

ANTERO RESOURCES CORPORATION

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

Slot: Slot #11
 Well: Hawk Unit 1H
 Wellbore: Hawk Unit 1H PWB



API: 47-017-06792-0000
 BHI Job #: 8622997
 Rig: Frontier 32
 Duration: 06/27/2017-07/01/2017



Plot reference wellpath is Hawk Unit 1H PWP Rev-B.0	Grid System: MADZ / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 32 (RKB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Frontier 32 (RKB)	North Reference: Grid north
Frontier 32 (RKB) to Mean Sea Level 1167 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot Slot #11) -1135 feet	Depths are in feet
Coordinates are in feet referenced to SMI	Created by: ddesaut on 2017-07-10
	Database: WA_MPL_EasternUS_Defn

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Balli Pad	1684490.110	14272033.240	39°18'08.198"N	80°50'39.126"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #11	2.42	100.30	1684590.369	14272035.663	39°18'08.220"N
Comment	Hawk Unit 1H				32ft
Frontier 32 (RKB) to Mud line (At Slot Slot #11)					-1135ft
Mean Sea Level to Mud line (At Slot Slot #11)					1167ft
Frontier 32 (RKB) to Mean Sea Level					

Gyrodata MS Gyro <17-1/2"> (100'-320') : 0.33° Inc, 119.00ft MD, 119.00ft TVD, -0.05ft VS
 Gyrodata MS Gyro <12-1/4"> (320')(384'-998') : 0.26° Inc, 403.00ft MD, 402.99ft TVD, -1.16ft VS

Directional ONE MWD <12-1/4"> (998')(1117'-2526') : 6.66° Inc, 1136.00ft MD, 1133.71ft TVD, -41.72ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #11	Hawk Unit 1H	Hawk Unit 1H AWP	Hawk Unit 1H AWP Proj. 21040'
Slot #11	Hawk Unit 1H	Hawk Unit 1H PWB	Hawk Unit 1H PWP Rev-B.0

Directional ONE MWD <8-3/4"> (2526')(2628'-5629') : 1.49° Inc, 2647.00ft MD, 2643.68ft TVD, -53.62ft VS

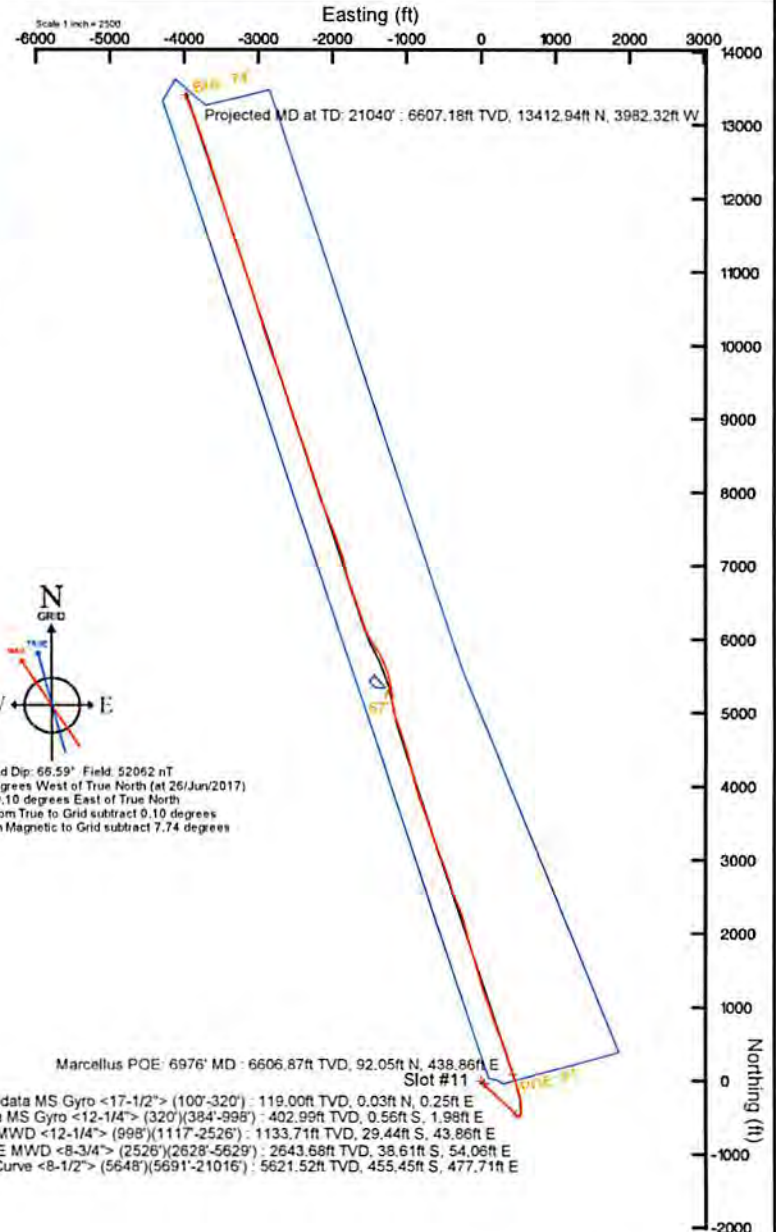
Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	5648.00	12.520	138.840	5579.62	-448.31	471.17	-573.47
Proj. to Bottom	5729.00	12.520	138.840	5658.70	-461.53	482.73	-589.65
Curve KOP	5843.55	12.520	138.840	5770.52	-480.22	499.07	-612.53
End of 3D Arc	6371.22	32.096	0.328	6274.60	-378.48	539.36	-528.53
POE	6936.70	75.125	341.720	6604.00	53.95	449.80	-89.86
Landing Pt.	7122.64	90.000	341.720	6628.00	228.53	392.13	94.00
Start Turn	11800.00	90.000	341.720	6628.00	4669.84	-1074.99	0.00
End of 3D Arc	12214.01	90.000	350.000	6628.00	5070.96	-1176.05	2.00
Avoid Parcel	13042.06	90.000	333.439	6628.00	5854.49	-1434.88	2.00
On Azimuth	13456.10	90.000	341.720	6628.00	6236.90	-1592.66	2.00
BHL	21033.19	90.000	341.720	6628.00	13431.59	-3969.36	0.00

BHI AT Curve <8-1/2"> (5648')(5691'-21016') : 13.53° Inc, 5691.00ft MD, 5621.52ft TVD, -582.31ft VS

Marcellus POE: 6976' MD : 77.56° Inc, 6976.00ft MD, 6606.87ft TVD, -50.25ft VS

Projected MD at TD: 21040' : 90.37° Inc, 21040.00ft MD, 6607.18ft TVD, 13985.15ft VS

Vertical Section (ft)
 Azimuth 341.72° with reference 0.00 N, 0.00 E



User specified Dip: 65.59° Field: 52062 nT
 Magnetic North is 7.64 degrees West of True North (at 26/Jun/2017)
 Grid North is 0.10 degrees East of True North
 To correct azimuth from True to Grid subtract 0.10 degrees
 To correct azimuth from Magnetic to Grid subtract 7.74 degrees

Marcellus POE: 6976' MD : 6606.87ft TVD, 92.05ft N, 438.86ft E
 Slot #11

Gyrodata MS Gyro <17-1/2"> (100'-320') : 119.00ft TVD, 0.03ft N, 0.25ft E
 Gyrodata MS Gyro <12-1/4"> (320')(384'-998') : 402.99ft TVD, 0.56ft S, 1.98ft E
 Directional ONE MWD <12-1/4"> (998')(1117'-2526') : 1133.71ft TVD, 29.44ft S, 43.86ft E
 Directional ONE MWD <8-3/4"> (2526')(2628'-5629') : 2643.68ft TVD, 38.61ft S, 54.06ft E
 BHI AT Curve <8-1/2"> (5648')(5691'-21016') : 5621.52ft TVD, 455.45ft S, 477.71ft E

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Hawk Unit 1H AWP Proj: 21040'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli 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	10/Jul/2017 at 16:14
Convergence at slot	0.10° East	Database/Source file	WA_MPL_EasternUS_Defn/Hawk_Unit_1H_AWP_Proj_21040_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.42	100.30	1684590.37	14272035.66	39°18'08.220"N	80°50'37.850"W
Facility Reference Pt			1684490.11	14272033.24	39°18'08.198"N	80°50'39.126"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	32.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	1167.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Mud Line at Slot (Slot #11)	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	341.72°

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Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (273 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
0.00	0.00	82.520	0.00	0.00	0.00	0.00	1684590.37	14272035.66	39°18'08.220"N	80°50'37.850"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.000	82.520	32.00	0.00	0.00	0.00	1684590.37	14272035.66	39°18'08.220"N	80°50'37.850"W	0.00	0.000	0.00	0.00	0.00	
119.00	0.330	82.520	119.00	-0.05	0.03	0.25	1684590.62	14272035.70	39°18'08.220"N	80°50'37.847"W	0.25	82.520	0.38	0.38	94.85	Gyrodata MS Gyro <17-1/2"> (100'-320')
219.00	0.310	113.690	219.00	-0.28	-0.04	0.78	1684591.15	14272035.62	39°18'08.220"N	80°50'37.840"W	0.78	92.826	0.17	-0.02	31.17	
319.00	0.520	112.820	319.00	-0.76	-0.32	1.45	1684591.82	14272035.34	39°18'08.217"N	80°50'37.832"W	1.48	102.588	0.21	0.21	-0.87	
339.00	0.490	106.600	338.99	-0.87	-0.38	1.61	1684591.98	14272035.28	39°18'08.216"N	80°50'37.829"W	1.66	103.352	0.31	-0.15	-31.10	
403.00	0.260	135.140	402.99	-1.16	-0.56	1.98	1684592.35	14272035.10	39°18'08.214"N	80°50'37.825"W	2.06	105.916	0.45	-0.36	44.59	Gyrodata MS Gyro <12-1/4"> (320')(384'-998')
463.00	0.520	128.620	462.99	-1.51	-0.83	2.29	1684592.65	14272034.83	39°18'08.212"N	80°50'37.821"W	2.43	109.959	0.44	0.43	-10.87	
524.00	1.160	126.620	523.98	-2.24	-1.37	3.00	1684593.37	14272034.29	39°18'08.206"N	80°50'37.812"W	3.30	114.579	1.05	1.05	-3.28	
584.00	1.970	124.540	583.96	-3.56	-2.32	4.34	1684594.70	14272033.35	39°18'08.197"N	80°50'37.795"W	4.92	118.137	1.35	1.35	-3.47	
645.00	2.760	126.950	644.91	-5.60	-3.80	6.37	1684596.74	14272031.87	39°18'08.182"N	80°50'37.769"W	7.42	120.779	1.31	1.30	3.95	
705.00	3.680	124.980	704.81	-8.33	-5.77	9.11	1684599.47	14272029.90	39°18'08.163"N	80°50'37.734"W	10.78	122.355	1.54	1.53	-3.28	
764.00	4.560	121.260	763.66	-11.63	-8.07	12.66	1684603.03	14272027.60	39°18'08.140"N	80°50'37.689"W	15.01	122.515	1.56	1.49	-6.31	
828.00	5.390	120.580	827.42	-15.83	-10.92	17.42	1684607.79	14272024.75	39°18'08.112"N	80°50'37.629"W	20.56	122.077	1.30	1.30	-1.06	
891.00	5.740	121.880	890.12	-20.48	-14.09	22.65	1684613.01	14272021.58	39°18'08.080"N	80°50'37.562"W	26.67	121.887	0.59	0.56	2.06	
954.00	5.780	124.030	952.80	-25.41	-17.53	27.95	1684618.31	14272018.14	39°18'08.046"N	80°50'37.495"W	32.99	122.093	0.35	0.06	3.41	
1017.00	6.190	126.300	1015.46	-30.69	-21.31	33.32	1684623.67	14272014.36	39°18'08.009"N	80°50'37.427"W	39.55	122.609	0.75	0.65	3.60	
1136.00	6.660	128.880	1133.71	-41.72	-29.44	43.86	1684634.21	14272006.23	39°18'07.928"N	80°50'37.293"W	52.83	123.875	0.46	0.39	2.17	Directional ONE MWD <12-1/4"> (998')(1117'-2526')
1199.00	5.140	128.690	1196.38	-47.15	-33.50	48.91	1684639.26	14272002.17	39°18'07.888"N	80°50'37.229"W	59.28	124.412	2.41	-2.41	-0.30	
1262.00	4.240	127.340	1259.17	-51.44	-36.68	52.96	1684643.31	14271999.00	39°18'07.857"N	80°50'37.177"W	64.42	124.705	1.44	-1.43	-2.14	
1326.00	3.030	131.150	1323.04	-54.85	-39.23	56.12	1684646.46	14271996.45	39°18'07.831"N	80°50'37.137"W	68.47	124.955	1.93	-1.89	5.95	
1388.00	1.860	136.150	1384.98	-57.17	-41.03	58.05	1684648.39	14271994.65	39°18'07.813"N	80°50'37.112"W	71.08	125.255	1.92	-1.89	8.06	
1452.00	1.710	139.380	1448.95	-58.99	-42.50	59.39	1684649.73	14271993.18	39°18'07.799"N	80°50'37.095"W	73.03	125.592	0.28	-0.23	5.05	
1514.00	1.860	134.360	1510.92	-60.74	-43.91	60.71	1684651.05	14271991.77	39°18'07.785"N	80°50'37.079"W	74.93	125.877	0.35	0.24	-8.10	
1578.00	1.110	134.910	1574.90	-62.21	-45.07	61.89	1684652.24	14271990.61	39°18'07.773"N	80°50'37.064"W	76.57	126.065	1.17	-1.17	0.86	
1641.00	0.880	130.270	1637.89	-63.17	-45.82	62.69	1684653.04	14271989.86	39°18'07.766"N	80°50'37.054"W	77.65	126.160	0.39	-0.37	-7.37	
1704.00	0.600	326.580	1700.88	-63.26	-45.86	62.88	1684653.22	14271989.83	39°18'07.766"N	80°50'37.051"W	77.82	126.101	2.33	-0.44	-259.83	
1768.00	1.340	326.750	1764.88	-62.22	-44.95	62.29	1684652.63	14271990.73	39°18'07.775"N	80°50'37.059"W	76.81	125.817	1.16	1.16	0.27	
1831.00	1.310	316.040	1827.86	-60.86	-43.82	61.38	1684651.73	14271991.87	39°18'07.786"N	80°50'37.070"W	75.42	125.520	0.40	-0.05	-17.00	
1894.00	1.270	304.580	1890.84	-59.65	-42.90	60.31	1684650.65	14271992.78	39°18'07.795"N	80°50'37.084"W	74.01	125.427	0.41	-0.06	-18.19	

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Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (273 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
1957.00	1.070	285.310	1953.83	-58.77	-42.35	59.16	1684649.51	14271993.33	39°18'07.800"N	80°50'37.098"W	72.76	125.594	0.70	-0.32	-30.59	
2020.00	1.220	292.120	2016.82	-58.01	-41.94	57.98	1684648.32	14271993.74	39°18'07.804"N	80°50'37.113"W	71.56	125.883	0.32	0.24	10.81	
2084.00	1.130	291.350	2080.80	-57.17	-41.45	56.76	1684647.10	14271994.22	39°18'07.809"N	80°50'37.129"W	70.28	126.144	0.14	-0.14	-1.20	
2147.00	1.290	299.430	2143.79	-56.24	-40.88	55.56	1684645.91	14271994.80	39°18'07.815"N	80°50'37.144"W	68.98	126.345	0.37	0.25	12.83	
2210.00	1.210	298.550	2206.77	-55.23	-40.21	54.36	1684644.71	14271995.47	39°18'07.822"N	80°50'37.159"W	67.62	126.493	0.13	-0.13	-1.40	
2273.00	1.260	296.790	2269.76	-54.26	-39.58	53.16	1684643.50	14271996.10	39°18'07.828"N	80°50'37.175"W	66.28	126.674	0.10	0.08	-2.79	
2336.00	1.310	291.590	2332.74	-53.31	-39.01	51.87	1684642.22	14271996.67	39°18'07.834"N	80°50'37.191"W	64.90	126.944	0.20	0.08	-8.25	
2399.00	1.220	301.500	2395.73	-52.33	-38.39	50.63	1684640.98	14271997.29	39°18'07.840"N	80°50'37.207"W	63.54	127.173	0.37	-0.14	15.73	
2461.00	0.420	79.990	2457.72	-51.86	-38.01	50.29	1684640.64	14271997.67	39°18'07.843"N	80°50'37.211"W	63.03	127.081	2.52	-1.29	223.37	
2524.00	1.260	97.170	2520.72	-52.19	-38.05	51.20	1684641.55	14271997.63	39°18'07.843"N	80°50'37.199"W	63.79	126.619	1.38	1.33	27.27	
2545.00	1.260	102.450	2541.71	-52.41	-38.13	51.66	1684642.01	14271997.55	39°18'07.842"N	80°50'37.194"W	64.21	126.433	0.55	0.00	25.14	
2647.00	1.490	100.190	2643.68	-53.62	-38.61	54.06	1684644.40	14271997.07	39°18'07.837"N	80°50'37.163"W	66.43	125.534	0.23	0.23	-2.22	Directional ONE MWD <8-3/4"> (2526')(2628'-5629')
2710.00	1.330	97.580	2706.66	-54.32	-38.85	55.59	1684645.94	14271996.83	39°18'07.835"N	80°50'37.144"W	67.82	124.949	0.27	-0.25	-4.14	
2775.00	1.530	113.770	2771.64	-55.23	-39.30	57.13	1684647.48	14271996.38	39°18'07.831"N	80°50'37.124"W	69.34	124.523	0.69	0.31	24.91	
2838.00	2.230	131.950	2834.61	-56.86	-40.46	58.81	1684649.16	14271995.22	39°18'07.819"N	80°50'37.103"W	71.38	124.524	1.45	1.11	28.86	
2901.00	3.260	146.600	2897.54	-59.66	-42.77	60.71	1684651.05	14271992.91	39°18'07.796"N	80°50'37.079"W	74.26	125.166	1.97	1.63	23.25	
2964.00	4.480	151.470	2960.39	-63.81	-46.43	62.87	1684653.21	14271989.25	39°18'07.760"N	80°50'37.051"W	78.16	126.445	2.00	1.94	7.73	
3027.00	5.690	155.750	3023.14	-69.33	-51.44	65.33	1684655.67	14271984.24	39°18'07.710"N	80°50'37.020"W	83.15	128.216	2.01	1.92	6.79	
3090.00	6.810	157.530	3085.77	-76.17	-57.74	68.04	1684658.38	14271977.95	39°18'07.648"N	80°50'36.986"W	89.24	130.318	1.80	1.78	2.83	
3153.00	7.700	155.200	3148.26	-84.08	-65.02	71.24	1684661.58	14271970.67	39°18'07.576"N	80°50'36.945"W	96.45	132.388	1.49	1.41	-3.70	
3216.00	8.320	147.990	3210.65	-92.71	-72.72	75.42	1684665.76	14271962.97	39°18'07.500"N	80°50'36.892"W	104.77	133.954	1.87	0.98	-11.44	
3279.00	9.140	143.120	3272.92	-101.88	-80.59	80.84	1684671.18	14271955.11	39°18'07.422"N	80°50'36.823"W	114.15	134.909	1.75	1.30	-7.73	
3342.00	9.960	140.720	3335.05	-111.71	-88.81	87.30	1684677.63	14271946.89	39°18'07.341"N	80°50'36.741"W	124.53	135.491	1.45	1.30	-3.81	
3405.00	10.580	137.520	3397.04	-122.07	-97.29	94.65	1684684.98	14271938.41	39°18'07.257"N	80°50'36.648"W	135.73	135.787	1.34	0.98	-5.08	
3468.00	11.500	129.770	3458.88	-132.67	-105.57	103.38	1684693.71	14271930.13	39°18'07.175"N	80°50'36.537"W	147.76	135.600	2.77	1.46	-12.30	
3531.00	11.880	129.780	3520.57	-143.50	-113.74	113.19	1684703.52	14271921.97	39°18'07.094"N	80°50'36.413"W	160.47	135.137	0.60	0.60	0.02	
3594.00	11.650	127.630	3582.25	-154.27	-121.77	123.22	1684713.54	14271913.94	39°18'07.014"N	80°50'36.285"W	173.24	134.662	0.79	-0.37	-3.41	
3657.00	10.860	129.120	3644.03	-164.54	-129.40	132.86	1684723.17	14271906.31	39°18'06.939"N	80°50'36.163"W	185.46	134.244	1.34	-1.25	2.37	
3720.00	11.670	129.630	3705.82	-174.94	-137.21	142.37	1684732.68	14271898.51	39°18'06.861"N	80°50'36.042"W	197.73	133.942	1.30	1.29	0.81	
3784.00	12.530	132.450	3768.40	-186.48	-146.02	152.48	1684742.79	14271889.70	39°18'06.774"N	80°50'35.914"W	211.12	133.761	1.63	1.34	4.41	

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040

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Operator	ANTERO RESOURCES CORPORATION
Area	Doddrige Co., WV
Field	Doddrige
Facility	Balli Pad
	Hawk Unit 1H
	Wellbore
	Hawk Unit 1H AWB
	Slot
	Slot #11

WELLPATH DATA (273 stations)

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
3847.00	13.400	135.410	3829.79	-198.99	-155.83	162.65	1684752.95	14271879.89	39°18'06.67"N	80°50'35.78"W	225.25	133.775	1.74	1.38	4.70	
3910.00	14.320	134.880	3890.96	-212.48	-166.53	173.29	1684763.59	14271869.20	39°18'06.57"N	80°50'35.64"W	240.34	133.860	1.47	1.46	-0.84	
3973.00	15.170	132.260	3951.88	-226.61	-177.57	184.91	1684775.21	14271858.16	39°18'06.462"N	80°50'35.502"W	256.37	133.840	1.71	1.35	-4.16	
4036.00	14.050	132.760	4012.84	-240.48	-188.31	196.63	1684786.92	14271847.43	39°18'06.355"N	80°50'35.353"W	272.26	133.762	1.79	1.78	0.79	
4100.00	13.420	130.290	4075.01	-253.61	-198.39	208.00	1684798.28	14271837.36	39°18'06.256"N	80°50'35.208"W	287.44	133.645	1.34	-0.98	-3.86	
4163.00	14.350	134.180	4136.17	-266.78	-208.55	219.17	1684809.46	14271827.19	39°18'06.155"N	80°50'35.067"W	302.54	133.578	2.09	1.48	6.17	
4226.00	14.140	140.230	4197.24	-280.86	-219.91	229.70	1684819.97	14271815.84	39°18'06.043"N	80°50'34.933"W	318.00	133.753	2.39	-0.33	9.60	
4292.00	13.630	133.910	4222.61	-308.13	-241.63	250.89	1684841.16	14271794.13	39°18'05.828"N	80°50'34.664"W	348.32	133.922	0.45	-1.20	-9.24	
4355.00	13.910	134.910	4322.61	-308.13	-241.63	250.89	1684841.16	14271794.13	39°18'05.828"N	80°50'34.664"W	348.32	133.922	0.45	-1.20	-9.24	
4418.00	13.810	132.640	4383.84	-321.16	-251.79	261.70	1684851.96	14271783.98	39°18'05.727"N	80°50'34.527"W	363.16	133.894	0.51	-0.03	-2.17	
4481.00	14.200	130.540	4445.00	-334.25	-261.82	273.03	1684863.29	14271773.95	39°18'05.628"N	80°50'34.383"W	378.28	133.799	1.21	0.94	-3.17	
4544.00	13.270	129.350	4506.19	-346.97	-271.43	284.50	1684874.75	14271764.34	39°18'05.532"N	80°50'34.237"W	393.21	133.653	1.54	-1.48	-1.89	
4607.00	12.260	126.620	4567.64	-358.55	-280.00	295.46	1684885.71	14271755.77	39°18'05.447"N	80°50'34.088"W	407.06	133.461	1.87	-1.60	-4.33	
4671.00	13.770	131.040	4629.99	-370.66	-289.06	306.66	1684896.90	14271746.72	39°18'05.358"N	80°50'33.955"W	421.42	133.308	2.82	2.36	6.91	
4734.00	15.350	136.170	4690.97	-384.63	-300.00	318.09	1684908.33	14271735.79	39°18'05.249"N	80°50'33.810"W	437.24	133.323	3.24	2.51	8.14	
4797.00	14.700	136.830	4751.82	-399.40	-311.84	329.33	1684919.57	14271723.95	39°18'05.132"N	80°50'33.668"W	453.55	133.437	1.07	-1.03	1.05	
4860.00	14.120	134.870	4812.83	-413.51	-323.09	340.25	1684930.48	14271712.70	39°18'05.021"N	80°50'33.529"W	469.21	133.519	1.20	-0.92	-3.11	
4923.00	14.040	131.890	4873.94	-427.00	-333.62	351.38	1684941.61	14271702.18	39°18'04.917"N	80°50'33.388"W	484.53	133.514	1.16	-0.13	-4.73	
4986.00	13.380	128.270	4935.15	-439.71	-343.23	362.80	1684953.02	14271692.57	39°18'04.821"N	80°50'33.243"W	499.43	133.413	1.72	-1.05	-5.75	
5049.00	12.580	128.140	4986.54	-451.51	-351.99	373.91	1684964.13	14271683.82	39°18'04.735"N	80°50'33.101"W	513.52	133.270	1.27	-1.27	-0.21	
5112.00	13.580	128.090	5057.90	-463.38	-360.79	385.13	1684975.35	14271675.02	39°18'04.647"N	80°50'32.959"W	527.72	133.131	1.59	1.59	-0.08	
5175.00	13.060	135.360	5180.46	-488.98	-380.67	406.57	1684986.78	14271665.15	39°18'04.451"N	80°50'32.866"W	556.96	133.115	0.92	-0.76	2.17	
5238.00	13.060	135.360	5180.46	-488.98	-380.67	406.57	1684986.78	14271665.15	39°18'04.451"N	80°50'32.866"W	556.96	133.115	0.92	-0.76	2.17	
5301.00	13.890	137.120	5241.72	-502.24	-391.27	416.72	1685006.92	14271644.55	39°18'04.346"N	80°50'32.558"W	571.62	133.196	1.47	1.32	2.79	
5364.00	14.250	136.690	5302.83	-516.14	-402.46	427.19	1685017.38	14271633.37	39°18'04.235"N	80°50'32.425"W	586.91	133.293	0.60	0.57	-0.68	
5427.00	13.090	137.020	5364.05	-529.65	-413.32	437.37	1685027.56	14271622.51	39°18'04.127"N	80°50'32.295"W	601.77	133.381	1.85	-1.84	0.52	
5490.00	12.830	135.500	5425.44	-542.40	-423.53	447.14	1685037.33	14271612.31	39°18'04.026"N	80°50'32.171"W	615.88	133.447	0.68	-0.41	-2.41	
5553.00	12.430	134.570	5486.92	-554.71	-433.27	456.87	1685047.05	14271602.56	39°18'03.930"N	80°50'32.048"W	629.65	133.482	0.71	-0.63	-1.48	
5616.00	12.780	136.830	5548.40	-567.06	-443.11	466.47	1685056.65	14271592.73	39°18'03.832"N	80°50'31.926"W	643.38	133.529	0.96	0.56	3.58	
5648.00	12.520	138.840	5579.62	-573.47	-448.31	471.17	1685061.35	14271587.54	39°18'03.781"N	80°50'31.866"W	650.37	133.575	1.60	-0.81	6.28	

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #11
Area	Doddridge Co., WV		Well	Hawk Unit 1H
Field	Doddridge		Wellbore	Hawk Unit 1H AWB
Facility	Ball Pad			

WELLPATH DATA (273 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]			[ft]	[°]	[°/100ft]	[°/100ft]	[°/100ft]	
5691.00	13.530	136.280	5621.52	-582.31	-455.45	477.71	1685067.89	14271580.39	39°18'03.710"N	80°50'31.783"W	660.04	133.633	2.70	2.35	-5.95	BHI AT Curve <8-1/2"> (5648')(5691'-21016')
5725.00	13.910	134.840	5654.55	-589.54	-461.21	483.36	1685073.54	14271574.64	39°18'03.653"N	80°50'31.712"W	668.09	133.656	1.50	1.12	-4.24	
5819.00	11.920	133.880	5746.16	-608.21	-475.90	498.37	1685088.54	14271559.95	39°18'03.508"N	80°50'31.521"W	689.10	133.679	2.13	-2.12	-1.02	
5866.00	10.110	132.450	5792.30	-616.10	-482.05	504.91	1685095.08	14271553.80	39°18'03.447"N	80°50'31.438"W	698.08	133.673	3.89	-3.85	-3.04	
5914.00	5.870	117.710	5839.82	-621.54	-486.04	510.20	1685100.36	14271549.82	39°18'03.407"N	80°50'31.371"W	704.66	133.611	9.74	-8.83	-30.71	
5961.00	4.850	85.210	5886.63	-623.74	-486.99	514.31	1685104.47	14271548.86	39°18'03.398"N	80°50'31.318"W	708.29	133.437	6.71	-2.17	-69.15	
6009.00	5.950	64.460	5934.42	-623.89	-485.75	518.58	1685108.74	14271550.11	39°18'03.410"N	80°50'31.264"W	710.54	133.128	4.63	2.29	-43.23	
6056.00	8.460	41.870	5981.05	-621.86	-482.12	523.08	1685113.24	14271553.73	39°18'03.446"N	80°50'31.207"W	711.38	132.667	7.96	5.34	-48.06	
6104.00	11.970	26.920	6028.29	-616.60	-475.05	527.69	1685117.85	14271560.80	39°18'03.516"N	80°50'31.148"W	710.03	131.995	9.11	7.31	-31.15	
6151.00	14.940	20.220	6074.00	-608.42	-485.02	532.00	1685122.15	14271570.83	39°18'03.615"N	80°50'31.093"W	706.59	131.157	7.13	6.32	-14.26	
6199.00	18.080	17.180	6120.02	-597.51	-452.09	536.34	1685126.49	14271583.75	39°18'03.742"N	80°50'31.037"W	701.46	130.129	6.78	6.54	-6.33	
6246.00	21.820	13.260	6164.19	-584.12	-436.62	540.50	1685130.65	14271599.22	39°18'03.895"N	80°50'30.984"W	694.82	128.932	8.45	7.96	-8.34	
6294.00	26.160	8.480	6208.04	-567.06	-417.46	544.10	1685134.26	14271618.37	39°18'04.085"N	80°50'30.938"W	685.80	127.497	9.90	9.04	-9.96	
6341.00	30.330	3.560	6249.44	-546.78	-395.36	546.37	1685136.52	14271640.47	39°18'04.303"N	80°50'30.909"W	674.41	125.890	10.16	8.87	-10.47	
6389.00	33.910	0.150	6290.09	-522.82	-369.86	547.16	1685137.31	14271665.95	39°18'04.555"N	80°50'30.898"W	660.44	124.057	8.36	7.46	-7.10	
6436.00	37.510	356.620	6328.25	-496.54	-342.45	546.35	1685136.50	14271693.35	39°18'04.826"N	80°50'30.908"W	644.80	122.080	8.82	7.66	-7.51	
6483.00	40.680	353.680	6364.72	-467.72	-312.93	543.82	1685133.97	14271722.85	39°18'05.118"N	80°50'30.939"W	627.43	119.918	7.81	6.74	-6.26	
6530.00	44.110	351.090	6399.43	-436.58	-281.54	539.60	1685129.75	14271754.24	39°18'05.428"N	80°50'30.992"W	608.63	117.554	8.19	7.30	-5.51	
6564.00†	46.840	349.503	6423.27	-412.61	-257.65	535.50	1685125.66	14271778.12	39°18'05.664"N	80°50'31.044"W	594.26	115.694	8.69	8.03	-4.67	Middlesex: 6564' MD
6578.00	47.970	348.890	6432.75	-402.39	-247.53	533.57	1685123.73	14271788.24	39°18'05.764"N	80°50'31.068"W	588.19	114.887	8.69	8.07	-4.38	
6625.00	52.110	347.120	6462.93	-366.59	-212.30	526.07	1685116.23	14271823.45	39°18'06.113"N	80°50'31.163"W	567.29	111.977	9.27	8.81	-3.77	
6673.00	55.930	345.800	6491.12	-327.89	-174.55	516.97	1685107.13	14271861.18	39°18'06.486"N	80°50'31.278"W	545.64	108.657	8.26	7.96	-2.75	
6720.00	59.200	345.060	6516.33	-288.31	-136.16	506.99	1685097.15	14271899.55	39°18'06.866"N	80°50'31.404"W	524.95	105.033	7.08	6.96	-1.57	
6767.00	63.130	344.240	6538.99	-247.20	-96.47	496.08	1685086.25	14271939.23	39°18'07.258"N	80°50'31.542"W	505.38	101.004	8.50	8.36	-1.74	
6776.00†	63.863	344.298	6543.01	-239.16	-88.72	493.90	1685084.07	14271946.98	39°18'07.335"N	80°50'31.569"W	501.80	100.183	8.17	8.15	0.65	Burket: 6776' MD
6814.00	66.960	344.540	6558.82	-204.65	-55.44	484.62	1685074.80	14271980.25	39°18'07.664"N	80°50'31.686"W	487.78	96.526	8.17	8.15	0.63	
6851.00†	69.797	344.183	6572.45	-170.29	-22.32	475.35	1685065.53	14272013.36	39°18'07.991"N	80°50'31.804"W	475.87	92.688	7.72	7.67	-0.96	Fully: 6851' MD
6862.00	70.640	344.080	6576.17	-159.95	-12.36	472.52	1685062.70	14272023.31	39°18'08.090"N	80°50'31.839"W	472.68	91.498	7.72	7.67	-0.94	
6909.00	73.910	342.320	6590.48	-115.20	30.49	459.58	1685049.76	14272066.14	39°18'08.513"N	80°50'32.003"W	460.59	86.205	7.82	6.96	-3.74	
6956.00	76.680	340.920	6602.41	-69.75	73.62	445.24	1685035.43	14272109.26	39°18'08.940"N	80°50'32.185"W	451.29	80.811	6.56	5.89	-2.98	

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Hawk Unit 1H AWP Proj: 21040

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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Balli Pad
	Hawk Unit 1H	Well	Hawk Unit 1H AWB
	Slot #11	Wellbore	

WELLPATH DATA (273 stations) † = interpolated/extrapolated station												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
ft	°	°	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft

6976.00†	77.56†	340.890	6606.87	-50.25	92.05	438.86	1685029.05	14272127.67	39°18'09.122"N	80°50'32.265"W	448.41	78.154
7003.00	78.750	340.850	6612.41	-23.83	117.01	430.20	1685020.40	14272152.63	39°18'09.369"N	80°50'32.375"W	445.83	74.784
7051.00	81.450	342.450	6620.66	23.45	161.89	415.32	1685005.52	14272197.49	39°18'09.813"N	80°50'32.563"W	445.76	68.705
7098.00	86.980	343.710	6625.40	70.18	206.61	401.72	1684991.93	14272242.19	39°18'10.255"N	80°50'32.735"W	451.74	62.783
7145.00	89.690	344.450	6626.77	117.11	251.78	388.83	1684979.05	14272287.34	39°18'10.702"N	80°50'32.898"W	463.23	57.076
7240.00	89.780	342.940	6627.20	212.05	342.96	362.16	1684952.39	14272378.48	39°18'11.603"N	80°50'33.235"W	498.78	46.560
7335.00	89.600	341.720	6627.72	307.04	433.47	333.33	1684923.56	14272468.96	39°18'12.499"N	80°50'33.600"W	546.81	37.559
7430.00	89.570	336.150	6628.41	401.98	522.69	300.75	1684891.00	14272558.15	39°18'13.381"N	80°50'34.013"W	603.04	29.916
7525.00	89.570	336.540	6629.12	496.70	610.36	264.17	1684854.43	14272645.78	39°18'14.248"N	80°50'34.476"W	665.07	23.403
7620.00	89.510	337.820	6629.88	591.40	697.92	227.32	1684817.60	14272733.30	39°18'15.114"N	80°50'34.943"W	734.01	18.041
7715.00	90.120	339.980	6630.19	686.27	786.54	193.13	1684783.42	14272821.89	39°18'15.991"N	80°50'35.376"W	809.91	13.795
7809.00	90.150	342.240	6629.97	780.26	875.47	162.70	1684753.00	14272910.79	39°18'16.870"N	80°50'35.761"W	890.46	10.528
7904.00	90.060	343.310	6629.79	875.24	966.21	134.57	1684724.88	14273001.49	39°18'17.767"N	80°50'36.117"W	975.54	7.929
7999.00	90.030	339.880	6629.72	970.23	1056.34	104.58	1684694.90	14273091.58	39°18'18.659"N	80°50'36.496"W	1061.50	5.654
8095.00	89.880	341.660	6630.04	1066.79	1145.49	68.99	1684659.33	14273180.68	39°18'19.540"N	80°50'36.947"W	1147.56	3.447
8190.00	89.570	341.660	6630.25	1160.91	1234.22	35.16	1684625.51	14273269.39	39°18'20.418"N	80°50'37.376"W	1234.72	1.632
8284.00	90.060	346.500	6630.55	1254.80	1324.59	9.38	1684599.75	14273359.72	39°18'21.312"N	80°50'37.702"W	1324.62	0.406
8379.00	90.060	346.190	6630.45	1349.49	1416.91	-13.04	1684577.33	14273452.00	39°18'22.224"N	80°50'37.985"W	1416.97	359.473
8474.00	89.850	345.470	6630.53	1444.25	1509.01	-36.30	1684554.08	14273544.07	39°18'23.135"N	80°50'38.279"W	1509.45	358.622
8569.00	89.880	344.010	6630.75	1539.11	1600.66	-61.30	1684529.09	14273635.69	39°18'24.041"N	80°50'38.595"W	1601.84	357.807
8664.00	89.660	340.140	6631.13	1634.09	1691.03	-90.54	1684499.87	14273726.02	39°18'24.935"N	80°50'38.965"W	1693.45	356.935
8758.00	89.820	341.480	6631.56	1728.08	1779.81	-121.43	1684468.98	14273814.76	39°18'25.813"N	80°50'39.365"W	1783.94	356.097
8846.00	90.950	347.190	6631.23	1915.76	1960.97	-171.37	1684419.06	14273995.85	39°18'27.604"N	80°50'39.987"W	1968.44	355.005
8942.00	89.970	347.570	6630.45	2011.29	2054.64	-192.35	1684398.10	14274089.48	39°18'28.531"N	80°50'40.252"W	2063.63	354.652
9042.00	90.000	342.520	6630.33	2199.00	2235.74	-242.57	1684347.90	14274270.51	39°18'30.322"N	80°50'40.887"W	2248.86	353.808
9137.00	90.000	343.930	6630.48	2146.04	2146.70	-215.73	1684374.73	14274181.51	39°18'29.441"N	80°50'40.547"W	2157.52	354.261
9225.00	90.220	339.790	6630.00	2293.99	2325.64	-273.25	1684317.23	14274360.38	39°18'31.211"N	80°50'41.275"W	2341.64	353.299
9320.00	90.180	342.520	6630.33	2199.00	2235.74	-242.57	1684347.90	14274270.51	39°18'30.322"N	80°50'40.887"W	2248.86	353.808
9422.00	90.250	336.950	6629.60	2390.81	2415.80	-309.00	1684281.49	14274450.50	39°18'32.102"N	80°50'41.728"W	2435.48	352.711
9516.00	90.310	338.980	6629.14	2484.60	2502.93	-344.27	1684246.24	14274537.59	39°18'32.964"N	80°50'42.175"W	2526.50	352.168

Marcellus POE: 6976 MD

Turn Rate Comments

Build Rate

DLS

Closure Dir

Closure Dist

Latitude

Longitude

Grid North

Grid East

North

East

Vert Sect

TVD

Inclination

Azimuth

MD

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (273 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
9611.00	89.630	340.090	6629.19	2579.53	2591.93	-377.48	1684213.04	14274626.56	39°18'33.844"N	80°50'42.595"W	2619.28	351.714	1.37	-0.72	1.17	
9706.00	90.250	342.630	6629.29	2674.52	2681.94	-407.84	1684182.69	14274716.53	39°18'34.734"N	80°50'42.980"W	2712.77	351.353	2.75	0.65	2.67	
9800.00	90.370	343.380	6628.78	2768.50	2771.83	-435.32	1684155.23	14274806.39	39°18'35.623"N	80°50'43.327"W	2805.81	351.075	0.81	0.13	0.80	
9895.00	90.370	342.190	6628.17	2863.48	2862.58	-463.43	1684127.12	14274897.09	39°18'36.521"N	80°50'43.683"W	2899.85	350.804	1.25	0.00	-1.25	
9990.00	90.150	339.380	6627.74	2958.45	2952.27	-494.70	1684095.87	14274986.76	39°18'37.408"N	80°50'44.079"W	2993.43	350.488	2.97	-0.23	-2.96	
10084.00	89.850	337.470	6627.74	3052.29	3039.68	-529.26	1684061.32	14275074.13	39°18'38.272"N	80°50'44.517"W	3085.42	350.123	2.06	-0.32	-2.03	
10179.00	90.150	339.180	6627.74	3147.12	3127.96	-564.35	1684026.25	14275162.37	39°18'39.145"N	80°50'44.961"W	3178.46	349.773	1.83	0.32	1.80	
10275.00	89.570	339.900	6627.97	3243.05	3217.91	-597.90	1683992.71	14275252.28	39°18'40.035"N	80°50'45.386"W	3272.98	349.474	0.96	-0.60	0.75	
10369.00	89.940	342.220	6628.38	3337.04	3306.81	-628.41	1683962.21	14275341.15	39°18'40.914"N	80°50'45.772"W	3365.99	349.240	2.50	0.39	2.47	
10465.00	90.090	341.550	6628.35	3433.04	3398.05	-658.26	1683932.37	14275432.35	39°18'41.816"N	80°50'46.150"W	3461.22	349.037	0.72	0.16	-0.70	
10560.00	89.820	341.360	6628.43	3528.04	3488.12	-688.47	1683902.17	14275522.39	39°18'42.707"N	80°50'46.532"W	3555.41	348.835	0.35	-0.28	-0.20	
10654.00	90.090	339.430	6628.50	3622.01	3576.66	-720.01	1683870.65	14275610.90	39°18'43.583"N	80°50'46.932"W	3648.42	348.618	2.07	0.29	-2.05	
10750.00	89.940	339.520	6628.47	3717.93	3666.57	-753.67	1683837.00	14275700.77	39°18'44.472"N	80°50'47.358"W	3743.23	348.385	0.18	-0.16	0.09	
10844.00	90.120	340.660	6628.43	3811.89	3754.95	-785.68	1683805.00	14275789.11	39°18'45.346"N	80°50'47.763"W	3836.27	348.182	1.23	0.19	1.21	
10939.00	90.150	340.650	6628.20	3906.88	3844.59	-817.15	1683773.55	14275878.71	39°18'46.232"N	80°50'48.162"W	3930.47	348.001	0.03	0.03	-0.01	
11035.00	90.120	342.940	6627.98	4002.87	3935.77	-847.14	1683743.57	14275969.86	39°18'47.134"N	80°50'48.541"W	4025.91	347.853	2.39	-0.03	2.39	
11130.00	90.150	345.330	6627.75	4097.78	4027.15	-873.11	1683717.61	14276061.20	39°18'48.038"N	80°50'48.970"W	4120.71	347.767	2.52	0.03	2.52	
11226.00	90.000	344.820	6627.63	4193.61	4119.91	-897.83	1683692.89	14276153.92	39°18'48.955"N	80°50'49.182"W	4216.60	347.706	0.55	-0.16	-0.53	
11321.00	89.750	344.820	6627.83	4288.47	4211.59	-922.71	1683668.03	14276245.57	39°18'49.862"N	80°50'49.497"W	4311.49	347.642	0.26	-0.26	0.00	
11415.00	89.450	343.730	6628.49	4382.38	4302.07	-948.18	1683642.56	14276336.02	39°18'50.756"N	80°50'49.819"W	4405.32	347.571	1.20	-0.32	-1.16	
11509.00	89.720	344.810	6629.17	4476.28	4392.55	-973.67	1683617.09	14276426.46	39°18'51.651"N	80°50'50.141"W	4499.17	347.502	1.18	0.29	1.15	
11604.00	89.690	345.250	6629.66	4571.12	4484.32	-998.21	1683592.56	14276518.19	39°18'52.558"N	80°50'50.452"W	4594.08	347.451	0.46	-0.03	0.46	
11699.00	89.690	343.590	6630.17	4666.01	4575.83	-1023.72	1683567.06	14276609.66	39°18'53.463"N	80°50'50.774"W	4688.94	347.389	1.75	0.00	-1.75	
11794.00	89.780	342.100	6630.61	4760.99	4666.60	-1051.74	1683539.05	14276700.39	39°18'54.361"N	80°50'51.129"W	4783.65	347.299	1.57	0.09	-1.57	
11888.00	89.800	340.310	6631.12	4854.98	4755.58	-1082.02	1683508.78	14276789.34	39°18'55.241"N	80°50'51.512"W	4877.12	347.182	1.91	-0.18	-1.90	
11983.00	89.200	340.080	6632.12	4949.94	4844.96	-1114.21	1683476.60	14276878.68	39°18'56.125"N	80°50'51.920"W	4971.42	347.049	0.49	-0.42	-0.24	
12077.00	89.540	341.600	6633.15	5043.92	4933.74	-1145.06	1683445.77	14276967.43	39°18'57.003"N	80°50'52.310"W	5064.87	346.934	1.86	0.36	1.62	
12172.00	89.660	347.730	6633.81	5138.75	5025.31	-1170.17	1683420.67	14277058.97	39°18'57.908"N	80°50'52.628"W	5159.75	346.892	6.45	0.13	6.45	
12267.00	89.970	352.640	6634.12	5232.68	5118.89	-1186.36	1683404.48	14277152.51	39°18'58.833"N	80°50'52.832"W	5254.57	346.951	5.18	0.33	5.17	
12361.00	90.490	356.610	6633.74	5324.29	5212.46	-1195.16	1683395.68	14277246.04	39°18'59.758"N	80°50'52.942"W	5347.72	347.086	4.26	0.55	4.22	

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddrige Co., WV	Well	Hawk Unit 1H
Field	Doddrige	Wellbore	Hawk Unit 1H AWP
Facility	Balli Pad		

WELLPATH DATA (273 stations)

MD	Inclination	Azimuth	TVD	Vent Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
12456.00	90.250	663.13	5418.58	5307.15	-1202.76	1683888.08	14277340.69	39°19'00.694"N	80°50'53.037"W	5441.73	347.231	2.64	-0.25	-2.53		
12550.00	90.220	663.74	5509.09	5400.17	-1216.09	1683374.77	14277433.67	39°19'01.614"N	80°50'53.204"W	5535.40	347.309	5.02	-0.03	-5.02		
12644.00	90.680	346.180	5602.01	5602.54	5492.04	1683354.97	14277525.51	39°19'02.522"N	80°50'53.454"W	5629.38	347.318	3.66	0.49	-3.52		
12739.00	90.180	340.690	6631.29	5697.46	5583.06	1683297.97	14277616.49	39°19'03.422"N	80°50'53.797"W	5724.13	347.253	5.80	-0.53	-5.78		
12834.00	90.180	338.100	6630.99	5792.37	5671.98	1683294.49	14277705.37	39°19'04.302"N	80°50'54.220"W	5818.24	347.126	2.73	0.00	-2.73		
12929.00	90.180	335.000	6630.70	5886.97	5759.12	1683256.71	14277792.48	39°19'05.164"N	80°50'54.699"W	5911.64	346.957	3.26	0.00	-3.26		
13023.00	90.000	330.840	6630.55	5979.84	5842.80	1683233.94	14277876.12	39°19'05.991"N	80°50'55.242"W	6002.86	346.739	4.43	-0.19	-4.43		
13118.00	90.620	327.240	6630.03	6072.51	5924.25	1683165.10	14277957.54	39°19'06.797"N	80°50'55.862"W	6093.42	346.467	3.85	0.65	-3.79		
13213.00	89.970	327.550	6629.54	6164.55	6004.27	1683113.93	14278037.54	39°19'07.589"N	80°50'56.511"W	6183.28	346.180	0.76	-0.68	0.33		
13308.00	89.880	333.830	6629.87	6257.75	6087.07	1683067.47	14278120.30	39°19'08.408"N	80°50'57.101"W	6274.83	345.948	6.61	-0.09	6.61		
13402.00	90.060	340.630	6629.72	6351.41	6173.69	1683033.12	14278206.89	39°19'09.265"N	80°50'57.562"W	6367.71	345.820	7.24	0.19	7.23		
13497.00	89.940	343.670	6629.72	6446.40	6264.11	1683002.02	14278297.27	39°19'10.159"N	80°50'57.930"W	6462.50	345.766	3.20	-0.13	3.20		
13591.00	89.970	342.070	6629.79	6540.37	6333.94	1682974.34	14278387.06	39°19'11.047"N	80°50'58.281"W	6556.38	345.725	1.70	0.03	-1.70		
13685.00	89.660	339.330	6630.10	6634.35	6442.64	1682943.29	14278475.73	39°19'11.925"N	80°50'58.674"W	6650.02	345.654	2.93	-0.33	-2.91		
13780.00	89.630	340.040	6630.68	6729.29	6531.73	1682910.32	14278564.79	39°19'12.806"N	80°50'59.092"W	6744.51	345.570	0.75	-0.03	0.75		
13875.00	89.660	340.930	6631.27	6824.26	6621.27	1682878.60	14278654.29	39°19'13.691"N	80°50'59.494"W	6839.13	345.499	0.94	0.03	0.94		
13969.00	89.750	339.980	6631.76	6918.24	6709.85	1682844.16	14278742.84	39°19'14.567"N	80°50'59.892"W	6932.77	345.431	1.02	0.10	-1.01		
14064.00	89.540	342.140	6632.35	7013.22	6799.70	1682816.34	14278832.65	39°19'15.456"N	80°51'00.283"W	7027.49	345.372	2.28	-0.22	2.27		
14159.00	89.720	346.060	6632.96	7108.12	6891.05	1682790.33	14278923.96	39°19'16.359"N	80°51'00.612"W	7122.45	345.355	4.13	0.19	4.13		
14255.00	89.970	347.060	6633.22	7203.78	6984.42	1682768.03	14279017.29	39°19'17.282"N	80°51'00.894"W	7218.43	345.371	1.07	0.26	1.04		
14349.00	90.520	346.440	6632.82	7297.41	7075.92	1682746.49	14279108.75	39°19'18.187"N	80°51'01.166"W	7312.40	345.389	0.88	0.59	-0.66		
14443.00	90.060	341.410	6632.34	7391.31	7166.21	1682720.49	14279199.01	39°19'19.080"N	80°51'01.495"W	7406.34	345.370	5.37	-0.49	-5.35		
14538.00	89.780	339.920	6632.47	7486.29	7255.85	1682689.05	14279288.61	39°19'19.966"N	80°51'01.893"W	7501.02	345.311	1.60	-0.29	-1.57		
14632.00	89.660	341.410	6632.93	7580.27	7344.54	1682657.94	14279377.27	39°19'20.843"N	80°51'02.288"W	7594.71	345.253	1.59	-0.13	1.59		
14728.00	89.780	340.120	6633.40	7676.26	7435.18	1682626.32	14279467.87	39°19'21.740"N	80°51'02.688"W	7690.41	345.197	1.35	0.12	-1.34		
14822.00	89.570	337.950	6633.94	7770.15	7522.95	1682592.71	14279555.61	39°19'22.608"N	80°51'03.114"W	7783.87	345.123	2.32	-0.22	-2.31		
14917.00	89.600	338.120	6634.62	7864.95	7611.05	1682557.19	14279643.67	39°19'23.479"N	80°51'03.564"W	7878.15	345.038	0.18	0.03	0.18		
15013.00	89.600	338.300	6635.29	7960.76	7700.19	1682521.57	14279732.78	39°19'24.361"N	80°51'04.016"W	7973.48	344.956	0.19	0.00	0.19		
15107.00	89.750	338.040	6635.83	8054.58	7787.45	1682486.63	14279820.00	39°19'25.224"N	80°51'04.459"W	8066.82	344.877	0.32	0.16	-0.28		
15203.00	90.090	339.800	6635.96	8150.46	7877.02	1682452.11	14279908.54	39°19'26.110"N	80°51'04.896"W	8162.31	344.807	1.87	0.35	1.83		

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Balli Pad
	Hawk Unit 1H	Hawk Unit 1H AWP	
	Slot #11	Wellbore	

WELLPATH DATA (273 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
(m)	(°)	(°)	(m)	(m)	(m)	(m)	(US M)	(US M)	(°N)	(°W)	(m)	(°)
15298.00	90.186	340.900	6635.74	8245.43	7966.49	-2171.06	1682420.18	14279998.97	39°19'26.994"N	80°51'05.301"W	8267.02	344.756
15393.00	90.180	341.870	6635.44	8340.43	8056.52	-2201.38	1682389.87	14280088.96	39°19'27.885"N	80°51'05.685"W	8351.86	344.717
15488.00	90.120	342.720	6635.19	8435.43	8147.02	-2230.27	1682360.99	14280179.42	39°19'28.780"N	80°51'06.051"W	8446.77	344.690
15583.00	90.120	343.270	6634.99	8530.40	8237.86	-2258.05	1682333.22	14280270.23	39°19'29.678"N	80°51'06.402"W	8541.73	344.671
15677.00	90.430	344.290	6634.54	8624.34	8328.12	-2284.31	1682306.97	14280360.45	39°19'30.570"N	80°51'06.735"W	8635.72	344.662
15773.00	90.180	344.140	6634.03	8720.25	-2310.42	1682280.87	14280452.79	14280452.79	39°19'31.484"N	80°51'07.065"W	8731.71	344.657
15868.00	90.150	342.990	6633.75	8815.19	8511.61	-2337.30	1682254.00	14280543.87	39°19'32.385"N	80°51'07.405"W	8826.69	344.645
15963.00	90.150	339.330	6633.51	8910.19	8601.78	-2367.19	1682224.12	14280634.00	39°19'33.276"N	80°51'07.784"W	8921.56	344.613
16058.00	90.220	339.240	6633.20	9005.13	8690.93	-2400.02	1682191.31	14280723.11	39°19'34.158"N	80°51'08.199"W	9016.22	344.562
16153.00	90.740	340.230	6632.40	9100.07	8780.04	-2432.92	1682158.42	14280812.19	39°19'35.039"N	80°51'08.616"W	9110.88	344.612
16248.00	90.310	340.580	6631.53	9195.04	8869.53	-2464.79	1682126.56	14280901.65	39°19'35.924"N	80°51'09.020"W	9205.64	344.470
16343.00	90.280	341.160	6631.04	9290.03	8959.28	-2495.94	1682095.43	14280991.36	39°19'36.812"N	80°51'09.415"W	9300.45	344.433
16438.00	90.280	342.950	6630.58	9385.02	9049.65	-2525.21	1682066.17	14281081.69	39°19'37.706"N	80°51'09.785"W	9395.36	344.409
16533.00	90.150	342.820	6630.22	9480.00	9140.44	-2553.17	1682038.22	14281172.45	39°19'38.603"N	80°51'10.139"W	9480.33	344.394
16628.00	90.400	342.640	6629.76	9575.98	9232.11	-2581.67	1682009.73	14281264.08	39°19'39.510"N	80°51'10.500"W	9568.29	344.377
16723.00	90.890	343.790	6628.70	9669.94	9322.10	-2608.81	1681982.60	14281354.04	39°19'40.400"N	80°51'10.843"W	9660.26	344.366
16817.00	90.280	342.030	6627.74	9763.91	9411.94	-2636.43	1681954.99	14281443.84	39°19'41.288"N	80°51'11.193"W	9744.22	344.352
16912.00	90.490	340.750	6627.11	9858.91	9501.97	-2666.75	1681924.69	14281533.83	39°19'42.178"N	80°51'11.577"W	9839.09	344.323
17006.00	90.430	341.860	6626.35	9952.90	9591.01	-2696.88	1681894.57	14281622.83	39°19'43.059"N	80°51'11.958"W	9922.96	344.295
17101.00	90.370	340.070	6625.69	10047.89	9680.81	-2727.86	1681863.60	14281712.60	39°19'43.947"N	80°51'12.351"W	10057.79	344.263
17196.00	90.460	339.850	6625.00	10142.84	9770.05	-2760.41	1681831.06	14281801.81	39°19'44.830"N	80°51'12.763"W	10152.52	344.223
17291.00	90.430	338.560	6624.26	10237.74	9858.86	-2794.14	1681797.35	14281890.58	39°19'45.708"N	80°51'13.191"W	10247.16	344.177
17385.00	90.400	338.840	6623.58	10331.61	9946.43	-2828.28	1681763.22	14281978.12	39°19'46.574"N	80°51'13.623"W	10340.73	344.127
17480.00	90.430	341.090	6622.89	10426.56	10035.68	-2860.82	1681730.69	14282067.33	39°19'47.457"N	80°51'14.036"W	10435.47	344.088
17575.00	90.370	342.120	6622.23	10521.55	10126.82	-2890.80	1681700.72	14282157.43	39°19'48.348"N	80°51'14.415"W	10530.38	344.067
17669.00	90.460	342.400	6621.55	10615.55	10215.35	-2919.44	1681672.09	14282246.93	39°19'49.233"N	80°51'14.778"W	10624.33	344.051
17764.00	90.430	344.380	6620.81	10710.50	10306.38	-2946.60	1681644.95	14282337.92	39°19'50.133"N	80°51'15.122"W	10719.32	344.045
17860.00	90.430	345.160	6620.09	10806.36	10399.00	-2971.81	1681619.74	14282430.51	39°19'51.049"N	80°51'15.441"W	10815.31	344.051
17955.00	90.430	342.980	6619.38	10901.27	10490.34	-2997.89	1681593.68	14282521.81	39°19'51.952"N	80°51'15.771"W	10910.30	344.051
18050.00	90.370	341.080	6618.71	10996.26	10580.70	-3027.19	1681564.39	14282612.14	39°19'52.846"N	80°51'16.142"W	11005.24	344.034

Turn Rate	Build Rate	DLS	Closure Dir	Closure Dist	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(°/100M)	(°/100M)	(°/100M)	(°)	(m)	(°N)	(°W)	(m)	(°)	(°/100M)	(°/100M)	(°/100M)	
-2.00	-0.06	2.00	344.034	11005.24	80°51'16.142"W	39°19'52.846"N	11005.24	344.034	2.00	-0.06	-2.00	
-2.29	0.00	2.29	344.051	10910.30	80°51'15.771"W	39°19'51.952"N	10910.30	344.051	2.29	0.00	-2.29	
0.81	0.00	0.81	344.051	10815.31	80°51'15.441"W	39°19'51.049"N	10815.31	344.051	0.81	0.00	0.81	
2.08	-0.03	2.08	344.045	10719.32	80°51'15.122"W	39°19'50.133"N	10719.32	344.045	-0.03	2.08	2.08	
0.30	0.10	0.31	344.051	10624.33	80°51'14.778"W	39°19'49.233"N	10624.33	344.051	0.31	0.10	0.30	
1.08	-0.06	1.09	344.067	10530.38	80°51'14.415"W	39°19'48.348"N	10530.38	344.067	1.09	-0.06	1.08	
2.37	0.03	2.37	344.088	10435.47	80°51'14.036"W	39°19'47.457"N	10435.47	344.088	2.37	0.03	2.37	
0.30	-0.03	0.30	344.127	10340.73	80°51'13.623"W	39°19'46.574"N	10340.73	344.127	-0.03	0.30	0.30	
-1.36	-0.03	1.36	344.177	10247.16	80°51'13.191"W	39°19'45.708"N	10247.16	344.177	1.36	-0.03	-1.36	
-0.23	0.09	0.25	344.223	10152.52	80°51'12.763"W	39°19'44.830"N	10152.52	344.223	0.09	0.25	-0.23	
-1.88	-0.06	1.89	344.263	10057.79	80°51'12.351"W	39°19'43.947"N	10057.79	344.263	-0.06	1.89	-1.88	
1.18	-0.06	1.18	344.295	9962.96	80°51'11.958"W	39°19'43.059"N	9962.96	344.295	-0.06	1.18	1.18	
-1.35	0.22	1.37	344.323	9869.09	80°51'11.577"W	39°19'42.178"N	9869.09	344.323	0.22	1.37	-1.35	
-1.87	-0.65	1.98	344.352	9774.22	80°51'11.193"W	39°19'41.288"N	9774.22	344.352	-0.65	1.98	-1.87	
1.22	0.52	1.33	344.366	9680.26	80°51'10.843"W	39°19'40.400"N	9680.26	344.366	0.52	1.33	1.22	
-0.19	0.26	0.32	344.377	9586.29	80°51'10.500"W	39°19'39.510"N	9586.29	344.377	0.26	0.32	-0.19	
-0.14	-0.14	0.19	344.394	9490.33	80°51'10.139"W	39°19'38.603"N	9490.33	344.394	-0.14	0.19	-0.14	
1.88	0.00	1.88	344.409	9395.36	80°51'09.785"W	39°19'37.706"N	9395.36	344.409	0.00	1.88	1.88	
0.63	-0.03	0.63	344.433	9300.45	80°51'09.415"W	39°19'36.812"N	9300.45	344.433	-0.03	0.63	0.63	
0.35	-0.45	0.57	344.470	9205.64	80°51'09.020"W	39°19'35.924"N	9205.64	344.470	-0.45	0.57	0.35	
1.04	0.55	1.18	344.612	9110.88	80°51'08.616"W	39°19'35.039"N	9110.88	344.612	0.55	1.18	1.04	
-1.15	0.07	1.15	344.562	9016.22	80°51'08.199"W	39°19'34.158"N	9016.22	344.562	0.07	1.15	-1.15	
-2.80	0.00	2.80	344.613	8921.56	80°51'07.784"W	39°19'33.276"N	8921.56	344.613	0.00	2.80	-2.80	
-1.21	-0.03	1.21	344.645	8826.69	80°51'07.405"W	39°19'32.385"N	8826.69	344.645	-0.03	1.21	-1.21	
-0.16	-0.26	0.30	344.657	8731.71	80°51'07.065"W	39°19'31.484"N	8731.71	344.657	-0.26	0.30	-0.16	
1.09	0.33	1.13	344.662	8635.72	80°51'06.735"W	39°19'30.570"N	8635.72	344.662	0.33	1.13	1.09	
0.58	0.00	0.58	344.671	8541.73	80°51'06.402"W	39°19'29.678"N	8541.73	344.671	0.00	0.58	0.58	
0.89	-0.06	0.90	344.690	8446.77	80°51'06.051"W	39°19'28.780"N	8446.77	344.690	-0.06	0.90	0.89	
1.02	0.00	1.02	344.717	8351.86	80°51'05.685"W	39°19'27.885"N	8351.86	344.717	0.00	1.02	1.02	
1.16	0.09	1.16	344.756	8267.02	80°51'05.301"W	39°19'26.994"N	8267.02	344.756	0.09	1.16	1.16	



Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040

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Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Doddridge Co., WV	Doddridge	Balli Pad
	Hawk Unit 1H	Wellbore	
	Slot		
	Slot #11		

WELLPATH DATA (273 stations)												
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir
[m]	[°]	[°]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[m]	[°]
18145.00	341.630	6618.05	11091.26	10670.72	-3057.56	1681534.03	14282702.11	14282702.35	39°19'53.736"N	80°51'16.526"W	11100.13	344.011
18240.00	342.060	6617.41	11186.25	10760.98	-3087.16	1681504.44	14282792.35	14282792.35	39°19'54.629"N	80°51'16.901"W	11195.06	343.993
18334.00	341.830	6617.04	11280.25	10850.35	-3116.30	1681475.32	14282881.68	14282881.68	39°19'55.513"N	80°51'17.270"W	11289.00	343.976
18429.00	341.340	6616.84	11375.25	10940.49	-3146.31	1681445.32	14282971.78	14282971.78	39°19'56.404"N	80°51'17.650"W	11383.92	343.956
18523.00	341.140	6616.59	11469.25	11029.50	-3176.54	1681415.10	14283060.75	14283060.75	39°19'57.284"N	80°51'18.033"W	11477.81	343.933
18617.00	341.200	6616.34	11563.24	11118.46	-3206.88	1681384.77	14283149.68	14283149.68	39°19'58.164"N	80°51'18.417"W	11571.70	343.911
18712.00	341.320	6616.10	11658.24	11208.43	-3237.40	1681354.26	14283239.61	14283239.61	39°19'59.054"N	80°51'18.804"W	11666.60	343.889
18806.00	342.240	6615.74	11752.24	11297.45	-3267.57	1681324.11	14283328.60	14283328.60	39°19'59.934"N	80°51'19.186"W	11760.50	343.869
18902.00	342.060	6615.25	11848.23	11388.57	-3297.79	1681293.90	14283419.68	14283419.68	39°20'00.835"N	80°51'19.569"W	11856.43	343.851
18997.00	341.690	6614.84	11943.23	11478.86	-3327.34	1681264.36	14283509.93	14283509.93	39°20'01.728"N	80°51'19.943"W	11951.37	343.835
19092.00	342.360	6614.54	12038.23	11569.22	-3356.66	1681235.05	14283600.26	14283600.26	39°20'02.621"N	80°51'20.314"W	12046.33	343.821
19187.00	342.090	6614.10	12133.23	11659.68	-3385.66	1681206.06	14283690.68	14283690.68	39°20'03.516"N	80°51'20.682"W	12141.29	343.808
19282.00	342.080	6613.63	12228.22	11750.07	-3414.88	1681176.85	14283781.04	14283781.04	39°20'04.410"N	80°51'21.052"W	12236.24	343.795
19382.14	342.080	6613.04	12328.36	11845.35	-3445.69	1681146.05	14283876.28	14283876.28	39°20'05.352"N	80°51'21.442"W	12336.34	343.781
19471.00	342.710	6612.46	12417.21	11930.05	-3472.57	1681119.19	14283960.94	14283960.94	39°20'06.190"N	80°51'21.782"W	12425.17	343.771
19566.00	342.930	6611.95	12512.19	12020.81	-3500.63	1681091.14	14284051.67	14284051.67	39°20'07.087"N	80°51'22.137"W	12520.16	343.764
19659.00	343.340	6611.47	12605.16	12109.81	-3527.61	1681064.17	14284140.63	14284140.63	39°20'07.967"N	80°51'22.479"W	12613.15	343.759
19753.00	343.040	6611.04	12699.13	12199.79	-3554.80	1681036.99	14284230.58	14284230.58	39°20'08.857"N	80°51'22.823"W	12707.14	343.755
19848.00	341.470	6610.55	12794.12	12290.27	-3583.75	1681008.05	14284321.02	14284321.02	39°20'09.752"N	80°51'23.190"W	12802.11	343.744
19848.00	341.470	6610.55	12794.12	12290.27	-3583.75	1681008.05	14284321.02	14284321.02	39°20'09.752"N	80°51'23.190"W	12802.11	343.744
19941.00	341.300	6610.00	12887.12	12378.40	-3613.43	1680978.38	14284409.12	14284409.12	39°20'10.623"N	80°51'23.566"W	12895.03	343.727
20036.00	343.500	6609.76	12982.11	12468.95	-3642.16	1680949.67	14284499.63	14284499.63	39°20'11.518"N	80°51'23.930"W	12989.99	343.717
20129.00	343.660	6609.91	13075.06	12558.15	-3668.45	1680923.39	14284588.80	14284588.80	39°20'12.401"N	80°51'24.262"W	13082.99	343.716
20223.00	342.480	6610.13	13169.03	12648.08	-3695.82	1680896.03	14284678.69	14284678.69	39°20'13.290"N	80°51'24.609"W	13176.99	343.711
20317.00	340.670	6610.33	13263.02	12737.26	-3725.53	1680866.33	14284767.83	14284767.83	39°20'14.172"N	80°51'24.985"W	13270.92	343.696
20411.00	340.240	6610.15	13357.00	12825.84	-3756.87	1680834.90	14284856.38	14284856.38	39°20'15.048"N	80°51'25.384"W	13364.77	343.674
20505.00	339.800	6609.64	13450.97	12914.37	-3788.58	1680803.31	14284944.87	14284944.87	39°20'15.923"N	80°51'25.784"W	13458.61	343.650
20598.00	339.470	6609.14	13543.93	13001.83	-3820.18	1680771.72	14285032.30	14285032.30	39°20'16.788"N	80°51'26.185"W	13551.43	343.626
20692.00	339.400	6608.68	13637.87	13089.92	-3852.99	1680738.92	14285120.35	14285120.35	39°20'17.659"N	80°51'26.600"W	13645.20	343.598
20787.00	337.100	6608.32	13732.68	13178.13	-3888.24	1680703.69	14285208.52	14285208.52	39°20'18.532"N	80°51'27.047"W	13739.78	343.561
20881.00	337.290	6607.97	13826.39	13264.78	-3924.67	1680667.27	14285295.14	14285295.14	39°20'19.389"N	80°51'27.509"W	13833.20	343.518

Turn Rate Comments [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft] [°/100ft]

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

WELLPATH DATA (273 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
20975.00	90.250	338.950	6607.56	13920.20	13352.01	-3959.70	1680632.25	14285382.33	39°20'20.251"N	80°51'27.953"W	13926.78	343.482	1.77	0.00	1.77	
21016.00	90.370	339.940	6607.33	13961.17	13390.39	-3974.09	1680617.86	14285420.70	39°20'20.631"N	80°51'28.136"W	13967.68	343.470	2.43	0.29	2.41	
21040.00	90.370	339.940	6607.18	13985.15	13412.94	-3982.32	1680609.64	14285443.24	39°20'20.854"N	80°51'28.240"W	13991.63	343.464	0.00	0.00	0.00	Projected MD at TD: 21040'

HOLE & CASING SECTIONS - Ref Wellbore: Hawk Unit 1H AWB Ref Wellpath: Hawk Unit 1H AWP Proj: 21040'									
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	72.00	40.00	32.00	72.00	0.00	0.00	0.01	0.05
17.5in Open Hole	72.00	372.40	300.40	72.00	372.39	0.01	0.05	-0.47	1.84
13.375in Casing Surface	32.00	372.40	340.40	32.00	372.39	0.00	0.00	-0.47	1.84
12.25in Open Hole	372.40	2616.20	2243.80	372.39	2612.89	-0.47	1.84	-38.47	53.29
9.625in Casing Intermediate	32.00	2616.20	2584.20	32.00	2612.89	0.00	0.00	-38.47	53.29
8.75in Open Hole	2616.20	5729.00	3112.80	2612.89	5658.43	-38.47	53.29	-461.88	484.04
8.5in Open Hole	5729.00	21040.00	15311.00	5658.43	6607.18	-461.88	484.04	13412.94	-3982.32
5.5in Casing Production	32.00	21040.00	21008.00	32.00	6607.18	0.00	0.00	13412.94	-3982.32

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hawk Unit 1H POE Rev-2	6604.00	53.95	449.80	1685039.99	14272089.59	39°18'08.746"N	80°50'32.127"W	point
Hawk Unit 1H BHL Rev-2	6628.00	13431.59	-3969.36	1680622.60	14285461.88	39°20'21.038"N	80°51'28.075"W	point
Hawk Unit 1H LP Rev-1	6628.00	228.53	392.13	1684982.34	14272264.10	39°18'10.472"N	80°50'32.857"W	point

WELLPATH COMPOSITION - Ref Wellbore: Hawk Unit 1H AWB Ref Wellpath: Hawk Unit 1H AWP Proj: 21040'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	339.00	Gyrodata standard - Single-shot	01 Gyrodata SS Gyro <17-1/2"> (100'-320')	Hawk Unit 1H AWB
339.00	1017.00	Gyrodata standard - Single-shot	02 Gyrodata SS Gyro <12-1/4"> (320')(384'-998')	Hawk Unit 1H AWB
1017.00	2545.00	ISCWSA MWD, Rev. 4 (Standard)	03 Directional ONE MWD <12-1/4"> (998')(1117'-2526')	Hawk Unit 1H AWB
2545.00	5648.00	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <8-3/4"> (2526')(2628'-5629')	Hawk Unit 1H AWB
5648.00	21016.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(5648')(5691'-21016')	Hawk Unit 1H AWB
21016.00	21040.00	Blind Drilling (std)	Projection to bit	Hawk Unit 1H AWB

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Actual Wellpath Report

Hawk Unit 1H AWP Proj: 21040'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #11
Area	Doddridge Co., WV	Well	Hawk Unit 1H
Field	Doddridge	Wellbore	Hawk Unit 1H AWB
Facility	Balli Pad		

COMMENTS

Wellpath general comments

API: 47-017-06792-0000

BHI Job #: 8622997

Rig: Frontier 32

Duration: 06/27/2017-07/01/2017

Gyrodata MS Gyro <17-1/2"> (100'-320')

Gyrodata MS Gyro <12-1/4"> (320')(384'-998')

Directional ONE MWD <12-1/4"> (998')(1117'-2526')

Directional ONE MWD <8-3/4"> (2526')(2628'-5629')

BHI AT Curve <8-1/2"> (5648')(5691'-21016')

Middlesex: 6564' MD

Burket: 6776' MD

Tully: 6851' MD

Marcellus POE: 6976' MD

Projected MD at TD: 21040'

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