	8210.08	-7774.20	2642.10	1681550.41	14263513.06	39°16'44.001"N	80°51'16.710"W	8210.90	161.229
15407.00	89.350	165.170	6541.89	8304.89	-7866.19	2665.78	1681574.08	14263421.10	39°16'43.092"N	80°51'16.411"W	8305.62	161.279
15501.00	89.230	159.760	6543.15	8398.85	-7955.79	2694.09	1681602.38	14263331.55	39°16'42.206"N	80°51'16.053"W	8399.56	161.292
15595.00	89.320	159.360	6544.34	8492.75	-8043.86	2726.91	1681635.19	14263243.51	39°16'41.335"N	80°51'15.637"W	8493.51	161.273

Turn Rate	Comments
0.10	
-0.43	
-5.76	
-0.83	
0.06	
-0.14	
0.21	
0.37	
1.61	
0.50	
-0.55	
0.77	
4.11	
5.07	
-3.38	
-2.41	
-2.05	
2.32	
-0.09	
-4.55	
0.36	
2.87	
-0.14	
2.88	
6884.04	
161.088	
2.96	
161.071	
4.13	
161.052	
6694.13	
160.984	
0.84	
0.09	
3.40	
-0.58	
3.45	
160.891	
6504.11	
160.825	
1.23	
0.36	
-0.33	
0.79	
160.791	
6315.52	
160.768	
2.32	
-0.13	
2.32	
1.04	
0.03	
1.04	
160.767	
6126.58	
160.791	
2.47	
0.03	
2.47	
160.791	
6031.62	
160.842	
0.11	
-0.06	
0.09	
-2.05	
0.06	
2.05	
160.916	
5841.09	
160.976	
2.14	
-0.06	
-2.14	





# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Long Run Pad
Slot	Slot #08
Well	Hugle Unit 2H
Wellbore	Hugle Unit 2H AWB

MD (m)	Inclination (°)	Azimuth (m)	TVD (m)	Vert Sect (m)	North (m)	East (m)	Grid East (m)	Grid North (m)	Latitude (m)	Longitude (m)	Closure Dist (m)	Closure Dir (°)	DLS (m)	Build Rate (m)	Turn Rate (°/100m)	Comments
15689.00	89.200	167.030	6545.55	-8586.65	-8133.77	2754.07	1681662.33	14263153.63	39°16'44.46"N	80°51'15.294"W	8587.38	161.294	8.16	-0.13	8.16	
16067.00	89.260	157.930	6550.53	-8487.61	2884.74	1681792.96	14262799.94	39°16'36.946"N	80°51'13.639"W	8964.45	161.228	3.18	0.00	3.18		
16162.00	89.140	160.960	6551.66	-8576.64	2918.09	1681826.29	14262711.04	39°16'36.067"N	80°51'13.217"W	9059.38	161.210	3.19	-0.13	3.19		
16257.00	89.260	163.760	6553.19	-8667.06	2949.87	1681855.06	14262620.56	39°16'35.172"N	80°51'12.853"W	9154.34	161.222	2.95	0.13	2.95		
16351.00	89.420	162.710	6554.27	-8757.38	2973.99	1681882.16	14262530.60	39°16'34.282"W	80°51'12.510"W	9248.28	161.242	1.13	0.17	-1.12		
16446.00	89.200	162.530	6555.41	-8847.71	3002.36	1681910.53	14262439.98	39°16'33.385"N	80°51'12.151"W	9343.24	161.256	0.30	-0.23	-0.19		
16540.00	89.290	161.830	6556.65	-8937.19	3031.12	1681939.28	14262350.53	39°16'32.501"N	80°51'11.787"W	9437.22	161.265	0.75	0.10	-0.74		
16635.00	89.230	162.960	6557.88	-9027.74	3059.65	1681968.00	14262260.03	39°16'31.605"N	80°51'11.424"W	9532.19	161.276	1.19	-0.06	1.19		
16730.00	89.350	165.780	6559.06	-9119.21	3085.45	1681993.58	14262168.59	39°16'30.701"N	80°51'11.100"W	9627.04	161.307	2.97	0.13	2.97		
16824.00	89.320	166.100	6560.15	-9210.38	3108.28	1682016.41	14262077.45	39°16'29.799"N	80°51'10.812"W	9720.73	161.352	0.34	-0.03	0.34		
16919.00	89.350	163.000	6561.25	-9301.93	3133.58	1682041.70	14261985.94	39°16'28.894"N	80°51'10.492"W	9815.57	161.383	3.26	0.03	-3.26		
17014.00	89.290	161.580	6562.38	-9392.42	3162.48	1682070.58	14261895.49	39°16'27.999"N	80°51'10.126"W	9910.54	161.391	1.50	-0.06	-1.49		
17109.00	89.260	162.010	6563.58	-9482.66	3192.16	1682100.25	14261805.29	39°16'27.107"N	80°51'09.751"W	10005.53	161.395	0.45	-0.03	0.45		
17204.00	89.320	160.990	6564.76	-9572.74	3222.30	1682130.38	14261715.24	39°16'26.216"N	80°51'09.369"W	10100.53	161.396	1.08	0.06	-1.07		
17298.00	89.770	159.200	6566.33	-9661.11	3254.29	1682162.36	14261626.91	39°16'25.342"N	80°51'08.964"W	10194.48	161.384	1.99	-0.59	-1.90		
17393.00	89.290	162.000	6567.93	-9750.70	3285.84	1682193.90	14261537.36	39°16'24.456"N	80°51'08.565"W	10289.45	161.377	3.00	0.55	2.95		
17441.00	89.200	162.600	6568.57	-9796.42	3300.43	1682208.48	14261491.65	39°16'24.004"N	80°51'08.381"W	10337.44	161.381	1.26	-0.19	1.26		
17466.00	89.200	162.600	6568.92	-9820.27	3307.91	1682215.96	14261467.81	39°16'23.768"N	80°51'08.286"W	10362.43	161.384	0.00	0.00	0.00	Projected MD at TD: 17466	



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Hugle Unit 2H
Field	Doddridge	Wellbore	Hugle Unit 2H AWB
Facility	Long Run Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Hugle Unit 2H AWB Ref Wellpath: Hugle Unit 2H AWP Proj: 17466'										
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	24.50	64.50	40.00	24.50	64.50	0.00	0.00	-0.02	0.00	
17.5in Open Hole	64.50	529.00	464.50	64.50	529.00	-0.02	0.00	-0.56	0.95	
13.375in Casing Surface	24.50	529.00	504.50	24.50	529.00	0.00	0.00	-0.56	0.95	
12.25in Open Hole	529.00	2533.50	2004.50	529.00	2533.36	-0.56	0.95	0.71	-2.22	
9.625in Casing Intermediate	24.50	2533.50	2509.00	24.50	2533.36	0.00	0.00	0.71	-2.22	
8.75in Open Hole	2533.50	5675.50	3142.00	2533.36	5563.47	0.71	-2.22	780.27	-0.54	
8.5in Open Hole	5675.50	17466.00	11790.50	5563.47	6568.92	780.27	-0.54	-9820.27	3307.91	
5.5in Casing Production	24.50	17466.00	17441.50	24.50	6568.92	0.00	0.00	-9820.27	3307.91	

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hugle Unit 2H POE Rev-3	6436.00	391.92	60.98	1678970.33	14271675.91	39°18'04.753"N	80°51'49.377"W	point
Hugle Unit 2H BHL Rev-3	6460.00	-9847.89	3313.94	1682221.98	14261440.20	39°16'23.495"N	80°51'08.210"W	point
Hugle Unit 2H LP Rev-3	6460.00	243.56	79.19	1678988.53	14271527.61	39°18'03.286"N	80°51'49.148"W	point

WELLPATH COMPOSITION - Ref Wellbore: Hugle Unit 2H AWB Ref Wellpath: Hugle Unit 2H AWP Proj: 17466'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
24.50	5510.50	Gyrodata standard - Drop gyro or Multi-shot	04 Gyrodata MS Gyro <8-3/4"> (100'-5499')	Hugle Unit 2H AWB	
5510.50	17441.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2"> (5510.5')(5659'-17441')	Hugle Unit 2H AWB	
17441.00	17466.00	Blind Drilling (std)	Projection to bit	Hugle Unit 2H AWB	



# Actual Wellpath Report

Hugle Unit 2H AWP Proj: 17466'

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07/20/2018

## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Doddridge Co., WV	Well	Hugle Unit 2H
Field	Doddridge	Wellbore	Hugle Unit 2H AWB
Facility	Long Run Pad		

## COMMENTS

Wellpath general comments  
API: 47-017-06783-0000  
BHI Job #: 8472898  
Rig: Frontier 22  
Duration: 03/30/2017-04/02/2017  
Gyrodala MS Gyro <8-3/4">(100'-5499')  
BHI AT Curve <8-1/2">(5510.5')(5659'-17441')  
Burket: 6612' MD  
Tully: 6679' MD  
Hamilton: 6755' MD  
Marcellus POE: 6780' MD  
Projected MD at TD: 17466'