

# ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV  
 Field: Ritchie  
 Facility: Pool Pad  
 Slot: Slot #02  
 Well: Barr Unit 1H  
 Wellbore: Barr Unit 1H PWB



Gyrodatta MS Gyro <17-1/2"> (100-398) : 100.00ft TVD, 0.40ft S, 0.36ft W  
 Panther EM <12-1/4"> (398)(433-2660) : 397.99ft TVD, 1.88ft S, 1.13ft W  
 Panther EM <8-3/4"> (2660)(2760-6544) : 2512.79ft TVD, 260.16ft N, 680.59ft W  
 BHI AT Curve <8-1/2"> (6544)(6587-17873) : 5531.82ft TVD, 1141.30ft N, 2943.50ft W

Marcellus POE: 7835° MD : 6469.02ft TVD, 596.54ft N, 3263.02ft W

API: 47-085-10315-0000  
 BHI Job #: 9241794  
 Rig: Patterson 342  
 Duration: 08/03/2018-08/06/2018

Plot reference wellpath is Barr Unit 1H PWB Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 1209 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #02): -1184 feet	Created by: delasei on 2018-08-21
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

Gyrodatta MS Gyro <17-1/2"> (100-398) : 0.83° Inc, 100.00ft MD, 100.00ft TVD, 0.27ft VS

Panther EM <12-1/4"> (398)(433-2660) : 0.19° Inc, 398.00ft MD, 397.99ft TVD, 1.43ft VS

### Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Pool Pad	1665425.320	14270439.840	39°17'52.697"N	80°54'41.762"W
Slot #02	27.59	-12.45	1665412.870	14270467.418
Patterson 342 (RKB) to Ground level (At Slot: Slot #02)			25f	
Mean Sea Level to Ground level (At Slot: Slot #02)			-1184ft	
Patterson 342 (RKB) to Mean Sea Level			1209ft	

Panther EM <8-3/4"> (2660)(2760-6544) : 25.71° Inc, 2660.00ft MD, 2512.79ft TVD, -457.44ft VS

### Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6544.00	37.990	290.650	5531.82	1141.30	-2943.50	1.83	-1993.75
Proj. To Bottom	6615.00	39.900	290.750	5587.03	1157.07	-2985.24	2.89	-2021.63
End of 3D Arc	7760.45	67.623	167.961	6433.14	657.98	-3285.22	8.00	-1639.43
POE	7872.70	75.123	162.025	6469.00	555.40	-3257.60	8.35	-1533.34
Landing Pt.	8050.85	90.000	162.025	6492.00	387.84	-3203.24	8.35	-1357.17
BHL	17852.38	90.000	162.025	6492.00	-8935.31	-178.52	0.00	8444.36

Projected MD at TD: 17898° : 6512.08ft TVD, 8949.95ft S, 159.36ft W

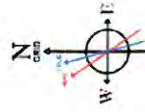
BHI AT Curve <8-1/2"> (6544)(6587-17873) : 37.99° Inc, 6544.00ft MD, 5531.82ft TVD, -1993.75ft VS

Slot	Well	Wellbore	Wellpath
Slot #02	Barr Unit 1H	Barr Unit 1H AWB	Barr Unit 1H AWP Proj: 17898°
Slot #02	Barr Unit 1H	Barr Unit 1H PWB	Barr Unit 1H PWB Rev-A.0

Marcellus POE: 7835° MD : 74.08° Inc, 7835.00ft MD, 6469.02ft TVD, -1574.14ft VS

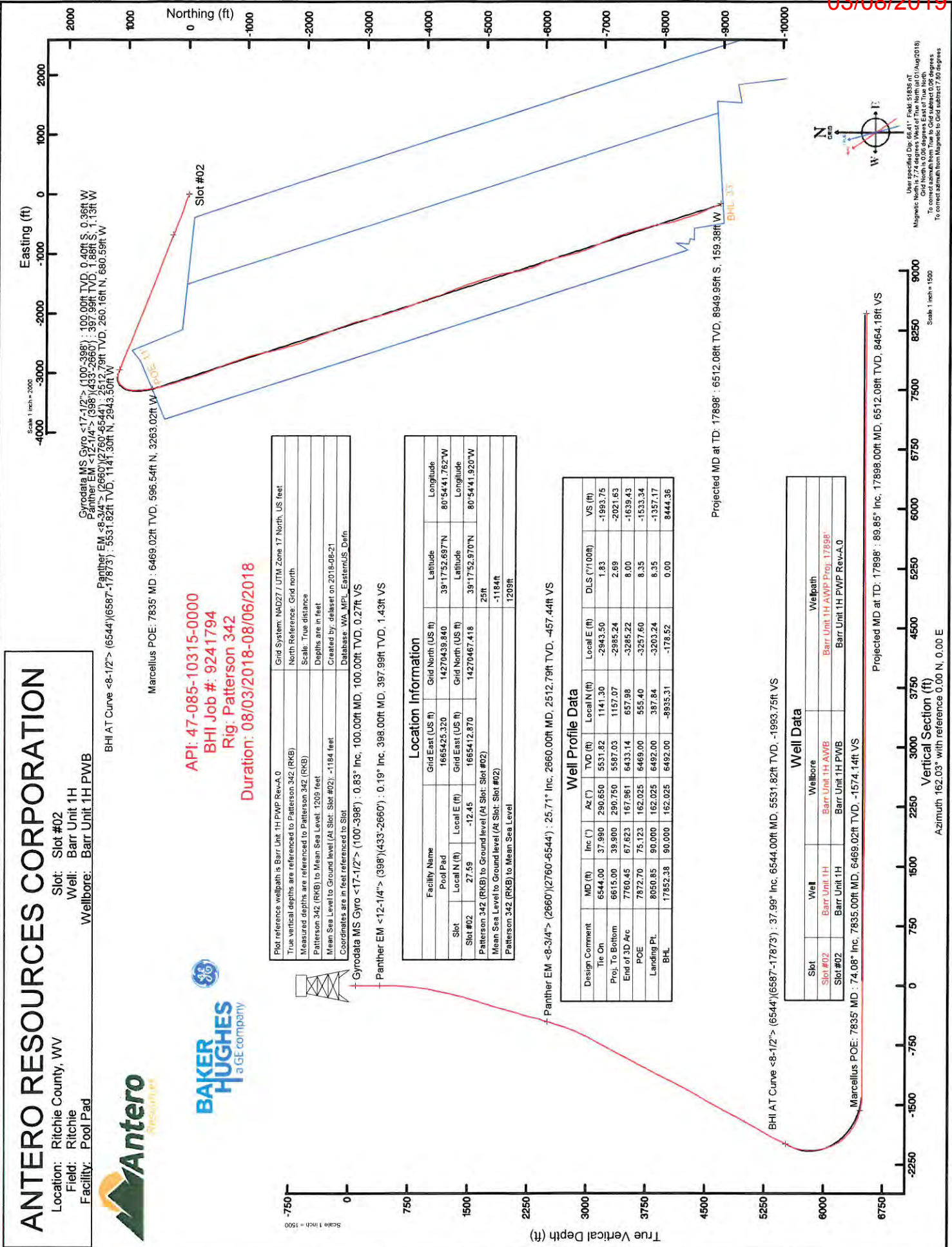
Projected MD at TD: 17898° : 89.85° Inc, 17898.00ft MD, 6512.08ft TVD, 8464.18ft VS

Vertical Section (ft)  
 Azimuth 162.03° with reference 0.00 N, 0.00 E



User specified Dip: 66.41° Field: 51836° N  
 Magnetic North is 7.74 degrees West of True North as of 01/01/2018  
 To correct azimuth from True to Grid subtract 0.00 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.80 degrees

03/08/2019





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 1 of 11



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Pool Pad
Slot	Slot #02
Well	Barr Unit 1H
Wellbore	Barr Unit 1H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999601
Convergence at slot	0.06° East
Software System	WellArchitect® 5.1
User	Delaset
Report Generated	21/Aug/2018 at 15:21
Database/Source file	WA_MPL_EasternUS_Defn/Barr_Unit_1H_AWP_Proj_17898_.xml

WELLPATH LOCATION				
	Local coordinates		Grid coordinates	
	North[ft]	East[ft]	Northing[US ft]	Latitude
Slot Location	27.59	-12.45	14270467.42	39°17'52.970"N
Facility Reference Pt			14270439.84	39°17'52.697"N
Field Reference Pt			0.00	0°00'00.000"
				85°29'19.301"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	Patterson 342 (RKB)
MD Reference Pt	Patterson 342 (RKB)
Field Vertical Reference	Mean Sea Level
	Patterson 342 (RKB) to Facility Vertical Datum
	Patterson 342 (RKB) to Mean Sea Level
	Patterson 342 (RKB) to Ground Level at Slot (Slot #02)
	Section Origin
	Section Azimuth
	25.00ft
	1209.00ft
	25.00ft
	N 0.00, E 0.00 ft
	162.03°





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'  
Page 2 of 11



REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #02
Operator	ANTERO RESOURCES CORPORATION	Well	Barr Unit 1H
Area	Ritchie County, WV	Wellbore	Barr Unit 1H AWB
Field	Ritchie		
Facility	Pool Pad		

WELLPATH DATA (222 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
0.00	0.00	222.150	0.00	0.00	0.00	0.00	1665412.87	14270467.42	39°17'52.970"N	80°54'41.920"W	0.00	0.00	0.00	0.00	0.00	
25.00	0.00	222.150	25.00	0.00	0.00	0.00	1665412.87	14270467.42	39°17'52.970"N	80°54'41.920"W	0.00	0.00	0.00	0.00	0.00	
100.00	0.830	222.150	100.00	0.27	-0.40	-0.36	1665412.51	14270467.02	39°17'52.966"N	80°54'41.925"W	0.54	222.150	1.11	1.11	-183.80	Syrodata MS Gyro <17-1/2"> (100-398)
125.00	0.820	223.330	124.99	0.45	-0.67	-0.61	1665412.26	14270466.75	39°17'52.963"N	80°54'41.928"W	0.90	222.384	0.08	0.08	-0.04	4.72
150.00	0.870	223.200	149.99	0.62	-0.94	-0.86	1665412.01	14270466.48	39°17'52.961"N	80°54'41.931"W	1.27	222.639	0.20	0.20	-0.52	
175.00	0.530	214.910	174.99	0.79	-1.17	-1.06	1665411.81	14270466.25	39°17'52.958"N	80°54'41.933"W	1.58	222.141	1.42	1.36	-33.16	
200.00	0.220	204.770	199.99	0.89	-1.31	-1.14	1665411.70	14270466.11	39°17'52.957"N	80°54'41.935"W	1.74	221.188	1.26	-1.24	-40.56	
225.00	0.150	191.810	224.99	0.95	-1.38	-1.17	1665411.70	14270465.92	39°17'52.956"N	80°54'41.935"W	1.81	220.251	0.32	-0.28	-51.84	
250.00	0.120	168.760	249.99	1.01	-1.44	-1.17	1665411.70	14270465.98	39°17'52.956"N	80°54'41.935"W	1.86	219.139	0.25	-0.12	-92.20	
275.00	0.160	170.600	274.99	1.07	-1.50	-1.16	1665411.71	14270465.92	39°17'52.955"N	80°54'41.935"W	1.90	217.740	0.16	0.16	7.36	
300.00	0.240	164.540	299.99	1.16	-1.59	-1.14	1665411.73	14270465.83	39°17'52.954"N	80°54'41.935"W	1.95	215.760	0.33	0.32	-24.24	
325.00	0.130	179.240	324.99	1.24	-1.66	-1.13	1665411.74	14270465.75	39°17'52.954"N	80°54'41.934"W	2.01	214.115	0.48	-0.44	58.80	
350.00	0.170	183.360	349.99	1.30	-1.73	-1.13	1665411.74	14270465.69	39°17'52.953"N	80°54'41.934"W	2.07	213.139	0.17	0.16	16.48	
375.00	0.170	182.060	374.99	1.37	-1.80	-1.13	1665411.74	14270465.62	39°17'52.952"N	80°54'41.934"W	2.13	212.128	0.02	0.00	-5.20	
398.00	0.190	178.780	397.99	1.43	-1.88	-1.13	1665411.74	14270465.54	39°17'52.951"N	80°54'41.934"W	2.19	211.133	0.10	0.09	-14.26	Panther EM <12-1/4"> (398)(433-2660)
433.00	0.240	152.360	432.99	1.56	-2.00	-1.10	1665411.77	14270465.42	39°17'52.950"N	80°54'41.934"W	2.28	208.778	0.31	0.14	-75.49	
503.00	0.540	335.080	502.99	1.38	-1.83	-1.17	1665411.70	14270465.59	39°17'52.952"N	80°54'41.935"W	2.17	212.573	1.11	0.43	-253.26	
594.00	2.560	304.830	593.95	-0.66	-0.28	-3.02	1665409.85	14270467.14	39°17'52.967"N	80°54'41.958"W	3.03	264.701	2.32	2.22	-33.24	
684.00	5.390	300.360	683.73	-5.42	3.01	-8.32	1665404.56	14270470.42	39°17'53.000"N	80°54'42.026"W	8.84	289.868	3.16	3.14	-4.97	
775.00	8.400	296.580	774.06	-13.28	8.14	-17.95	1665394.93	14270475.56	39°17'53.051"N	80°54'42.148"W	19.71	294.394	3.34	3.31	-4.15	
869.00	10.740	296.040	866.74	-24.19	15.06	-31.96	1665380.92	14270482.47	39°17'53.119"N	80°54'42.326"W	35.33	295.227	2.49	2.49	-0.57	
964.00	13.330	295.030	959.65	-37.81	23.58	-49.84	1665363.05	14270490.99	39°17'53.204"N	80°54'42.554"W	55.14	295.318	2.74	2.73	-1.06	
1058.00	16.030	296.060	1050.57	-54.22	33.87	-71.32	1665341.58	14270501.27	39°17'53.305"N	80°54'42.827"W	78.96	295.401	2.89	2.87	1.10	
1152.00	18.690	293.040	1140.28	-73.13	45.47	-96.85	1665316.06	14270512.87	39°17'53.420"N	80°54'43.151"W	106.99	295.148	2.99	2.83	-3.21	
1246.00	20.640	288.130	1228.80	-92.78	56.52	-126.46	1665286.46	14270523.91	39°17'53.530"N	80°54'43.528"W	138.51	294.082	2.72	2.07	-5.22	
1340.00	22.860	284.920	1316.11	-112.45	66.38	-159.85	1665253.08	14270533.77	39°17'53.628"N	80°54'43.952"W	173.08	292.550	2.68	2.36	-3.41	
1434.00	25.110	286.550	1401.99	-133.68	76.76	-196.62	1665216.33	14270544.15	39°17'53.731"N	80°54'44.420"W	211.07	291.326	2.50	2.39	1.73	
1529.00	26.730	289.670	1487.43	-158.15	89.69	-236.06	1665176.90	14270557.08	39°17'53.859"N	80°54'44.922"W	252.53	290.805	2.23	1.71	3.28	
1623.00	27.670	288.930	1571.03	-184.16	103.89	-276.61	1665136.37	14270571.27	39°17'53.999"N	80°54'45.437"W	295.48	290.585	1.06	1.00	-0.79	
1717.00	27.840	288.590	1654.22	-210.65	118.33	-317.94	1665095.06	14270585.70	39°17'54.143"N	80°54'45.963"W	339.24	290.414	0.37	0.18	0.70	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'  
Page 3 of 11



REFERENCE WELLPATH IDENTIFICATION		Slot
Operator	ANTERO RESOURCES CORPORATION	Slot #02
Area	Ritchie County, WV	Barr Unit 1H
Field	Ritchie	Barr Unit 1H AWB
Facility	Pool Pad	

WELLPATH DATA (222 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
1812.00	25.330	290.680	1738.80	-237.33	133.21	-358.55	1665054.46	14270600.57	39°17'54.290"N	80°54'46.479"W	382.50	290.381	1.67	-1.59	1.15	
1906.00	24.030	291.990	1823.86	-262.85	147.74	-395.81	1665017.22	14270615.10	39°17'54.434"N	80°54'46.953"W	422.48	290.469	2.52	-2.45	1.39	
2000.00	24.250	290.990	1909.64	-287.08	161.82	-431.58	16649981.47	14270629.17	39°17'54.574"N	80°54'47.408"W	460.92	290.554	0.49	0.23	-1.06	
2095.00	23.710	291.480	1996.44	-311.48	175.80	-467.56	16649549.49	14270643.15	39°17'54.712"N	80°54'47.865"W	499.52	290.606	0.61	-0.57	0.52	
2189.00	24.270	292.040	2082.32	-335.91	189.97	-503.06	16649101.01	14270657.32	39°17'54.852"N	80°54'48.317"W	537.73	290.688	0.64	0.60	0.60	
2283.00	25.480	291.810	2167.60	-361.27	204.74	-539.74	1664873.35	14270672.07	39°17'54.999"N	80°54'48.783"W	577.26	290.773	1.29	1.29	-0.24	
2377.00	25.250	289.160	2253.22	-385.41	218.34	-576.04	1664837.06	14270686.57	39°17'55.133"N	80°54'49.248"W	616.03	290.758	2.64	-2.37	-2.82	
2471.00	22.200	290.640	2339.93	-407.69	230.69	-610.19	1664802.93	14270698.01	39°17'55.256"N	80°54'49.679"W	652.34	290.710	1.27	-1.12	1.57	
2566.00	23.710	292.970	2427.40	-431.41	244.47	-644.57	1664768.56	14270711.79	39°17'55.392"N	80°54'50.116"W	689.37	290.771	1.85	1.59	2.45	
2660.00	25.710	294.060	2512.79	-457.44	260.16	-680.59	1664732.55	14270727.47	39°17'55.548"N	80°54'50.574"W	728.62	290.920	2.18	2.13	1.16	Panther EM <8-3/4"> (2660)/(2760-6544)
2760.00	25.540	291.670	2602.96	-485.72	276.96	-720.43	1664692.73	14270744.27	39°17'55.714"N	80°54'51.081"W	771.84	291.029	1.05	-0.17	-2.39	
2823.00	24.990	289.820	2659.93	-502.54	286.49	-745.57	1664667.29	14270753.79	39°17'55.809"N	80°54'51.400"W	798.72	291.020	1.53	-0.87	-2.94	
2917.00	29.520	291.020	2743.48	-529.29	301.54	-785.89	1664627.29	14270768.84	39°17'55.958"N	80°54'51.913"W	841.75	290.991	4.85	4.82	1.28	
3011.00	35.390	291.720	2902.20	-594.96	319.65	-831.33	1664581.88	14270786.94	39°17'56.137"N	80°54'52.491"W	890.66	291.032	4.00	3.93	1.45	
3106.00	39.820	292.040	3051.71	-667.29	381.40	-986.96	1664426.31	14270807.02	39°17'56.336"N	80°54'53.122"W	944.19	291.089	2.33	2.29	-0.69	
3200.00	37.000	291.010	2978.06	-630.14	359.96	-932.64	1664400.60	14270827.23	39°17'56.537"N	80°54'53.779"W	999.70	291.104	1.77	1.71	-0.76	
3294.00	40.410	291.990	3124.36	-706.82	404.34	-1043.70	1664369.58	14270848.66	39°17'56.749"N	80°54'54.470"W	1058.09	291.128	3.08	3.00	1.10	
3389.00	40.800	290.580	3196.49	-745.74	426.78	-1101.31	1664312.00	14270894.03	39°17'57.199"N	80°54'55.924"W	1119.29	291.177	0.62	0.62	-0.05	
3484.00	41.620	290.100	3267.96	-784.54	448.53	-1160.00	1664253.34	14270915.77	39°17'57.414"N	80°54'56.670"W	1181.12	291.182	1.05	0.41	-1.48	
3579.00	41.280	288.770	3338.41	-822.33	469.24	-1218.68	1664194.68	14270936.66	39°17'57.619"N	80°54'57.416"W	1243.70	291.140	0.93	0.86	-0.51	
3673.00	40.820	289.430	3409.30	-859.54	489.44	-1277.01	1664136.37	14270956.66	39°17'57.819"N	80°54'58.158"W	1305.89	291.059	1.00	-0.36	-1.41	
3767.00	40.050	291.210	3481.61	-897.71	510.83	-1334.79	1664078.62	14270978.04	39°17'58.031"N	80°54'58.892"W	1367.59	290.970	0.67	-0.49	0.70	
3862.00	40.350	290.940	3553.41	-935.93	532.64	-1391.40	1664022.03	14270999.85	39°17'58.248"N	80°54'59.612"W	1429.19	290.942	1.46	-0.81	1.87	
3956.00	40.120	291.830	3625.93	-974.84	555.02	-1448.54	1663984.91	14271022.21	39°17'58.469"N	80°55'00.339"W	1489.87	290.947	0.37	0.32	-0.29	
4051.00	39.730	290.050	3698.02	-1012.73	576.58	-1504.88	1663908.60	14271043.76	39°17'58.683"N	80°55'01.055"W	1551.23	290.965	0.65	-0.24	0.94	
4145.00	39.930	292.100	3770.98	-1051.06	598.46	-1561.65	1663851.85	14271065.64	39°17'58.900"N	80°55'01.777"W	1611.55	290.964	1.28	-0.41	-1.89	
4240.00	40.130	291.360	3842.96	-1089.68	620.84	-1617.81	1663795.71	14271088.01	39°17'59.121"N	80°55'02.491"W	1672.39	290.968	1.40	0.21	2.16	
4334.00	39.160	292.700	3916.11	-1128.63	643.57	-1674.00	1663739.55	14271110.73	39°17'59.346"N	80°55'03.206"W	1732.84	290.995	0.55	0.21	-0.79	
4429.00	38.010	290.850	3969.59	-1166.12	665.32	-1728.43	1663685.14	14271132.48	39°17'59.562"N	80°55'03.898"W	1793.44	291.029	1.36	-1.02	1.41	
4523.00											1852.06	291.053	1.73	-1.22	-1.97	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 4 of 11



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #02
ANTERO RESOURCES CORPORATION	Barr Unit 1H
Area	Ritchie County, WV
Field	Ritchie
Facility	Pool Pad

## WELLPATH DATA (222 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (JUS ft)	Grid North (JUS ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
4618.00	37.500	291.720	4064.70	-1202.93	686.44	-1782.63	1663630.96	14271153.58	39°17'59.771"N	80°55'04.587"W	1910.22	291.060	0.78	-0.54	0.92	
4712.00	39.660	290.680	4138.18	-1239.94	707.62	-1837.28	1663576.33	14271174.76	39°17'59.981"N	80°55'05.282"W	1968.84	291.064	2.40	2.30	-1.11	
4806.00	41.130	291.500	4209.77	-1278.33	729.55	-1894.11	1663519.52	14271196.67	39°18'00.198"N	80°55'06.005"W	2029.75	291.065	1.66	1.56	0.87	
4900.00	40.590	289.930	4280.86	-1315.77	751.30	-1951.62	1663462.03	14271218.42	39°18'00.414"N	80°55'06.736"W	2091.24	291.055	1.23	-0.57	-1.67	
4994.00	39.740	291.130	4352.70	-1354.50	772.56	-2008.40	1663405.27	14271239.67	39°18'00.624"N	80°55'07.458"W	2151.87	291.040	1.22	-0.90	1.28	
5089.00	41.900	293.240	4424.59	-1394.56	796.03	-2065.88	1663347.81	14271263.12	39°18'00.857"N	80°55'08.189"W	2213.94	291.073	2.70	2.27	2.22	
5183.00	42.180	292.230	4494.40	-1435.61	820.35	-2123.92	1663289.78	14271287.44	39°18'01.098"N	80°55'09.677"W	2276.86	291.119	0.78	0.30	-1.07	
5277.00	42.500	290.390	4563.89	-1475.69	843.35	-2182.92	1663230.83	14271310.43	39°18'01.326"N	80°55'09.677"W	2340.15	291.124	1.36	0.34	-1.96	
5372.00	40.560	291.760	4635.00	-1515.35	865.99	-2241.69	1663172.08	14271333.06	39°18'01.550"N	80°55'10.425"W	2403.15	291.122	2.25	-2.04	1.44	
5467.00	40.540	291.040	4707.19	-1554.52	888.52	-2299.19	1663114.60	14271355.58	39°18'01.773"N	80°55'11.156"W	2464.81	291.129	0.49	-0.02	-0.76	
5561.00	40.250	288.730	4778.78	-1591.90	909.24	-2356.47	1663057.35	14271376.30	39°18'01.978"N	80°55'11.884"W	2525.80	291.099	1.62	-0.31	-2.46	
5656.00	38.640	290.860	4852.14	-1628.85	929.66	-2413.26	1663000.58	14271396.71	39°18'02.181"N	80°55'12.606"W	2586.13	291.068	2.21	-1.69	2.24	
5750.00	39.120	293.510	4925.32	-1666.89	951.94	-2467.88	1662945.98	14271418.98	39°18'02.401"N	80°55'13.301"W	2645.11	291.093	1.84	0.51	2.82	
5845.00	40.060	293.830	4998.53	-1707.12	976.25	-2523.33	1662890.56	14271443.28	39°18'02.642"N	80°55'14.006"W	2705.59	291.151	1.01	0.99	0.34	
5940.00	292.520	5071.33	-1747.28	1000.27	-2579.43	1662834.47	14271467.29	39°18'02.880"N	80°55'14.719"W	2766.59	291.196	0.90	-0.18	-1.38		
6035.00	40.580	292.310	5143.86	-1787.03	1023.67	-2636.16	1662777.77	14271490.67	39°18'03.112"N	80°55'15.441"W	2827.93	291.222	0.74	0.73	-0.22	
6130.00	42.310	292.660	5215.07	-1827.84	1047.72	-2694.25	1662719.70	14271514.71	39°18'03.350"N	80°55'16.179"W	2890.80	291.250	1.84	1.82	0.37	
6224.00	42.590	292.200	5284.43	-1868.96	1071.92	-2752.80	1662661.08	14271538.91	39°18'03.590"N	80°55'16.925"W	2954.23	291.275	0.44	0.30	-0.49	
6319.00	39.500	289.600	5356.07	-1908.13	1094.21	-2811.14	1662602.86	14271561.19	39°18'03.810"N	80°55'17.666"W	3016.59	291.268	3.72	-3.25	-2.74	
6413.00	38.360	288.910	5429.19	-1943.86	1113.69	-2868.90	1662547.12	14271580.67	39°18'04.004"N	80°55'18.375"W	3075.62	291.229	1.30	-1.21	-0.73	
6508.00	38.600	290.250	5503.56	-1979.89	1133.51	-2922.59	1662491.45	14271600.47	39°18'04.200"N	80°55'19.083"W	3134.71	291.198	0.91	0.25	1.41	
6544.00	37.990	290.650	5531.82	-1993.75	1141.30	-2943.50	1662434.55	14271617.97	39°18'04.277"N	80°55'19.349"W	3157.01	291.193	1.83	-1.69	1.11	BHI AT Curve <8-1/2"> (6544')(6587'-17873')
6587.00	38.630	292.070	5585.56	-2010.64	1151.01	-2968.32	1662384.53	14271630.61	39°18'04.373"N	80°55'19.664"W	3183.67	291.195	2.53	1.49	3.30	
6648.00	36.900	287.460	5613.79	-2033.52	1163.66	-3003.44	1662410.63	14271643.91	39°18'04.499"N	80°55'20.111"W	3220.99	291.178	5.43	-2.84	-7.56	
6695.00	32.990	279.250	5652.33	-2047.56	1169.96	-3029.56	1662384.53	14271636.91	39°18'04.561"N	80°55'20.443"W	3247.62	291.116	13.00	-8.32	-17.47	
6742.00	31.180	271.660	5692.16	-2057.51	1172.37	-3054.36	1662359.73	14271639.32	39°18'04.585"N	80°55'20.759"W	3271.63	290.999	9.40	-3.85	-16.15	
6789.00	30.070	265.950	5732.62	-2064.43	1171.89	-3078.27	1662335.83	14271638.84	39°18'04.580"N	80°55'21.063"W	3293.80	290.842	6.62	-2.36	-12.15	
6837.00	29.290	263.170	5774.32	-2069.59	1169.64	-3101.93	1662312.19	14271636.59	39°18'04.559"N	80°55'21.364"W	3315.12	290.660	3.30	-1.63	-5.79	
6883.00	28.310	256.660	5814.64	-2072.65	1165.79	-3123.72	1662290.40	14271632.74	39°18'04.521"N	80°55'21.641"W	3334.17	290.466	7.14	-2.13	-14.15	
6931.00	28.280	249.120	5866.92	-2072.99	1159.11	-3145.43	1662268.71	14271626.06	39°18'04.455"N	80°55'21.917"W	3352.20	290.229	7.44	-0.06	-15.71	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 5 of 11



03/08/2019

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Barr Unit 1H
Field	Ritchie	Wellbore	Barr Unit 1H AWB
Facility	Pool Pad		

WELLPATH DATA (222 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 °/100ft	Comments
6978.00	28.420	240.890	5898.30	-2070.26	1149.69	-3165.61	1662248.53	14271616.65	39°18'04.362"N	80°55'22.174"W	3367.92	289.960	8.31	0.30	-17.51	
7025.00	28.820	233.460	5939.61	-2064.51	1137.55	-3184.43	1662229.72	14271604.51	39°18'04.242"N	80°55'22.414"W	3381.51	289.658	7.56	0.43	-15.81	
7072.00	28.590	227.450	5980.88	-2056.25	1123.24	-3201.76	1662212.39	14271590.21	39°18'04.101"N	80°55'22.634"W	3393.07	289.332	6.12	-0.06	-12.79	
7119.00	28.490	221.800	6022.18	-2045.93	1107.27	-3217.52	1662196.64	14271574.25	39°18'03.943"N	80°55'22.835"W	3402.72	288.990	5.75	-0.21	-12.02	
7166.00	29.300	217.370	6063.33	-2033.74	1089.77	-3231.97	1662182.19	14271556.76	39°18'03.770"N	80°55'23.019"W	3410.76	288.633	4.87	1.72	-9.43	
7214.00	31.560	213.020	6104.72	-2019.15	1069.90	-3245.95	1662168.22	14271536.89	39°18'03.574"N	80°55'23.197"W	3417.73	288.243	6.57	4.71	-9.06	
7261.00	34.300	208.240	6144.17	-2002.24	1047.92	-3258.93	1662155.25	14271514.91	39°18'03.357"N	80°55'23.362"W	3423.26	287.825	8.03	5.83	-10.17	
7308.00	36.940	202.450	6182.39	-1982.31	1023.18	-3270.59	1662143.59	14271490.19	39°18'03.112"N	80°55'23.511"W	3426.90	287.372	9.11	5.82	-12.32	
7355.00	40.810	194.480	6218.99	-1958.57	995.23	-3279.83	1662134.35	14271462.25	39°18'02.836"N	80°55'23.629"W	3427.51	286.880	13.44	8.23	-16.96	
7402.00	44.170	188.100	6253.66	-1930.88	964.13	-3285.99	1662128.20	14271431.16	39°18'02.529"N	80°55'23.707"W	3424.51	286.352	11.62	7.15	-13.57	
7449.00	47.110	183.440	6286.53	-1900.13	930.71	-3289.33	1662124.86	14271397.76	39°18'02.199"N	80°55'23.750"W	3418.46	285.799	9.45	6.26	-9.91	
7497.00	51.370	179.690	6317.87	-1865.87	894.39	-3290.28	1662123.91	14271379.90	39°18'02.022"N	80°55'23.760"W	3414.38	285.507	10.66	8.81	-8.06	Middlesex. 7473' MD
7544.00	54.560	177.610	6346.17	-1829.93	856.89	-3289.38	1662124.81	14271323.96	39°18'01.469"N	80°55'23.752"W	3399.16	284.601	7.65	6.79	-4.43	
7592.00	56.390	177.030	6373.38	-1791.78	817.39	-3287.53	1662126.66	14271284.48	39°18'01.078"N	80°55'23.729"W	3387.62	283.962	3.94	3.81	-1.21	
7638.00	60.970	176.160	6397.28	-1753.76	778.17	-3285.19	1662129.00	14271245.28	39°18'00.891"N	80°55'23.699"W	3376.10	283.326	10.09	9.96	-1.89	
7672.00†	64.577	175.246	6412.83	-1724.38	748.03	-3282.92	1662131.26	14271215.15	39°18'00.393"N	80°55'23.671"W	3367.07	282.836	10.87	10.81	-2.69	Burkett. 7672' MD
7687.00	66.170	174.860	6419.08	-1711.10	734.45	-3281.75	1662132.44	14271201.57	39°18'00.259"N	80°55'23.656"W	3362.93	282.615	10.87	10.62	-2.57	
7733.00	69.470	173.150	6436.45	-1669.44	692.09	-3277.29	1662136.89	14271159.23	39°17'59.840"N	80°55'23.600"W	3349.57	281.924	7.96	7.17	-3.72	
7758.00†	70.188	172.397	6445.07	-1646.38	668.81	-3274.34	1662139.84	14271135.96	39°17'59.610"N	80°55'23.562"W	3341.95	281.544	4.03	2.87	-3.01	Tully. 7758' MD
7782.00	70.880	171.680	6453.07	-1624.10	646.40	-3271.20	1662142.98	14271113.56	39°17'59.388"N	80°55'23.523"W	3334.46	281.178	4.03	2.88	-2.99	
7835.00	74.080	169.690	6469.02	-1574.14	596.54	-3263.02	1662151.16	14271063.72	39°17'58.895"N	80°55'23.419"W	3317.10	280.360	7.02	6.04	-3.75	Marcellus POE. 7835' MD
7876.00	79.760	168.100	6478.30	-1534.51	557.37	-3255.32	1662158.85	14271024.56	39°17'58.508"N	80°55'23.322"W	3302.69	279.716	14.36	13.85	-3.88	
7923.00	82.590	167.600	6485.51	-1488.31	511.97	-3245.55	1662168.62	14270979.18	39°17'58.059"N	80°55'23.198"W	3285.68	278.964	6.11	6.02	-1.06	
7970.00	85.160	166.790	6490.52	-1441.77	466.40	-3235.19	1662178.98	14270933.64	39°17'57.609"N	80°55'23.067"W	3268.64	278.204	5.73	5.47	-1.72	
8017.00	90.060	164.950	6492.48	-1394.93	420.88	-3223.73	1662190.43	14270888.13	39°17'57.159"N	80°55'22.921"W	3251.09	277.438	11.13	10.43	-3.91	
8065.00	90.000	163.430	6492.46	-1346.97	374.70	-3210.65	1662203.51	14270841.97	39°17'56.702"N	80°55'22.755"W	3232.44	276.657	3.17	-0.12	-3.17	
8160.00	90.000	162.690	6492.46	-1251.98	283.82	-3182.97	1662231.17	14270751.13	39°17'55.804"N	80°55'22.404"W	3195.60	275.096	0.78	0.00	-0.78	
8254.00	90.030	163.000	6492.43	-1157.99	194.00	-3155.25	1662258.89	14270661.34	39°17'54.916"N	80°55'22.063"W	3161.21	273.518	0.33	0.03	0.33	
8349.00	90.030	162.800	6492.38	-1063.00	103.20	-3127.31	1662286.81	14270570.98	39°17'54.018"N	80°55'21.698"W	3129.02	271.890	0.21	0.00	-0.21	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 6 of 11



03/08/2019

## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Barr Unit 1H
Field	Ritchie	Wellbore	Barr Unit 1H AWB
Facility	Pool Pad		

## WELLPATH DATA (222 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
8444.00	90.090	161.900	6492.28	-968.01	12.68	-3098.51	1662315.60	14270480.09	39°17'53.123"N	80°55'21.333"W	3098.54	270.234	0.95	0.06	-0.95	
8538.00	90.060	162.750	6492.16	-874.01	-76.89	-3069.97	1662344.13	14270390.56	39°17'52.238"N	80°55'20.971"W	3070.93	268.565	0.90	-0.03	0.90	
8633.00	90.000	163.380	6492.11	-779.03	-167.76	-3042.30	1662371.79	14270299.72	39°17'51.339"N	80°55'20.620"W	3046.92	266.844	0.67	-0.06	0.66	
8728.00	89.970	161.590	6492.13	-684.03	-268.36	-3013.71	1662400.37	14270209.16	39°17'50.444"N	80°55'20.257"W	3024.76	265.100	1.88	-0.03	-1.88	
8822.00	89.750	156.120	6492.36	-590.11	-346.59	-2981.34	1662432.73	14270120.96	39°17'49.571"N	80°55'19.846"W	3001.42	263.369	3.70	-0.23	-3.69	
8917.00	89.880	156.870	6492.67	-495.41	-434.36	-2944.98	1662469.07	14270033.24	39°17'48.704"N	80°55'19.385"W	2976.84	261.610	1.32	0.14	-1.32	
9011.00	89.750	157.750	6492.97	-401.73	-521.08	-2908.72	1662505.32	14269948.55	39°17'47.846"N	80°55'18.925"W	2955.02	259.844	0.95	-0.14	0.94	
9106.00	89.750	158.860	6493.39	-306.94	-609.35	-2873.60	1662540.42	14269858.31	39°17'46.974"N	80°55'18.479"W	2937.50	258.028	1.17	0.00	1.17	
9200.00	89.820	158.930	6493.74	-213.08	-697.04	-2839.75	1662574.26	14269770.66	39°17'46.106"N	80°55'18.049"W	2924.05	256.209	0.11	0.07	0.07	
9295.00	89.750	160.360	6494.10	-118.16	-786.11	-2806.71	1662607.29	14269681.63	39°17'45.226"N	80°55'17.630"W	2914.72	254.353	1.51	-0.07	1.51	
9389.00	89.750	160.510	6494.51	-24.20	-874.68	-2775.23	1662638.75	14269593.09	39°17'44.350"N	80°55'17.231"W	2909.81	252.507	0.16	0.00	0.16	
9484.00	89.750	161.940	6494.92	70.79	-964.62	-2744.66	1662669.31	14269503.18	39°17'43.461"N	80°55'16.843"W	2909.23	250.636	1.51	0.00	1.51	
9579.00	89.850	162.670	6495.26	165.78	-1055.12	-2715.78	1662698.18	14269412.72	39°17'42.566"N	80°55'16.476"W	2913.55	248.768	0.78	0.11	0.77	
9674.00	89.720	166.270	6495.51	260.68	-1146.64	-2690.35	1662723.60	14269321.24	39°17'41.662"N	80°55'16.154"W	2924.51	246.916	3.79	-0.14	3.79	
9768.00	89.880	167.560	6495.94	354.34	-1238.20	-2669.07	1662744.87	14269229.72	39°17'40.756"N	80°55'15.884"W	2942.29	245.113	1.38	0.17	1.37	
9862.00	89.780	168.810	6496.22	447.79	-1330.20	-2649.82	1662764.11	14269137.75	39°17'39.847"N	80°55'15.641"W	2964.96	243.343	1.33	-0.11	1.33	
9957.00	89.820	168.340	6496.55	542.17	-1423.32	-2631.01	1662782.92	14269044.67	39°17'38.926"N	80°55'15.402"W	2991.33	241.588	0.50	0.04	-0.49	
10051.00	89.820	168.140	6496.85	635.84	-1514.80	-2609.45	1662804.47	14268953.22	39°17'38.022"N	80°55'15.129"W	3017.26	239.865	3.40	0.00	-3.40	
10146.00	89.910	163.880	6497.07	730.75	-1606.35	-2584.08	1662829.83	14268861.71	39°17'37.117"N	80°55'14.807"W	3042.67	238.134	1.33	0.09	-1.33	
10240.00	89.540	163.480	6497.52	824.71	-1696.56	-2557.66	1662856.23	14268771.54	39°17'36.225"N	80°55'14.472"W	3069.20	236.443	0.58	-0.39	-0.43	
10334.00	89.820	163.350	6498.05	918.68	-1786.65	-2530.83	1662883.05	14268681.49	39°17'35.334"N	80°55'14.132"W	3097.94	234.780	0.33	0.30	-0.14	
10429.00	89.510	162.130	6498.60	1013.67	-1877.37	-2502.65	1662911.23	14268590.81	39°17'34.438"N	80°55'13.775"W	3128.54	233.125	1.32	-0.33	-1.28	
10523.00	89.660	158.900	6499.28	1107.62	-1965.97	-2471.30	1662942.56	14268502.24	39°17'33.562"N	80°55'13.377"W	3157.90	231.497	3.44	0.16	-3.44	
10712.00	89.200	159.710	6501.03	1296.21	-2141.58	-2401.47	1663012.36	14268326.70	39°17'32.690"N	80°55'12.926"W	3186.37	229.860	1.66	-0.16	-1.65	
10806.00	89.380	159.460	6502.19	1390.11	-2229.67	-2368.69	1663045.13	14268238.65	39°17'31.825"N	80°55'12.491"W	3217.67	228.274	2.55	-0.33	2.53	
10900.00	89.320	156.710	6503.26	1483.88	-2316.86	-2333.61	1663080.20	14268151.49	39°17'30.954"N	80°55'12.075"W	3253.01	226.732	0.33	0.19	-0.27	
10995.00	89.450	156.890	6504.28	1578.48	-2404.17	-2296.19	1663117.61	14268064.21	39°17'29.229"N	80°55'11.630"W	3288.40	225.206	2.93	-0.06	-2.93	
11090.00	89.480	157.870	6505.17	1673.16	-2491.86	-2259.65	1663154.13	14267976.56	39°17'28.362"N	80°55'11.155"W	3324.53	223.684	0.23	0.14	0.19	
11184.00	89.320	159.270	6506.15	1766.98	-2579.35	-2225.31	1663188.45	14267889.10	39°17'27.497"N	80°55'10.255"W	3363.83	222.202	1.03	0.03	1.03	
											3406.62	220.786	1.50	-0.17	1.49	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 7 of 11



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Barr Unit 1H
Ritchie County, WV	Wellbore	Barr Unit 1H AWB
Ritchie		
Pool Pad		

## WELLPATH DATA (222 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 (ft)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
11279.00	89.290	160.650	6507.30	1861.91	-2668.59	-2192.76	1663220.99	14267793.90	39°17'26.615"N	80°55'09.842"W	3453.92	219.410	1.45	-0.03	1.45	
11373.00	89.350	163.290	6508.42	1955.89	-2737.96	-2163.67	1663250.07	14267710.56	39°17'25.731"N	80°55'09.473"W	3505.40	218.115	2.81	0.06	2.81	
11467.00	89.350	164.010	6509.49	2049.85	-2848.16	-2137.21	1663276.52	14267620.41	39°17'24.839"N	80°55'09.138"W	3560.85	216.884	0.77	0.00	0.77	
11561.00	89.510	167.050	6510.42	2143.66	-2939.16	-2113.72	1663299.99	14267529.44	39°17'23.940"N	80°55'08.840"W	3620.29	215.722	3.24	0.17	3.23	
11655.00	89.450	166.380	6511.27	2237.34	-3030.64	-2092.12	1663321.59	14267438.00	39°17'23.035"N	80°55'08.566"W	3682.63	214.618	0.72	-0.06	-0.71	
11749.00	89.970	163.750	6511.75	2331.20	-3121.45	-2067.90	1663345.80	14267347.22	39°17'22.138"N	80°55'08.259"W	3744.29	213.524	2.85	0.55	-2.80	
11844.00	90.030	163.350	6511.75	2428.16	-3212.56	-2041.00	1663372.89	14267256.14	39°17'21.237"N	80°55'07.918"W	3806.08	212.429	0.43	0.06	-0.42	
11938.00	90.000	162.820	6511.73	2520.15	-3302.50	-2013.65	1663400.03	14267166.25	39°17'20.348"N	80°55'07.571"W	3867.98	211.372	0.56	-0.03	-0.56	
12032.00	90.080	161.550	6511.65	2614.14	-3391.99	-1984.89	1663428.78	14267076.79	39°17'19.483"N	80°55'07.207"W	3930.06	210.335	1.35	0.10	-1.35	
12127.00	90.060	164.520	6511.53	2709.12	-3482.84	-1957.17	1663456.48	14266985.97	39°17'18.565"N	80°55'06.855"W	3995.09	209.334	3.13	-0.03	3.13	
12221.00	89.820	162.010	6511.63	2803.09	-3572.86	-1930.11	1663483.53	14266896.00	39°17'17.675"N	80°55'06.512"W	4060.86	208.379	2.68	-0.26	-2.67	
12315.00	89.880	159.730	6511.87	2897.06	-3661.66	-1899.31	1663514.33	14266807.23	39°17'16.797"N	80°55'06.121"W	4124.94	207.416	2.43	0.06	-2.43	
12410.00	89.910	157.290	6512.05	2991.88	-3750.05	-1864.51	1663549.11	14266718.88	39°17'15.923"N	80°55'05.680"W	4187.99	206.436	2.57	0.03	-2.57	
12504.00	89.940	159.200	6512.17	3085.67	-3837.35	-1829.67	1663583.94	14266631.61	39°17'15.060"N	80°55'05.238"W	4251.23	205.492	2.03	0.03	2.03	
12598.00	89.940	158.720	6512.27	3179.53	-3925.08	-1795.92	1663617.67	14266543.91	39°17'14.192"N	80°55'04.809"W	4316.43	204.586	0.51	0.00	-0.51	
12692.00	89.970	162.090	6512.34	3273.48	-4013.62	-1764.40	1663649.18	14266455.40	39°17'13.317"N	80°55'04.410"W	4384.32	203.730	3.59	0.03	3.59	
12786.00	90.000	161.930	6512.37	3367.48	-4103.03	-1735.37	1663678.20	14266366.04	39°17'12.433"N	80°55'04.041"W	4454.92	202.926	0.17	0.03	-0.17	
12881.00	89.850	162.410	6512.49	3462.48	-4193.47	-1706.28	1663707.27	14266275.64	39°17'11.539"N	80°55'03.672"W	4527.31	202.141	0.53	-0.16	0.51	
12975.00	89.820	159.540	6512.76	3556.45	-4282.32	-1675.64	1663737.90	14266186.82	39°17'10.660"N	80°55'03.284"W	4598.48	201.370	3.05	-0.03	-3.05	
13070.00	89.880	157.420	6513.01	3651.27	-4370.69	-1640.80	1663772.73	14266098.48	39°17'09.787"N	80°55'02.842"W	4668.53	200.577	2.23	0.06	-2.23	
13164.00	89.970	157.540	6513.13	3744.97	-4457.53	-1604.79	1663808.72	14266011.68	39°17'08.928"N	80°55'02.385"W	4737.60	199.800	0.16	0.10	0.13	
13258.00	90.220	157.780	6512.98	3838.70	-4544.47	-1569.06	1663844.44	14265924.77	39°17'08.068"N	80°55'01.931"W	4807.72	199.048	0.37	0.27	0.26	
13352.00	90.120	159.900	6512.70	3932.55	-4632.13	-1535.13	1663878.35	14265837.15	39°17'07.202"N	80°55'01.501"W	4879.88	198.336	2.26	-0.11	2.26	
13447.00	90.220	162.670	6512.42	4027.53	-4722.09	-1504.66	1663908.82	14265747.22	39°17'06.312"N	80°55'01.114"W	4956.02	197.674	2.92	0.11	2.92	
13541.00	89.970	160.160	6512.26	4121.51	-4811.19	-1474.70	1663938.76	14265658.16	39°17'05.431"N	80°55'00.734"W	5032.12	197.041	2.68	-0.27	-2.67	
13636.00	90.090	162.400	6512.21	4216.50	-4901.15	-1444.21	1663969.24	14265568.23	39°17'04.542"N	80°55'00.348"W	5109.51	196.419	2.36	0.13	2.36	
13730.00	90.080	162.900	6512.06	4310.49	-4990.88	-1416.18	1663997.26	14265478.54	39°17'03.655"N	80°54'59.992"W	5187.91	195.841	0.53	0.00	0.53	
13825.00	90.090	160.770	6511.91	4405.49	-5081.14	-1386.56	1664026.86	14265388.32	39°17'02.762"N	80°54'59.617"W	5266.93	195.264	2.24	0.00	-2.24	
13920.00	90.000	164.980	6511.84	4500.46	-5171.90	-1358.60	1664054.82	14265297.59	39°17'01.865"N	80°54'58.262"W	5347.37	194.718	4.43	-0.09	4.43	
14015.00	90.120	169.820	6511.74	4595.01	-5264.59	-1337.88	1664075.53	14265204.94	39°17'00.949"N	80°54'59.000"W	5431.93	194.259	5.10	0.13	5.09	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 8 of 11



03/08/2019

## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Barr Unit 1H
Ritchie County, WV	Wellbore	Barr Unit 1H AWB
Ritchie		
Field		
Facility		

## WELLPATH DATA (222 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
14109.00	90.250	171.090	6511.44	4687.99	-5357.28	-1322.29	1664091.11	14265112.28	39°17'00.033"N	80°54'58.803"W	5518.06	193.865	1.36	0.14	1.35	
14203.00	90.280	173.550	6511.00	4780.47	-5450.43	-1309.73	1664103.86	14265019.17	39°16'59.112"N	80°54'58.644"W	5605.59	193.512	2.62	0.03	2.62	
14297.00	90.250	167.450	6510.37	4873.40	-5543.10	-1294.23	1664119.16	14264926.54	39°16'58.196"N	80°54'58.448"W	5692.19	193.142	6.49	-0.03	-6.49	
14392.00	90.150	164.290	6510.23	4968.18	-5635.21	-1271.04	1664142.34	14264834.47	39°16'57.285"N	80°54'58.154"W	5776.78	192.711	3.33	-0.11	-3.33	
14486.00	90.180	163.650	6509.96	5062.12	-5725.56	-1245.08	1664168.29	14264744.16	39°16'56.392"N	80°54'57.825"W	5859.37	192.269	0.68	0.03	-0.68	
14581.00	90.180	158.460	6509.66	5157.08	-5815.38	-1214.25	1664199.11	14264654.37	39°16'55.504"N	80°54'57.434"W	5940.79	191.794	5.46	0.00	-5.46	
14675.00	90.030	155.070	6509.49	5250.67	-5901.74	-1177.17	1664236.17	14264568.04	39°16'54.650"N	80°54'56.963"W	6018.00	191.280	3.61	-0.16	-3.61	
14770.00	90.150	156.650	6509.34	5345.11	-5988.43	-1138.32	1664275.01	14264481.39	39°16'53.793"N	80°54'56.470"W	6095.66	190.763	1.67	0.13	1.66	
14864.00	90.150	160.740	6509.10	5438.93	-6075.99	-1104.17	1664309.14	14264393.87	39°16'52.927"N	80°54'56.037"W	6175.50	190.300	4.35	0.00	4.35	
14959.00	90.060	164.630	6508.92	5533.91	-6166.67	-1075.90	1664337.40	14264303.23	39°16'52.031"N	80°54'55.679"W	6259.82	189.897	4.10	-0.09	-4.09	
15053.00	90.120	166.800	6508.78	5627.71	-6257.76	-1052.71	1664360.58	14264212.17	39°16'51.130"N	80°54'55.385"W	6345.68	189.549	2.31	0.06	2.31	
15147.00	90.120	168.100	6508.58	5721.29	-6349.51	-1032.29	1664381.00	14264120.46	39°16'50.223"N	80°54'55.126"W	6432.87	189.234	1.38	0.00	1.38	
15241.00	90.150	165.730	6508.36	5814.94	-6441.06	-1011.01	1664402.27	14264028.94	39°16'49.318"N	80°54'54.857"W	6519.92	188.921	2.52	0.03	-2.52	
15336.00	90.430	162.870	6507.88	5909.85	-6532.50	-985.30	1664427.96	14263937.54	39°16'48.414"N	80°54'54.531"W	6606.39	188.577	3.02	0.29	-3.01	
15430.00	90.220	161.970	6507.34	6003.85	-6622.11	-956.91	1664456.34	14263847.96	39°16'47.528"N	80°54'54.171"W	6690.89	188.222	0.98	-0.22	-0.96	
15524.00	90.000	157.800	6507.16	6097.76	-6710.36	-924.59	1664488.65	14263759.75	39°16'46.656"N	80°54'53.761"W	6773.76	187.845	4.44	-0.23	-4.44	
15618.00	90.060	154.340	6507.11	6191.24	-6796.27	-896.47	1664526.76	14263673.88	39°16'45.806"N	80°54'53.271"W	6853.83	187.431	3.68	0.06	-3.68	
15713.00	90.000	156.430	6507.06	6285.59	-6882.63	-868.90	1664566.31	14263587.55	39°16'44.952"N	80°54'52.775"W	6934.54	187.015	2.20	-0.06	2.20	
15808.00	90.060	158.230	6507.01	6380.27	-6970.28	-840.29	1664602.91	14263499.93	39°16'44.085"N	80°54'52.311"W	7017.22	186.631	1.90	0.06	1.89	
15902.00	90.090	158.330	6506.89	6474.07	-7057.61	-812.50	1664637.88	14263412.64	39°16'43.222"N	80°54'51.869"W	7100.09	186.271	0.11	0.03	0.11	
15997.00	90.090	157.920	6506.74	6568.85	-7145.77	-780.11	1664673.06	14263324.52	39°16'42.350"N	80°54'51.420"W	7184.00	185.913	0.43	0.00	-0.43	
16092.00	89.970	159.190	6506.69	6663.67	-7234.19	-750.38	1664707.78	14263236.13	39°16'41.476"N	80°54'50.980"W	7268.50	185.569	1.34	-0.13	1.34	
16186.00	90.060	162.090	6506.67	6757.64	-7322.87	-724.22	1664738.92	14263147.49	39°16'40.599"N	80°54'50.585"W	7353.84	185.260	3.09	0.10	3.09	
16281.00	90.120	164.920	6506.52	6852.59	-7413.95	-697.25	1664765.88	14263056.45	39°16'39.699"N	80°54'50.243"W	7442.15	184.989	2.98	0.06	2.98	
16376.00	89.630	165.100	6506.72	6947.46	-7505.71	-672.88	1664790.44	14262964.72	39°16'38.792"N	80°54'49.931"W	7531.50	184.742	0.55	-0.52	0.19	
16471.00	89.660	163.980	6507.31	7042.37	-7597.27	-647.35	1664815.76	14262873.19	39°16'37.886"N	80°54'49.610"W	7620.72	184.496	1.18	0.03	-1.18	
16565.00	89.660	163.820	6507.87	7136.32	-7687.59	-621.29	1664841.81	14262782.92	39°16'36.993"N	80°54'49.280"W	7708.78	184.250	0.17	0.00	-0.17	
16660.00	89.720	162.990	6508.39	7231.29	-7778.63	-594.15	1664868.93	14262691.91	39°16'36.093"N	80°54'48.936"W	7797.64	184.002	0.88	0.06	-0.87	
16754.00	89.630	168.310	6508.92	7325.07	-7869.66	-562.86	1664892.21	14262600.92	39°16'35.193"N	80°54'48.641"W	7886.88	183.787	5.66	-0.10	5.66	
16849.00	89.720	170.510	6509.46	7419.27	-7963.03	-530.41	1664919.67	14262507.58	39°16'34.270"N	80°54'48.420"W	7978.93	183.517	2.32	0.09	2.32	





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 9 of 11



03/08/2019

## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #02
Area	Ritchie County, WV	Barr Unit 1H
Field	Ritchie	Barr Unit 1H AWB
Facility	Pool Pad	

## WELLPATH DATA (222 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
16944.00	89.660	170.200	6509.97	7513.27	-8056.69	-487.49	1664925.57	14262413.96	39°16'33.345"N	80°54'48.219"W	8071.42	183.463	0.33	-0.06	-0.33	
17038.00	89.850	164.740	6510.37	7606.81	-8148.41	-467.11	1664945.95	14262322.27	39°16'32.438"N	80°54'47.961"W	8161.79	183.281	5.81	0.20	-5.81	
17133.00	89.880	162.080	6510.60	7701.77	-8239.45	-439.98	1664973.06	14262231.27	39°16'31.538"N	80°54'47.617"W	8251.19	183.057	2.80	0.03	-2.80	
17228.00	89.970	162.070	6510.72	7796.77	-8329.84	-410.74	1665002.29	14262140.92	39°16'30.644"N	80°54'47.246"W	8339.96	182.823	0.10	0.09	-0.01	
17322.00	89.880	162.090	6510.85	7890.77	-8419.28	-381.82	1665031.20	14262051.52	39°16'29.760"N	80°54'46.880"W	8427.93	182.597	0.10	-0.10	0.02	
17417.00	89.850	160.940	6511.07	7985.77	-8509.38	-351.70	1665061.31	14261961.46	39°16'28.869"N	80°54'46.498"W	8516.64	182.367	1.21	-0.03	-1.21	
17512.00	89.910	155.260	6511.27	8080.50	-8597.49	-316.28	1665096.71	14261873.38	39°16'27.998"N	80°54'46.049"W	8603.30	182.107	5.98	0.06	-5.98	
17606.00	89.880	153.480	6511.44	8173.66	-8682.23	-275.62	1665137.36	14261788.67	39°16'27.160"N	80°54'45.533"W	8686.61	181.818	1.89	-0.03	-1.89	
17701.00	89.940	158.990	6511.59	8268.14	-8769.14	-237.36	1665175.61	14261701.79	39°16'26.300"N	80°54'45.047"W	8772.36	181.550	5.80	0.06	-5.80	
17795.00	89.820	157.510	6511.79	8361.93	-8856.45	-202.52	1665210.43	14261614.52	39°16'25.437"N	80°54'44.605"W	8858.76	181.310	1.58	-0.13	-1.57	
17873.00	89.850	153.840	6512.01	8439.44	-8927.51	-170.40	1665242.54	14261543.49	39°16'24.735"N	80°54'44.198"W	8929.14	181.093	4.71	0.04	-4.71	
17898.00	89.850	153.840	6512.08	8464.18	-8949.95	-159.38	1665253.56	14261521.06	39°16'24.513"N	80°54'44.058"W	8951.37	181.020	0.00	0.00	0.00	Projected MD at TD: 17898'

## HOLE & CASING SECTIONS - Ref Wellbore: Barr Unit 1H AWB Ref Wellpath: Barr Unit 1H AWP Proj: 17898'

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	25.00	105.00	80.00	25.00	105.00	0.00	0.00	-0.46	-0.46
17.5in Open Hole	105.00	400.10	295.10	105.00	400.09	-0.46	-0.41	-1.88	-1.13
13.375in Casing Surface	25.00	400.10	375.10	25.00	400.09	0.00	0.00	-1.88	-1.13
12.25in Open Hole	400.10	2724.30	2324.20	400.09	2570.76	-1.88	-1.13	271.17	-706.16
9.625in Casing Intermediate	25.00	2724.30	2699.30	25.00	2570.76	0.00	0.00	271.17	-706.16
8.75in Open Hole	2724.30	6615.00	3890.70	2570.76	5587.56	271.17	-706.16	1157.23	-2984.49
8.5in Open Hole	6615.00	17898.00	11283.00	5587.56	6512.08	1157.23	-2984.49	-8949.95	-159.38
5.5in Casing Production	25.00	17898.00	17873.00	25.00	6512.08	0.00	0.00	-8949.95	-159.38





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 10 of 11



## REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #02
ANTERO RESOURCES CORPORATION	Well	Barr Unit 1H
Area	Wellbore	Barr Unit 1H AWB
Field		
Facility		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Barr Unit 1H POE Rev-2	6489.00	555.40	-3257.60	1662156.58	14271022.60	39°17'58.489"N	80°55'23.351"W	point
Barr Unit 1H BHL Rev-2	6492.00	-8935.31	-178.52	1665234.42	14261535.69	39°16'24.658"N	80°54'44.301"W	point
Barr Unit 1H LP Rev-1	6492.00	387.84	-3203.24	1662210.92	14270855.10	39°17'56.832"N	80°55'22.661"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Barr Unit 1H AWB Ref Wellpath: Barr Unit 1H AWP Proj: 17898'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	398.00	Gyrodata standard - Drop gyro or Multi-shot		Barr Unit 1H AWB
398.00	2660.00	ISCWSA MWD, Rev. 4 (Standard)	01_Gyrodata MS Gyro <17-1/2"> (100'-398')	Barr Unit 1H AWB
2660.00	6544.00	ISCWSA MWD, Rev. 4 (Standard)	02_Panther EM <12-1/4"> (398')(433'-2660')	Barr Unit 1H AWB
6544.00	17873.00	BHI AutoTrak Curve (Short)	03_Panther EM <8-3/4"> (2660')(2760'-6544')	Barr Unit 1H AWB
17873.00	17898.00	Blind Drilling (sto)	04_BH AT Curve <8-1/2"> (6544')(6587'-17873')	Barr Unit 1H AWB





# Actual Wellpath Report

Barr Unit 1H AWP Proj: 17898'

Page 11 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Ritchie County, WV	Well	Barr Unit 1H
Field	Ritchie	Wellbore	Barr Unit 1H AWB
Facility	Pool Pad		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-085-10315-0000            BHI Job #: 9241794            Rig: Patterson 342            Duration: 08/03/2018-08/06/2018            Gyrodatta MS Gyro &lt;17-1/2"&gt; (100'-398')            Panther EM &lt;12-1/4"&gt; (398')(433'-2660')            Panther EM &lt;8-3/4"&gt; (2660')(2760'-6544')            BHI AT Curve &lt;8-1/2"&gt; (6544')(6587'-17873')            Middlesex: 7473' MD            Burkett: 7672' MD            Tully: 7758' MD            Marcellus POE: 7835' MD            Projected MD at TD: 17898'</p>