



ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Hichman Pad
 Slot: Slot #04
 Well: Centerville Unit 2H
 Wellbore: Centerville_Unit_2H_PWB

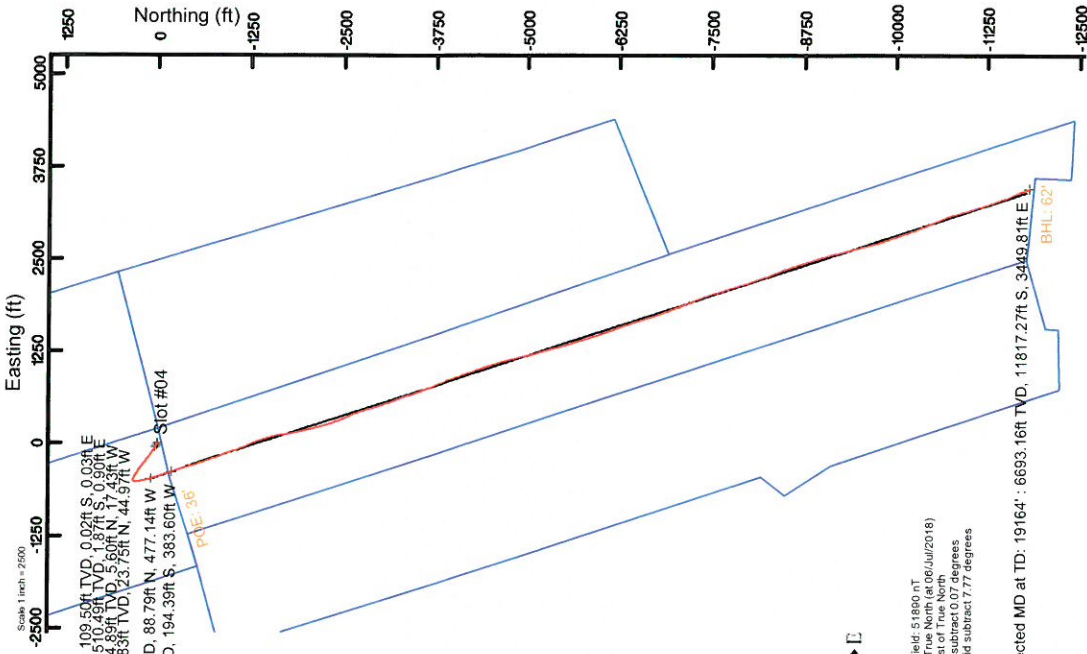


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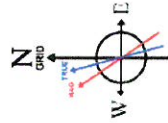
BHI Job #: 9263334

Rig: Frontier 22

Duration: 07/08/2018-07/12/2018



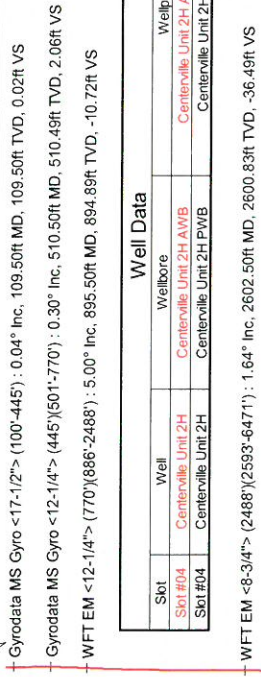
Gyrodatta MS Gyro <17-1/2> (100-445): 109.50ft TVD, 0.02ft S, 0.03ft E
 Gyrodatta MS Gyro <12-1/4> (445) 501:770: 510.49ft TVD, 2.06ft VS
 WFT EM <-8-3/4> (2488)(2593-6471): 2600.83ft TVD, 36.49ft VS
 Marcellus POE: 6907 MD: 6613.99ft TVD, 194.39ft S, 383.60ft W
 BHI AT Curve <-8-1/2> (6480.50)(6559-19135): 6442.22ft TVD, 88.79ft N, 477.14ft W
 Projected MD at TD: 19164: 6693.16ft TVD, 11817.27ft S, 3449.81ft E



User specified Dip: 66.49° Field: 51800 nT
 Magnetic North is 66.49 degrees East of True North (July 2018)
 Grid North is 0.07 degrees East of True North
 To correct azimuth from True to Grid subtract 0.07 degrees
 To correct azimuth from Magnetic to Grid subtract 7.77 degrees

Pict reference wellpath is Centerville_Unit_2H_PWB_Rev-A.0		Grid System: NAD27 UTM Zone 17 North, US feet	
True vertical depths are referenced to Frontier 22 (RKB)		North Reference: Grid north	
Measured depths are referenced to Frontier 22 (RKB)		Scale: True distance	
Frontier 22 (RKB) to Mean Sea Level: 1274.5 feet		Depths are in feet	
Mean Sea Level to Ground level (At Slot: Slot #04): -1250 feet		Created by: dbeason on 2018-08-02	
Coordinates are in feet referenced to Slot		Database: WA_MPL_EasternUS_Defn	

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Hichman Pad	1673097.617	1428267.289	80°53'03.890"W
Slot	Local N (ft)	Grid East (US ft)	Latitude
Slot #04	-29.35	1673089.801	39°20'18.930"N
Frontier 22 (RKB) to Ground level (At Slot: Slot #04)	24.5 ft		80°53'03.990"W
Mean Sea Level to Ground level (At Slot: Slot #04)	-1250ft		
Frontier 22 (RKB) to Mean Sea Level	1274.5ft		

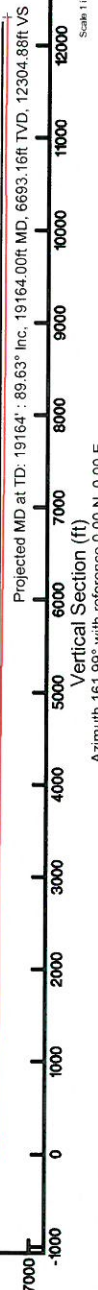


Gyrodatta MS Gyro <17-1/2> (100-445): 0.04° Inc, 109.50ft MD, 109.50ft TVD, 0.02ft VS
 Gyrodatta MS Gyro <12-1/4> (445) 501:770: 0.30° Inc, 510.50ft MD, 510.49ft TVD, 2.06ft VS
 WFT EM <-12-1/4> (770)(886-2488): 5.00° Inc, 895.50ft MD, 894.89ft TVD, -10.72ft VS
 WFT EM <-8-3/4> (2488)(2593-6471): 1.64° Inc, 2602.50ft MD, 2600.83ft TVD, -36.49ft VS

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	Centerville Unit 2H	Centerville Unit 2H AWB	Centerville_Unit_2H_AWP_Proj_19164
Slot #04	Centerville Unit 2H	Centerville Unit 2H PWB	Centerville_Unit_2H_PWB_Rev-A.0

Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	Local N (ft)	DLS (7100ft)	VS (ft)
Tie On	6480.50	39.170	166.100	139.12	-490.33	4.52
Proj. To Bottom	6578.50	46.380	164.950	6455.36	74.73	-473.66
POE	6923.82	76.000	160.000	6620.00	-209.90	7.40
Landing Pt.	7113.02	90.000	160.000	6643.00	-385.93	8.66
On Azimuth	7551.31	90.000	161.986	6643.00	-800.30	-175.01
BHL	19090.00	90.000	161.986	6643.00	-11773.34	3393.42
						0.00
						12245.67

BHI AT Curve <-8-1/2> (6480.50)(6559-19135): 43.89° Inc, 6559.00ft MD, 6442.22ft TVD, -231.96ft VS
 Marcellus POE: 6907 MD: 6613.99ft TVD, 194.39ft S, 383.60ft W
 Projected MD at TD: 19164: 6693.16ft TVD, 11817.27ft S, 3449.81ft E
 Azimuth 161.99° with reference 0.00 N, 0.00 E



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Centerville Unit 2H
Field	Ritchie	Wellbore	Centerville Unit 2H AWB
Facility	Hichman Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	02/Aug/2018 at 16:20
Convergence at slot	0.07° East	Database/Source file	WA_MPL_EasternUS_Defm/Centerville_Unit_2H_AWP_Proj_19164_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-29.35	-7.82	1673089.80	14285237.95	39°20'18.930"N	80°53'03.990"W
Facility Reference Pt			1673097.62	14285267.29	39°20'19.220"N	80°53'03.890"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM		
Calculation method	Minimum curvature	24.50ft
Horizontal Reference Pt	Slot	1274.50ft
Vertical Reference Pt	Frontier 22 (RKB)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	161.99°



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #04
Operator	ANTERO RESOURCES CORPORATION	Well	Centerville Unit 2H
Area	Ritchie County, WV	Wellbore	Centerville Unit 2H AWB
Field	Ritchie		
Facility	Hichman Pad		

WELLPATH DATA (238 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 P/100ft	Build Rate P/100ft	Turn Rate P/100ft	Comments
0.00H	0.000	120.950	0.00	0.00	0.00	0.00	1673089.80	14285237.95	39°20'18.930"N	80°53'03.990"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	120.950	24.50	0.00	0.00	0.00	1673089.80	14285237.95	39°20'18.930"N	80°53'03.990"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.040	120.950	109.50	0.02	-0.02	0.03	1673089.83	14285237.93	39°20'18.930"N	80°53'03.990"W	0.03	120.950	0.05	0.05	142.29	Gyrodata MS Gyro <17-1/2"> (100'-445')
134.50	0.050	316.790	134.50	0.02	-0.01	0.03	1673089.83	14285237.94	39°20'18.930"N	80°53'03.990"W	0.03	114.859	0.36	0.04	-656.64	
159.50	0.130	110.440	159.50	0.03	-0.01	0.04	1673089.85	14285237.94	39°20'18.930"N	80°53'03.989"W	0.05	107.147	0.70	0.32	614.60	
184.50	0.100	170.590	184.50	0.07	-0.05	0.07	1673089.88	14285237.90	39°20'18.930"N	80°53'03.989"W	0.09	121.162	0.47	-0.12	240.60	
209.50	0.140	120.950	209.50	0.11	-0.08	0.10	1673089.91	14285237.87	39°20'18.929"N	80°53'03.989"W	0.13	128.267	0.43	0.16	-198.56	
234.50	0.220	131.170	234.50	0.17	-0.13	0.17	1673089.97	14285237.82	39°20'18.928"N	80°53'03.988"W	0.21	127.871	0.34	0.32	40.88	
259.50	0.250	152.610	259.50	0.27	-0.21	0.23	1673090.03	14285237.74	39°20'18.928"N	80°53'03.987"W	0.31	132.609	0.37	0.12	85.76	
284.50	0.360	151.880	284.50	0.40	-0.33	0.29	1673090.09	14285237.62	39°20'18.927"N	80°53'03.986"W	0.44	138.457	0.44	0.44	-2.92	
309.50	0.410	167.780	309.50	0.57	-0.48	0.35	1673090.15	14285237.47	39°20'18.925"N	80°53'03.986"W	0.60	144.441	0.47	0.20	63.60	
334.50	0.400	162.850	334.50	0.74	-0.65	0.39	1673090.19	14285237.29	39°20'18.924"N	80°53'03.985"W	0.76	149.179	0.14	-0.04	-19.72	
359.50	0.380	168.130	359.50	0.91	-0.82	0.43	1673090.23	14285237.13	39°20'18.922"N	80°53'03.984"W	0.93	152.119	0.16	-0.08	21.12	
384.50	0.510	161.800	384.50	1.11	-1.01	0.49	1673090.29	14285236.94	39°20'18.920"N	80°53'03.984"W	1.12	154.252	0.56	0.52	-25.32	
409.50	0.560	154.960	409.50	1.34	-1.22	0.57	1673090.37	14285236.73	39°20'18.918"N	80°53'03.983"W	1.35	154.936	0.32	0.20	-27.36	
434.50	0.730	153.250	434.49	1.62	-1.48	0.70	1673090.50	14285236.47	39°20'18.915"N	80°53'03.981"W	1.63	154.773	0.68	0.68	-6.84	
454.50	0.700	148.570	454.49	1.86	-1.69	0.82	1673090.62	14285236.26	39°20'18.913"N	80°53'03.980"W	1.88	154.268	0.33	-0.15	-23.40	
510.50	0.300	321.720	510.49	2.06	-1.87	0.90	1673090.70	14285236.08	39°20'18.912"N	80°53'03.979"W	2.08	154.210	1.78	-0.71	309.20	Gyrodata MS Gyro <12-1/4"> (445')(501'-770')
600.50	2.120	307.840	600.47	0.46	-0.66	-0.56	1673089.24	14285237.29	39°20'18.923"N	80°53'03.997"W	0.87	219.983	2.03	2.02	-15.42	
689.50	3.170	292.060	689.37	-2.49	1.27	-4.14	1673085.66	14285239.22	39°20'18.943"N	80°53'04.043"W	4.33	287.063	1.43	1.18	-17.73	
779.50	3.590	285.850	779.22	-5.66	2.97	-9.15	1673080.65	14285240.92	39°20'18.960"N	80°53'04.106"W	9.63	287.998	0.62	0.47	-6.90	
895.50	5.000	288.900	894.89	-10.72	5.60	-17.43	1673072.38	14285243.55	39°20'18.986"N	80°53'04.212"W	18.31	287.821	1.23	1.22	2.63	NFT EM <12-1/4"> (770')(886'-2488')
989.50	5.200	286.210	988.52	-15.57	8.12	-25.40	1673066.41	14285246.07	39°20'19.011"N	80°53'04.313"W	26.66	287.730	0.33	0.21	-2.86	
1084.50	4.110	285.800	1083.20	-19.89	10.25	-32.81	1673057.01	14285248.19	39°20'19.032"N	80°53'04.407"W	34.37	287.348	1.15	-1.15	-0.43	
1178.50	2.330	301.790	1177.05	-23.22	12.17	-37.67	1673052.14	14285250.12	39°20'19.051"N	80°53'04.469"W	39.59	287.906	2.10	-1.89	17.01	
1273.50	2.110	318.440	1271.98	-26.30	14.50	-40.47	1673049.34	14285252.44	39°20'19.074"N	80°53'04.505"W	42.99	289.708	0.71	-0.23	17.53	
1368.50	1.240	334.820	1366.84	-28.93	16.74	-42.07	1673047.75	14285254.68	39°20'19.096"N	80°53'04.525"W	45.28	291.694	1.04	-0.92	17.24	
1462.50	0.560	1.730	1460.93	-30.37	18.12	-42.49	1673047.33	14285256.06	39°20'19.110"N	80°53'04.531"W	46.19	293.092	0.83	-0.72	28.63	
1557.50	0.880	339.020	1555.92	-31.28	19.03	-42.65	1673047.17	14285256.97	39°20'19.119"N	80°53'04.533"W	46.70	294.046	0.24	0.02	-23.91	
1651.50	0.860	332.520	1649.91	-32.47	20.11	-43.15	1673046.67	14285258.06	39°20'19.129"N	80°53'04.539"W	47.61	294.992	0.33	0.32	-6.91	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #04
ANTERO RESOURCES CORPORATION	Centerville Unit 2H
Ritchie County, WV	Well
Ritchie	Wellbore
Hichman Pad	Centerville Unit 2H AWB

WELLPATH DATA (238 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (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
1745.50	1.040	319.190	1743.90	-33.97	21.40	-44.04	1673045.78	14285259.34	39°20'19.142"N	80°53'04.560"W	48.97	295.915	0.29	0.17	-14.18	
1840.50	1.260	317.830	1838.88	-35.72	22.83	-45.31	1673044.51	14285260.77	39°20'19.156"N	80°53'04.566"W	50.73	296.740	0.23	0.23	-1.43	
1934.50	0.650	324.850	1932.87	-37.17	24.03	-46.31	1673043.51	14285261.97	39°20'19.168"N	80°53'04.579"W	52.17	297.425	0.66	-0.65	7.47	
2028.50	0.190	40.920	2026.87	-37.76	24.58	-46.51	1673043.31	14285262.52	39°20'19.174"N	80°53'04.582"W	52.61	297.857	0.67	-0.49	80.93	
2123.50	0.320	91.130	2121.87	-37.75	24.70	-46.15	1673043.67	14285262.64	39°20'19.175"N	80°53'04.577"W	52.34	298.156	0.26	0.14	52.85	
2218.50	0.620	84.440	2216.86	-37.47	24.65	-45.37	1673044.45	14285262.59	39°20'19.174"N	80°53'04.567"W	51.63	298.519	0.32	0.32	3.48	
2312.50	0.730	83.740	2310.86	-37.15	24.68	-44.27	1673046.62	14285262.72	39°20'19.176"N	80°53'04.553"W	50.68	299.140	0.18	0.12	-11.38	
2406.50	0.580	79.490	2404.85	-36.97	24.83	-43.20	1673046.62	14285262.72	39°20'19.174"N	80°53'04.539"W	49.83	299.888	0.17	-0.16	-4.52	
2497.50	0.610	230.790	2495.85	-36.74	24.61	-43.12	1673046.69	14285262.55	39°20'19.174"N	80°53'04.538"W	49.65	299.710	1.27	0.03	166.26	
2602.50	1.640	250.380	2600.83	-36.49	23.75	-44.97	1673044.85	14285261.69	39°20'19.165"N	80°53'04.562"W	50.86	297.838	1.03	0.98	18.66	WFT EM -8-3/4" (2488)(2593-6471)
2697.50	2.490	278.400	2695.77	-37.37	23.59	-48.30	1673041.53	14285261.53	39°20'19.164"N	80°53'04.604"W	53.75	296.038	1.36	0.89	29.49	
2791.50	4.060	293.040	2789.61	-40.46	25.20	-53.38	1673036.44	14285263.13	39°20'19.180"N	80°53'04.669"W	59.03	295.268	1.88	1.67	15.57	
2886.50	6.200	305.500	2884.23	-46.80	29.49	-60.65	1673029.18	14285267.43	39°20'19.222"N	80°53'04.761"W	67.44	295.932	2.53	2.25	13.12	
2980.50	6.930	307.450	2977.61	-55.55	35.89	-69.28	1673020.54	14285273.82	39°20'19.286"N	80°53'04.871"W	78.03	297.383	0.81	0.78	2.07	
3074.50	8.110	310.120	3070.80	-65.85	43.61	-78.86	1673010.98	14285281.54	39°20'19.362"N	80°53'04.993"W	90.11	298.943	1.31	1.26	2.84	
3169.50	9.450	311.180	3164.69	-78.24	53.06	-89.85	1672999.99	14285290.99	39°20'19.456"N	80°53'05.133"W	104.35	300.564	1.42	1.41	1.12	
3264.50	9.680	308.360	3258.37	-91.59	63.15	-101.98	1672987.86	14285301.08	39°20'19.555"N	80°53'05.287"W	119.96	301.768	0.55	0.24	-2.97	
3359.50	9.310	305.310	3352.07	-104.40	72.55	-114.52	1672975.33	14285310.47	39°20'19.649"N	80°53'05.446"W	135.57	302.356	0.66	-0.39	-3.21	
3453.50	9.020	301.860	3444.87	-116.14	80.84	-126.98	1672962.87	14285318.75	39°20'19.731"N	80°53'05.605"W	150.53	302.481	0.66	-0.31	-3.67	
3553.50	10.030	305.060	3543.49	-129.09	89.98	-140.77	1672949.09	14285327.89	39°20'19.821"N	80°53'05.780"W	167.07	302.586	1.14	1.01	3.20	
3647.50	11.610	305.660	3635.81	-143.26	100.19	-155.15	1672934.71	14285338.10	39°20'19.922"N	80°53'05.963"W	184.69	302.853	1.69	1.68	0.64	
3742.50	11.720	304.160	3728.85	-158.58	111.18	-170.91	1672918.96	14285349.09	39°20'20.031"N	80°53'06.163"W	203.89	303.046	0.34	0.12	-1.58	
3836.50	11.560	301.910	3820.92	-173.32	121.52	-186.80	1672903.08	14285359.42	39°20'20.133"N	80°53'06.366"W	222.85	303.046	0.51	-0.17	-2.39	
3931.50	10.790	306.880	3914.12	-187.88	131.89	-201.99	1672887.89	14285369.79	39°20'20.236"N	80°53'06.559"W	241.24	303.143	1.30	-0.81	5.23	
4025.50	11.170	307.910	4006.40	-202.62	142.77	-216.22	1672873.67	14285380.66	39°20'20.344"N	80°53'06.740"W	259.10	303.437	0.45	0.40	1.10	
4120.50	9.620	310.000	4099.84	-216.98	153.52	-229.56	1672860.34	14285391.41	39°20'20.450"N	80°53'06.909"W	276.16	303.774	1.68	-1.63	2.20	
4214.50	9.330	311.930	4192.55	-230.23	163.66	-241.24	1672848.65	14285401.55	39°20'20.551"N	80°53'07.058"W	291.52	304.154	0.46	-0.31	2.05	
4308.50	9.220	310.630	4285.32	-243.26	173.66	-252.63	1672837.28	14285411.54	39°20'20.650"N	80°53'07.202"W	306.56	304.505	0.25	-0.12	-1.38	
4402.50	9.200	308.740	4378.11	-255.97	183.27	-264.20	1672825.70	14285421.14	39°20'20.745"N	80°53'07.350"W	321.54	304.747	0.32	-0.02	-2.01	
4497.50	9.340	307.100	4471.87	-268.65	192.67	-276.28	1672813.64	14285430.54	39°20'20.838"N	80°53'07.503"W	336.82	304.891	0.31	0.15	-1.73	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'

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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Hichman Pad
Slot	Slot #04
Well	Centerville Unit 2H
Wellbore	Centerville Unit 2H AWB

WELLPATH DATA (238 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (°/100ft)	Comments
4591.50	9.420	305.670	4584.62	-281.10	201.76	-288.61	1672801.31	14285439.62	39°20'20.928"N	80°53'07.660"W	352.14	304.956	0.26	0.09	-1.52	
4685.50	9.490	305.010	4657.34	-293.49	210.69	-301.20	1672788.72	14285448.55	39°20'21.016"N	80°53'07.820"W	367.58	304.972	0.14	0.07	-0.70	
4779.50	10.100	304.800	4749.97	-306.25	219.84	-314.32	1672775.61	14285457.70	39°20'21.107"N	80°53'07.987"W	383.57	304.969	0.65	0.65	-0.22	
4874.50	10.750	305.520	4843.40	-320.01	229.74	-328.37	1672761.56	14285467.60	39°20'21.205"N	80°53'08.166"W	400.76	304.978	0.70	0.68	0.76	
4968.50	11.380	304.600	4935.65	-334.43	240.10	-343.14	1672746.80	14285477.95	39°20'21.307"N	80°53'08.353"W	418.80	304.981	0.70	0.67	-0.98	
5157.50	12.110	303.330	5120.69	-364.72	261.58	-375.05	1672714.90	14285499.42	39°20'21.520"N	80°53'08.759"W	457.26	304.894	0.41	0.39	-0.67	
5251.50	11.550	301.480	5212.70	-379.58	271.91	-391.32	1672698.64	14285509.75	39°20'21.622"N	80°53'09.966"W	476.51	304.794	0.72	-0.60	-1.97	
5345.50	10.680	302.550	5304.93	-393.46	281.51	-406.69	1672683.28	14285519.35	39°20'21.717"N	80°53'09.162"W	494.61	304.691	0.95	-0.93	1.14	
5440.50	10.180	303.220	5398.36	-406.80	290.85	-421.13	1672668.84	14285528.68	39°20'21.810"N	80°53'09.345"W	511.80	304.630	0.54	-0.53	0.71	
5534.50	9.400	301.680	5490.99	-419.13	299.43	-434.61	1672655.36	14285537.26	39°20'21.895"N	80°53'09.517"W	527.77	304.565	0.88	-0.83	-1.64	
5629.50	10.110	297.990	5584.62	-431.05	307.42	-448.58	1672641.40	14285545.24	39°20'21.974"N	80°53'09.694"W	543.81	304.424	1.00	0.75	-3.88	
5723.50	10.350	292.490	5677.13	-442.47	314.52	-463.66	1672626.32	14285552.34	39°20'22.044"N	80°53'09.886"W	560.27	304.150	1.07	0.26	-5.85	
5818.50	10.860	295.680	5770.51	-454.19	321.66	-479.61	1672610.38	14285559.48	39°20'22.115"N	80°53'10.089"W	577.49	303.849	0.82	0.54	3.36	
5881.50	9.870	289.870	5832.48	-461.61	326.07	-490.04	1672599.96	14285563.89	39°20'22.159"N	80°53'10.222"W	588.61	303.640	2.28	-1.57	-9.22	
5944.50	7.120	284.120	5894.81	-465.86	327.65	-498.94	1672591.06	14285565.22	39°20'22.172"N	80°53'10.281"W	589.25	303.497	6.85	-5.29	-27.77	
5975.50	7.570	241.220	5925.56	-465.88	326.47	-502.64	1672587.36	14285565.47	39°20'22.175"N	80°53'10.335"W	596.90	303.293	7.91	-3.47	-53.56	
6007.50	9.100	227.560	5957.23	-464.44	323.75	-506.35	1672583.65	14285561.57	39°20'22.136"N	80°53'10.382"W	599.36	303.004	9.49	1.45	-73.87	
6038.50	10.910	218.600	5987.76	-461.81	319.80	-509.99	1672580.01	14285557.62	39°20'22.097"N	80°53'10.429"W	601.00	302.594	7.79	4.78	-42.69	
6070.50	12.260	208.370	6019.11	-457.80	314.44	-513.50	1672576.51	14285552.27	39°20'22.044"N	80°53'10.520"W	602.12	301.481	7.67	4.22	-31.97	
6102.50	13.710	194.400	6050.30	-452.25	307.78	-516.06	1672573.95	14285545.60	39°20'21.978"N	80°53'10.553"W	600.87	300.812	10.77	4.53	-43.66	
6133.50	15.990	184.980	6080.26	-445.22	299.96	-517.34	1672572.67	14285537.79	39°20'21.901"N	80°53'10.570"W	598.01	300.106	10.69	7.35	-30.39	
6165.50	18.180	178.210	6110.85	-436.37	290.58	-517.57	1672572.44	14285528.41	39°20'21.808"N	80°53'10.573"W	593.56	299.312	9.23	6.84	-21.16	
6196.50	20.670	175.190	6140.08	-426.40	280.29	-516.96	1672573.05	14285518.13	39°20'21.707"N	80°53'10.565"W	588.06	298.467	8.66	8.03	-9.74	
6228.50	22.940	174.120	6169.79	-414.80	268.46	-515.84	1672574.16	14285506.30	39°20'21.590"N	80°53'10.551"W	581.52	297.494	7.20	7.09	-3.34	
6260.50	25.360	172.310	6198.99	-401.96	255.46	-514.29	1672575.72	14285493.31	39°20'21.461"N	80°53'10.531"W	574.24	296.415	7.91	7.56	-5.66	
6291.50	27.600	171.240	6226.74	-388.34	241.79	-512.31	1672577.70	14285479.64	39°20'21.326"N	80°53'10.506"W	566.50	295.265	7.39	7.23	-3.45	
6323.50	29.920	169.570	6254.79	-373.11	226.61	-509.73	1672580.27	14285464.47	39°20'21.176"N	80°53'10.474"W	557.83	293.968	7.67	7.25	-5.22	
6354.50	31.870	168.180	6281.39	-357.30	210.99	-506.66	1672583.35	14285448.86	39°20'21.022"N	80°53'10.435"W	548.83	292.609	6.70	6.29	-4.48	
6386.50	33.900	167.700	6308.26	-340.02	194.00	-503.02	1672586.98	14285431.88	39°20'20.854"N	80°53'10.389"W	539.14	291.090	6.40	6.34	-1.50	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Centerville Unit 2H
Field	Ritchie	Wellbore	Centerville Unit 2H AWB
Facility	Hichman Pad		

WELLPATH DATA (238 stations)

+ = interpolated/extrapolated station

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
6417.50	36.170	167.520	6333.64	-322.31	176.62	-499.21	1672590.80	14285414.50	39°20'20.682"N	80°53'10.341"W	529.53	289.484	7.33	7.32	-0.58	
6449.50	37.800	166.580	6359.20	-303.14	157.86	-494.89	1672595.11	14285395.75	39°20'20.496"N	80°53'10.286"W	519.46	287.692	5.39	5.09	-2.94	
6480.50	39.170	166.100	6383.42	-283.90	139.12	-490.33	1672599.67	14285377.01	39°20'20.311"N	80°53'10.228"W	509.68	285.840	4.52	4.42	-1.55	
6559.00	43.890	164.600	6442.22	-231.96	88.79	-477.14	1672612.85	14285326.70	39°20'19.814"N	80°53'10.061"W	485.33	280.541	6.14	6.01	-1.91	BHAT Curve <-8-1/2"> (6480.50)-(6559-19139)
6567.00	44.600	164.360	6447.95	-226.39	83.41	-475.65	1672614.34	14285321.33	39°20'19.760"N	80°53'10.042"W	482.91	279.946	9.12	8.87	-3.00	
6614.00	49.360	163.330	6480.01	-192.05	50.42	-466.08	1672623.91	14285288.35	39°20'19.434"N	80°53'09.921"W	468.80	276.174	10.25	10.13	-2.19	
6662.00	54.680	161.820	6509.53	-154.23	14.34	-454.74	1672635.25	14285252.28	39°20'19.077"N	80°53'09.777"W	454.96	271.806	11.36	11.08	-3.15	
6709.00	59.480	160.800	6535.07	-114.80	-23.02	-442.09	1672647.89	14285214.58	39°20'18.708"N	80°53'09.617"W	442.69	267.020	10.37	10.21	-2.17	
6740.00H	62.098	160.879	6550.20	-87.75	-48.57	-433.21	1672656.77	14285189.40	39°20'18.455"N	80°53'09.504"W	435.92	263.602	8.44	8.44	0.25	Burkett: 6740' MD
6757.00	63.530	160.920	6557.97	-72.63	-62.86	-428.26	1672661.71	14285175.11	39°20'18.314"N	80°53'09.442"W	432.85	261.649	8.44	8.44	0.24	
6804.00	65.400	161.610	6578.23	-30.22	-103.02	-414.64	1672675.33	14285134.97	39°20'17.917"N	80°53'09.269"W	427.25	256.047	4.19	3.98	1.47	
6816.00H	66.412	161.577	6583.12	-19.27	-113.42	-411.18	1672678.78	14285124.58	39°20'17.814"N	80°53'09.225"W	426.54	254.579	8.44	8.44	-0.28	Tully: 6816' MD
6852.00	69.450	161.480	6596.65	14.09	-145.06	-400.61	1672689.35	14285092.95	39°20'17.501"N	80°53'09.091"W	426.07	250.095	8.44	8.44	-0.27	
6899.00	73.150	160.600	6611.71	58.59	-187.15	-386.15	1672703.81	14285050.87	39°20'17.085"N	80°53'08.908"W	429.11	244.142	8.07	7.87	-1.87	
6907.00H	73.783	160.613	6613.99	66.26	-194.39	-383.60	1672706.35	14285043.84	39°20'17.014"N	80°53'08.875"W	430.04	243.127	7.92	7.92	0.17	Marcellus POE: 6907' MD
6948.00	77.030	160.880	6624.32	105.92	-231.82	-370.45	1672719.49	14285006.23	39°20'16.643"N	80°53'08.709"W	437.01	237.963	7.92	7.92	0.16	
6995.00	82.160	161.470	6632.81	152.12	-275.53	-355.47	1672734.47	14284962.53	39°20'16.211"N	80°53'08.519"W	449.75	232.220	11.04	10.91	1.68	
7043.00	84.200	162.670	6638.51	199.78	-320.87	-340.80	1672749.14	14284917.21	39°20'15.763"N	80°53'08.333"W	468.08	226.725	4.92	4.25	2.50	
7090.00	88.000	163.110	6641.70	246.66	-365.68	-327.01	1672762.93	14284872.42	39°20'15.320"N	80°53'08.158"W	490.57	221.804	8.14	8.09	0.94	
7138.00	90.340	164.270	6642.40	294.63	-411.74	-313.53	1672776.40	14284826.37	39°20'14.864"N	80°53'07.987"W	517.52	217.288	5.44	4.87	2.42	
7233.00	90.310	162.420	6641.86	389.60	-502.75	-286.30	1672803.61	14284735.40	39°20'13.965"N	80°53'07.642"W	578.55	209.660	1.95	-0.03	-1.95	
7327.00	89.880	160.390	6641.70	483.59	-591.84	-256.33	1672833.57	14284646.35	39°20'13.084"N	80°53'07.262"W	644.96	203.418	2.21	-0.46	-2.16	
7421.00	89.940	161.650	6641.85	577.57	-680.72	-225.76	1672884.13	14284557.50	39°20'12.205"N	80°53'06.874"W	717.18	198.348	1.34	0.06	1.34	
7516.00	89.940	160.550	6641.95	672.56	-770.60	-194.99	1672894.89	14284467.66	39°20'11.316"N	80°53'06.484"W	794.89	194.200	1.16	0.00	-1.16	
7612.00	89.880	157.200	6642.10	768.40	-860.14	-160.39	1672929.47	14284378.16	39°20'10.431"N	80°53'06.045"W	874.96	190.563	3.49	-0.06	-3.49	
7708.00	89.820	159.110	6642.35	864.18	-949.24	-124.67	1672965.18	14284289.09	39°20'09.550"N	80°53'05.592"W	957.39	187.482	1.99	-0.06	-1.99	
7803.00	89.480	161.350	6642.93	959.13	-1038.63	-92.54	1672997.30	14284199.73	39°20'08.666"N	80°53'05.185"W	1042.75	185.092	2.38	-0.36	-2.38	
7898.00	89.660	158.850	6643.65	1054.07	-1127.95	-60.21	1673029.62	14284110.45	39°20'07.783"N	80°53'04.775"W	1129.56	183.056	2.64	0.19	-2.63	
7993.00	89.540	156.510	6644.31	1148.79	-1215.82	-24.13	1673065.68	14284022.61	39°20'06.914"N	80°53'04.317"W	1216.06	181.137	2.47	-0.13	-2.46	
8088.00	89.450	158.130	6645.15	1243.47	-1303.47	12.49	1673102.29	14283935.50	39°20'06.047"N	80°53'03.852"W	1303.53	179.451	1.71	-0.09	-1.71	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Centerville Unit 2H
Field	Ritchie	Wellbore	Centerville Unit 2H AWB
Facility	Hichman Pad		

WELLPATH DATA (238 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
8182.00	89.380	159.940	6646.11	1337.33	-1391.24	46.12	1673135.91	14283847.27	39°20'05.179"N	80°53'03.426"W	1392.00	178.101	1.93	-0.07	1.93	
8277.00	89.510	164.190	6647.03	1432.31	-1481.80	75.37	1673165.14	14283756.94	39°20'04.285"N	80°53'03.055"W	1483.51	177.088	4.48	0.14	4.47	
8373.00	89.880	168.400	6647.54	1528.01	-1574.84	98.11	1673187.87	14283663.74	39°20'03.364"N	80°53'02.767"W	1577.90	176.435	4.40	0.39	4.39	
8468.00	89.910	168.540	6647.71	1622.41	-1667.93	117.10	1673206.85	14283570.69	39°20'02.443"N	80°53'02.527"W	1672.03	175.984	0.15	0.03	0.15	
8563.00	89.540	168.140	6648.17	1716.82	-1760.96	136.30	1673226.04	14283477.69	39°20'01.524"N	80°53'02.284"W	1766.23	175.574	0.57	-0.39	-0.42	
8657.00	89.970	169.610	6648.57	1810.14	-1853.19	154.43	1673244.17	14283385.50	39°20'00.612"N	80°53'02.055"W	1859.62	175.236	1.63	0.46	1.56	
8752.00	90.180	168.180	6648.45	1904.45	-1946.41	172.73	1673262.46	14283292.32	39°19'59.690"N	80°53'01.823"W	1954.06	174.929	1.52	0.22	-1.51	
8847.00	91.050	167.120	6647.43	1998.98	-2039.21	193.05	1673282.77	14283199.56	39°19'58.773"N	80°53'01.566"W	2048.32	174.592	1.44	0.92	-1.12	
8942.00	89.720	164.420	6646.79	2093.76	-2131.28	216.40	1673306.11	14283107.52	39°19'57.862"N	80°53'01.271"W	2142.24	174.202	3.17	-1.40	-2.84	
9036.00	89.690	164.420	6647.27	2187.67	-2221.82	241.64	1673331.35	14283017.02	39°19'56.967"N	80°53'00.951"W	2234.93	173.793	0.03	-0.03	0.00	
9131.00	90.000	162.550	6647.53	2282.64	-2312.90	268.65	1673358.34	14282925.98	39°19'56.067"N	80°53'00.609"W	2328.45	173.375	2.00	0.33	-1.97	
9226.00	89.880	158.800	6647.63	2377.59	-2402.53	300.08	1673389.76	14282836.38	39°19'55.180"N	80°53'00.210"W	2421.20	172.881	3.95	-0.13	-3.95	
9321.00	89.720	157.030	6647.96	2472.35	-2490.56	335.80	1673425.46	14282748.39	39°19'54.310"N	80°52'59.757"W	2513.09	172.321	1.87	-0.17	-1.86	
9416.00	89.780	156.040	6648.37	2566.92	-2577.70	373.52	1673463.27	14282661.28	39°19'53.448"N	80°52'59.277"W	2604.64	171.753	1.04	0.06	-1.04	
9512.00	89.570	158.030	6648.92	2662.55	-2666.08	411.08	1673500.71	14282572.93	39°19'52.574"N	80°52'58.802"W	2697.59	171.235	2.08	-0.22	2.07	
9606.00	90.120	161.920	6649.17	2756.47	-2754.36	443.34	1673532.96	14282484.70	39°19'51.701"N	80°52'58.393"W	2789.81	170.856	4.07	0.59	4.03	
9701.00	90.370	164.970	6648.77	2851.43	-2845.38	470.48	1673560.09	14282393.71	39°19'50.801"N	80°52'58.049"W	2884.02	170.611	3.33	0.26	3.32	
9795.00	89.420	163.550	6648.94	2945.34	-2935.92	495.74	1673585.35	14282303.20	39°19'49.906"N	80°52'57.729"W	2977.48	170.416	1.56	-1.01	-1.19	
9890.00	89.080	160.730	6650.18	3040.32	-3026.40	524.64	1673614.23	14282212.76	39°19'49.011"N	80°52'57.363"W	3071.54	170.165	3.30	-0.36	-3.28	
9984.00	89.420	159.620	6651.41	3134.27	-3114.82	556.51	1673646.09	14282124.38	39°19'48.137"N	80°52'56.959"W	3164.14	169.870	1.23	0.36	-1.18	
10079.00	89.480	158.390	6652.32	3229.13	-3203.51	590.55	1673680.11	14282035.73	39°19'47.260"N	80°52'56.527"W	3257.48	169.555	1.30	0.06	-1.29	
10174.00	89.570	158.860	6653.11	3323.96	-3291.97	625.17	1673714.72	14281947.30	39°19'46.385"N	80°52'56.088"W	3350.81	169.247	0.50	0.09	0.49	
10268.00	89.570	162.910	6653.82	3417.92	-3380.77	655.95	1673745.48	14281858.54	39°19'45.507"N	80°52'55.698"W	3443.81	169.020	4.31	0.00	4.31	
10363.00	89.290	161.700	6654.76	3512.92	-3471.26	684.82	1673774.35	14281768.08	39°19'44.613"N	80°52'55.332"W	3538.17	168.840	1.31	-0.29	-1.27	
10458.00	89.660	159.010	6655.63	3607.86	-3560.72	716.75	1673806.27	14281678.65	39°19'43.728"N	80°52'54.927"W	3632.15	168.619	2.86	0.39	-2.83	
10552.00	89.780	157.690	6656.09	3701.67	-3648.09	751.43	1673840.93	14281591.32	39°19'42.864"N	80°52'54.487"W	3724.67	168.361	1.41	0.13	-1.40	
10647.00	89.690	158.040	6656.53	3796.42	-3736.09	787.23	1673876.71	14281503.36	39°19'41.994"N	80°52'54.033"W	3818.12	168.101	0.38	-0.09	0.37	
10742.00	89.880	158.560	6656.89	3891.23	-3824.35	822.35	1673911.82	14281415.13	39°19'41.121"N	80°52'53.587"W	3911.77	167.864	0.58	0.20	0.55	
10837.00	89.660	158.490	6657.27	3986.05	-3912.76	857.13	1673946.59	14281326.76	39°19'40.247"N	80°52'53.146"W	4005.54	167.644	0.24	-0.23	-0.07	
10932.00	89.690	161.330	6657.81	4080.98	-4001.97	889.76	1673979.20	14281237.59	39°19'39.365"N	80°52'52.733"W	4099.68	167.465	2.99	0.03	2.99	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Hichman Pad
Slot	Slot #04
Well	Centerville Unit 2H
Wellbore	Centerville Unit 2H AWB

WELLPATH DATA (238 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
11027.00	89.850	161.410	6658.19	4175.97	-4091.99	920.11	1674009.54	14281147.60	39°19'38.474"N	80°52'52.348"W	4194.16	167.327	0.19	0.17	0.08	
11122.00	89.780	161.300	6658.50	4270.97	-4182.00	950.48	1674039.90	14281057.62	39°19'37.584"N	80°52'51.963"W	4288.65	167.195	0.14	-0.07	-0.12	
11217.00	89.820	159.120	6658.83	4365.91	-4271.38	982.64	1674072.05	14280968.28	39°19'36.701"N	80°52'51.555"W	4382.96	167.044	2.30	0.04	-2.29	
11311.00	89.510	160.860	6659.38	4459.85	-4359.70	1014.80	1674104.20	14280879.99	39°19'35.827"N	80°52'51.147"W	4476.25	166.897	1.88	-0.33	1.85	
11406.00	89.420	162.870	6660.27	4554.84	-4449.98	1044.37	1674133.75	14280789.76	39°19'34.935"N	80°52'50.773"W	4570.89	166.792	2.12	-0.09	2.12	
11501.00	89.420	163.080	6661.23	4649.82	-4540.81	1072.18	1674161.56	14280698.96	39°19'34.037"N	80°52'50.420"W	4665.68	166.715	0.22	0.00	0.22	
11596.00	89.420	163.500	6662.19	4744.79	-4631.79	1099.50	1674188.86	14280608.01	39°19'33.137"N	80°52'50.074"W	4760.50	166.646	0.44	0.00	0.44	
11689.00	89.480	165.000	6663.08	4837.71	-4721.29	1124.74	1674214.09	14280518.55	39°19'32.252"N	80°52'49.754"W	4853.42	166.600	1.61	0.06	1.61	
11783.00	89.600	167.150	6663.84	4931.47	-4812.52	1147.36	1674236.70	14280427.35	39°19'31.350"N	80°52'49.468"W	4947.40	166.590	2.29	0.13	2.29	
11878.00	89.570	167.230	6664.53	5026.07	-4905.16	1168.42	1674257.75	14280334.76	39°19'30.434"N	80°52'49.202"W	5042.40	166.602	0.09	-0.03	0.08	
11970.00	89.540	165.510	6665.24	5117.80	-4994.56	1190.10	1674279.42	14280245.39	39°19'29.550"N	80°52'48.927"W	5134.39	166.598	1.87	-0.03	-1.87	
12065.00	89.540	164.610	6666.00	5212.66	-5086.34	1214.59	1674303.91	14280153.64	39°19'28.643"N	80°52'48.617"W	5229.35	166.570	0.95	0.00	-0.95	
12160.00	89.510	164.520	6666.79	5307.56	-5177.91	1239.87	1674329.18	14280062.11	39°19'27.737"N	80°52'48.297"W	5324.29	166.534	0.10	-0.03	-0.09	
12254.00	89.510	164.900	6667.59	5401.45	-5268.58	1264.66	1674353.96	14279971.48	39°19'26.841"N	80°52'47.983"W	5418.24	166.502	0.40	0.00	0.40	
12349.00	89.540	164.680	6668.38	5496.33	-5360.25	1289.58	1674378.87	14279879.84	39°19'25.935"N	80°52'47.668"W	5513.20	166.473	0.23	0.03	-0.23	
12442.00	89.510	164.260	6669.15	5589.24	-5449.85	1314.48	1674403.76	14279790.28	39°19'25.049"N	80°52'47.352"W	5606.14	166.439	0.45	-0.03	-0.45	
12538.00	89.570	164.650	6669.92	5685.15	-5542.34	1340.21	1674429.47	14279697.83	39°19'24.134"N	80°52'47.027"W	5702.08	166.406	0.41	0.06	0.41	
12633.00	89.630	164.340	6670.59	5780.06	-5633.88	1365.60	1674454.86	14279606.33	39°19'23.229"N	80°52'46.705"W	5797.02	166.375	0.33	0.06	-0.33	
12728.00	89.540	162.690	6671.27	5875.02	-5724.97	1392.56	1674481.80	14279515.27	39°19'22.328"N	80°52'46.363"W	5891.90	166.329	1.74	-0.09	-1.74	
12823.00	89.510	162.460	6672.06	5970.01	-5815.61	1421.01	1674510.24	14279424.67	39°19'21.432"N	80°52'46.003"W	5986.70	166.269	0.24	-0.03	-0.24	
12918.00	89.570	162.140	6672.82	6065.00	-5906.11	1449.89	1674539.11	14279334.21	39°19'20.537"N	80°52'45.637"W	6081.47	166.207	0.34	0.06	-0.34	
13012.00	89.570	161.070	6673.53	6159.00	-5995.30	1479.55	1674568.76	14279245.05	39°19'19.655"N	80°52'45.261"W	6175.17	166.137	1.14	0.00	-1.14	
13106.00	89.660	160.500	6674.16	6252.97	-6084.06	1510.49	1674599.68	14279156.33	39°19'18.778"N	80°52'44.869"W	6268.76	166.057	0.61	0.10	-0.61	
13200.00	89.660	159.970	6674.72	6346.93	-6172.52	1542.28	1674631.46	14279067.90	39°19'17.903"N	80°52'44.466"W	6362.28	165.971	0.56	0.00	-0.56	
13295.00	89.480	159.880	6675.43	6441.86	-6261.75	1574.88	1674664.05	14278978.71	39°19'17.021"N	80°52'44.053"W	6456.76	165.882	0.21	-0.19	-0.09	
13391.00	89.630	159.130	6676.18	6537.77	-6351.67	1608.49	1674697.65	14278888.83	39°19'16.132"N	80°52'43.627"W	6552.17	165.789	0.80	0.16	-0.78	
13486.00	89.570	162.040	6676.84	6632.73	-6441.25	1640.07	1674729.21	14278799.28	39°19'15.246"N	80°52'43.226"W	6646.77	165.715	3.06	-0.06	3.06	
13579.00	89.630	163.960	6677.49	6725.71	-6530.18	1667.26	1674766.39	14278710.38	39°19'14.366"N	80°52'42.882"W	6739.66	165.677	2.07	0.06	2.06	
13674.00	89.630	162.370	6678.10	6820.68	-6621.11	1694.77	1674783.89	14278619.50	39°19'13.467"N	80°52'42.533"W	6834.57	165.643	1.67	0.00	-1.67	
13769.00	89.690	161.600	6678.67	6915.68	-6711.45	1724.15	1674813.26	14278529.19	39°19'12.574"N	80°52'42.161"W	6929.37	165.592	0.81	0.06	-0.81	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Centerville Unit 2H
Area	Wellbore	Centerville Unit 2H AWB
Field		
Facility		

WELLPATH DATA (238 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (IUS ft)	Grid North (IUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
13864.00	89.660	161.060	6679.21	7010.67	-6801.45	1754.56	1674843.66	14278439.23	39°19'11.684"N	80°52'41.776"W	7024.11	165.535	0.57	-0.03	-0.57	
13960.00	89.720	159.640	6679.73	7106.63	-6891.85	1786.84	1674875.92	14278348.86	39°19'10.790"N	80°52'41.366"W	7119.72	165.465	1.48	0.06	-1.48	
14053.00	89.690	157.940	6680.21	7199.48	-6978.55	1820.48	1674909.56	14278262.20	39°19'09.933"N	80°52'40.940"W	7212.09	165.379	1.83	-0.03	-1.83	
14148.00	89.720	158.450	6680.69	7294.27	-7066.75	1855.77	1674944.83	14278174.03	39°19'09.061"N	80°52'40.492"W	7306.36	165.286	0.54	0.03	0.54	
14243.00	89.540	159.350	6681.31	7389.14	-7155.44	1889.82	1674978.86	14278085.38	39°19'08.184"N	80°52'40.061"W	7400.79	165.205	1.17	-0.19	1.16	
14337.00	89.510	158.780	6682.09	7483.02	-7243.29	1923.25	1675012.28	14277997.57	39°19'07.315"N	80°52'39.637"W	7494.27	165.130	0.82	-0.03	-0.82	
14430.00	89.450	159.740	6682.93	7575.91	-7330.25	1956.18	1675045.20	14277910.63	39°19'06.455"N	80°52'39.219"W	7586.78	165.058	1.03	-0.06	1.03	
14525.00	89.660	161.470	6683.67	7670.87	-7419.86	1987.73	1675076.73	14277821.07	39°19'05.569"N	80°52'38.820"W	7681.49	165.003	1.83	0.22	1.82	
14621.00	89.450	162.120	6684.41	7766.87	-7511.05	2017.72	1675106.71	14277729.91	39°19'04.667"N	80°52'38.440"W	7777.34	164.963	0.71	-0.22	0.68	
14715.00	89.540	162.880	6685.24	7860.86	-7600.69	2045.98	1675134.96	14277640.30	39°19'03.781"N	80°52'38.081"W	7871.25	164.934	0.81	0.10	0.81	
14811.00	89.910	161.780	6685.70	7956.86	-7692.16	2075.12	1675164.09	14277548.87	39°19'02.876"N	80°52'37.712"W	7967.15	164.903	1.21	0.39	-1.15	
14906.00	89.880	162.350	6685.88	8051.86	-7782.54	2104.37	1675193.33	14277458.52	39°19'01.983"N	80°52'37.342"W	8062.03	164.869	0.60	-0.03	0.60	
15001.00	89.940	163.080	6686.03	8146.85	-7873.25	2132.60	1675221.55	14277367.85	39°19'01.086"N	80°52'36.984"W	8156.97	164.844	0.77	0.06	0.77	
15096.00	89.940	162.890	6686.13	8241.83	-7964.10	2160.40	1675249.33	14277277.05	39°19'00.187"N	80°52'36.632"W	8251.92	164.823	0.20	0.00	-0.20	
15192.00	89.820	161.430	6686.69	8337.83	-8055.24	2190.52	1675279.45	14277185.94	39°18'59.286"N	80°52'36.250"W	8347.77	164.787	2.46	-0.17	-2.46	
15287.00	89.880	161.330	6687.88	8432.81	-8145.05	2221.48	1675310.39	14277096.16	39°18'58.398"N	80°52'35.858"W	8442.56	164.744	0.95	0.04	0.95	
15382.00	89.880	159.990	6686.94	8527.78	-8234.71	2252.87	1675341.76	14277006.53	39°18'57.512"N	80°52'35.460"W	8537.33	164.699	1.52	0.06	-1.52	
15476.00	89.910	158.110	6687.11	8621.65	-8322.50	2286.47	1675375.36	14276918.79	39°18'56.643"N	80°52'35.034"W	8630.87	164.638	2.00	0.03	-2.00	
15569.00	89.910	158.390	6687.26	8714.46	-8408.88	2320.94	1675409.81	14276832.44	39°18'55.789"N	80°52'34.597"W	8723.30	164.570	0.30	0.00	0.30	
15665.00	89.880	158.400	6687.44	8810.27	-8498.13	2356.28	1675445.14	14276743.22	39°18'54.907"N	80°52'34.149"W	8818.75	164.503	0.03	-0.03	0.01	
15759.00	89.850	162.440	6687.66	8904.21	-8586.68	2387.78	1675476.62	14276654.71	39°18'54.031"N	80°52'33.750"W	8912.49	164.460	4.30	-0.03	4.30	
15854.00	89.880	163.330	6687.88	8999.20	-8677.47	2415.74	1675504.57	14276563.96	39°18'53.133"N	80°52'33.396"W	9007.45	164.443	0.94	0.03	0.94	
15949.00	89.780	160.540	6688.16	9094.19	-8767.78	2445.19	1675534.01	14276473.69	39°18'52.240"N	80°52'33.022"W	9102.35	164.417	2.94	-0.11	-2.94	
16044.00	89.850	163.400	6688.47	9189.18	-8858.10	2474.59	1675563.40	14276383.40	39°18'51.347"N	80°52'32.650"W	9197.26	164.392	3.01	0.07	3.01	
16139.00	89.850	164.140	6688.72	9284.13	-8949.31	2501.14	1675589.94	14276292.22	39°18'50.445"N	80°52'32.314"W	9292.25	164.385	0.78	0.00	0.78	
16234.00	89.820	163.580	6688.99	9379.08	-9040.57	2527.55	1675616.34	14276201.00	39°18'49.543"N	80°52'31.979"W	9387.25	164.380	0.59	-0.03	-0.59	
16328.00	89.880	165.790	6689.24	9472.97	-9131.23	2552.38	1675641.16	14276110.38	39°18'48.647"N	80°52'31.665"W	9481.24	164.383	2.35	0.06	2.35	
16423.00	90.120	166.940	6689.24	9567.69	-9223.55	2574.77	1675663.54	14276018.10	39°18'47.734"N	80°52'31.382"W	9576.18	164.403	1.24	0.25	1.21	
16519.00	90.060	163.030	6689.09	9663.54	-9316.25	2599.64	1675688.40	14275925.43	39°18'46.817"N	80°52'31.067"W	9672.16	164.409	4.07	-0.06	-4.07	
16613.00	90.030	166.970	6689.01	9757.39	-9407.03	2623.96	1675712.71	14275834.69	39°18'45.920"N	80°52'30.759"W	9766.14	164.414	4.19	-0.03	4.19	



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Hichman Pad	Well	Centerville Unit 2H
				Wellbore	Centerville Unit 2H AWB

WELLPATH DATA (238 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
16709.00	90.000	166.140	6688.99	9853.09	-9500.40	2646.29	1675735.03	14275741.36	39°18'44.997"N	80°52'30.477"W	9862.07	164.435	0.87	-0.03	-0.86	
16804.00	90.340	163.860	6688.71	9947.95	-9592.15	2670.87	1675759.60	14275649.64	39°18'44.089"N	80°52'30.166"W	9957.06	164.440	2.43	0.36	-2.40	
16899.00	90.400	166.180	6688.09	10042.81	-9683.92	2695.42	1675784.15	14275557.91	39°18'43.182"N	80°52'29.855"W	10052.04	164.446	2.44	0.06	2.44	
16993.00	90.250	164.910	6687.56	10136.63	-9774.94	2718.89	1675807.60	14275466.93	39°18'42.282"N	80°52'29.558"W	10146.02	164.456	1.36	-0.16	-1.35	
17088.00	90.310	159.690	6687.10	10231.59	-9865.41	2747.76	1675836.46	14275376.49	39°18'41.388"N	80°52'29.192"W	10240.92	164.436	5.50	0.06	-5.49	
17183.00	90.150	159.630	6686.71	10326.51	-9954.48	2780.78	1675869.47	14275287.45	39°18'40.507"N	80°52'28.774"W	10335.59	164.392	0.18	-0.17	-0.06	
17277.00	90.340	162.760	6686.31	10420.49	-10043.46	2811.08	1675899.75	14275198.57	39°18'39.627"N	80°52'28.390"W	10429.44	164.364	3.34	0.20	3.33	
17372.00	90.060	160.610	6685.98	10515.48	-10133.64	2840.93	1675929.59	14275108.32	39°18'38.735"N	80°52'28.012"W	10524.33	164.339	2.28	-0.29	-2.26	
17467.00	90.000	160.300	6685.93	10610.45	-10223.16	2872.71	1675961.36	14275018.88	39°18'37.850"N	80°52'27.609"W	10619.11	164.305	0.33	-0.06	-0.33	
17562.00	89.910	158.110	6686.01	10705.33	-10311.97	2906.44	1675995.07	14274930.11	39°18'36.972"N	80°52'27.181"W	10713.73	164.259	2.31	-0.09	-2.31	
17657.00	89.940	158.520	6686.13	10800.13	-10400.25	2941.54	1676030.16	14274841.87	39°18'36.099"N	80°52'26.736"W	10808.23	164.207	0.43	0.03	0.43	
17752.00	89.970	158.300	6686.20	10894.95	-10488.58	2976.50	1676065.10	14274753.57	39°18'35.225"N	80°52'26.293"W	10902.74	164.157	0.23	0.03	-0.23	
17847.00	89.910	155.920	6686.30	10989.60	-10576.09	3013.44	1676102.04	14274666.10	39°18'34.360"N	80°52'25.825"W	10997.03	164.096	2.51	-0.06	-2.51	
17942.00	90.030	159.290	6686.35	11084.31	-10663.91	3049.63	1676138.21	14274578.31	39°18'33.491"N	80°52'25.366"W	11091.41	164.041	3.55	0.13	3.55	
18037.00	90.060	161.970	6686.28	11179.27	-10753.53	3081.14	1676169.71	14274488.73	39°18'32.605"N	80°52'24.967"W	11186.23	164.012	2.82	0.03	2.82	
18132.00	90.000	163.800	6686.23	11274.25	-10844.32	3109.10	1676197.65	14274397.98	39°18'31.707"N	80°52'24.613"W	11281.21	164.002	1.93	-0.06	1.93	
18227.00	89.510	164.370	6686.64	11369.19	-10935.68	3135.14	1676223.69	14274306.66	39°18'30.804"N	80°52'24.283"W	11376.21	164.003	0.79	-0.52	0.60	
18322.00	89.630	163.180	6687.35	11464.14	-11026.89	3161.69	1676250.22	14274215.48	39°18'29.902"N	80°52'23.947"W	11471.20	164.001	1.26	0.13	-1.25	
18417.00	89.720	163.400	6687.89	11559.11	-11117.87	3189.00	1676277.53	14274124.53	39°18'29.003"N	80°52'23.601"W	11566.20	163.995	0.25	0.09	0.23	
18512.00	89.630	162.490	6688.43	11654.10	-11208.69	3216.86	1676305.38	14274033.75	39°18'28.105"N	80°52'23.248"W	11661.18	163.987	0.96	-0.09	-0.96	
18606.00	89.510	160.770	6689.13	11748.09	-11297.90	3246.49	1676334.99	14273944.58	39°18'27.222"N	80°52'22.873"W	11755.09	163.968	1.83	-0.13	-1.83	
18701.00	89.540	160.200	6689.92	11843.05	-11387.44	3278.22	1676366.71	14273855.08	39°18'26.337"N	80°52'22.471"W	11849.91	163.940	0.60	0.03	-0.60	
18796.00	89.570	160.550	6690.71	11938.01	-11476.92	3310.13	1676398.60	14273765.63	39°18'25.452"N	80°52'22.069"W	11944.73	163.912	0.37	-0.03	0.37	
18890.00	89.600	156.390	6691.44	12031.81	-11564.34	3344.61	1676433.08	14273678.25	39°18'24.588"N	80°52'21.629"W	12038.28	163.869	4.43	0.10	-4.43	
18985.00	89.600	156.020	6692.10	12126.32	-11651.26	3382.94	1676471.39	14273591.36	39°18'23.728"N	80°52'21.143"W	12132.44	163.809	0.39	0.00	-0.39	
19080.00	89.720	159.410	6692.66	12221.04	-11739.15	3418.96	1676507.39	14273503.51	39°18'22.859"N	80°52'20.687"W	12226.89	163.762	3.57	0.13	3.57	
19139.00	89.630	157.930	6693.00	12279.94	-11794.10	3440.42	1676528.84	14273448.57	39°18'22.315"N	80°52'20.414"W	12285.66	163.738	2.51	-0.15	-2.51	
19164.00	89.630	157.930	6693.16	12304.88	-11817.27	3449.81	1676538.23	14273425.41	39°18'22.086"N	80°52'20.295"W	12310.53	163.726	0.00	0.00	0.00	Projected MD at TD: 19164'



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Centerville Unit 2H
Area	Wellbore	Centerville Unit 2H AWB
Field		
Facility		

HOLE & CASING SECTIONS - Ref Wellbore: Centerville Unit 2H AWB Ref Wellpath: Centerville Unit 2H AWP Proj: 19164'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.01	0.02
17.5in Open Hole	104.50	475.40	370.90	104.50	475.39	-0.01	0.02	-1.85	0.91
13.375in Casing Surface	24.50	475.40	450.90	24.50	475.39	0.00	0.00	-1.85	0.91
12.25in Open Hole	475.40	2577.30	2101.90	475.39	2575.64	-1.85	0.91	23.98	-44.35
9.625in Casing Intermediate	24.50	2577.30	2552.80	24.50	2575.64	0.00	0.00	23.98	-44.35
8.75in Open Hole	2577.30	6578.50	4001.20	2575.64	6456.05	23.98	-44.35	75.56	-473.43
8.5in Open Hole	6578.50	19164.00	12585.50	6456.05	6693.16	75.56	-473.43	-11817.27	3449.81
5.5in Casing Production	24.50	19164.00	19139.50	24.50	6693.16	0.00	0.00	-11817.27	3449.81

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Centerville Unit 2H POE Rev-3	6620.00	-209.90	-381.81	1672708.14	14285028.13	39°20'16.860"N	80°53'08.853"W	point
Centerville Unit 2H BHL Rev-4	6643.00	-11773.34	3393.42	1676481.86	14273469.33	39°18'22.521"N	80°52'21.012"W	point
Centerville Unit 2H LP Rev-1	6643.00	-385.93	-317.74	1672772.19	14284852.18	39°20'15.120"N	80°53'08.040"W	point



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Ritchie County, WV	Well	Centerville Unit 2H
Field	Ritchie	Wellbore	Centerville Unit 2H AWB
Facility	Hichman Pad		

WELLPATH COMPOSITION - Ref Wellbore: Centerville Unit 2H AWB Ref Wellpath: Centerville Unit 2H AWP Proj: 19164'			
Start MD (ft)	End MD (ft)	Positional Uncertainty Model	Log Name/Comment
24.50	454.50	Gyrodata standard - Single-shot	01 Gyrodata SS Gyro <17-1/2">(100'-445')
454.50	779.50	Gyrodata standard - Single-shot	02 Gyrodata SS Gyro <12-1/4">(445')(501'-770')
779.50	2497.50	ISCVSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(770')(886'-2488')
2497.50	6480.50	ISCVSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2488')(2593'-6471')
6480.50	19139.00	BH AutoTrak Curve (Short)	05 BH AT Curve <8-1/2">(6480.50')(6559'-19139')
19139.00	19164.00	Blind Drilling (std)	Projection to bit
			Wellbore



Actual Wellpath Report

Centerville Unit 2H AWP Proj: 19164'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #04
ANTERO RESOURCES CORPORATION	Well	Centerville Unit 2H
Ritchie County, WV	Wellbore	Centerville Unit 2H AWB
Ritchie		
Hichman Pad		

COMMENTS

Wellpath general comments
 API: 47-085-10338-0000
 BHI Job #: 9263334
 Rig: Frontier 22
 Duration: 07/08/2018-07/12/2018
 Gyrodatta MS Gyro <17'-1/2"> (100'-445')
 Gyrodatta MS Gyro <12-1/4"> (445')(501'-770')
 WFT EM <12-1/4"> (770')(886'-2488')
 WFT EM <8-3/4"> (2488')(2593'-6471')
 BHI AT Curve <8-1/2"> (6480.50')(6559'-19139')
 Burkett: 6740' MD
 Tully: 6816' MD
 Marcellus POE: 6907' MD
 Projected MD at TD: 19164'