



ANTERO RESOURCES CORPORATION

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

Slot: Slot #07
 Well: Hugle Unit 1H
 Wellbore: Hugle Unit 1H PWB



API: 47-017-06761-0000
BHI Job #: 8441853
Rig: Frontier 22
Duration: 03/23/2017-03/25/2017

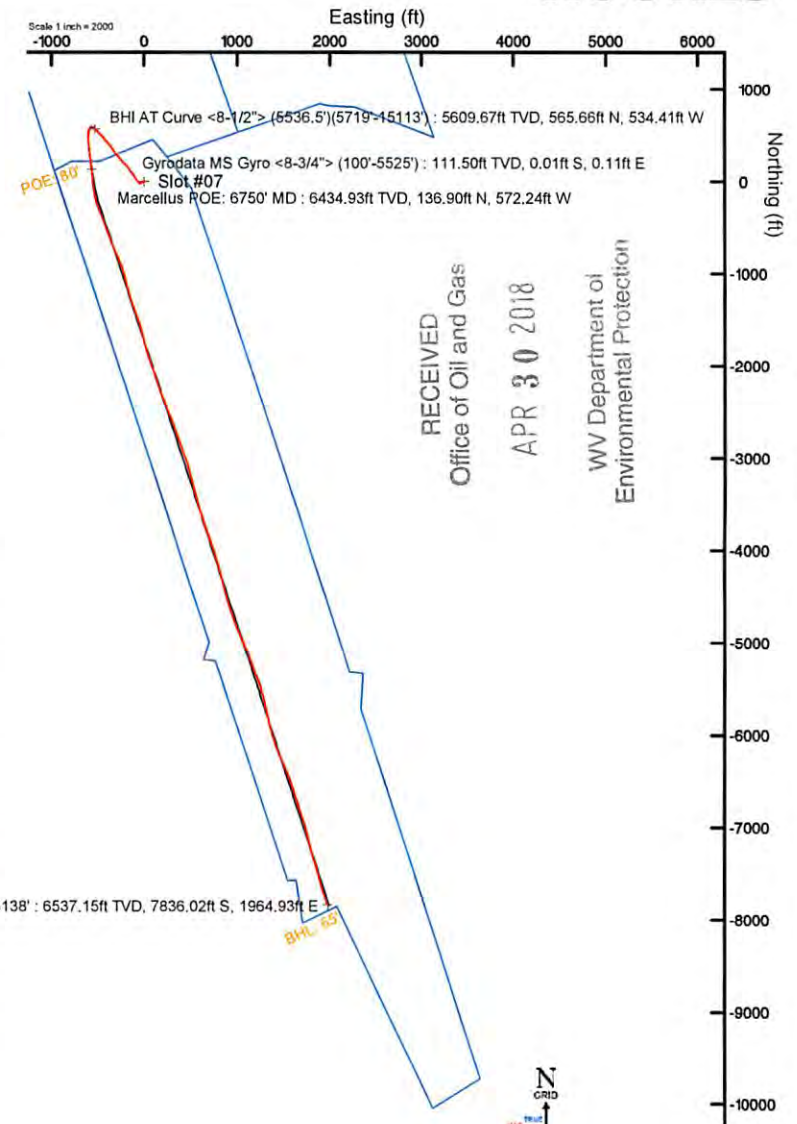
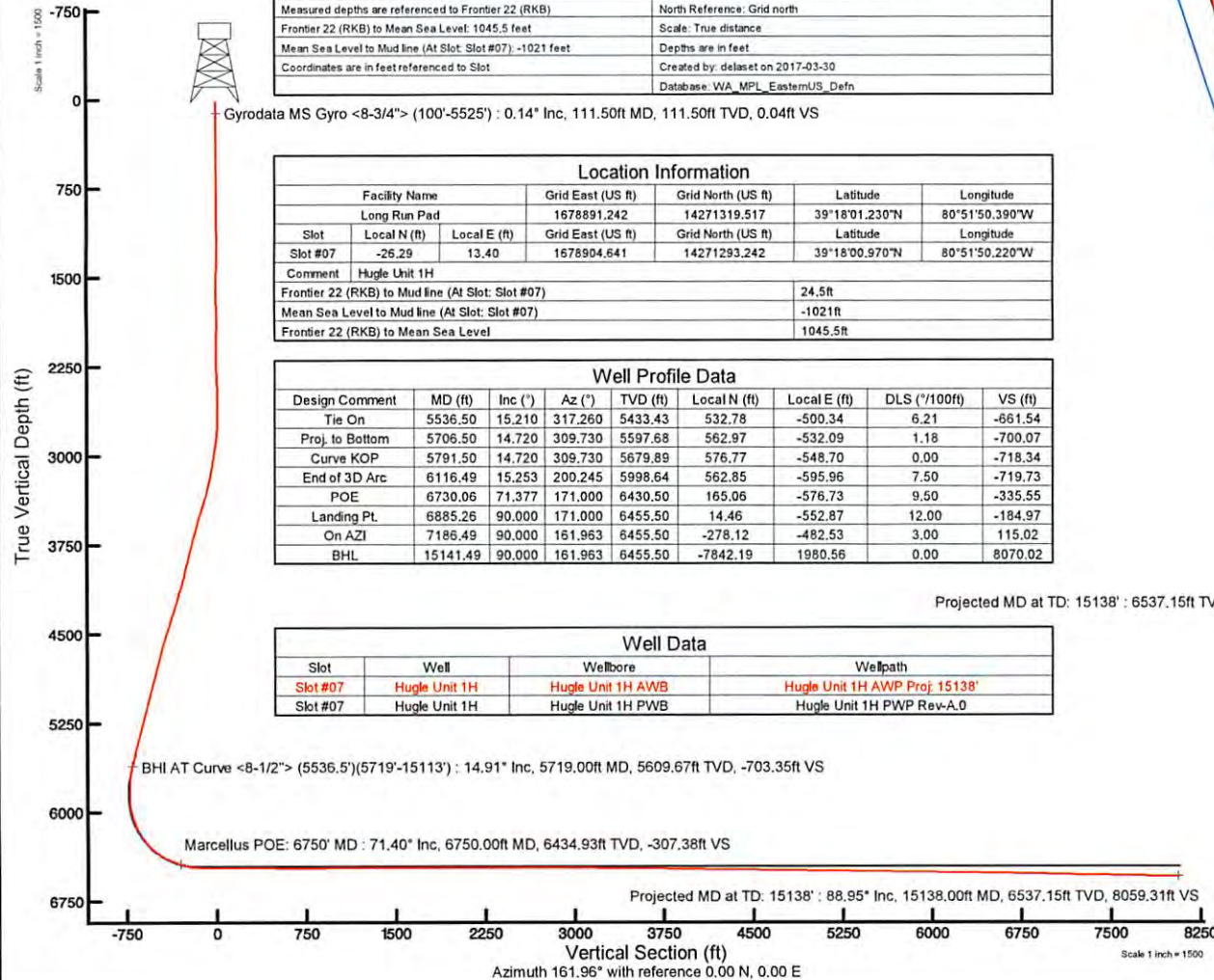
Plot reference wellpath is Hugle Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Frontier 22 (RKB) to Mean Sea Level: 1045.5 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #07): -1021 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: delaset on 2017-03-30
	Database: WA_MPL_EasternUS_Defn

Gyrodatta MS Gyro <8-3/4"> (100'-5525') : 0.14" Inc, 111.50ft MD, 111.50ft TVD, 0.04ft VS

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 #07	-26.29	13.40	1678904.641	14271293.242
			39°18'00.970"N	80°51'50.220"W
Comment: Hugle Unit 1H				
Frontier 22 (RKB) to Mud line (At Slot: Slot #07)			24.5ft	
Mean Sea Level to Mud line (At Slot: Slot #07)			-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)	DLS (°/100ft)	VS (ft)
Tie On	5536.50	15.210	317.260	5433.43	532.78	-500.34	6.21	-661.54
Proj. to Bottom	5706.50	14.720	309.730	5597.68	562.97	-532.09	1.18	-700.07
Curve KOP	5791.50	14.720	309.730	5679.89	576.77	-548.70	0.00	-718.34
End of 3D Arc	6116.49	15.253	200.245	5998.64	562.85	-595.96	7.50	-719.73
POE	6730.06	71.377	171.000	6430.50	165.06	-576.73	9.50	-335.55
Landing Pt.	6885.26	90.000	171.000	6455.50	14.46	-552.87	12.00	-184.97
On AZI	7186.49	90.000	161.963	6455.50	-278.12	-482.53	3.00	115.02
BHL	15141.49	90.000	161.963	6455.50	-7842.19	1980.56	0.00	8070.02

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #07	Hugle Unit 1H	Hugle Unit 1H AWB	Hugle Unit 1H AWP Proj. 15138'
Slot #07	Hugle Unit 1H	Hugle Unit 1H PWB	Hugle Unit 1H PWP Rev-A.0



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 Office of Oil and Gas
 APR 30 2018
 WV Department of
 Environmental Protection

User specified Dip: 66.60° Field: 52067 nT
 Magnetic North is 7.54 degrees West of True North (at 20/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



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Doddridge Co., WV	Well	Hugle Unit 1H
Field	Doddridge	Wellbore	Hugle Unit 1H 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	30/Mar/2017 at 14:24
Convergence at slot	0.09° East	Database/Source file	WA_MPL_EasternUS_Defn/Hugle_Unit_1H_AWP_Proj_15138_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-26.29	13.40	1678904.64	14271293.24	39°18'00.970"N	80°51'50.220"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 #07)	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	161.96°



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Doddridge Co., WV	Well	Hugle Unit 1H
Field	Doddridge	Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad		

WELLPATH DATA (338 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	0.00	95.770	0.00	0.00	0.00	0.00	1678904.64	14271293.24	39°18'00.970"N	80°51'50.220"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	95.770	24.50	0.00	0.00	0.00	1678904.64	14271293.24	39°18'00.970"N	80°51'50.220"W	0.00	0.000	0.00	0.00	0.00	
111.50	0.140	95.770	111.50	0.04	-0.01	0.11	1678904.75	14271293.23	39°18'00.970"N	80°51'50.219"W	0.11	95.770	0.16	0.16	110.08	Gyrodata MS Gyro <8-3/4"> (100'-5525')
136.50	0.110	96.670	136.50	0.07	-0.02	0.16	1678904.80	14271293.23	39°18'00.970"N	80°51'50.218"W	0.16	95.904	0.12	-0.12	3.60	
161.50	0.110	76.420	161.50	0.08	-0.01	0.21	1678904.85	14271293.23	39°18'00.970"N	80°51'50.217"W	0.21	93.783	0.15	0.00	-81.00	
186.50	0.230	75.300	186.50	0.08	0.00	0.28	1678904.92	14271293.25	39°18'00.970"N	80°51'50.216"W	0.28	89.041	0.48	0.48	-4.48	
211.50	0.360	71.530	211.50	0.08	0.04	0.40	1678905.04	14271293.28	39°18'00.970"N	80°51'50.215"W	0.40	83.996	0.53	0.52	-15.08	
236.50	0.450	71.200	236.50	0.08	0.10	0.57	1678905.21	14271293.34	39°18'00.971"N	80°51'50.213"W	0.58	80.157	0.36	0.36	-1.32	
261.50	0.510	70.330	261.50	0.08	0.17	0.77	1678905.41	14271293.41	39°18'00.972"N	80°51'50.210"W	0.79	77.655	0.24	0.24	-3.48	
286.50	0.530	71.710	286.50	0.07	0.24	0.98	1678905.62	14271293.48	39°18'00.972"N	80°51'50.208"W	1.01	76.173	0.09	0.08	5.52	
311.50	0.550	70.950	311.50	0.07	0.32	1.20	1678905.85	14271293.56	39°18'00.973"N	80°51'50.205"W	1.25	75.257	0.08	0.08	-3.04	
336.50	0.550	70.010	336.49	0.07	0.40	1.43	1678906.07	14271293.64	39°18'00.974"N	80°51'50.202"W	1.49	74.486	0.04	0.00	-3.76	
361.50	0.590	68.500	361.49	0.05	0.49	1.66	1678906.30	14271293.73	39°18'00.975"N	80°51'50.199"W	1.73	73.732	0.17	0.16	-6.04	
386.50	0.580	70.650	386.49	0.04	0.57	1.90	1678906.54	14271293.82	39°18'00.976"N	80°51'50.196"W	1.99	73.198	0.10	-0.04	8.60	
411.50	0.600	68.600	411.49	0.03	0.66	2.14	1678906.78	14271293.91	39°18'00.977"N	80°51'50.193"W	2.24	72.786	0.12	0.08	-8.20	
436.50	0.590	70.370	436.49	0.02	0.76	2.39	1678907.03	14271294.00	39°18'00.977"N	80°51'50.190"W	2.50	72.444	0.08	-0.04	7.08	
461.50	0.590	69.710	461.49	0.01	0.84	2.63	1678907.27	14271294.08	39°18'00.978"N	80°51'50.187"W	2.76	72.219	0.03	0.00	-2.64	
486.50	0.610	69.760	486.49	0.00	0.93	2.87	1678907.51	14271294.17	39°18'00.979"N	80°51'50.183"W	3.02	72.004	0.08	0.08	0.20	
511.50	0.610	70.520	511.49	-0.01	1.02	3.13	1678907.76	14271294.27	39°18'00.980"N	80°51'50.180"W	3.29	71.854	0.03	0.00	3.04	
536.50	0.600	70.660	536.48	-0.01	1.11	3.37	1678908.01	14271294.35	39°18'00.981"N	80°51'50.177"W	3.55	71.760	0.04	-0.04	0.56	
561.50	0.570	70.270	561.48	-0.02	1.20	3.61	1678908.25	14271294.44	39°18'00.982"N	80°51'50.174"W	3.81	71.673	0.12	-0.12	-1.56	
586.50	0.370	67.190	586.48	-0.03	1.27	3.81	1678908.45	14271294.51	39°18'00.983"N	80°51'50.172"W	4.01	71.540	0.81	-0.80	-12.32	
611.50	0.140	278.730	611.48	-0.05	1.31	3.85	1678908.49	14271294.55	39°18'00.983"N	80°51'50.171"W	4.07	71.257	1.98	-0.92	-593.84	
636.50	0.430	247.890	636.48	-0.06	1.28	3.73	1678908.37	14271294.52	39°18'00.983"N	80°51'50.172"W	3.95	71.132	1.27	1.16	-123.36	
661.50	0.730	251.460	661.48	-0.05	1.19	3.50	1678908.13	14271294.43	39°18'00.982"N	80°51'50.176"W	3.69	71.200	1.21	1.20	14.28	
686.50	1.480	256.040	686.48	-0.07	1.06	3.03	1678907.67	14271294.30	39°18'00.980"N	80°51'50.181"W	3.21	70.701	3.02	3.00	18.32	
711.50	2.000	255.730	711.46	-0.12	0.88	2.29	1678906.93	14271294.12	39°18'00.979"N	80°51'50.191"W	2.46	69.108	2.08	2.08	-1.24	
736.50	2.590	255.160	736.44	-0.18	0.62	1.33	1678905.97	14271293.87	39°18'00.976"N	80°51'50.203"W	1.47	64.809	2.36	2.36	-2.28	
761.50	3.260	254.780	761.41	-0.25	0.29	0.09	1678904.73	14271293.53	39°18'00.973"N	80°51'50.219"W	0.31	17.831	2.68	2.68	-1.52	
786.50	4.000	255.360	786.36	-0.34	-0.11	-1.44	1678903.21	14271293.13	39°18'00.969"N	80°51'50.238"W	1.44	265.436	2.96	2.96	2.32	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWP
Facility	Long Run Pad			

WELLPATH DATA (338 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
811.50	5.010	255.960	811.28	-0.46	-0.60	-3.34	1678901.30	14271292.64	39°18'00.964"N	80°51'50.262"W	3.39	259.814	4.04	4.04	2.40	
836.50	5.750	255.170	836.17	-0.61	-1.19	-5.61	1678899.03	14271292.06	39°18'00.958"N	80°51'50.291"W	5.73	258.067	2.97	2.96	-3.16	
861.50	6.450	253.650	861.03	-0.72	-1.90	-8.17	1678896.48	14271291.34	39°18'00.951"N	80°51'50.324"W	8.38	256.895	2.87	2.80	-6.08	
886.50	7.150	251.810	885.85	-0.76	-2.78	-10.99	1678893.65	14271290.46	39°18'00.943"N	80°51'50.360"W	11.34	255.796	2.93	2.80	-7.36	
911.50	7.600	250.540	910.65	-0.71	-3.82	-14.03	1678890.62	14271289.42	39°18'00.932"N	80°51'50.399"W	14.54	254.773	1.91	1.80	-5.08	
936.50	7.820	249.170	935.42	-0.59	-4.97	-17.18	1678887.47	14271288.27	39°18'00.921"N	80°51'50.439"W	17.88	253.850	1.15	0.88	-5.48	
961.50	7.970	248.030	960.18	-0.39	-6.23	-20.37	1678884.28	14271287.02	39°18'00.909"N	80°51'50.479"W	21.30	253.004	0.87	0.60	-4.56	
986.50	8.100	246.980	984.94	-0.12	-7.56	-23.60	1678881.05	14271285.68	39°18'00.896"N	80°51'50.520"W	24.78	252.229	0.78	0.52	-4.20	
1011.50	8.220	245.980	1009.69	0.22	-8.98	-26.86	1678877.80	14271284.26	39°18'00.882"N	80°51'50.562"W	28.32	251.510	0.74	0.48	-4.00	
1036.50	8.230	245.940	1034.43	0.60	-10.44	-30.12	1678874.53	14271282.81	39°18'00.867"N	80°51'50.603"W	31.88	250.888	0.05	0.04	-0.16	
1061.50	8.000	245.390	1059.18	0.98	-11.89	-33.34	1678871.32	14271281.35	39°18'00.853"N	80°51'50.644"W	35.39	250.368	0.97	-0.92	-2.20	
1086.50	7.610	244.260	1083.95	1.40	-13.33	-36.41	1678868.25	14271279.91	39°18'00.839"N	80°51'50.683"W	38.78	249.885	1.68	-1.56	-4.52	
1111.50	7.170	243.740	1108.74	1.85	-14.74	-39.30	1678865.36	14271278.50	39°18'00.825"N	80°51'50.720"W	41.98	249.436	1.78	-1.76	-2.08	
1136.50	6.580	243.170	1133.56	2.29	-16.08	-41.98	1678862.68	14271277.17	39°18'00.812"N	80°51'50.754"W	44.95	249.039	2.38	-2.36	-2.28	
1161.50	5.920	242.300	1158.41	2.73	-17.33	-44.40	1678860.26	14271275.92	39°18'00.799"N	80°51'50.785"W	47.66	248.681	2.67	-2.64	-3.48	
1186.50	5.610	241.940	1183.28	3.15	-18.50	-46.62	1678858.04	14271274.75	39°18'00.788"N	80°51'50.813"W	50.15	248.353	1.25	-1.24	-1.44	
1211.50	5.290	242.600	1208.17	3.55	-19.61	-48.72	1678855.94	14271273.64	39°18'00.777"N	80°51'50.840"W	52.52	248.079	1.30	-1.28	2.64	
1236.50	4.880	244.030	1233.07	3.89	-20.60	-50.70	1678853.96	14271272.65	39°18'00.767"N	80°51'50.865"W	54.72	247.885	1.72	-1.64	5.72	
1261.50	4.160	247.360	1258.00	4.11	-21.42	-52.49	1678852.17	14271271.83	39°18'00.759"N	80°51'50.888"W	56.69	247.804	3.06	-2.88	13.32	
1286.50	3.160	254.970	1282.94	4.15	-21.94	-53.99	1678850.67	14271271.31	39°18'00.754"N	80°51'50.907"W	58.28	247.882	4.44	-4.00	30.44	
1311.50	2.440	262.800	1307.91	4.01	-22.19	-55.19	1678849.48	14271271.06	39°18'00.752"N	80°51'50.922"W	59.48	248.096	3.25	-2.88	31.32	
1336.50	1.930	271.950	1332.90	3.76	-22.24	-56.14	1678848.53	14271271.01	39°18'00.751"N	80°51'50.934"W	60.38	248.385	2.47	-2.04	36.60	
1361.50	1.530	283.890	1357.88	3.44	-22.15	-56.88	1678847.78	14271271.10	39°18'00.752"N	80°51'50.944"W	61.04	248.725	2.15	-1.60	47.76	
1386.50	1.280	297.650	1382.88	3.07	-21.94	-57.45	1678847.21	14271271.31	39°18'00.754"N	80°51'50.951"W	61.50	249.100	1.67	-1.00	55.04	
1411.50	1.120	310.140	1407.87	2.66	-21.65	-57.89	1678846.78	14271271.60	39°18'00.757"N	80°51'50.957"W	61.80	249.493	1.22	-0.64	49.96	
1436.50	1.070	315.380	1432.87	2.24	-21.33	-58.24	1678846.43	14271271.92	39°18'00.760"N	80°51'50.961"W	62.02	249.886	0.45	-0.20	20.96	
1461.50	1.010	319.720	1457.86	1.83	-20.99	-58.54	1678846.12	14271272.26	39°18'00.763"N	80°51'50.965"W	62.19	250.272	0.40	-0.24	17.36	
1486.50	0.960	324.460	1482.86	1.43	-20.65	-58.81	1678845.86	14271272.60	39°18'00.767"N	80°51'50.968"W	62.33	250.647	0.38	-0.20	18.96	
1511.50	0.830	331.270	1507.86	1.05	-20.33	-59.02	1678845.65	14271272.92	39°18'00.770"N	80°51'50.971"W	62.42	250.996	0.67	-0.52	27.24	
1536.50	0.670	342.280	1532.85	0.73	-20.03	-59.15	1678845.52	14271273.22	39°18'00.773"N	80°51'50.973"W	62.45	251.294	0.86	-0.64	44.04	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
1561.50	0.430	352.930	1557.85	0.49	-19.80	-59.20	1678845.46	14271273.45	39°18'00.775"N	80°51'50.973"W	62.42	251.512	1.04	-0.96	42.60	
1586.50	0.230	35.340	1582.85	0.37	-19.66	-59.19	1678845.48	14271273.59	39°18'00.777"N	80°51'50.973"W	62.37	251.624	1.21	-0.80	169.64	
1611.50	0.300	100.120	1607.85	0.37	-19.63	-59.09	1678845.57	14271273.62	39°18'00.777"N	80°51'50.972"W	62.27	251.623	1.16	0.28	259.12	
1636.50	0.520	114.980	1632.85	0.48	-19.69	-58.93	1678845.74	14271273.56	39°18'00.776"N	80°51'50.970"W	62.13	251.522	0.97	0.88	59.44	
1661.50	0.700	115.540	1657.85	0.66	-19.80	-58.68	1678845.98	14271273.44	39°18'00.775"N	80°51'50.967"W	61.94	251.352	0.72	0.72	2.24	
1686.50	1.170	122.720	1682.85	0.96	-20.01	-58.33	1678846.33	14271273.24	39°18'00.773"N	80°51'50.962"W	61.67	251.067	1.93	1.88	28.72	
1711.50	1.660	125.750	1707.84	1.45	-20.36	-57.82	1678846.84	14271272.89	39°18'00.770"N	80°51'50.956"W	61.30	250.604	1.98	1.96	12.12	
1736.50	2.150	125.230	1732.83	2.12	-20.84	-57.15	1678847.52	14271272.41	39°18'00.765"N	80°51'50.947"W	60.83	249.964	1.96	1.96	-2.08	
1761.50	2.280	122.490	1757.81	2.88	-21.38	-56.34	1678848.32	14271271.87	39°18'00.760"N	80°51'50.937"W	60.26	249.222	0.67	0.52	-10.96	
1786.50	2.310	116.290	1782.79	3.61	-21.87	-55.47	1678849.19	14271271.38	39°18'00.755"N	80°51'50.926"W	59.63	248.485	1.00	0.12	-24.80	
1811.50	2.220	101.980	1807.77	4.21	-22.19	-54.55	1678850.12	14271271.06	39°18'00.751"N	80°51'50.914"W	58.89	247.862	2.28	-0.36	-57.24	
1836.50	2.090	90.010	1832.75	4.59	-22.29	-53.62	1678851.04	14271270.96	39°18'00.750"N	80°51'50.902"W	58.07	247.424	1.87	-0.52	-47.88	
1861.50	1.810	66.980	1857.74	4.70	-22.14	-52.80	1678851.86	14271271.11	39°18'00.752"N	80°51'50.892"W	57.25	247.252	3.30	-1.12	-92.12	
1886.50	1.940	19.890	1882.72	4.33	-21.59	-52.29	1678852.37	14271271.66	39°18'00.757"N	80°51'50.886"W	56.57	247.569	6.01	0.52	-188.36	
1911.50	2.300	4.210	1907.71	3.53	-20.69	-52.11	1678852.55	14271272.56	39°18'00.766"N	80°51'50.883"W	56.07	248.347	2.72	1.44	-62.72	
1936.50	2.360	2.530	1932.69	2.59	-19.67	-52.05	1678852.61	14271273.58	39°18'00.776"N	80°51'50.882"W	55.64	249.296	0.36	0.24	-6.72	
1961.50	2.380	1.470	1957.66	1.62	-18.64	-52.01	1678852.65	14271274.61	39°18'00.787"N	80°51'50.882"W	55.25	250.285	0.19	0.08	-4.24	
1986.50	2.260	1.600	1982.64	0.66	-17.63	-51.99	1678852.67	14271275.62	39°18'00.797"N	80°51'50.882"W	54.90	251.269	0.48	-0.48	0.52	
2011.50	1.600	4.100	2007.63	-0.13	-16.79	-51.95	1678852.71	14271276.46	39°18'00.805"N	80°51'50.881"W	54.59	252.092	2.66	-2.64	10.00	
2036.50	1.270	7.000	2032.62	-0.70	-16.16	-51.89	1678852.77	14271277.08	39°18'00.811"N	80°51'50.880"W	54.35	252.698	1.35	-1.32	11.60	
2061.50	0.950	13.110	2057.62	-1.13	-15.69	-51.81	1678852.85	14271277.56	39°18'00.816"N	80°51'50.879"W	54.13	253.154	1.36	-1.28	24.44	
2086.50	0.750	20.350	2082.61	-1.43	-15.33	-51.71	1678852.96	14271277.92	39°18'00.819"N	80°51'50.878"W	53.93	253.484	0.91	-0.80	28.96	
2111.50	0.630	30.810	2107.61	-1.65	-15.06	-51.58	1678853.08	14271278.19	39°18'00.822"N	80°51'50.876"W	53.73	253.722	0.69	-0.48	41.84	
2136.50	0.530	73.320	2132.61	-1.74	-14.91	-51.40	1678853.26	14271278.34	39°18'00.823"N	80°51'50.874"W	53.52	253.823	1.72	-0.40	170.04	
2161.50	0.880	115.350	2157.61	-1.61	-14.96	-51.11	1678853.55	14271278.29	39°18'00.823"N	80°51'50.870"W	53.26	253.688	2.41	1.40	168.12	
2186.50	1.370	131.340	2182.60	-1.22	-15.24	-50.72	1678853.95	14271278.01	39°18'00.820"N	80°51'50.865"W	52.95	253.276	2.31	1.96	63.96	
2211.50	1.770	137.310	2207.60	-0.61	-15.72	-50.23	1678854.43	14271277.53	39°18'00.815"N	80°51'50.859"W	52.63	252.622	1.73	1.60	23.88	
2236.50	1.980	141.250	2232.58	0.15	-16.34	-49.70	1678854.96	14271276.91	39°18'00.809"N	80°51'50.852"W	52.31	251.800	0.99	0.84	15.76	
2261.50	2.100	143.280	2257.57	0.98	-17.04	-49.15	1678855.51	14271276.20	39°18'00.802"N	80°51'50.846"W	52.02	250.876	0.56	0.48	8.12	
2286.50	2.260	144.870	2282.55	1.89	-17.81	-48.60	1678856.07	14271275.43	39°18'00.795"N	80°51'50.838"W	51.76	249.868	0.68	0.64	6.36	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
2311.50	2.360	146.580	2307.53	2.86	-18.65	-48.03	1678856.63	14271274.60	39°18'00.786"N	80°51'50.831"W	51.52	248.781	0.49	0.40	6.84	
2336.50	2.460	147.220	2332.51	3.87	-19.53	-47.45	1678857.21	14271273.72	39°18'00.778"N	80°51'50.824"W	51.31	247.633	0.41	0.40	2.56	
2361.50	2.530	148.450	2357.48	4.93	-20.45	-46.87	1678857.78	14271272.80	39°18'00.769"N	80°51'50.817"W	51.14	246.431	0.35	0.28	4.92	
2386.50	2.540	148.690	2382.46	6.00	-21.39	-46.30	1678858.36	14271271.86	39°18'00.759"N	80°51'50.809"W	51.00	245.200	0.06	0.04	0.96	
2411.50	2.270	151.720	2407.44	7.03	-22.30	-45.78	1678858.88	14271270.95	39°18'00.750"N	80°51'50.803"W	50.92	244.025	1.19	-1.08	12.12	
2436.50	1.730	156.060	2432.42	7.89	-23.08	-45.39	1678859.27	14271270.17	39°18'00.743"N	80°51'50.798"W	50.92	243.044	2.24	-2.16	17.36	
2461.50	1.160	164.760	2457.41	8.52	-23.67	-45.17	1678859.49	14271269.58	39°18'00.737"N	80°51'50.795"W	51.00	242.342	2.44	-2.28	34.80	
2486.50	0.960	167.040	2482.41	8.98	-24.12	-45.05	1678859.60	14271269.13	39°18'00.732"N	80°51'50.794"W	51.10	241.838	0.82	-0.80	9.12	
2511.50	0.920	167.920	2507.40	9.39	-24.52	-44.97	1678859.69	14271268.73	39°18'00.728"N	80°51'50.792"W	51.22	241.396	0.17	-0.16	3.52	
2536.50	0.850	181.080	2532.40	9.76	-24.90	-44.93	1678859.73	14271268.35	39°18'00.725"N	80°51'50.792"W	51.37	241.002	0.86	-0.28	52.64	
2561.50	0.870	186.510	2557.40	10.11	-25.28	-44.95	1678859.71	14271267.98	39°18'00.721"N	80°51'50.792"W	51.57	240.652	0.34	0.08	21.72	
2586.50	0.880	187.250	2582.40	10.46	-25.65	-45.00	1678859.66	14271267.60	39°18'00.717"N	80°51'50.793"W	51.80	240.311	0.06	0.04	2.96	
2611.50	0.870	191.950	2607.39	10.80	-26.03	-45.06	1678859.60	14271267.22	39°18'00.713"N	80°51'50.794"W	52.04	239.986	0.29	-0.04	18.80	
2636.50	0.860	197.370	2632.39	11.11	-26.40	-45.16	1678859.50	14271266.86	39°18'00.710"N	80°51'50.795"W	52.31	239.692	0.33	-0.04	21.68	
2661.50	1.120	267.050	2657.39	11.20	-26.59	-45.46	1678859.20	14271266.66	39°18'00.708"N	80°51'50.799"W	52.66	239.677	4.60	1.04	278.72	
2686.50	1.620	285.940	2682.38	10.94	-26.50	-46.04	1678858.62	14271266.75	39°18'00.709"N	80°51'50.806"W	53.12	240.073	2.67	2.00	75.56	
2711.50	2.150	293.590	2707.37	10.43	-26.22	-46.81	1678857.85	14271267.03	39°18'00.712"N	80°51'50.816"W	53.65	240.747	2.34	2.12	30.60	
2736.50	3.390	302.040	2732.34	9.55	-25.64	-47.87	1678856.79	14271267.61	39°18'00.717"N	80°51'50.829"W	54.30	241.826	5.21	4.96	33.80	
2761.50	3.930	303.320	2757.29	8.32	-24.78	-49.21	1678855.45	14271268.48	39°18'00.726"N	80°51'50.846"W	55.09	243.276	2.18	2.16	5.12	
2786.50	4.930	307.090	2782.21	6.77	-23.66	-50.78	1678853.88	14271269.59	39°18'00.737"N	80°51'50.866"W	56.02	245.021	4.16	4.00	15.08	
2811.50	5.610	309.040	2807.10	4.86	-22.24	-52.59	1678852.07	14271271.01	39°18'00.751"N	80°51'50.889"W	57.10	247.076	2.81	2.72	7.80	
2836.50	6.200	311.240	2831.97	2.67	-20.58	-54.55	1678850.11	14271272.67	39°18'00.767"N	80°51'50.914"W	58.31	249.331	2.53	2.36	8.80	
2861.50	7.310	315.730	2856.80	0.09	-18.55	-56.68	1678847.99	14271274.70	39°18'00.787"N	80°51'50.941"W	59.64	251.876	4.91	4.44	17.96	
2886.50	7.620	316.680	2881.59	-2.84	-16.21	-58.93	1678845.74	14271277.04	39°18'00.811"N	80°51'50.970"W	61.11	254.622	1.33	1.24	3.80	
2911.50	8.090	318.870	2906.35	-5.96	-13.68	-61.22	1678843.45	14271279.57	39°18'00.836"N	80°51'50.999"W	62.73	257.408	2.23	1.88	8.76	
2936.50	8.530	320.740	2931.09	-9.30	-10.91	-63.55	1678841.12	14271282.33	39°18'00.863"N	80°51'51.029"W	64.48	260.254	2.07	1.76	7.48	
2961.50	8.810	320.830	2955.80	-12.82	-8.00	-65.93	1678838.73	14271285.25	39°18'00.892"N	80°51'51.059"W	66.42	263.086	1.12	1.12	0.36	
2986.50	9.390	321.520	2980.49	-16.51	-4.91	-68.41	1678836.26	14271288.33	39°18'00.922"N	80°51'51.090"W	68.59	265.891	2.36	2.32	2.76	
3011.50	9.610	321.370	3005.15	-20.38	-1.69	-70.98	1678833.69	14271291.55	39°18'00.954"N	80°51'51.123"W	71.00	268.638	0.89	0.88	-0.60	
3036.50	10.100	322.830	3029.78	-24.40	1.69	-73.61	1678831.06	14271294.93	39°18'00.988"N	80°51'51.156"W	73.63	271.315	2.20	1.96	5.84	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #07
Area	Doddridge Co., WV		Hugle Unit 1H
Field	Doddridge		Hugle Unit 1H AWB
Facility	Long Run Pad		

WELLPATH DATA (338 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
3061.50	10.530	323.920	3054.37	-28.64	5.28	-76.28	1678828.39	14271298.52	39°18'01.023"N	80°51'51.190"W	76.46	273.961	1.89	1.72	4.36	
3086.50	10.690	324.340	3078.95	-33.03	9.01	-78.98	1678825.70	14271302.25	39°18'01.060"N	80°51'51.224"W	79.49	276.510	0.71	0.64	1.68	
3111.50	11.050	324.660	3103.50	-37.52	12.85	-81.71	1678822.96	14271306.09	39°18'01.098"N	80°51'51.259"W	82.72	278.937	1.46	1.44	1.28	
3136.50	11.170	324.390	3128.03	-42.12	16.77	-84.51	1678820.16	14271310.01	39°18'01.137"N	80°51'51.295"W	86.16	281.226	0.52	0.48	-1.08	
3161.50	11.610	324.450	3152.54	-46.83	20.79	-87.38	1678817.29	14271314.02	39°18'01.177"N	80°51'51.331"W	89.82	283.383	1.76	1.76	0.24	
3186.50	12.010	324.350	3177.01	-51.71	24.95	-90.36	1678814.32	14271318.18	39°18'01.218"N	80°51'51.369"W	93.74	285.435	1.60	1.60	-0.40	
3211.50	12.120	324.370	3201.45	-56.69	29.20	-93.41	1678811.27	14271322.43	39°18'01.260"N	80°51'51.408"W	97.86	287.358	0.44	0.44	0.08	
3236.50	13.380	324.740	3225.84	-61.95	33.69	-96.60	1678808.07	14271326.92	39°18'01.304"N	80°51'51.448"W	102.31	289.227	5.05	5.04	1.48	
3261.50	13.550	324.530	3250.15	-67.51	38.44	-99.97	1678804.71	14271331.66	39°18'01.351"N	80°51'51.491"W	107.11	291.031	0.71	0.68	-0.84	
3286.50	13.990	325.970	3274.43	-73.21	43.33	-103.36	1678801.32	14271336.55	39°18'01.400"N	80°51'51.534"W	112.08	292.742	2.23	1.76	5.76	
3311.50	14.660	327.690	3298.65	-79.18	48.51	-106.75	1678797.94	14271341.73	39°18'01.451"N	80°51'51.577"W	117.25	294.437	3.17	2.68	6.88	
3336.50	14.940	327.840	3322.83	-85.37	53.91	-110.15	1678794.53	14271347.13	39°18'01.504"N	80°51'51.620"W	122.64	296.077	1.13	1.12	0.60	
3361.50	16.150	328.310	3346.91	-91.87	59.60	-113.69	1678790.99	14271352.81	39°18'01.561"N	80°51'51.665"W	128.37	297.662	4.87	4.84	1.88	
3386.50	16.600	327.840	3370.90	-98.72	65.58	-117.42	1678787.27	14271358.79	39°18'01.620"N	80°51'51.712"W	134.49	299.182	1.88	1.80	-1.88	
3411.50	16.910	326.980	3394.83	-105.69	71.65	-121.30	1678783.38	14271364.86	39°18'01.680"N	80°51'51.762"W	140.88	300.568	1.59	1.24	-3.44	
3436.50	17.270	326.280	3418.73	-112.78	77.78	-125.35	1678779.34	14271370.99	39°18'01.741"N	80°51'51.813"W	147.52	301.822	1.66	1.44	-2.80	
3461.50	17.340	326.130	3442.60	-119.93	83.96	-129.48	1678775.21	14271377.17	39°18'01.802"N	80°51'51.865"W	154.32	302.962	0.33	0.28	-0.60	
3486.50	17.320	325.580	3466.46	-127.09	90.13	-133.66	1678771.03	14271383.33	39°18'01.863"N	80°51'51.919"W	161.21	303.991	0.66	-0.08	-2.20	
3511.50	17.290	325.440	3490.33	-134.22	96.26	-137.87	1678766.82	14271389.46	39°18'01.923"N	80°51'51.972"W	168.15	304.921	0.21	-0.12	-0.56	
3536.50	17.360	325.520	3514.20	-141.36	102.39	-142.09	1678762.61	14271395.59	39°18'01.984"N	80°51'52.026"W	175.14	305.776	0.30	0.28	0.32	
3561.50	17.340	325.440	3538.06	-148.51	108.53	-146.32	1678758.38	14271401.73	39°18'02.045"N	80°51'52.079"W	182.18	306.567	0.12	-0.08	-0.32	
3586.50	17.150	325.150	3561.94	-155.61	114.63	-150.54	1678754.16	14271407.82	39°18'02.105"N	80°51'52.133"W	189.21	307.287	0.83	-0.76	-1.16	
3611.50	16.870	324.740	3585.84	-162.60	120.61	-154.74	1678749.97	14271413.81	39°18'02.164"N	80°51'52.186"W	196.19	307.935	1.22	-1.12	-1.64	
3636.50	16.650	323.900	3609.78	-169.47	126.47	-158.94	1678745.76	14271419.66	39°18'02.222"N	80°51'52.239"W	203.12	308.509	1.31	-0.88	-3.36	
3661.50	16.460	323.370	3633.75	-176.23	132.20	-163.16	1678741.54	14271425.39	39°18'02.279"N	80°51'52.293"W	210.00	309.016	0.97	-0.76	-2.12	
3686.50	16.180	322.770	3657.74	-182.88	137.82	-167.39	1678737.32	14271431.01	39°18'02.335"N	80°51'52.347"W	216.82	309.467	1.31	-1.12	-2.40	
3711.50	16.020	322.330	3681.76	-189.42	143.32	-171.60	1678733.11	14271436.51	39°18'02.389"N	80°51'52.400"W	223.58	309.869	0.80	-0.64	-1.76	
3736.50	15.620	321.490	3705.81	-195.82	148.69	-175.80	1678728.91	14271441.87	39°18'02.442"N	80°51'52.453"W	230.25	310.223	1.84	-1.60	-3.36	
3761.50	15.260	320.540	3729.91	-202.04	153.86	-179.99	1678724.72	14271447.04	39°18'02.493"N	80°51'52.507"W	236.79	310.525	1.76	-1.44	-3.80	
3786.50	15.000	319.950	3754.04	-208.10	158.88	-184.16	1678720.55	14271452.06	39°18'02.543"N	80°51'52.560"W	243.23	310.785	1.21	-1.04	-2.36	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #07
Area	Doddridge Co., WV		Hugle Unit 1H
Field	Doddridge		Hugle Unit 1H AWB
Facility	Long Run Pad		

WELLPATH DATA (338 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
3811.50	14.530	318.730	3778.22	-213.98	163.71	-188.31	1678716.40	14271456.89	39°18'02.591"N	80°51'52.612"W	249.53	311.002	2.25	-1.88	-4.88	
3836.50	14.280	317.060	3802.43	-219.66	168.33	-192.48	1678712.23	14271461.50	39°18'02.637"N	80°51'52.665"W	255.70	311.170	1.94	-1.00	-6.68	
3861.50	14.400	316.860	3826.65	-225.27	172.85	-196.71	1678708.01	14271466.02	39°18'02.681"N	80°51'52.719"W	261.86	311.306	0.52	0.48	-0.80	
3886.50	14.510	316.600	3850.86	-230.92	177.40	-200.99	1678703.73	14271470.57	39°18'02.726"N	80°51'52.773"W	268.08	311.433	0.51	0.44	-1.04	
3911.50	14.660	316.450	3875.05	-236.60	181.96	-205.32	1678699.40	14271475.13	39°18'02.772"N	80°51'52.828"W	274.35	311.549	0.62	0.60	-0.60	
3936.50	14.870	316.080	3899.23	-242.34	186.57	-209.72	1678695.00	14271479.74	39°18'02.817"N	80°51'52.884"W	280.70	311.656	0.92	0.84	-1.48	
3961.50	15.000	315.610	3923.38	-248.13	191.19	-214.21	1678690.52	14271484.36	39°18'02.863"N	80°51'52.941"W	287.12	311.750	0.71	0.52	-1.88	
3986.50	15.090	315.690	3947.53	-253.95	195.83	-218.75	1678685.98	14271488.99	39°18'02.909"N	80°51'52.999"W	293.60	311.836	0.37	0.36	0.32	
4011.50	15.150	315.900	3971.66	-259.80	200.51	-223.29	1678681.44	14271493.67	39°18'02.955"N	80°51'53.057"W	300.10	311.922	0.32	0.24	0.84	
4036.50	15.270	316.070	3995.79	-265.70	205.22	-227.85	1678676.88	14271498.38	39°18'03.002"N	80°51'53.114"W	306.65	312.009	0.51	0.48	0.68	
4061.50	15.470	317.490	4019.89	-271.69	210.05	-232.39	1678672.35	14271503.21	39°18'03.050"N	80°51'53.172"W	313.25	312.110	1.70	0.80	5.68	
4086.50	15.610	317.540	4043.98	-277.79	214.99	-236.91	1678667.82	14271508.15	39°18'03.098"N	80°51'53.230"W	319.92	312.223	0.56	0.56	0.20	
4111.50	16.160	318.010	4068.02	-284.03	220.06	-241.51	1678663.23	14271513.21	39°18'03.149"N	80°51'53.288"W	326.73	312.339	2.26	2.20	1.88	
4136.50	16.350	318.210	4092.02	-290.43	225.27	-246.18	1678658.56	14271518.42	39°18'03.200"N	80°51'53.347"W	333.69	312.460	0.79	0.76	0.80	
4161.50	16.650	318.080	4115.99	-296.93	230.56	-250.92	1678653.82	14271523.71	39°18'03.252"N	80°51'53.407"W	340.76	312.578	1.21	1.20	-0.52	
4186.50	17.730	317.630	4139.88	-303.67	236.03	-255.88	1678648.86	14271529.18	39°18'03.307"N	80°51'53.470"W	348.12	312.690	4.35	4.32	-1.80	
4211.50	17.860	317.610	4163.68	-310.63	241.68	-261.03	1678643.72	14271534.82	39°18'03.363"N	80°51'53.536"W	355.73	312.796	0.52	0.52	-0.08	
4236.50	18.330	318.040	4187.44	-317.72	247.43	-266.24	1678638.51	14271540.57	39°18'03.419"N	80°51'53.602"W	363.47	312.903	1.95	1.88	1.72	
4261.50	18.530	318.160	4211.16	-324.95	253.32	-271.52	1678633.23	14271546.46	39°18'03.478"N	80°51'53.669"W	371.34	313.013	0.81	0.80	0.48	
4286.50	18.690	318.530	4234.86	-332.26	259.28	-276.82	1678627.93	14271552.41	39°18'03.537"N	80°51'53.736"W	379.28	313.125	0.80	0.64	1.48	
4311.50	18.790	320.760	4258.53	-339.69	265.40	-282.02	1678622.73	14271558.53	39°18'03.597"N	80°51'53.802"W	387.26	313.260	2.89	0.40	8.92	
4336.50	18.900	321.100	4282.19	-347.22	271.67	-287.11	1678617.64	14271564.80	39°18'03.659"N	80°51'53.867"W	395.27	313.417	0.62	0.44	1.36	
4361.50	18.750	321.030	4305.85	-354.76	277.94	-292.18	1678612.58	14271571.07	39°18'03.721"N	80°51'53.931"W	403.26	313.569	0.61	-0.60	-0.28	
4386.50	18.740	321.040	4329.53	-362.26	284.19	-297.23	1678607.53	14271577.31	39°18'03.783"N	80°51'53.996"W	411.23	313.715	0.04	-0.04	0.04	
4411.50	18.630	321.080	4353.21	-369.75	290.42	-302.27	1678602.49	14271583.54	39°18'03.845"N	80°51'54.059"W	419.17	313.855	0.44	-0.44	0.16	
4436.50	18.610	321.300	4376.90	-377.21	296.64	-307.27	1678597.49	14271589.76	39°18'03.906"N	80°51'54.123"W	427.09	313.991	0.29	-0.08	0.88	
4461.50	18.590	321.270	4400.59	-384.67	302.86	-312.26	1678592.51	14271595.98	39°18'03.968"N	80°51'54.186"W	435.00	314.125	0.09	-0.08	-0.12	
4486.50	18.390	321.440	4424.30	-392.09	309.05	-317.21	1678587.56	14271602.17	39°18'04.029"N	80°51'54.249"W	442.87	314.254	0.83	-0.80	0.68	
4511.50	18.320	321.540	4448.03	-399.47	315.21	-322.11	1678582.66	14271608.33	39°18'04.090"N	80°51'54.311"W	450.68	314.380	0.31	-0.28	0.40	
4536.50	18.090	322.250	4471.78	-406.80	321.36	-326.93	1678577.84	14271614.47	39°18'04.151"N	80°51'54.373"W	458.42	314.507	1.28	-0.92	2.84	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
4561.50	17.120	325.440	4495.61	-413.98	327.46	-331.39	1678573.38	14271620.57	39°18'04.211"N	80°51'54.429"W	465.89	314.658	5.47	-3.88	12.76	
4586.50	17.150	325.750	4519.50	-421.05	333.53	-335.56	1678569.22	14271626.64	39°18'04.272"N	80°51'54.482"W	473.12	314.827	0.38	0.12	1.24	
4611.50	17.250	325.660	4543.38	-428.15	339.64	-339.72	1678565.06	14271632.75	39°18'04.332"N	80°51'54.535"W	480.38	314.993	0.41	0.40	-0.36	
4636.50	17.260	325.760	4567.26	-435.27	345.77	-343.90	1678560.88	14271638.87	39°18'04.393"N	80°51'54.588"W	487.67	315.155	0.13	0.04	0.40	
4661.50	17.080	325.910	4591.14	-442.36	351.87	-348.04	1678556.74	14271644.97	39°18'04.453"N	80°51'54.641"W	494.92	315.314	0.74	-0.72	0.60	
4686.50	16.070	326.060	4615.10	-449.21	357.79	-352.03	1678552.75	14271650.88	39°18'04.511"N	80°51'54.691"W	501.93	315.464	4.04	-4.04	0.60	
4711.50	15.730	326.140	4639.15	-455.80	363.47	-355.85	1678548.93	14271656.57	39°18'04.568"N	80°51'54.740"W	508.67	315.607	1.36	-1.36	0.32	
4736.50	15.110	326.290	4663.25	-462.20	368.99	-359.55	1678545.23	14271662.09	39°18'04.622"N	80°51'54.787"W	515.20	315.743	2.49	-2.48	0.60	
4761.50	14.660	326.140	4687.41	-468.38	374.33	-363.12	1678541.66	14271667.42	39°18'04.675"N	80°51'54.832"W	521.52	315.871	1.81	-1.80	-0.60	
4786.50	14.580	326.030	4711.60	-474.45	379.57	-366.64	1678538.15	14271672.66	39°18'04.727"N	80°51'54.877"W	527.73	315.992	0.34	-0.32	-0.44	
4811.50	14.740	325.240	4735.79	-480.52	384.79	-370.21	1678534.58	14271677.88	39°18'04.779"N	80°51'54.922"W	533.97	316.106	1.02	0.64	-3.16	
4836.50	15.100	321.830	4759.94	-486.63	389.96	-374.04	1678530.75	14271683.05	39°18'04.830"N	80°51'54.971"W	540.35	316.194	3.79	1.44	-13.64	
4861.50	15.320	319.780	4784.07	-492.74	395.05	-378.18	1678526.61	14271688.13	39°18'04.880"N	80°51'55.023"W	546.89	316.249	2.32	0.88	-8.20	
4886.50	15.520	318.650	4808.17	-498.87	400.08	-382.53	1678522.27	14271693.16	39°18'04.930"N	80°51'55.078"W	553.52	316.285	1.44	0.80	-4.52	
4911.50	15.610	317.980	4832.25	-505.02	405.09	-386.99	1678517.81	14271698.17	39°18'04.979"N	80°51'55.135"W	560.23	316.309	0.80	0.36	-2.68	
4936.50	15.730	317.620	4856.32	-511.18	410.09	-391.52	1678513.27	14271703.17	39°18'05.029"N	80°51'55.193"W	566.98	316.327	0.62	0.48	-1.44	
4961.50	16.060	317.530	4880.37	-517.41	415.14	-396.14	1678508.66	14271708.22	39°18'05.079"N	80°51'55.251"W	573.82	316.342	1.32	1.32	-0.36	
4986.50	16.340	317.810	4904.37	-523.77	420.30	-400.84	1678503.96	14271713.37	39°18'05.130"N	80°51'55.311"W	580.80	316.358	1.16	1.12	1.12	
5011.50	16.430	317.120	4928.36	-530.19	425.50	-405.61	1678499.20	14271718.57	39°18'05.181"N	80°51'55.371"W	587.85	316.371	0.86	0.36	-2.76	
5036.50	16.570	318.320	4952.33	-536.66	430.75	-410.38	1678494.42	14271723.82	39°18'05.233"N	80°51'55.432"W	594.95	316.387	1.47	0.56	4.80	
5061.50	16.300	319.790	4976.31	-543.18	436.09	-415.02	1678489.79	14271729.16	39°18'05.286"N	80°51'55.491"W	602.01	316.418	1.98	-1.08	5.88	
5086.50	16.050	320.500	5000.32	-549.64	441.44	-419.48	1678485.33	14271734.50	39°18'05.339"N	80°51'55.548"W	608.96	316.461	1.28	-1.00	2.84	
5111.50	15.510	321.050	5024.37	-555.98	446.70	-423.78	1678481.03	14271739.77	39°18'05.391"N	80°51'55.602"W	615.74	316.508	2.24	-2.16	2.20	
5136.50	15.330	320.560	5048.48	-562.18	451.86	-427.98	1678476.83	14271744.92	39°18'05.442"N	80°51'55.656"W	622.37	316.554	0.89	-0.72	-1.96	
5161.50	15.420	320.850	5072.58	-568.36	456.99	-432.18	1678472.63	14271750.04	39°18'05.493"N	80°51'55.709"W	628.98	316.598	0.47	0.36	1.16	
5186.50	15.530	320.520	5096.67	-574.57	462.15	-436.41	1678468.41	14271755.20	39°18'05.544"N	80°51'55.763"W	635.63	316.641	0.56	0.44	-1.32	
5211.50	15.620	319.690	5120.76	-580.80	467.30	-440.71	1678464.11	14271760.35	39°18'05.595"N	80°51'55.817"W	642.33	316.677	0.96	0.36	-3.32	
5236.50	15.880	319.400	5144.82	-587.08	472.46	-445.11	1678459.70	14271765.51	39°18'05.646"N	80°51'55.873"W	649.11	316.707	1.09	1.04	-1.16	
5261.50	16.100	319.280	5168.85	-593.43	477.68	-449.60	1678455.22	14271770.73	39°18'05.698"N	80°51'55.930"W	655.99	316.735	0.89	0.88	-0.48	
5286.50	15.960	318.490	5192.88	-599.79	482.89	-454.14	1678450.68	14271775.93	39°18'05.749"N	80°51'55.988"W	662.89	316.757	1.04	-0.56	-3.16	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Doddridge Co., WV	Well	Hugle Unit 1H
Field	Doddridge	Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad		

WELLPATH DATA (338 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
5311.50	15.290	316.180	5216.95	-605.91	487.84	-458.70	1678446.12	14271780.88	39°18'05.798"N	80°51'56.046"W	669.62	316.763	3.66	-2.68	-9.24	
5336.50	15.260	315.180	5241.07	-611.81	492.55	-463.30	1678441.52	14271785.59	39°18'05.845"N	80°51'56.104"W	676.21	316.753	1.06	-0.12	-4.00	
5361.50	15.190	315.410	5265.19	-617.68	497.22	-467.92	1678436.91	14271790.26	39°18'05.891"N	80°51'56.163"W	682.77	316.739	0.37	-0.28	0.92	
5386.50	15.220	315.890	5289.32	-623.56	501.90	-472.51	1678432.32	14271794.94	39°18'05.938"N	80°51'56.221"W	689.32	316.728	0.52	0.12	1.92	
5411.50	15.200	316.900	5313.44	-629.47	506.65	-477.03	1678427.80	14271799.69	39°18'05.985"N	80°51'56.278"W	695.88	316.725	1.06	-0.08	4.04	
5436.50	15.590	318.190	5337.55	-635.52	511.55	-481.51	1678423.33	14271804.59	39°18'06.033"N	80°51'56.335"W	702.52	316.733	2.08	1.56	5.16	
5461.50	16.580	318.740	5361.57	-641.87	516.74	-486.10	1678418.74	14271809.77	39°18'06.084"N	80°51'56.394"W	709.44	316.750	4.01	3.96	2.20	
5486.50	17.250	318.760	5385.49	-648.55	522.20	-490.90	1678413.94	14271815.24	39°18'06.139"N	80°51'56.455"W	716.71	316.770	2.68	2.68	0.08	
5511.50	16.730	318.410	5409.39	-655.26	527.68	-495.73	1678409.11	14271820.71	39°18'06.193"N	80°51'56.516"W	724.01	316.788	2.12	-2.08	-1.40	
5536.50	15.210	317.260	5433.43	-661.54	532.78	-500.34	1678404.50	14271825.81	39°18'06.243"N	80°51'56.574"W	730.89	316.799	6.21	-6.08	-4.60	
5719.00	14.910	310.640	5609.67	-703.35	565.66	-534.41	1678370.45	14271858.68	39°18'06.569"N	80°51'57.007"W	778.18	316.627	0.96	-0.16	-3.63	BHI AT Curve <8-1/2"> (5536.5')(5719'-15113')
5766.00	14.840	303.140	5655.10	-713.20	572.89	-544.04	1678360.82	14271865.90	39°18'06.640"N	80°51'57.130"W	790.05	316.480	4.10	-0.15	-15.96	
5815.00	12.140	281.060	5702.78	-720.61	577.31	-554.36	1678350.51	14271870.32	39°18'06.684"N	80°51'57.261"W	800.38	316.162	11.77	-5.51	-45.06	
5862.00	9.660	262.540	5748.94	-723.73	577.75	-563.12	1678341.75	14271870.76	39°18'06.689"N	80°51'57.372"W	806.78	315.735	9.07	-5.28	-39.40	
5910.00	9.550	262.050	5796.27	-725.17	576.67	-571.06	1678333.81	14271869.69	39°18'06.678"N	80°51'57.473"W	811.58	315.280	0.29	-0.23	-1.02	
5957.00	11.410	257.260	5842.48	-726.28	575.11	-579.45	1678325.42	14271868.12	39°18'06.663"N	80°51'57.580"W	816.41	314.784	4.37	3.96	-10.19	
6005.00	11.600	244.480	5889.53	-726.09	571.98	-588.44	1678316.43	14271865.00	39°18'06.632"N	80°51'57.694"W	820.63	314.187	5.31	0.40	-26.63	
6052.00	13.150	218.320	5935.47	-722.51	565.75	-596.03	1678308.85	14271858.76	39°18'06.570"N	80°51'57.791"W	821.78	313.507	12.26	3.30	-55.66	
6100.00	15.500	202.820	5981.99	-714.63	555.55	-601.90	1678302.98	14271848.57	39°18'06.470"N	80°51'57.866"W	819.10	312.707	9.33	4.90	-32.29	
6147.00	17.410	190.890	6027.08	-703.73	542.85	-605.67	1678299.21	14271835.87	39°18'06.344"N	80°51'57.914"W	813.34	311.869	8.24	4.06	-25.38	
6195.00	20.980	184.130	6072.41	-689.48	527.22	-607.65	1678297.24	14271820.25	39°18'06.190"N	80°51'57.940"W	804.48	310.946	8.75	7.44	-14.08	
6242.00	25.190	180.580	6115.63	-672.20	508.82	-608.35	1678296.53	14271801.85	39°18'06.008"N	80°51'57.949"W	793.09	309.909	9.43	8.96	-7.55	
6290.00	29.250	178.740	6158.31	-651.28	486.87	-608.20	1678296.69	14271779.92	39°18'05.791"N	80°51'57.947"W	779.07	308.678	8.64	8.46	-3.83	
6337.00	33.670	177.070	6198.39	-627.70	462.36	-607.28	1678297.60	14271755.42	39°18'05.549"N	80°51'57.936"W	763.26	307.285	9.58	9.40	-3.55	
6386.00	37.640	175.810	6238.20	-600.05	433.87	-605.49	1678299.39	14271726.93	39°18'05.267"N	80°51'57.914"W	744.89	305.624	8.24	8.10	-2.57	
6433.00	42.720	174.880	6274.10	-570.55	403.65	-603.02	1678301.86	14271696.73	39°18'04.968"N	80°51'57.883"W	725.65	303.798	10.88	10.81	-1.98	
6481.00	47.190	173.630	6308.06	-537.42	369.92	-599.61	1678305.27	14271663.01	39°18'04.635"N	80°51'57.840"W	704.54	301.672	9.49	9.31	-2.60	
6528.00	52.850	173.380	6338.24	-502.15	334.15	-595.53	1678309.34	14271627.26	39°18'04.281"N	80°51'57.789"W	682.88	299.297	12.05	12.04	-0.53	
6576.00	58.180	173.410	6365.41	-463.39	294.86	-590.99	1678313.89	14271587.99	39°18'03.893"N	80°51'57.732"W	660.46	296.516	11.10	11.10	0.06	
6600.00†	61.019	172.996	6377.55	-443.08	274.31	-588.54	1678316.34	14271567.44	39°18'03.690"N	80°51'57.701"W	649.32	294.990	11.92	11.83	-1.73	Burket: 6600' MD



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS ("/100ft)	Build Rate ("/100ft)	Turn Rate ("/100ft)	Comments
6623.00	63.740	172.620	6388.22	-423.07	254.09	-585.98	1678318.89	14271547.23	39°18'03.490"N	80°51'57.669"W	638.70	293.443	11.92	11.83	-1.63	
6665.00†	67.800	173.015	6405.45	-385.47	216.10	-581.20	1678323.68	14271509.26	39°18'03.114"N	80°51'57.609"W	620.07	290.396	9.70	9.67	0.94	Tully: 6665' MD
6671.00	68.380	173.070	6407.69	-380.00	210.58	-580.52	1678324.35	14271503.73	39°18'03.060"N	80°51'57.601"W	617.54	289.938	9.70	9.67	0.91	
6718.00	70.050	173.600	6424.37	-336.93	166.93	-575.42	1678329.45	14271460.11	39°18'02.628"N	80°51'57.536"W	599.15	286.178	3.71	3.55	1.13	
6727.00†	70.428	173.797	6427.41	-328.63	158.52	-574.50	1678330.38	14271451.69	39°18'02.545"N	80°51'57.525"W	595.96	285.425	4.68	4.20	2.19	Hamilton: 6727' MD
6750.00†	71.396	174.296	6434.93	-307.38	136.90	-572.24	1678332.63	14271430.08	39°18'02.332"N	80°51'57.497"W	588.39	283.454	4.68	4.21	2.17	Marcellus POE: 6750' MD
6766.00	72.070	174.640	6439.95	-292.55	121.78	-570.78	1678334.09	14271414.97	39°18'02.182"N	80°51'57.478"W	583.62	282.044	4.68	4.21	2.15	
6813.00	77.000	174.600	6452.47	-248.36	76.69	-566.53	1678338.34	14271369.90	39°18'01.736"N	80°51'57.425"W	571.70	277.709	10.49	10.49	-0.09	
6861.00	84.300	175.800	6460.27	-202.29	29.53	-562.58	1678342.29	14271322.76	39°18'01.270"N	80°51'57.376"W	563.35	273.004	15.41	15.21	2.50	
6908.00	89.780	175.820	6462.69	-156.74	-17.27	-559.15	1678345.72	14271275.98	39°18'00.808"N	80°51'57.333"W	559.41	268.231	11.66	11.66	0.04	
6956.00	90.060	173.870	6462.76	-109.95	-65.07	-554.83	1678350.03	14271228.20	39°18'00.335"N	80°51'57.279"W	558.64	263.311	4.10	0.58	-4.06	
7051.00	89.910	167.140	6462.79	-16.06	-158.72	-539.17	1678365.68	14271134.59	39°17'59.409"N	80°51'57.081"W	562.05	253.597	7.09	-0.16	-7.08	
7146.00	89.540	160.980	6463.24	78.83	-250.02	-513.10	1678391.75	14271043.32	39°17'58.506"N	80°51'56.751"W	570.77	244.021	6.50	-0.39	-6.48	
7241.00	89.910	158.970	6463.70	173.77	-339.27	-480.57	1678424.27	14270954.11	39°17'57.624"N	80°51'56.339"W	588.26	234.779	2.15	0.39	-2.12	
7336.00	88.890	158.890	6464.69	268.63	-427.91	-446.42	1678458.40	14270865.50	39°17'56.747"N	80°51'55.907"W	618.38	226.212	1.08	-1.07	-0.08	
7431.00	89.050	159.390	6466.40	363.50	-516.67	-412.59	1678492.21	14270776.78	39°17'55.870"N	80°51'55.478"W	661.20	218.610	0.55	0.17	0.53	
7526.00	89.630	160.430	6467.50	458.43	-605.88	-379.96	1678524.83	14270687.60	39°17'54.987"N	80°51'55.065"W	715.17	212.093	1.25	0.61	1.09	
7622.00	89.780	158.310	6467.99	554.32	-695.72	-346.14	1678558.64	14270597.80	39°17'54.099"N	80°51'54.636"W	777.07	206.452	2.21	0.16	-2.21	
7717.00	89.690	156.710	6468.43	649.03	-783.49	-309.80	1678594.96	14270510.07	39°17'53.231"N	80°51'54.176"W	842.52	201.575	1.69	-0.09	-1.68	
7812.00	89.690	156.150	6468.94	743.59	-870.56	-271.82	1678632.93	14270423.03	39°17'52.370"N	80°51'53.694"W	912.01	197.340	0.59	0.00	-0.59	
7907.00	90.580	163.460	6468.72	838.46	-959.66	-239.04	1678665.69	14270333.96	39°17'51.489"N	80°51'53.279"W	988.98	193.987	7.75	0.94	7.69	
8002.00	91.350	167.060	6467.12	933.27	-1051.51	-214.88	1678689.85	14270242.16	39°17'50.580"N	80°51'52.973"W	1073.24	191.550	3.87	0.81	3.79	
8097.00	90.620	164.040	6465.48	1028.06	-1143.48	-191.18	1678713.54	14270150.22	39°17'49.671"N	80°51'52.674"W	1159.35	189.492	3.27	-0.77	-3.18	
8192.00	90.060	163.420	6464.92	1123.01	-1234.67	-164.57	1678740.14	14270059.07	39°17'48.769"N	80°51'52.337"W	1245.59	187.592	0.88	-0.59	-0.65	
8287.00	90.060	162.210	6464.82	1218.00	-1325.43	-136.50	1678768.20	14269968.35	39°17'47.872"N	80°51'51.982"W	1332.44	185.880	1.27	0.00	-1.27	
8382.00	90.030	159.980	6464.75	1312.98	-1415.30	-105.72	1678798.96	14269878.51	39°17'46.983"N	80°51'51.592"W	1419.24	184.272	2.35	-0.03	-2.35	
8476.00	90.030	158.870	6464.70	1406.89	-1503.30	-72.69	1678831.98	14269790.55	39°17'46.113"N	80°51'51.173"W	1505.05	182.768	1.18	0.00	-1.18	
8571.00	90.120	163.680	6464.57	1501.85	-1593.24	-42.20	1678862.46	14269700.64	39°17'45.223"N	80°51'50.787"W	1593.80	181.517	5.06	0.09	5.06	
8666.00	90.060	166.770	6464.42	1596.69	-1685.09	-17.97	1678886.68	14269608.83	39°17'44.315"N	80°51'50.481"W	1685.19	180.611	3.25	-0.06	3.25	
8760.00	90.090	166.320	6464.30	1690.39	-1776.51	3.90	1678908.54	14269517.44	39°17'43.411"N	80°51'50.204"W	1776.51	179.874	0.48	0.03	-0.48	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
8855.00	90.090	164.310	6464.15	1785.22	-1868.40	27.98	1678932.61	14269425.59	39°17'42.503"N	80°51'49.900"W	1868.61	179.142	2.12	0.00	-2.12	
8950.00	90.150	160.820	6463.95	1880.20	-1959.02	56.44	1678961.06	14269335.00	39°17'41.607"N	80°51'49.540"W	1959.84	178.350	3.67	0.06	-3.67	
9045.00	90.030	160.520	6463.80	1975.17	-2048.67	87.89	1678992.49	14269245.39	39°17'40.720"N	80°51'49.141"W	2050.55	177.544	0.34	-0.13	-0.32	
9140.00	90.000	162.250	6463.78	2070.16	-2138.69	118.21	1679022.80	14269155.40	39°17'39.830"N	80°51'48.757"W	2141.96	176.836	1.82	-0.03	1.82	
9235.00	90.120	160.840	6463.68	2165.16	-2228.81	148.28	1679052.86	14269065.33	39°17'38.939"N	80°51'48.377"W	2233.73	176.194	1.49	0.13	-1.48	
9329.00	90.030	159.230	6463.56	2259.10	-2317.15	180.38	1679084.95	14268977.01	39°17'38.065"N	80°51'47.970"W	2324.16	175.549	1.72	-0.10	-1.71	
9424.00	90.180	158.990	6463.38	2353.99	-2405.91	214.25	1679118.81	14268888.30	39°17'37.188"N	80°51'47.541"W	2415.43	174.911	0.30	0.16	-0.25	
9519.00	90.000	157.880	6463.23	2448.80	-2494.26	249.17	1679153.71	14268799.98	39°17'36.314"N	80°51'47.098"W	2506.67	174.295	1.18	-0.19	-1.17	
9614.00	90.030	157.790	6463.21	2543.56	-2582.24	285.01	1679189.54	14268712.04	39°17'35.444"N	80°51'46.644"W	2597.92	173.702	0.10	0.03	-0.09	
9709.00	90.000	160.470	6463.18	2638.43	-2671.00	318.85	1679223.36	14268623.31	39°17'34.566"N	80°51'46.216"W	2689.96	173.193	2.82	-0.03	2.82	
9804.00	89.420	161.250	6463.66	2733.41	-2760.74	350.00	1679254.50	14268533.60	39°17'33.678"N	80°51'45.821"W	2782.84	172.775	1.02	-0.61	0.82	
9899.00	89.570	161.380	6464.50	2828.40	-2850.73	380.43	1679284.92	14268443.65	39°17'32.789"N	80°51'45.436"W	2876.00	172.399	0.21	0.16	0.14	
9994.00	89.450	160.390	6465.31	2923.38	-2940.49	411.54	1679316.02	14268353.93	39°17'31.901"N	80°51'45.042"W	2969.15	172.033	1.05	-0.13	-1.04	
10089.00	89.510	161.300	6466.18	3018.36	-3030.23	442.71	1679347.17	14268264.23	39°17'31.014"N	80°51'44.647"W	3062.39	171.688	0.96	0.06	0.96	
10184.00	89.420	163.740	6467.06	3113.34	-3120.83	471.24	1679375.69	14268173.66	39°17'30.118"N	80°51'44.286"W	3156.21	171.413	2.57	-0.09	2.57	
10280.00	89.600	165.790	6467.88	3209.22	-3213.45	496.47	1679400.91	14268081.08	39°17'29.202"N	80°51'43.967"W	3251.57	171.217	2.14	0.19	2.14	
10374.00	89.540	165.660	6468.59	3303.01	-3304.54	519.64	1679424.08	14267990.02	39°17'28.301"N	80°51'43.674"W	3345.15	171.063	0.15	-0.06	-0.14	
10470.00	89.540	164.370	6469.36	3398.87	-3397.27	544.46	1679448.89	14267897.33	39°17'27.384"N	80°51'43.360"W	3440.62	170.895	1.34	0.00	-1.34	
10564.00	89.630	165.120	6470.04	3492.76	-3487.96	569.20	1679473.61	14267806.68	39°17'26.488"N	80°51'43.047"W	3534.09	170.732	0.80	0.10	0.80	
10659.00	89.540	164.010	6470.73	3587.66	-3579.53	594.48	1679498.88	14267715.15	39°17'25.582"N	80°51'42.728"W	3628.55	170.571	1.17	-0.09	-1.17	
10753.00	89.420	161.190	6471.58	3681.64	-3669.21	622.59	1679526.98	14267625.50	39°17'24.695"N	80°51'42.372"W	3721.66	170.370	3.00	-0.13	-3.00	
10848.00	88.890	159.810	6472.98	3776.59	-3758.75	654.29	1679558.67	14267536.00	39°17'23.810"N	80°51'41.970"W	3815.27	170.125	1.56	-0.56	-1.45	
10942.00	88.890	160.610	6474.80	3870.53	-3847.18	686.11	1679590.48	14267447.60	39°17'22.935"N	80°51'41.567"W	3907.88	169.888	0.85	0.00	0.85	
11036.00	89.320	159.950	6476.27	3964.48	-3935.66	717.83	1679622.18	14267359.16	39°17'22.060"N	80°51'41.166"W	4000.58	169.663	0.84	0.46	-0.70	
11131.00	89.320	161.630	6477.40	4059.45	-4025.36	749.08	1679653.42	14267269.50	39°17'21.173"N	80°51'40.770"W	4094.46	169.458	1.77	0.00	1.77	
11227.00	89.420	163.920	6478.46	4155.43	-4117.04	777.51	1679681.83	14267177.85	39°17'20.267"N	80°51'40.410"W	4189.81	169.306	2.39	0.10	2.39	
11322.00	89.290	165.510	6479.53	4250.31	-4208.67	802.55	1679706.87	14267086.26	39°17'19.361"N	80°51'40.093"W	4284.51	169.204	1.68	-0.14	1.67	
11417.00	89.450	165.640	6480.57	4345.11	-4300.67	826.21	1679730.52	14266994.29	39°17'18.451"N	80°51'39.794"W	4379.31	169.125	0.22	0.17	0.14	
11511.00	89.350	165.530	6481.55	4438.92	-4391.71	849.61	1679753.91	14266903.29	39°17'17.551"N	80°51'39.498"W	4473.13	169.051	0.16	-0.11	-0.12	
11606.00	89.350	164.560	6482.63	4533.78	-4483.48	874.12	1679778.41	14266811.56	39°17'16.643"N	80°51'39.188"W	4567.90	168.968	1.02	0.00	-1.02	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
11701.00	89.260	164.670	6483.78	4628.67	-4575.07	899.33	1679803.61	14266720.00	39°17'15.738"N	80°51'38.870"W	4662.62	168.879	0.15	-0.09	0.12	
11795.00	89.260	163.410	6485.00	4722.59	-4665.44	925.17	1679829.44	14266629.67	39°17'14.844"N	80°51'38.543"W	4756.28	168.784	1.34	0.00	-1.34	
11890.00	89.260	158.950	6486.23	4817.55	-4755.33	955.81	1679860.06	14266539.82	39°17'13.955"N	80°51'38.155"W	4850.43	168.635	4.69	0.00	-4.69	
11985.00	89.350	157.430	6487.38	4912.34	-4843.52	991.10	1679895.34	14266451.66	39°17'13.083"N	80°51'37.708"W	4943.88	168.436	1.60	0.09	-1.60	
12079.00	89.260	157.500	6488.52	5006.04	-4930.34	1027.12	1679931.35	14266364.88	39°17'12.225"N	80°51'37.251"W	5036.19	168.232	0.12	-0.10	0.07	
12175.00	89.200	156.530	6489.81	5101.68	-5018.70	1064.60	1679968.82	14266276.55	39°17'11.351"N	80°51'36.776"W	5130.38	168.024	1.01	-0.06	-1.01	
12270.00	89.170	157.090	6491.16	5196.28	-5106.02	1102.01	1680006.21	14266189.27	39°17'10.487"N	80°51'36.302"W	5223.59	167.821	0.59	-0.03	0.59	
12365.00	89.170	159.420	6492.54	5291.07	-5194.24	1137.20	1680041.38	14266101.08	39°17'09.614"N	80°51'35.857"W	5317.27	167.651	2.45	0.00	2.45	
12460.00	89.260	160.800	6493.84	5386.01	-5283.57	1169.52	1680073.69	14266011.79	39°17'08.731"N	80°51'35.447"W	5411.46	167.519	1.46	0.09	1.45	
12555.00	89.110	158.140	6495.19	5480.90	-5372.52	1202.83	1680106.98	14265922.88	39°17'07.851"N	80°51'35.026"W	5505.52	167.380	2.80	-0.16	-2.80	
12650.00	89.320	161.840	6496.49	5575.82	-5461.76	1235.32	1680139.47	14265833.67	39°17'06.969"N	80°51'34.614"W	5599.72	167.255	3.90	0.22	3.89	
12745.00	89.080	165.300	6497.82	5670.76	-5552.86	1262.19	1680166.32	14265742.61	39°17'06.068"N	80°51'34.274"W	5694.50	167.194	3.65	-0.25	3.64	
12840.00	89.230	167.130	6499.22	5765.48	-5645.11	1284.82	1680188.95	14265650.40	39°17'05.156"N	80°51'33.988"W	5789.47	167.178	1.93	0.16	1.93	
12935.00	89.290	167.460	6500.45	5860.06	-5737.77	1305.71	1680209.83	14265557.77	39°17'04.240"N	80°51'33.724"W	5884.46	167.180	0.35	0.06	0.35	
13030.00	89.350	166.800	6501.57	5954.67	-5830.38	1326.87	1680230.98	14265465.20	39°17'03.324"N	80°51'33.457"W	5979.46	167.179	0.70	0.06	-0.69	
13125.00	89.170	165.730	6502.80	6049.39	-5922.65	1349.42	1680253.52	14265372.96	39°17'02.412"N	80°51'33.172"W	6074.43	167.165	1.14	-0.19	-1.13	
13220.00	89.140	163.660	6504.20	6144.27	-6014.27	1374.50	1680278.59	14265281.38	39°17'01.506"N	80°51'32.855"W	6169.33	167.127	2.18	-0.03	-2.18	
13316.00	89.140	161.390	6505.64	6240.24	-6105.82	1403.32	1680307.40	14265189.86	39°17'00.601"N	80°51'32.490"W	6265.01	167.056	2.36	0.00	-2.36	
13410.00	89.320	155.780	6506.91	6334.03	-6193.29	1437.62	1680341.69	14265102.43	39°16'59.736"N	80°51'32.056"W	6357.95	166.932	5.97	0.19	-5.97	
13505.00	89.170	154.810	6508.16	6428.38	-6279.58	1477.32	1680381.37	14265016.17	39°16'58.882"N	80°51'31.553"W	6451.02	166.761	1.03	-0.16	-1.02	
13600.00	88.980	158.090	6509.69	6522.92	-6366.65	1515.27	1680419.31	14264929.14	39°16'58.021"N	80°51'31.072"W	6544.48	166.613	3.46	-0.20	3.45	
13694.00	88.830	159.590	6511.49	6616.76	-6454.29	1549.20	1680453.22	14264841.53	39°16'57.154"N	80°51'30.642"W	6637.61	166.503	1.60	-0.16	1.60	
13789.00	88.860	161.410	6513.40	6711.71	-6543.82	1580.90	1680484.91	14264752.04	39°16'56.269"N	80°51'30.241"W	6732.08	166.418	1.92	0.03	1.92	
13885.00	88.950	163.440	6515.24	6807.68	-6635.32	1609.88	1680513.88	14264660.58	39°16'55.364"N	80°51'29.874"W	6827.82	166.362	2.12	0.09	2.11	
13980.00	89.140	162.240	6516.82	6902.65	-6726.08	1637.91	1680541.89	14264569.86	39°16'54.467"N	80°51'29.519"W	6922.63	166.314	1.28	0.20	-1.26	
14075.00	88.580	162.470	6518.71	6997.63	-6816.59	1666.70	1680570.67	14264479.38	39°16'53.572"N	80°51'29.155"W	7017.39	166.260	0.64	-0.59	0.24	
14170.00	88.520	160.910	6521.12	7092.60	-6906.75	1696.53	1680600.49	14264389.26	39°16'52.680"N	80°51'28.777"W	7112.06	166.199	1.64	-0.06	-1.64	
14265.00	89.230	164.130	6522.98	7187.56	-6997.33	1725.06	1680629.01	14264298.71	39°16'51.784"N	80°51'28.416"W	7206.83	166.151	3.47	0.75	3.39	
14360.00	89.050	166.840	6524.41	7282.36	-7089.28	1748.86	1680652.80	14264206.80	39°16'50.875"N	80°51'28.116"W	7301.81	166.142	2.86	-0.19	2.85	
14455.00	89.230	166.230	6525.83	7377.05	-7181.66	1770.98	1680674.91	14264114.46	39°16'49.962"N	80°51'27.836"W	7396.79	166.147	0.67	0.19	-0.64	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Doddridge Co., WV		Well	Hugle Unit 1H
Field	Doddridge		Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad			

WELLPATH DATA (338 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
14550.00	89.080	164.690	6527.24	7471.86	-7273.60	1794.83	1680698.75	14264022.55	39°16'49.053"N	80°51'27.535"W	7491.77	166.139	1.63	-0.16	-1.62	
14645.00	89.020	163.200	6528.81	7566.79	-7364.88	1821.10	1680725.01	14263931.31	39°16'48.150"N	80°51'27.202"W	7586.69	166.111	1.57	-0.06	-1.57	
14740.00	89.080	163.610	6530.39	7661.74	-7455.91	1848.22	1680752.12	14263840.32	39°16'47.250"N	80°51'26.859"W	7681.57	166.078	0.44	0.06	0.43	
14835.00	89.050	164.970	6531.94	7756.65	-7547.35	1873.94	1680777.83	14263748.92	39°16'46.346"N	80°51'26.534"W	7776.51	166.056	1.43	-0.03	1.43	
14930.00	89.050	164.870	6533.51	7851.51	-7639.06	1898.66	1680802.54	14263657.24	39°16'45.439"N	80°51'26.222"W	7871.48	166.042	0.11	0.00	-0.11	
15025.00	89.010	162.130	6535.12	7946.45	-7730.13	1925.63	1680829.50	14263566.21	39°16'44.538"N	80°51'25.880"W	7966.36	166.012	2.88	-0.04	-2.88	
15113.00	88.950	158.050	6536.69	8034.37	-7812.84	1955.59	1680859.44	14263483.53	39°16'43.720"N	80°51'25.501"W	8053.87	165.947	4.64	-0.07	-4.64	
15138.00	88.950	158.050	6537.15	8059.31	-7836.02	1964.93	1680868.78	14263460.36	39°16'43.491"N	80°51'25.383"W	8078.63	165.923	0.00	0.00	0.00	Projected MD at TD: 15138'

HOLE & CASING SECTIONS - Ref Wellbore: Hugle Unit 1H AWB Ref Wellpath: Hugle Unit 1H AWP Proj: 15138'									
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	0.00	0.02
17.5in Open Hole	64.50	527.50	463.00	64.50	527.48	0.00	0.02	1.08	3.28
13.375in Casing Surface	24.50	508.00	483.50	24.50	507.99	0.00	0.00	1.01	3.09
12.25in Open Hole	527.50	2541.50	2014.00	527.48	2537.40	1.08	3.28	-24.98	-44.93
9.625in Casing Intermediate	24.50	2529.80	2505.30	24.50	2525.70	0.00	0.00	-24.80	-44.93
8.75in Open Hole	2541.50	5706.50	3165.00	2537.40	5597.59	-24.98	-44.93	563.55	-531.97
8.5in Open Hole	5706.50	15138.00	9431.50	5597.59	6537.15	563.55	-531.97	-7836.02	1964.93
5.5in Casing Production	24.50	15138.00	15113.50	24.50	6537.15	0.00	0.00	-7836.02	1964.93



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Doddridge Co., WV	Well	Hugle Unit 1H
Field	Doddridge	Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hugle Unit 1H POE Rev-1	6430.50	165.06	-576.72	1678328.15	14271458.23	39°18'02.610"N	80°51'57.553"W	point
Hugle Unit 1H BHL Rev-1	6455.50	-7842.19	1980.56	1680884.41	14263454.19	39°16'43.430"N	80°51'25.184"W	point
Hugle Unit 1H LP Rev-1	6455.50	14.46	-552.87	1678351.99	14271307.70	39°18'01.121"N	80°51'57.252"W	point
Hugle Unit 1H 25' L/R Hard Line	6600.00	-4060.16	749.01	1679653.35	14267234.71	39°17'20.829"N	80°51'40.771"W	rectangle

WELLPATH COMPOSITION - Ref Wellbore: Hugle Unit 1H AWB Ref Wellpath: Hugle Unit 1H AWP Proj: 15138'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
24.50	5536.50	Gyrodata standard - Drop gyro or Multi-shot	06 Gyrodata MS Gyro <8-3/4"> (100'-5525')	Hugle Unit 1H AWB	
5536.50	15113.00	BHI AutoTrak Curve (Short)	07 BHI AT Curve <8-1/2"> (5536.5')(5719'-15113')	Hugle Unit 1H AWB	
15113.00	15138.00	Blind Drilling (std)	Projection to bit	Hugle Unit 1H AWB	



Actual Wellpath Report

Hugle Unit 1H AWP Proj: 15138'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Doddridge Co., WV	Well	Hugle Unit 1H
Field	Doddridge	Wellbore	Hugle Unit 1H AWB
Facility	Long Run Pad		

COMMENTS
Wellpath general comments API: 47-017-06761-0000 BHI Job #: 8441853 Rig: Frontier 22 Duration: 03/23/2017-03/25/2017 Gyrodatta MS Gyro <8-3/4"> (100'-5525') BHI AT Curve <8-1/2"> (5536.5')(5719'-15113') Burket: 6600' MD Tully: 6665' MD Hamilton: 6727' MD Marcellus POE: 6750' MD Projected MD at TD: 15138'