



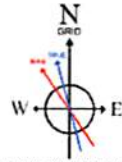
# ANTERO RESOURCES CORPORATION

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

Slot: Slot #10  
 Well: Chalk Unit 2H  
 Wellbore: Chalk Unit 2H PWB



API: 47-017-06819-0000  
 BH Job #: 9002117  
 Rig: Frontier 32  
 Duration: 02/12/18 - 02/16/18



User specified Dip: 66.55° Field: 52041 nT  
 Magnetic North is 7.64 degrees West of True North (at 2/11/2018)  
 Grid North is 0.12 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.12 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.76 degrees



Gyrodata MS Gyro <17-1/2"> (100'-500') : 117.00ft TVD, 0.11ft N, 0.03ft E  
 Gyrodata MS Gyro <12-1/4"> (500')(507'-717') : 524.00ft TVD, 0.19ft N, 0.01ft W  
 Directional ONE MWD <12-1/4"> (717')(770'-2577') : 785.99ft TVD, 14.47ft N, 10.58ft E  
 Directional ONE MWD <12-1/4"> (2577')(2692'-6753') : 2636.42ft TVD, 290.72ft N, 442.10ft E

BH AT Curve <8-1/2">(6770')(6843'-15364') : 6406.47ft TVD, 502.12ft N, 1600.54ft E  
 POE Marcellus: 6858' MD / 6412'TVD : 6411.67ft TVD, 490.09ft N, 1607.83ft E

Plot reference wellpath is Chalk Unit 2H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 32 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 32 (RKB)	Scale: True distance
Frontier 32 (RKB) to Mean Sea Level: 875 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #10): -843 feet	Created by: mccerrib on 2018-05-11
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Defn

Gyrodata MS Gyro <17-1/2"> (100'-500') : 0.15° Inc, 117.00ft MD, 117.00ft TVD, -0.09ft VS  
 Gyrodata MS Gyro <12-1/4"> (500')(507'-717') : 0.21° Inc, 524.00ft MD, 524.00ft TVD, -0.18ft VS  
 Directional ONE MWD <12-1/4"> (717')(770'-2577') : 9.82° Inc, 787.00ft MD, 785.99ft TVD, -9.35ft VS

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6770.00	64.700	143.870	6377.91	557.98	1563.29	7.09	79.26
Proj. to Bottom	6864.00	71.200	148.000	6413.20	485.82	1611.99	8.02	164.53
Landing Pt.	7059.56	90.000	150.860	6445.00	320.40	1709.55	9.72	354.64
On Azimuth	7397.33	90.000	157.615	6445.00	16.38	1856.27	2.00	691.62
BHL	15381.33	90.000	157.615	6445.00	-7366.01	4896.74	0.00	8675.62

Directional ONE MWD <12-1/4"> (2577')(2692'-6753') : 16.71° Inc, 2709.00ft MD, 2636.42ft TVD, -100.50ft VS

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Middle Pad	1695090.990	14279417.689	39°19'21.010"N	80°48'24.020"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #10	-32.20	84.16	1695175.115	14279385.505
Comment	Chalk Unit 2H			
Frontier 32 (RKB) to Ground level (At Slot: Slot #10)	32ft			
Mean Sea Level to Ground level (At Slot: Slot #10)	-843ft			
Frontier 32 (RKB) to Mean Sea Level	875ft			

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #10	Chalk Unit 2H	Chalk Unit 2H AWP	Chalk Unit 2H AWP Proj: 15388'
Slot #10	Chalk Unit 2H	Chalk Unit 2H PWB	Chalk Unit 2H PWP Rev-A.0

BH AT Curve <8-1/2">(6770')(6843'-15364') : 69.26° Inc, 6843.00ft MD, 6406.47ft TVD, 145.10ft VS  
 POE Marcellus: 6858' MD / 6412'TVD : 70.12° Inc, 6858.00ft MD, 6411.67ft TVD, 159.00ft VS

Projected MD @ TD: 15388' : 90.68° Inc, 15388.00ft MD, 6543.09ft TVD, 8667.95ft VS

Scale 1 inch = 1500

True Vertical Depth (ft)

Environmental Protection

WV Department of Environmental Protection

RECEIVED

JAN 24 2019

Office of Oil and Gas

Projected MD @ TD: 15388' : 6543.09ft TVD, 7368.41ft S, 4895.05ft E

Vertical Section (ft)

Scale 1 inch = 1500  
 Azimuth 157.62° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500

Northing (ft)

Environmental Protection

WV Department of Environmental Protection

RECEIVED

JAN 24 2019

Office of Oil and Gas

Projected MD @ TD: 15388' : 6543.09ft TVD, 7368.41ft S, 4895.05ft E



## Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWB
Facility	Middle Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Mccrerib
Scale	0.999603	Report Generated	5/11/2018 at 3:45:20 PM
Convergence at slot	0.12° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Chalk_Unit_2H_AWP_Proj_15388_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-32.20	84.16	1695175.12	14279385.51	39°19'20.690"N	80°48'22.950"W
Facility Reference Pt			1695090.99	14279417.69	39°19'21.010"N	80°48'24.020"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 32 (RKB) to Facility Vertical Datum	875.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	875.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Ground Level at Slot (Slot #10)	32.00ft
MD Reference Pt	Frontier 32 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	157.62°

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #10
Area	Doddridge Co., WV		Well Chalk Unit 2H
Field	Doddridge		Wellbore Chalk Unit 2H AWB
Facility	Middle Pad		

WELLPATH DATA (189 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	16.000	0.00	0.00	0.00	0.00	1695175.12	14279385.51	39°19'20.690"N	80°48'22.950"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.00	16.000	32.00	0.00	0.00	0.00	1695175.12	14279385.51	39°19'20.690"N	80°48'22.950"W	0.00	0.000	0.00	0.00	0.00	
117.00	0.150	16.000	117.00	-0.09	0.11	0.03	1695175.15	14279385.61	39°19'20.691"N	80°48'22.950"W	0.11	16.000	0.18	0.18	18.82	Gyrodata MS Gyro <17-1/2"> (100'-500')
217.00	0.140	0.770	217.00	-0.30	0.35	0.07	1695175.18	14279385.86	39°19'20.694"N	80°48'22.949"W	0.36	10.906	0.04	-0.01	-15.23	
317.00	0.060	60.890	317.00	-0.42	0.50	0.12	1695175.23	14279386.01	39°19'20.695"N	80°48'22.949"W	0.52	12.973	0.12	-0.08	60.12	
417.00	0.120	204.670	417.00	-0.36	0.43	0.12	1695175.23	14279385.94	39°19'20.694"N	80°48'22.948"W	0.45	15.225	0.17	0.06	143.78	
517.00	0.170	206.250	517.00	-0.19	0.20	0.01	1695175.12	14279385.71	39°19'20.692"N	80°48'22.950"W	0.20	2.376	0.05	0.05	1.58	
524.00	0.210	236.030	524.00	-0.18	0.19	-0.01	1695175.11	14279385.69	39°19'20.692"N	80°48'22.950"W	0.19	357.949	1.50	0.57	425.43	Gyrodata MS Gyro <12-1/4"> (500')(507'-717')
583.00	0.620	348.880	583.00	-0.47	0.44	-0.16	1695174.96	14279385.95	39°19'20.694"N	80°48'22.952"W	0.47	340.292	1.23	0.69	191.27	
674.00	4.380	29.490	673.90	-3.10	3.95	1.46	1695176.57	14279389.45	39°19'20.729"N	80°48'22.931"W	4.21	20.263	4.32	4.13	44.63	
734.00	7.300	40.880	733.58	-6.23	8.83	5.08	1695180.20	14279394.33	39°19'20.777"N	80°48'22.885"W	10.19	29.928	5.21	4.87	18.98	
787.00	9.820	46.860	785.99	-9.35	14.47	10.58	1695185.70	14279399.96	39°19'20.833"N	80°48'22.815"W	17.92	36.194	5.04	4.75	11.28	Directional ONE MWD <12-1/4"> (717')(770'-2577')
847.00	11.550	58.280	844.95	-12.13	21.12	19.43	1695194.54	14279406.62	39°19'20.898"N	80°48'22.702"W	28.70	42.608	4.54	2.88	19.03	
936.00	12.190	67.200	932.06	-13.65	29.45	35.67	1695210.77	14279414.94	39°19'20.980"N	80°48'22.495"W	46.26	50.458	2.18	0.72	10.02	
1024.00	11.490	64.430	1018.18	-14.21	36.83	52.14	1695227.24	14279422.32	39°19'21.053"N	80°48'22.286"W	63.84	54.763	1.02	-0.80	-3.15	
1113.00	10.950	62.400	1105.48	-15.47	44.58	67.63	1695242.72	14279430.06	39°19'21.129"N	80°48'22.088"W	81.00	56.611	0.75	-0.61	-2.28	
1201.00	13.220	59.180	1191.53	-17.71	53.60	83.68	1695258.76	14279439.09	39°19'21.218"N	80°48'21.884"W	99.38	57.357	2.69	2.58	-3.66	
1289.00	15.440	57.900	1276.79	-21.16	64.99	102.25	1695277.32	14279450.47	39°19'21.330"N	80°48'21.647"W	121.15	57.561	2.55	2.52	-1.45	
1377.00	16.300	58.770	1361.43	-25.04	77.61	122.73	1695297.80	14279463.09	39°19'21.455"N	80°48'21.386"W	145.21	57.691	1.01	0.98	0.99	
1465.00	16.910	60.080	1445.76	-28.62	90.40	144.38	1695319.44	14279475.87	39°19'21.580"N	80°48'21.110"W	170.35	57.949	0.81	0.69	1.49	
1553.00	16.400	59.800	1530.07	-31.99	103.03	166.21	1695341.26	14279488.50	39°19'21.705"N	80°48'20.832"W	195.56	58.206	0.59	-0.58	-0.32	
1641.00	16.860	56.300	1614.39	-36.18	116.36	187.57	1695362.61	14279501.82	39°19'21.836"N	80°48'20.560"W	220.73	58.185	1.25	0.52	-3.98	
1730.00	17.680	54.550	1699.38	-41.77	131.36	209.32	1695384.35	14279516.82	39°19'21.984"N	80°48'20.283"W	247.12	57.888	1.09	0.92	-1.97	
1818.00	19.060	53.200	1782.89	-48.37	147.72	231.71	1695406.73	14279533.17	39°19'22.145"N	80°48'19.998"W	274.79	57.481	1.64	1.57	-1.53	
1906.00	19.330	53.720	1866.00	-55.45	164.95	254.95	1695429.97	14279550.39	39°19'22.315"N	80°48'19.701"W	303.66	57.098	0.36	0.31	0.59	
1994.00	17.770	53.690	1949.42	-62.18	181.52	277.52	1695452.52	14279566.95	39°19'22.478"N	80°48'19.414"W	331.61	56.812	1.77	-1.77	-0.03	
2082.00	16.640	54.200	2033.49	-68.34	196.84	298.56	1695473.55	14279582.27	39°19'22.629"N	80°48'19.146"W	357.61	56.603	1.30	-1.28	0.58	
2170.00	17.550	57.180	2117.60	-73.67	211.40	319.93	1695494.92	14279596.82	39°19'22.773"N	80°48'18.873"W	383.46	56.544	1.44	1.03	3.39	
2259.00	17.610	57.610	2202.44	-78.44	225.89	342.57	1695517.55	14279611.30	39°19'22.915"N	80°48'18.585"W	410.34	56.600	0.16	0.07	0.48	
2347.00	15.780	57.390	2286.73	-82.88	239.47	363.90	1695538.87	14279624.88	39°19'23.049"N	80°48'18.313"W	435.62	56.652	2.08	-2.08	-0.25	

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388

Page 3 of 10



Operator	ANTERO RESOURCES CORPORATION
Area	Doddridge Co., WV
Field	Doddridge
Facility	Middle Pad
Slot	Slot #10
Well	Chalk Unit 2H
Wellbore	Chalk Unit 2H AWP

## REFERENCE Wellpath IDENTIFICATION

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
2434.00	14.640	55.910	2370.68	-87.21	252.01	382.97	14279637.41	39°19'23.173"N	80°48'18.070"W	458.44	56.654	1.38	-1.31	-1.70	
2523.00	14.590	55.380	2456.80	-91.87	264.68	401.50	1695576.46	14279650.08	39°19'23.297"N	480.90	56.607	0.16	-0.06	-0.60	
2594.00	14.170	56.580	2525.58	-95.43	274.54	416.12	1695591.07	14279659.94	39°19'23.395"W	498.53	56.584	0.73	-0.59	1.69	
2709.00	16.710	59.370	2636.42	-100.50	290.72	442.10	1695617.04	14279676.11	39°19'23.554"N	529.12	56.671	2.30	2.21	2.43	Directional ONE MWD <12-1/4"> (2577)(2692-6753)
2797.00	16.420	53.310	2720.77	-105.39	304.60	482.96	1695637.89	14279689.99	39°19'23.691"N	554.18	56.657	1.99	-0.33	-6.89	
2886.00	15.890	46.800	2806.26	-112.83	320.46	481.93	1695656.85	14279705.84	39°19'23.847"N	578.75	56.378	2.12	-0.60	-7.31	
2974.00	16.160	54.610	2890.85	-119.87	335.80	500.70	1695675.61	14279721.17	39°19'23.998"W	602.87	56.152	2.47	0.31	8.88	
3062.00	16.370	56.880	2975.33	-124.94	349.67	521.07	1695695.97	14279735.03	39°19'24.135"N	627.52	56.136	0.76	0.24	2.58	
3150.00	16.960	59.630	3059.64	-128.97	362.88	542.56	1695717.46	14279748.24	39°19'24.265"W	652.72	56.225	1.20	0.67	3.47	
3239.00	18.400	62.590	3144.43	-131.94	375.85	566.26	1695741.15	14279761.21	39°19'24.393"N	679.65	56.426	1.85	1.62	2.96	
3327.00	19.880	61.180	3227.57	-134.84	389.47	591.70	1695766.58	14279774.82	39°19'24.527"W	708.37	56.646	1.76	1.68	-1.57	
3415.00	19.090	59.500	3310.53	-138.56	403.98	617.21	1695792.08	14279789.33	39°19'24.670"N	737.66	56.794	1.10	-0.90	-1.91	
3503.00	17.950	57.350	3393.97	-143.01	418.60	641.02	1695815.88	14279803.94	39°19'24.814"W	765.60	56.855	1.51	-1.30	-2.44	
3591.00	16.920	55.970	3477.93	-148.01	433.09	663.05	1695837.91	14279818.42	39°19'24.956"W	791.96	56.849	1.26	-1.17	-1.57	
3680.00	16.000	51.580	3563.28	-154.01	447.96	683.40	1695858.24	14279833.28	39°19'25.103"N	817.13	56.756	1.74	-1.03	-4.93	
3768.00	15.700	57.010	3647.94	-159.56	461.98	702.89	1695877.72	14279847.30	39°19'25.241"N	841.12	56.685	1.72	-0.34	6.17	
3856.00	15.810	60.550	3732.64	-163.23	474.36	723.32	1695898.14	14279859.67	39°19'25.363"W	864.98	56.743	1.10	0.13	4.02	
3944.00	15.000	53.700	3817.48	-167.44	486.99	742.93	1695917.75	14279872.30	39°19'25.487"N	888.32	56.755	2.26	-0.92	-7.78	
4033.00	14.520	50.910	3903.54	-173.42	500.85	760.86	1695935.69	14279886.15	39°19'25.624"N	910.92	56.645	0.96	-0.54	-3.13	
4121.00	16.400	49.330	3988.36	-180.49	515.90	778.86	1695953.67	14279901.20	39°19'25.772"N	934.23	56.480	2.19	-1.80	-1.80	
4209.00	17.520	56.920	4072.54	-186.85	531.23	799.39	1695974.18	14279916.52	39°19'25.923"N	959.80	56.394	2.82	1.27	8.63	
4297.00	16.910	54.440	4156.60	-192.23	545.90	820.90	1695995.69	14279931.19	39°19'26.068"W	985.84	56.376	1.08	-0.69	-2.82	
4386.00	16.230	58.290	4241.90	-197.20	559.97	842.01	1696016.76	14279945.25	39°19'26.207"W	1011.21	56.375	1.45	-0.76	4.33	
4474.00	16.540	64.260	4326.34	-199.92	571.87	863.76	1696038.53	14279957.15	39°19'26.324"W	1035.91	56.492	1.95	0.35	6.78	
4562.00	18.920	66.200	4410.15	-201.01	583.07	888.10	1696062.86	14279968.34	39°19'26.434"W	1062.40	56.714	2.79	2.70	2.20	
4650.00	18.270	63.800	4493.56	-202.28	594.92	913.53	1696088.28	14279980.19	39°19'26.550"W	1090.16	56.927	1.14	-0.74	-2.73	
4739.00	17.390	60.620	4578.28	-204.83	607.60	937.63	1696112.38	14279992.86	39°19'26.675"W	1117.29	57.056	1.47	-0.99	-3.57	
4827.00	16.640	57.640	4662.43	-208.62	620.80	959.74	1696134.47	14280006.06	39°19'26.805"N	1143.02	57.104	1.31	-0.85	-3.39	
4915.00	16.030	54.000	4746.88	-213.67	634.68	980.21	1696154.94	14280019.94	39°19'26.942"W	1167.75	57.077	1.35	-0.69	-4.14	
5004.00	15.950	51.030	4832.44	-220.05	649.60	999.66	1696174.38	14280034.84	39°19'27.089"N	1192.18	56.983	0.92	-0.09	-3.34	

RECEIVED  
Office of Oil and Gas  
JAN 24 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Middle Pad
Slot	Well	Wellbore	
Slot #10	Chalk Unit 2H	Chalk Unit 2H AWP	

**WELLPATH DATA (189 stations) † = interpolated/extrapolated station**

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
5092.00	16.830	53.140	4916.86	-226.69	664.84	1039.25	1696193.96	14280050.08	39°19'27.239"N	80°48'09.962"W	1216.92	56.884	1.21	1.00	2.40	
5180.00	16.700	48.520	5001.13	-234.01	680.86	1038.92	1696213.62	14280066.10	39°19'27.397"N	80°48'09.711"W	1242.15	56.761	1.52	-0.15	-5.25	
5269.00	18.570	47.230	5085.94	-243.13	698.96	1058.91	1696233.60	14280084.18	39°19'27.576"N	80°48'09.457"W	1268.79	56.572	2.15	2.10	-1.45	
5357.00	18.690	51.000	5169.33	-252.05	717.35	1080.15	1696254.84	14280102.56	39°19'27.757"N	80°48'09.186"W	1296.65	56.411	1.38	0.14	4.28	
5445.00	17.750	57.900	5252.93	-258.35	733.35	1102.47	1696277.15	14280118.56	39°19'27.915"N	80°48'08.901"W	1324.10	56.369	2.67	-1.07	7.84	
5534.00	17.160	56.160	5337.83	-263.25	747.87	1124.87	1696299.54	14280133.08	39°19'28.058"N	80°48'08.616"W	1350.80	56.382	0.89	-0.66	-1.96	
5622.00	17.340	53.710	5421.88	-268.98	762.86	1146.23	1696320.88	14280148.06	39°19'28.205"N	80°48'08.344"W	1376.88	56.355	0.85	0.20	-2.78	
5710.00	17.640	55.060	5505.81	-275.03	778.26	1167.73	1696342.38	14280163.45	39°19'28.357"N	80°48'08.070"W	1403.31	56.318	0.57	0.34	1.53	
5799.00	16.500	52.990	5590.89	-281.16	793.59	1188.87	1696363.52	14280178.78	39°19'28.508"N	80°48'07.500"W	1429.41	56.276	1.45	-1.28	-2.33	
5887.00	17.410	47.360	5675.07	-288.87	810.03	1208.54	1696383.17	14280195.22	39°19'28.670"N	80°48'07.550"W	1454.90	56.168	2.13	1.03	-6.40	
5975.00	16.010	56.530	5759.36	-295.77	825.65	1228.35	1696402.98	14280210.82	39°19'28.824"N	80°48'07.297"W	1480.05	56.093	3.39	-1.59	10.42	
6063.00	18.810	81.510	5843.66	-294.48	833.97	1251.92	1696426.54	14280219.14	39°19'28.906"N	80°48'06.997"W	1504.26	56.331	9.47	6.36	23.55	
6107.00	21.580	92.960	5884.97	-289.31	834.59	1267.03	1696441.64	14280219.77	39°19'28.912"N	80°48'06.805"W	1517.20	56.627	10.94	6.30	26.02	
6151.00	22.630	103.020	5925.75	-280.94	832.27	1283.36	1696457.97	14280217.44	39°19'28.888"N	80°48'06.597"W	1529.61	57.036	8.92	2.39	22.86	
6196.00	22.040	113.820	5967.99	-269.83	828.91	1299.53	1696474.13	14280212.08	39°19'28.835"N	80°48'06.391"W	1540.31	57.531	9.20	-1.31	24.00	
6240.00	23.750	123.360	6007.94	-256.54	818.70	1314.49	1696489.08	14280203.88	39°19'28.754"N	80°48'06.201"W	1548.59	58.084	9.27	3.89	21.68	
6284.00	26.800	131.900	6047.74	-240.27	807.19	1329.28	1696503.87	14280192.38	39°19'28.640"N	80°48'06.013"W	1555.17	58.732	10.79	6.93	19.41	
6372.00	32.970	135.710	6123.87	-199.92	776.59	1360.96	1696535.53	14280161.79	39°19'28.336"N	80°48'05.611"W	1566.94	60.290	6.54	7.80	4.84	
6416.00	35.910	135.630	6160.15	-176.84	758.80	1378.35	1696552.91	14280144.00	39°19'28.160"N	80°48'05.390"W	1573.41	61.167	6.68	6.68	-0.18	
6460.00	39.180	134.290	6195.03	-152.11	739.86	1397.32	1696571.88	14280125.07	39°19'27.973"N	80°48'05.149"W	1581.11	62.099	7.66	7.43	-3.05	
6504.00	43.390	131.370	6228.09	-125.78	720.16	1418.63	1696593.18	14280105.37	39°19'27.777"N	80°48'04.879"W	1590.95	63.086	10.52	9.57	-6.64	
6549.00	48.100	131.450	6259.49	-96.87	698.84	1442.79	1696617.33	14280084.07	39°19'27.566"N	80°48'04.572"W	1603.13	64.156	10.47	10.47	0.18	
6593.00	53.390	134.010	6287.32	-65.96	675.72	1467.79	1696642.32	14280060.95	39°19'27.337"N	80°48'04.254"W	1615.86	65.280	12.84	12.02	5.82	
6637.00	56.970	139.390	6312.45	-32.24	649.42	1492.51	1696667.03	14280034.67	39°19'27.077"N	80°48'03.940"W	1627.68	66.485	12.92	8.14	12.23	
6682.00	59.060	141.890	6336.29	4.27	619.91	1516.71	1696691.22	14280005.17	39°19'26.784"N	80°48'03.633"W	1638.50	67.769	6.62	4.64	5.66	
6686.00	59.294	142.012	6338.34	7.57	617.20	1518.83	1696693.34	14280002.46	39°19'26.758"N	80°48'03.607"W	1639.44	67.885	6.41	5.85	3.05	Burket: 6686MD / 6338TVD
6726.00	61.640	143.200	6358.06	41.19	589.55	1539.96	1696714.46	14279974.83	39°19'26.484"N	80°48'03.338"W	1648.95	69.051	6.41	5.86	2.97	
6746.00	63.031	143.509	6367.34	58.35	575.34	1550.53	1696725.03	14279960.62	39°19'26.343"N	80°48'03.204"W	1653.83	69.642	7.09	6.95	1.55	Tully: 6746MD / 6367TVD

RECEIVED  
Office of Oil and Gas  
JAN 24 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 5 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #10
Area	Doddridge Co., WV		Well Chalk Unit 2H
Field	Doddridge		Wellbore Chalk Unit 2H AWB
Facility	Middle Pad		

WELLPATH DATA (189 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
6770.00	64.700	143.870	6377.91	79.26	557.98	1563.29	1696737.78	14279943.26	39°19'26.171"N	80°48'03.042"W	1659.88	70.357	7.09	6.96	1.50	
6834.00†	68.690	148.069	6403.24	136.81	509.27	1596.14	1696770.62	14279894.58	39°19'25.689"N	80°48'02.626"W	1675.41	72.304	8.67	6.23	6.56	Hamilton: 6834'MD / 6403'TVD
6843.00	69.260	148.640	6406.47	145.10	502.12	1600.54	1696775.02	14279887.43	39°19'25.618"N	80°48'02.570"W	1677.46	72.582	8.67	6.33	6.35	BH AT Curve <8-1/2">(6770')(6843'-15364')
6858.00†	70.122	148.947	6411.67	159.00	490.09	1607.83	1696782.31	14279875.40	39°19'25.499"N	80°48'02.478"W	1680.87	73.048	6.06	5.75	2.04	POE Marcellus: 6858'MD / 6412'TVD
6875.00	71.100	149.290	6417.32	174.86	476.33	1616.06	1696790.53	14279861.64	39°19'25.363"N	80°48'02.373"W	1684.80	73.577	6.06	5.75	2.02	
6922.00	76.710	150.490	6430.34	219.59	437.28	1638.70	1696813.16	14279822.61	39°19'24.977"N	80°48'02.086"W	1696.04	75.059	12.19	11.94	2.55	
6970.00	80.950	152.470	6439.64	266.40	395.91	1661.17	1696835.63	14279781.26	39°19'24.567"N	80°48'01.801"W	1707.70	76.595	9.72	8.83	4.12	
7017.00	83.740	153.110	6445.90	312.81	354.49	1682.47	1696856.92	14279739.85	39°19'24.157"N	80°48'01.532"W	1719.41	78.102	6.09	5.94	1.36	
7065.00	84.390	151.850	6450.86	360.36	312.15	1704.53	1696878.97	14279697.53	39°19'23.739"N	80°48'01.252"W	1732.88	79.622	2.94	1.35	-2.62	
7112.00	88.340	152.790	6453.84	407.05	270.62	1726.31	1696900.74	14279656.02	39°19'23.328"N	80°48'00.976"W	1747.40	81.091	8.64	8.40	2.00	
7160.00	88.740	151.680	6455.06	454.83	228.16	1748.67	1696923.09	14279613.57	39°19'22.907"N	80°48'00.693"W	1763.49	82.566	2.46	0.83	-2.31	
7255.00	88.860	154.670	6457.05	549.51	143.41	1791.52	1696965.92	14279528.86	39°19'22.069"N	80°48'00.150"W	1797.25	85.423	3.15	0.13	3.15	
7350.00	88.860	153.880	6458.94	644.33	57.84	1832.75	1697007.14	14279443.33	39°19'21.222"N	80°47'59.628"W	1833.66	88.192	0.83	0.00	-0.83	
7446.00	88.610	156.960	6461.06	740.22	-29.42	1872.67	1697047.04	14279356.09	39°19'20.359"N	80°47'59.122"W	1872.90	90.900	3.22	-0.26	3.21	
7541.00	88.950	158.130	6463.09	835.20	-117.20	1908.95	1697083.30	14279268.35	39°19'19.491"N	80°47'58.663"W	1912.54	93.513	1.28	0.36	1.23	
7636.00	89.050	155.740	6464.75	930.17	-204.59	1946.16	1697120.50	14279181.00	39°19'18.626"N	80°47'58.192"W	1956.88	96.001	2.52	0.11	-2.52	
7731.00	88.520	156.710	6466.76	1025.12	-291.50	1984.45	1697158.77	14279094.12	39°19'17.766"N	80°47'57.707"W	2005.74	98.357	1.16	-0.56	1.02	
7827.00	89.720	161.680	6468.24	1121.04	-381.20	2018.53	1697192.84	14279004.45	39°19'16.879"N	80°47'57.276"W	2054.21	100.694	5.33	1.25	5.18	
7922.00	89.660	162.530	6468.75	1215.75	-471.60	2047.72	1697222.02	14278914.09	39°19'15.985"N	80°47'56.907"W	2101.32	102.969	0.90	-0.06	0.89	
8017.00	89.570	159.660	6469.39	1310.56	-561.47	2078.49	1697252.78	14278824.26	39°19'15.096"N	80°47'56.518"W	2152.99	105.117	3.02	-0.09	-3.02	
8112.00	90.400	154.430	6469.41	1405.52	-648.91	2115.53	1697289.80	14278736.85	39°19'14.231"N	80°47'56.050"W	2212.82	107.053	5.57	0.87	-5.51	
8207.00	88.830	158.620	6470.05	1500.48	-736.03	2153.36	1697327.62	14278649.77	39°19'13.369"N	80°47'55.571"W	2275.68	108.871	4.71	-1.65	4.41	
8302.00	89.080	155.050	6471.78	1595.44	-823.34	2190.72	1697364.97	14278562.49	39°19'12.505"N	80°47'55.098"W	2340.33	110.598	3.77	0.26	-3.76	
8397.00	89.170	153.200	6473.24	1690.25	-908.80	2232.18	1697406.40	14278477.07	39°19'11.660"N	80°47'54.573"W	2410.09	112.153	1.95	0.09	-1.95	
8492.00	89.170	152.160	6474.61	1784.88	-993.20	2275.77	1697449.98	14278392.71	39°19'10.824"N	80°47'54.020"W	2483.06	113.577	1.09	0.00	-1.09	
8588.00	88.710	157.200	6476.39	1880.71	-1079.93	2316.81	1697491.00	14278306.01	39°19'09.966"N	80°47'53.501"W	2556.14	114.992	5.27	-0.48	5.25	
8683.00	88.950	154.690	6478.33	1975.64	-1166.65	2355.52	1697529.70	14278219.32	39°19'09.108"N	80°47'53.011"W	2628.60	116.349	2.65	0.25	-2.64	
8778.00	88.830	153.990	6480.17	2070.47	-1252.27	2396.65	1697570.81	14278133.74	39°19'08.261"N	80°47'52.490"W	2704.09	117.587	0.75	-0.13	-0.74	
8873.00	89.290	156.410	6481.73	2165.36	-1338.49	2436.49	1697610.63	14278047.55	39°19'07.408"N	80°47'51.985"W	2779.93	118.782	2.59	0.48	2.55	
8968.00	88.520	155.820	6483.54	2260.31	-1425.34	2474.95	1697649.08	14277960.74	39°19'06.549"N	80°47'51.498"W	2856.04	119.938	1.02	-0.81	-0.62	

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 6 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWP
Facility	Middle Pad		

WELLPATH DATA (189 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
9064.00	89.110	160.390	6485.53	2356.26	-1514.37	2510.73	1697684.84	14277871.74	39°19'05.668"N	80°47'51.046"W	2932.08	121.097	4.80	0.61	4.76	
9159.00	89.080	163.380	6487.03	2450.97	-1604.64	2540.26	1697714.36	14277781.51	39°19'04.775"N	80°47'50.672"W	3004.63	122.280	3.15	-0.03	3.15	
9254.00	89.720	163.350	6488.03	2545.49	-1695.66	2567.45	1697741.55	14277690.52	39°19'03.875"N	80°47'50.329"W	3076.86	123.442	0.67	0.67	-0.03	
9349.00	89.290	158.530	6488.85	2640.30	-1785.42	2598.47	1697772.55	14277600.80	39°19'02.987"N	80°47'49.937"W	3152.74	124.493	5.09	-0.45	-5.07	
9443.00	88.890	164.710	6490.34	2734.01	-1874.57	2628.09	1697802.16	14277511.68	39°19'02.105"N	80°47'49.563"W	3228.14	125.500	6.59	-0.43	6.57	
9538.00	88.430	164.650	6492.56	2828.27	-1966.17	2653.18	1697827.24	14277420.12	39°19'01.200"N	80°47'49.246"W	3302.30	126.541	0.49	-0.48	-0.06	
9634.00	89.420	167.390	6494.36	2923.21	-2059.30	2676.37	1697850.42	14277327.03	39°19'00.279"N	80°47'48.954"W	3376.93	127.576	3.03	1.03	2.85	
9728.00	89.170	164.990	6495.52	3016.15	-2150.57	2698.80	1697872.84	14277235.80	39°18'59.376"N	80°47'48.671"W	3450.86	128.550	2.57	-0.27	-2.55	
9823.00	89.720	160.120	6496.44	3110.76	-2241.17	2727.27	1697901.30	14277145.23	39°18'58.480"N	80°47'48.311"W	3529.99	129.412	5.16	0.58	-5.13	
9919.00	88.920	162.160	6497.58	3206.57	-2332.00	2758.30	1697932.32	14277054.43	39°18'57.581"N	80°47'47.919"W	3611.99	130.213	2.28	-0.83	2.12	
10014.00	90.520	156.280	6498.05	3301.48	-2420.78	2791.99	1697965.99	14276965.69	39°18'56.703"N	80°47'47.493"W	3695.32	130.927	6.41	1.68	-6.19	
10108.00	88.550	154.760	6498.81	3395.41	-2506.32	2830.94	1698004.92	14276880.19	39°18'55.857"N	80°47'47.000"W	3780.98	131.519	2.65	-2.10	-1.62	
10203.00	88.710	154.080	6501.08	3490.24	-2591.98	2871.94	1698045.91	14276794.56	39°18'55.009"N	80°47'46.481"W	3868.64	132.067	0.74	0.17	-0.72	
10298.00	88.620	153.440	6503.29	3584.99	-2677.17	2913.93	1698087.89	14276709.40	39°18'54.167"N	80°47'45.949"W	3957.05	132.575	0.68	-0.09	-0.67	
10393.00	88.610	155.900	6505.59	3679.83	-2763.00	2954.66	1698128.50	14276623.60	39°18'53.317"N	80°47'45.434"W	4045.20	133.081	2.59	-0.01	2.59	
10488.00	88.650	157.490	6507.86	3774.79	-2850.22	2992.13	1698166.06	14276536.42	39°18'52.454"N	80°47'44.959"W	4132.39	133.609	1.67	0.04	1.67	
10584.00	88.430	152.780	6510.31	3870.64	-2937.27	3032.48	1698206.38	14276449.40	39°18'51.593"N	80°47'44.448"W	4221.79	134.086	4.91	-0.23	-4.91	
10679.00	88.710	149.890	6512.68	3965.03	-3020.59	3078.03	1698251.92	14276366.12	39°18'50.769"N	80°47'43.871"W	4312.57	134.460	3.06	0.29	-3.04	
10774.00	88.890	152.050	6514.67	4059.37	-3103.64	3124.11	1698297.98	14276283.11	39°18'49.947"N	80°47'43.287"W	4403.71	134.812	2.28	0.19	2.27	
10869.00	89.170	155.980	6516.28	4154.15	-3189.00	3165.72	1698339.58	14276197.77	39°18'49.102"N	80°47'42.760"W	4493.50	135.210	4.15	0.29	4.14	
10964.00	89.170	157.480	6517.65	4249.12	-3276.26	3203.25	1698377.09	14276110.55	39°18'48.239"N	80°47'42.285"W	4582.00	135.646	1.58	0.00	1.58	
11059.00	88.830	156.940	6519.31	4344.10	-3363.83	3240.04	1698413.87	14276023.01	39°18'47.372"N	80°47'41.819"W	4670.46	136.074	0.67	-0.36	-0.57	
11154.00	88.890	154.370	6521.20	4439.02	-3450.36	3279.19	1698453.00	14275936.52	39°18'46.516"N	80°47'41.324"W	4760.05	136.457	2.71	0.06	-2.71	
11250.00	88.650	154.800	6523.26	4534.86	-3537.05	3320.38	1698494.18	14275849.87	39°18'45.659"N	80°47'40.802"W	4851.36	136.810	0.51	-0.25	0.45	
11345.00	88.890	156.220	6525.30	4629.78	-3623.48	3359.75	1698533.53	14275763.47	39°18'44.804"N	80°47'40.304"W	4941.41	137.163	1.52	0.25	1.49	
11440.00	88.890	158.330	6527.14	4724.75	-3711.08	3396.44	1698570.21	14275675.90	39°18'43.937"N	80°47'39.840"W	5030.70	137.535	2.22	0.00	2.22	
11535.00	89.170	157.950	6528.75	4819.73	-3799.24	3431.81	1698605.56	14275587.78	39°18'43.065"N	80°47'39.392"W	5119.72	137.909	0.50	0.29	-0.40	
11629.00	88.860	156.230	6530.37	4913.71	-3885.81	3468.40	1698642.13	14275501.24	39°18'42.208"N	80°47'38.929"W	5208.58	138.249	1.86	-0.33	-1.83	
11724.00	88.920	155.560	6532.21	5008.65	-3972.51	3507.19	1698680.91	14275414.58	39°18'41.351"N	80°47'38.438"W	5299.17	138.560	0.71	0.06	-0.71	
11819.00	88.890	153.190	6534.02	5103.47	-4058.14	3548.26	1698721.97	14275328.98	39°18'40.503"N	80°47'37.918"W	5390.61	138.835	2.49	-0.03	-2.49	

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 7 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWB
Facility	Middle Pad		

WELLPATH DATA (189 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
11914.00	88.860	152.600	6535.89	5198.13	-4142.69	3591.54	1698765.22	14275244.46	39°18'39.667"N	80°47'37.370"W	5482.80	139.076	0.62	-0.03	-0.62	
12008.00	88.400	157.000	6538.14	5291.97	-4227.70	3631.54	1698805.21	14275159.49	39°18'38.825"N	80°47'36.864"W	5573.29	139.338	4.71	-0.49	4.68	
12102.00	88.920	159.900	6540.34	5385.92	-4315.10	3666.06	1698839.71	14275072.13	39°18'37.961"N	80°47'36.427"W	5662.16	139.649	3.13	0.55	3.09	
12197.00	88.890	158.780	6542.15	5480.86	-4403.97	3699.57	1698873.21	14274983.29	39°18'37.082"N	80°47'36.003"W	5751.67	139.968	1.18	-0.03	-1.18	
12296.00	88.890	157.720	6544.07	5579.83	-4495.90	3736.25	1698909.87	14274891.39	39°18'36.172"N	80°47'35.539"W	5845.74	140.272	1.07	0.00	-1.07	
12387.00	88.860	154.230	6545.86	5670.76	-4578.99	3773.28	1698946.89	14274808.34	39°18'35.350"N	80°47'35.071"W	5933.36	140.510	3.83	-0.03	-3.84	
12482.00	88.800	156.980	6547.80	5765.68	-4665.48	3812.51	1698986.10	14274721.88	39°18'34.495"N	80°47'34.574"W	6025.11	140.745	2.89	-0.06	2.89	
12577.00	88.830	156.280	6549.76	5860.64	-4752.67	3850.18	1699023.76	14274634.73	39°18'33.632"N	80°47'34.097"W	6116.52	140.989	0.74	0.03	-0.74	
12672.00	89.230	158.660	6551.37	5955.62	-4840.40	3886.58	1699060.14	14274547.03	39°18'32.764"N	80°47'33.637"W	6207.65	141.237	2.54	0.42	2.51	
12766.00	89.350	159.340	6552.54	6049.59	-4928.15	3920.26	1699093.81	14274459.32	39°18'31.896"N	80°47'33.211"W	6297.23	141.498	0.73	0.13	0.72	
12861.00	89.320	160.670	6553.64	6144.50	-5017.42	3952.74	1699126.28	14274370.09	39°18'31.013"N	80°47'32.800"W	6387.38	141.769	1.40	-0.03	1.40	
12955.00	89.450	162.850	6554.65	6238.24	-5106.68	3982.16	1699155.69	14274280.86	39°18'30.130"N	80°47'32.429"W	6475.78	142.053	2.32	0.14	2.32	
13050.00	89.380	164.110	6555.62	6332.74	-5197.75	4009.17	1699182.69	14274189.82	39°18'29.229"N	80°47'32.088"W	6564.30	142.356	1.33	-0.07	1.33	
13146.00	89.320	163.150	6556.71	6428.20	-5289.86	4036.22	1699209.73	14274097.76	39°18'28.318"N	80°47'31.746"W	6653.85	142.656	1.00	-0.06	-1.00	
13241.00	89.350	159.240	6557.81	6522.99	-5379.76	4066.84	1699240.33	14274007.89	39°18'27.429"N	80°47'31.359"W	6743.96	142.912	4.12	0.03	-4.12	
13337.00	89.320	154.700	6558.92	6618.95	-5468.08	4104.38	1699277.86	14273919.60	39°18'26.555"N	80°47'30.884"W	6837.09	143.108	4.73	-0.03	-4.73	
13432.00	89.110	152.310	6560.23	6713.69	-5553.09	4146.76	1699320.22	14273834.63	39°18'25.714"N	80°47'30.348"W	6930.54	143.250	2.53	-0.22	-2.52	
13527.00	89.480	157.990	6561.40	6808.56	-5639.25	4186.66	1699360.11	14273748.50	39°18'24.862"N	80°47'29.843"W	7023.48	143.409	5.99	0.39	5.98	
13622.00	90.250	156.220	6561.62	6903.55	-5726.76	4223.62	1699397.05	14273661.03	39°18'23.996"N	80°47'29.375"W	7115.81	143.590	2.03	0.81	-1.86	
13718.00	90.060	153.580	6561.36	6999.43	-5813.69	4264.34	1699437.75	14273574.13	39°18'23.136"N	80°47'28.860"W	7209.96	143.740	2.76	-0.20	-2.75	
13813.00	90.030	159.720	6561.28	7094.37	-5900.87	4301.97	1699475.37	14273486.99	39°18'22.273"N	80°47'28.383"W	7302.55	143.906	6.46	-0.03	6.46	
13908.00	89.880	159.380	6561.36	7189.32	-5989.88	4335.16	1699508.55	14273398.01	39°18'21.393"N	80°47'27.964"W	7394.07	144.105	0.39	-0.16	-0.36	
14003.00	90.620	157.550	6560.94	7284.30	-6078.24	4370.03	1699543.41	14273309.69	39°18'20.519"N	80°47'27.523"W	7486.14	144.285	2.08	0.78	-1.93	
14098.00	90.400	156.780	6560.10	7379.30	-6165.79	4406.90	1699580.26	14273222.17	39°18'19.652"N	80°47'27.056"W	7578.77	144.445	0.84	-0.23	-0.81	
14193.00	90.830	157.610	6559.08	7474.29	-6253.36	4443.72	1699617.06	14273134.64	39°18'18.786"N	80°47'26.591"W	7671.45	144.602	0.98	0.45	0.87	
14288.00	90.650	160.770	6557.85	7569.23	-6342.14	4477.46	1699650.79	14273045.89	39°18'17.908"N	80°47'26.164"W	7763.41	144.778	3.33	-0.19	3.33	
14383.00	90.580	159.150	6556.83	7664.14	-6431.38	4510.01	1699683.33	14272956.68	39°18'17.025"N	80°47'25.752"W	7855.12	144.960	1.71	-0.07	-1.71	
14478.00	90.580	156.840	6555.87	7759.13	-6519.45	4545.60	1699718.91	14272868.65	39°18'16.154"N	80°47'25.302"W	7947.69	145.114	2.43	0.00	-2.43	
14573.00	90.770	158.500	6554.75	7854.12	-6607.32	4581.70	1699754.98	14272780.82	39°18'15.285"N	80°47'24.846"W	8040.44	145.262	1.76	0.20	1.75	
14668.00	90.490	156.820	6553.71	7949.11	-6695.18	4617.80	1699791.08	14272692.99	39°18'14.415"N	80°47'24.389"W	8133.24	145.405	1.79	-0.29	-1.77	

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'  
Page 8 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWB
Facility	Middle Pad		

WELLPATH DATA (189 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
14761.00	90.770	159.160	6552.68	8042.10	-6781.39	4652.65	1699825.91	14272606.82	39°18'13.562"N	80°47'23.948"W	8224.02	145.546	2.53	0.30	2.52	
14856.00	91.480	162.280	6550.82	8136.93	-6871.04	4684.01	1699857.26	14272517.21	39°18'12.676"N	80°47'23.552"W	8315.71	145.718	3.37	0.75	3.28	
14951.00	90.650	160.040	6549.05	8231.72	-6960.92	4714.68	1699887.92	14272427.36	39°18'11.787"N	80°47'23.164"W	8407.30	145.890	2.51	-0.87	-2.36	
15046.00	90.920	159.000	6547.75	8326.66	-7049.91	4747.91	1699921.14	14272338.41	39°18'10.906"N	80°47'22.744"W	8499.64	146.041	1.13	0.28	-1.09	
15141.00	90.860	155.280	6546.27	8421.63	-7137.42	4784.81	1699958.02	14272250.93	39°18'10.041"N	80°47'22.278"W	8592.86	146.163	3.92	-0.06	-3.92	
15236.00	90.740	152.500	6544.95	8516.41	-7222.71	4826.61	1699999.80	14272165.67	39°18'09.197"N	80°47'21.748"W	8686.98	146.247	2.93	-0.13	-2.93	
15331.00	90.680	153.340	6543.77	8611.08	-7307.29	4869.85	1700043.03	14272081.13	39°18'08.360"N	80°47'21.201"W	8781.34	146.319	0.89	-0.06	0.88	
15364.00	90.680	153.930	6543.38	8644.00	-7336.85	4884.51	1700057.68	14272051.58	39°18'08.067"N	80°47'21.015"W	8814.07	146.346	1.79	0.00	1.79	
15388.00	90.680	153.930	6543.09	8667.95	-7358.41	4895.05	1700068.22	14272030.03	39°18'07.854"N	80°47'20.882"W	8837.86	146.367	0.00	0.00	0.00	Projected MD @ TD: 15388'

HOLE & CASING SECTIONS - Ref Wellbore: Chalk Unit 2H AWB Ref Wellpath: Chalk Unit 2H AWP Proj: 15388'									
String/Diameter	Start MD (ft)	End MD (ft)	Interval (ft)	Start TVD (ft)	End TVD (ft)	Start N/S (ft)	Start E/W (ft)	End N/S (ft)	End E/W (ft)
20in Conductor	32.00	112.00	80.00	32.00	112.00	0.00	0.00	0.09	0.03
17.5in Open Hole	112.00	551.00	439.00	112.00	551.00	0.09	0.03	0.21	-0.08
13.375in Casing Surface	32.00	551.00	519.00	32.00	551.00	0.00	0.00	0.21	-0.08
12.25in Open Hole	551.00	2666.00	2115.00	551.00	2595.13	0.21	-0.08	284.52	431.80
9.625in Casing Intermediate	32.00	2666.00	2634.00	32.00	2595.13	0.00	0.00	284.52	431.80
8.75in Open Hole	2666.00	6864.00	4198.00	2595.13	6413.70	284.52	431.80	485.25	1610.74
8.5in Open Hole	6864.00	15388.00	8524.00	6413.70	6543.09	485.25	1610.74	-7358.41	4895.05
5.5in Casing Production	32.00	15388.00	15356.00	32.00	6543.09	0.00	0.00	-7358.41	4895.05

RECEIVED  
Office of Oil and Gas  
JAN 24 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'  
Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWB
Facility	Middle Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Chalk Unit 2H BHL Rev-3	6445.00	-7366.01	4896.74	1700069.91	14272022.43	39°18'07.779"N	80°47'20.860"W	point
Chalk Unit 2H LP Rev-2	6445.00	320.40	1709.55	1696883.98	14279705.78	39°19'23.820"N	80°48'01.188"W	point

WELLPATH COMPOSITION - Ref Wellbore: Chalk Unit 2H AWB Ref Wellpath: Chalk Unit 2H AWP Proj: 15388'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	517.00	Gyrodatta standard - Drop gyro or Multi-shot	01 Gyrodatta MS Gyro <17-1/2"> (100'-500')	Chalk Unit 2H AWB
517.00	734.00	Gyrodatta standard - Drop gyro or Multi-shot	02 Gyrodatta MS Gyro <12-1/4"> (500')(507'-717')	Chalk Unit 2H AWB
734.00	2594.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4"> (717')(770'-2577')	Chalk Unit 2H AWB
2594.00	6770.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <12-1/4"> (2577')(2692'-6753')	Chalk Unit 2H AWB
6770.00	15364.00	BHI AutoTrak Curve (Short)	05 BH AT Curve <8-1/2"> (6770')(6843'-15364')	Chalk Unit 2H AWB
15364.00	15388.00	Blind Drilling (std)	Projection to bit	Chalk Unit 2H AWB

RECEIVED  
 Office of Oil and Gas  
 JAN 24 2019  
 WV Department of  
 Environmental Protection





## Actual Wellpath Report

Chalk Unit 2H AWP Proj: 15388'

Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Doddridge Co., WV	Well	Chalk Unit 2H
Field	Doddridge	Wellbore	Chalk Unit 2H AWB
Facility	Middle Pad		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-017-06819-0000            BH Job #: 9002117            Rig: Frontier 32            Duration: 02/12/18 - 02/16/18            Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-500')            Gyrodata MS Gyro &lt;12-1/4"&gt; (500')(507'-717')            Directional ONE MWD &lt;12-1/4"&gt; (717')(770'-2577')            Directional ONE MWD &lt;12-1/4"&gt; (2577')(2692'-6753')            Burket: 6686'MD / 6338'TVD            Tully: 6746'MD / 6367'TVD            Hamilton: 6834'MD / 6403'TVD            BH AT Curve &lt;8-1/2"&gt;(6770')(6843'-15364')            POE Marcellus: 6858'MD / 6412'TVD            Projected MD @ TD: 15388'</p>