



ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV

Field: Ritchie

Facility: Hichman Pad

Slot: Slot #10

Well: Griff Unit 2H

Wellbore: Griff Unit 2H PWB

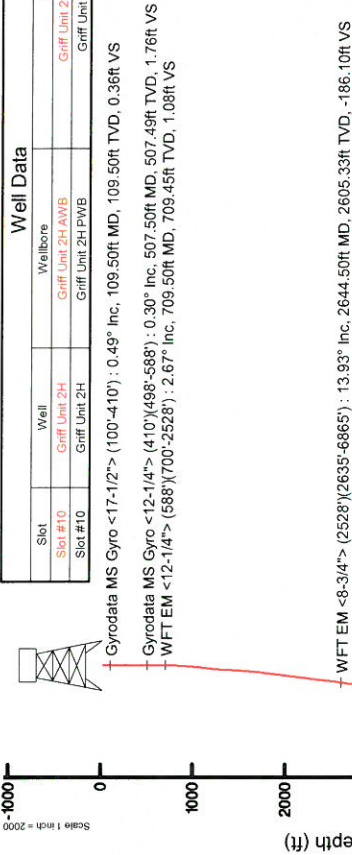


Plot reference wellpath is Griff Unit 2H PWP Rev-B 0	
True vertical depths are referenced to Frontier 22 (RKB)	
Measured depths are referenced to Frontier 22 (RKB)	
Frontier 22 (RKB) to Mean Sea Level: 1274.5 feet	
Mean Sea Level to Ground level (At Slot Slot #10): -1250 feet	
Coordinates are in feet referenced to Slot	
Grid System:	NAD27 / UTM Zone 17 North, US feet
North Reference:	Grid north
Scale:	True distance
Depths are in feet	
Created by:	debasot on 2018-08-22
Database:	WA_MPL_EasternUS_Defn

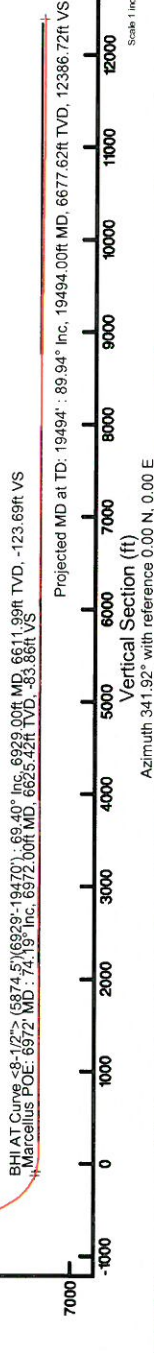
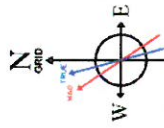
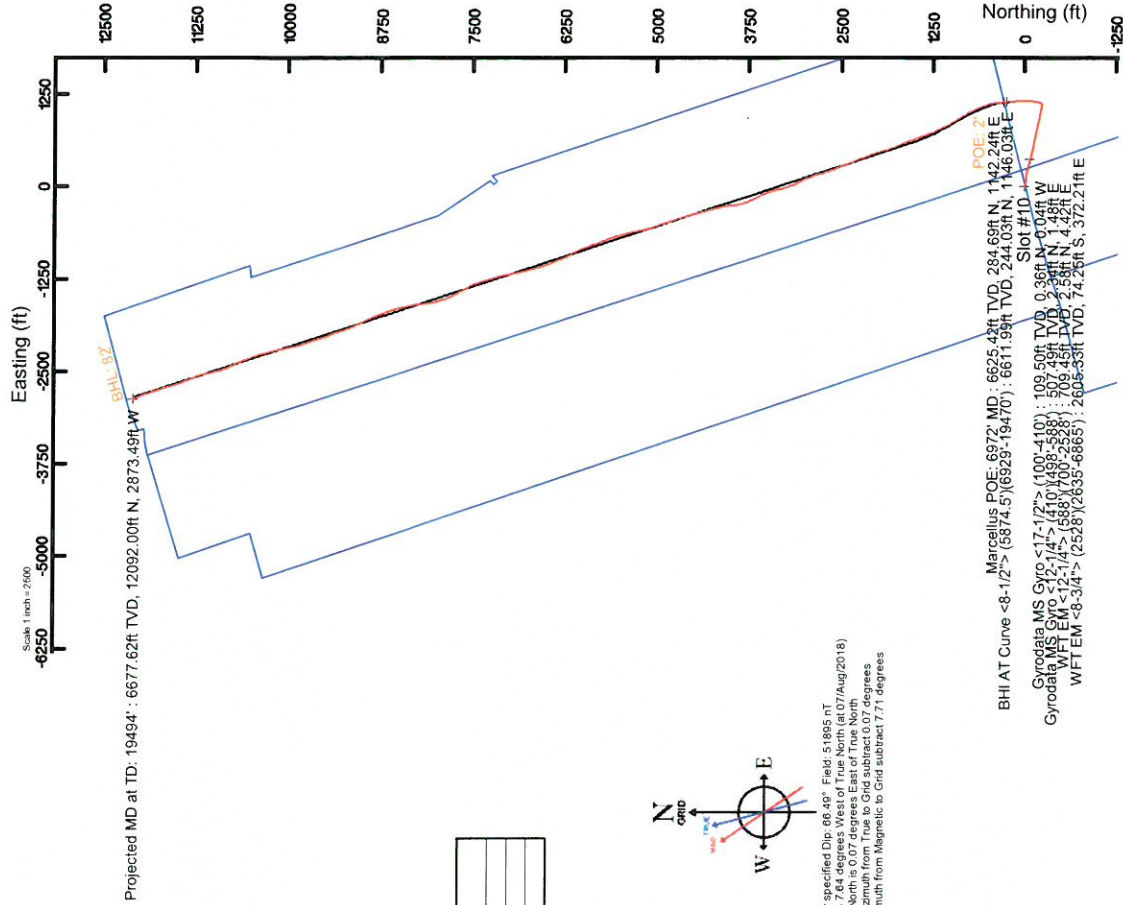
Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Hichman Pad	1673097.617	3922019.220	80°53'03.860"W
Slot	Local N (ft)	Local E (ft)	Latitude
Slot #10	-87.04	-23.46	39°20'18.360"N
Frontier 22 (RKB) to Ground level (At Slot Slot #10)	1673074.167	14285180.281	80°53'04.190"W
Mean Sea Level to Ground level (At Slot Slot #10)	24.5ft		
Frontier 22 (RKB) to Mean Sea Level	-1250ft		
	1274.5ft		

Well Profile Data			
Design Comment	MD (ft)	Az (°)	DLS (°/100ft)
Tile On	6874.50	64.720	355.020
PTB	6949.50	72.890	353.960
POE	6992.55	74.950	351.072
LP	7158.18	90.000	340.279
Lateral Shift	7721.83	90.000	329.006
On Azimuth	8367.35	90.000	341.916
BHL	19407.84	90.000	341.916
			12052.71
			-2839.01
			0.00
			12338.67

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #10	Griff Unit 2H	Griff Unit 2H AWP	Griff Unit 2H AWP Proj: 19404r
Slot #10	Griff Unit 2H	Griff Unit 2H PWB	Griff Unit 2H PWP Rev-B 0



API: 47-085-10330-0000
 BHI Job #: 109318199
 Rig: Frontier 22
 Duration: 08/09/2018-08/12/2018



Azimuth 341.92° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000

REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Ritchie County, WV	Well	Griff Unit 2H
Field	Ritchie	Wellbore	Griff 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	22/Aug/2018 at 15:37
Convergence at slot	0.07° East	Database/Source file	WA_MPL_EasternUS_Defn/Griff_Unit_2H_AWP_Proj_19494_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-87.04	-23.46	1673074.17	14285180.28	39°20'18.360"N	80°53'04.190"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	Frontier 22 (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Ground Level at Slot (Slot #10)
MD Reference Pt	Frontier 22 (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth
		24.50ft
		1274.50ft
		24.50ft
		N 0.00, E 0.00 ft
		341.92°



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 3 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Ritchie County, WV	Well	Griff Unit 2H
Field	Ritchie	Wellbore	Griff Unit 2H AWP
Facility	Hichman Pad		

WELLPATH DATA (246 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 (1/100ft)	Build Rate (1/100ft)	Turn Rate (1/100ft)	Comments
1842.50	12.680	102.990	1823.66	-87.62	-27.07	199.44	1673273.52	14285153.23	39°20'18.090"N	80°53'01.652"W	201.27	97.729	0.55	-0.13	-2.41	
1937.50	12.980	104.590	1916.29	-98.76	-32.10	219.92	1673294.00	14285148.20	39°20'18.040"N	80°53'01.392"W	222.25	98.304	0.49	0.32	1.68	
2032.50	12.770	106.690	2008.90	-170.51	-37.80	240.30	1673314.37	14285142.50	39°20'17.983"N	80°53'01.132"W	243.26	98.940	0.54	-0.22	2.21	
2126.50	12.300	103.380	2100.66	-121.66	-43.10	260.00	1673334.06	14285137.20	39°20'17.931"N	80°53'00.882"W	263.54	99.413	0.91	-0.50	-3.52	
2221.50	13.700	104.780	2193.22	-133.05	-48.31	280.72	1673354.77	14285131.99	39°20'17.879"N	80°53'00.618"W	284.85	99.765	1.51	1.47	1.47	
2316.50	14.620	105.830	2285.34	-145.84	-54.45	303.13	1673377.18	14285125.85	39°20'17.818"N	80°53'00.333"W	307.98	100.184	1.01	0.97	1.11	
2410.50	12.330	106.640	2376.74	-158.18	-60.56	324.16	1673398.20	14285119.74	39°20'17.757"N	80°53'00.065"W	329.77	100.583	2.44	-2.44	0.86	
2505.50	11.560	106.140	2469.69	-169.31	-66.12	343.03	1673417.06	14285114.19	39°20'17.702"N	80°52'59.825"W	349.34	100.910	0.82	-0.81	-0.53	
2537.50	11.800	105.950	2501.02	-172.94	-67.91	349.25	1673423.28	14285112.40	39°20'17.684"N	80°52'59.746"W	355.79	101.003	0.76	0.75	-0.59	
2644.50	13.930	105.020	2605.33	-186.10	-74.25	372.21	1673446.23	14285106.06	39°20'17.621"N	80°52'59.454"W	379.55	101.282	2.00	1.99	-0.87	MFT EIM <-8.3/4'> (2528)(2635-6865)
2739.50	14.070	104.970	2697.51	-198.64	-80.20	394.41	1673468.42	14285100.12	39°20'17.562"N	80°52'59.171"W	402.48	101.493	0.15	0.15	-0.05	
2834.50	11.950	102.930	2790.07	-210.01	-85.38	415.16	1673489.16	14285094.93	39°20'17.511"N	80°52'58.908"W	423.85	101.621	2.28	-2.23	-2.15	
2929.50	11.210	100.740	2883.13	-219.53	-89.30	433.82	1673507.81	14285091.01	39°20'17.472"N	80°52'58.670"W	442.91	101.632	0.91	-0.78	-2.31	
3023.50	11.500	103.270	2975.29	-228.81	-93.16	451.91	1673525.90	14285087.16	39°20'17.434"N	80°52'58.440"W	461.42	101.648	0.61	0.31	2.69	
3118.50	11.150	104.410	3068.44	-238.67	-97.62	470.03	1673544.01	14285082.70	39°20'17.389"N	80°52'58.209"W	480.06	101.733	0.44	-0.37	1.20	
3213.50	12.450	103.310	3161.43	-248.94	-102.26	488.89	1673562.86	14285078.06	39°20'17.343"N	80°52'57.969"W	499.47	101.814	1.39	1.37	-1.16	
3308.50	12.600	103.230	3254.17	-259.65	-106.99	508.94	1673582.91	14285073.34	39°20'17.296"N	80°52'57.714"W	520.07	101.872	0.16	0.16	-0.08	
3403.50	13.360	102.310	3346.74	-270.59	-111.70	529.75	1673603.71	14285068.83	39°20'17.249"N	80°52'57.450"W	541.40	101.907	0.83	0.80	-0.97	
3503.50	13.020	101.310	3444.11	-281.96	-116.37	552.09	1673626.03	14285063.95	39°20'17.203"N	80°52'57.165"W	564.22	101.903	0.41	-0.34	-1.00	
3598.50	12.320	99.860	3536.79	-291.96	-120.21	572.57	1673646.50	14285060.12	39°20'17.165"N	80°52'56.905"W	585.05	101.857	0.81	-0.74	-1.53	
3693.50	12.010	99.280	3629.66	-301.26	-123.54	592.31	1673666.24	14285056.79	39°20'17.131"N	80°52'56.654"W	605.05	101.781	0.35	-0.33	-0.61	
3788.50	12.290	98.540	3722.53	-310.33	-126.63	612.06	1673685.98	14285053.70	39°20'17.101"N	80°52'56.402"W	625.02	101.689	0.34	0.29	-0.78	
3883.50	11.570	98.320	3815.48	-319.10	-129.51	631.48	1673705.40	14285050.82	39°20'17.072"N	80°52'56.155"W	644.63	101.590	0.76	-0.76	-0.23	
3978.50	11.860	100.790	3908.50	-328.04	-132.72	650.50	1673724.41	14285047.62	39°20'17.040"N	80°52'55.913"W	663.90	101.531	0.61	0.31	2.60	
4072.50	12.720	102.170	4000.35	-337.92	-136.71	670.11	1673744.00	14285043.63	39°20'17.000"N	80°52'55.664"W	683.91	101.531	0.97	0.91	1.47	
4167.50	12.590	102.630	4093.04	-348.48	-141.18	690.43	1673764.32	14285039.16	39°20'16.956"N	80°52'55.405"W	704.72	101.556	0.17	-0.14	0.48	
4262.50	11.630	100.950	4185.92	-358.41	-145.26	709.94	1673783.82	14285035.08	39°20'16.915"N	80°52'55.157"W	724.65	101.564	1.08	-1.01	-1.77	
4357.50	12.250	100.950	4278.87	-367.95	-148.99	729.23	1673803.11	14285031.35	39°20'16.878"N	80°52'54.911"W	744.30	101.547	0.65	0.65	0.00	
4452.50	13.400	102.460	4371.50	-378.44	-153.28	749.88	1673823.75	14285027.62	39°20'16.835"N	80°52'54.649"W	765.39	101.553	1.26	1.21	1.59	
4547.50	13.770	104.120	4463.84	-390.05	-158.42	771.59	1673845.45	14285021.93	39°20'16.784"N	80°52'54.372"W	787.69	101.602	0.57	0.39	1.75	



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 4 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Well	Griff Unit 2H
Ritchie County, WV	Wellbore	Griff Unit 2H AWP
Ritchie		
Hichman Pad		

WELLPATH DATA (246 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
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[°]	[°]	[ft]	[°]	[ft/100ft]	[ft/100ft]	[°/100ft]	
4642.50	12.730	103.180	4558.31	-401.51	-163.56	792.75	1673866.60	14285016.79	39°20'16.733"N	80°52'54.103"W	809.45	101.658	1.12	-1.09	-0.99	
4737.50	13.290	104.080	4648.87	-412.75	-168.60	813.53	1673887.37	14285011.74	39°20'16.683"N	80°52'53.839"W	830.82	101.709	0.63	0.59	0.63	
4832.50	13.120	104.610	4741.36	-424.39	-173.98	834.56	1673908.39	14285006.37	39°20'16.630"N	80°52'53.571"W	852.50	101.776	0.22	-0.18	0.56	
4926.50	14.270	102.820	4832.68	-436.10	-179.24	856.18	1673930.00	14285001.11	39°20'16.577"N	80°52'53.296"W	874.74	101.824	1.30	1.22	-1.90	
5021.50	14.040	104.220	4924.80	-448.27	-184.67	878.76	1673952.58	14284995.68	39°20'16.524"N	80°52'53.009"W	897.96	101.868	0.43	-0.24	1.47	
5116.50	12.860	103.390	5017.19	-459.95	-189.95	900.22	1673974.03	14284990.41	39°20'16.471"N	80°52'52.736"W	920.04	101.915	1.26	-1.24	-0.87	
5211.50	14.250	101.260	5109.54	-471.20	-194.68	921.97	1673995.77	14284985.68	39°20'16.424"N	80°52'52.459"W	942.30	101.923	1.55	1.46	-2.24	
5306.50	14.700	100.820	5201.53	-482.75	-199.23	945.28	1674019.07	14284981.13	39°20'16.379"N	80°52'52.182"W	966.05	101.901	0.49	0.47	-0.46	
5401.50	14.200	98.260	5293.52	-493.75	-203.16	968.65	1674042.43	14284977.20	39°20'16.340"N	80°52'51.865"W	989.73	101.845	0.85	-0.53	-2.69	
5495.50	14.420	96.640	5384.61	-503.76	-209.50	991.69	1674065.46	14284974.19	39°20'16.310"N	80°52'51.572"W	1012.89	101.745	0.49	0.23	-1.72	
5590.50	14.470	99.480	5476.61	-514.20	-209.50	1015.14	1674088.90	14284970.87	39°20'16.276"N	80°52'51.273"W	1036.53	101.661	0.75	0.05	2.99	
5685.50	14.050	105.720	5568.68	-526.10	-214.58	1037.95	1674111.70	14284965.79	39°20'16.226"N	80°52'50.983"W	1059.90	101.680	1.68	-0.44	6.57	
5779.50	12.880	105.520	5660.10	-538.25	-220.47	1059.03	1674132.77	14284959.90	39°20'16.167"N	80°52'50.715"W	1081.74	101.760	1.25	-1.24	-0.21	
5875.50	12.820	101.580	5753.70	-549.44	-225.47	1079.77	1674153.51	14284954.90	39°20'16.118"N	80°52'50.451"W	1103.06	101.795	0.91	-0.06	4.10	
5969.50	12.230	99.930	5845.46	-559.28	-229.28	1099.80	1674173.52	14284951.09	39°20'16.080"N	80°52'50.196"W	1123.44	101.776	0.73	-0.63	-1.76	
6001.50	11.630	92.530	5876.77	-562.01	-230.01	1106.36	1674180.08	14284950.36	39°20'16.072"N	80°52'50.113"W	1130.02	101.744	5.13	-1.87	-23.13	
6032.50	10.440	78.280	5907.20	-563.42	-229.58	1112.23	1674185.95	14284950.80	39°20'16.077"N	80°52'50.038"W	1135.68	101.663	9.57	-3.84	-45.97	
6064.50	10.530	62.620	5938.67	-563.27	-227.64	1117.67	1674191.39	14284952.73	39°20'16.096"N	80°52'49.969"W	1140.62	101.512	8.88	0.28	-48.94	
6096.50	11.620	52.170	5970.08	-561.70	-224.32	1122.81	1674196.53	14284956.05	39°20'16.128"N	80°52'49.903"W	1145.00	101.298	7.12	3.41	-32.66	
6127.50	13.190	42.640	6000.36	-568.92	-219.80	1127.67	1674201.39	14284960.57	39°20'16.173"N	80°52'49.841"W	1148.90	101.030	8.31	5.06	-30.74	
6159.50	15.140	33.010	6031.39	-554.51	-213.61	1132.42	1674206.14	14284966.75	39°20'16.234"N	80°52'49.781"W	1152.40	100.682	9.54	6.09	-30.09	
6190.50	17.300	24.460	6061.16	-548.57	-206.02	1136.54	1674210.25	14284974.34	39°20'16.309"N	80°52'49.728"W	1155.06	100.274	10.37	6.97	-27.58	
6222.50	19.300	18.080	6091.54	-540.79	-196.66	1140.15	1674213.86	14284983.70	39°20'16.402"N	80°52'49.682"W	1156.99	99.786	8.84	6.25	-19.94	
6254.50	21.400	14.090	6121.54	-531.58	-186.97	1143.21	1674216.92	14284994.39	39°20'16.507"N	80°52'49.643"W	1158.24	99.239	7.86	6.56	-12.47	
6285.50	23.430	11.700	6150.20	-521.44	-174.45	1145.84	1674219.55	14285005.90	39°20'16.621"N	80°52'49.609"W	1159.04	98.656	7.18	6.55	-7.71	
6317.50	25.400	10.400	6179.34	-509.88	-161.47	1148.37	1674222.08	14285018.88	39°20'16.749"N	80°52'49.577"W	1159.67	98.004	6.38	6.18	-4.06	
6348.50	26.820	9.290	6207.17	-497.83	-148.02	1150.70	1674224.41	14285032.32	39°20'16.882"N	80°52'49.547"W	1160.18	97.330	4.84	4.58	-3.58	
6380.50	27.260	8.010	6235.68	-484.84	-133.64	1152.89	1674226.59	14285046.69	39°20'17.024"N	80°52'49.519"W	1160.61	96.612	2.28	1.37	-4.00	
6412.50	28.040	6.850	6264.02	-471.43	-118.92	1154.81	1674228.51	14285061.41	39°20'17.170"N	80°52'49.494"W	1160.91	95.879	2.96	2.44	-3.62	
6443.50	29.410	5.720	6291.21	-457.86	-104.11	1156.43	1674230.14	14285076.21	39°20'17.316"N	80°52'49.473"W	1161.11	95.144	4.75	4.42	-3.65	



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 6 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Well	Griff Unit 2H
Area	Wellbore	Griff Unit 2H AWB
Field		
Facility		

WELLPATH DATA (246 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
7818.00	90.000	333.640	6646.05	748.50	1056.61	824.70	1673896.54	1428662.36	39°20'28.793"N	80°52'53.676"W	1340.36	37.973	4.12	0.09	4.12	
7913.00	90.120	335.590	6645.95	842.72	1142.43	783.98	1673857.83	1428632.22	39°20'29.641"N	80°52'54.193"W	1385.56	34.459	2.06	0.13	2.05	
8008.00	90.060	336.280	6645.88	937.20	1229.18	745.24	1673819.11	1428604.96	39°20'30.499"N	80°52'54.685"W	1437.45	31.228	0.73	-0.06	0.73	
8103.00	89.850	338.330	6645.88	1031.89	1316.81	708.59	1673782.47	1428576.57	39°20'31.366"N	80°52'55.150"W	1489.36	28.285	2.17	-0.22	2.16	
8198.00	89.970	342.790	6646.03	1126.84	1406.36	676.93	1673750.83	1428548.08	39°20'32.251"N	80°52'55.551"W	1560.80	25.703	4.63	0.13	4.63	
8293.00	90.580	342.370	6645.57	1221.83	1496.99	648.44	1673722.35	1428520.67	39°20'33.147"N	80°52'55.912"W	1631.39	23.421	0.75	0.64	-0.38	
8388.00	90.370	339.050	6644.78	1316.79	1586.84	617.07	1673690.98	1428492.95	39°20'34.034"N	80°52'56.310"W	1702.41	21.252	3.50	-0.22	-3.49	
8482.00	90.000	335.530	6644.48	1410.47	1673.34	580.78	1673654.71	1428465.28	39°20'34.934"N	80°52'56.771"W	1771.26	19.141	3.77	-0.39	-3.74	
8577.00	89.820	336.780	6644.63	1504.99	1760.22	542.38	1673616.33	1428438.80	39°20'35.750"N	80°52'57.258"W	1841.89	17.126	1.33	-0.19	1.32	
8672.00	89.970	341.630	6644.80	1599.85	1849.01	508.66	1673582.62	1428412.55	39°20'36.628"N	80°52'57.686"W	1917.70	15.381	5.11	0.16	5.11	
8766.00	90.120	344.630	6644.73	1693.82	1938.95	481.38	1673555.36	1428386.28	39°20'37.518"N	80°52'58.031"W	1997.82	13.943	3.20	0.16	3.19	
8861.00	90.920	341.750	6643.87	1788.78	2029.88	453.91	1673527.90	1428360.35	39°20'38.417"N	80°52'58.379"W	2080.01	12.805	3.15	0.84	-3.03	
8955.00	90.000	338.220	6643.11	1882.71	2118.19	421.75	1673495.75	1428334.62	39°20'39.290"N	80°52'58.787"W	2159.76	11.261	3.88	-0.98	-3.76	
9051.00	90.250	338.990	6642.90	1978.55	2207.37	386.73	1673460.74	1428308.97	39°20'40.174"N	80°52'59.232"W	2241.19	9.936	0.84	0.26	0.80	
9146.00	91.510	339.140	6641.44	2073.42	2296.28	352.79	1673426.81	1428283.65	39°20'41.051"N	80°52'59.662"W	2323.23	8.734	1.34	1.33	0.16	
9241.00	90.460	339.500	6639.81	2168.30	2385.15	319.24	1673393.28	1428258.47	39°20'41.930"N	80°53'00.088"W	2406.42	7.624	1.17	-1.11	0.38	
9336.00	89.690	338.870	6639.68	2263.20	2473.95	285.49	1673359.54	1428233.24	39°20'42.808"N	80°53'00.516"W	2490.37	6.583	1.05	-0.81	-0.66	
9430.00	90.430	338.270	6639.59	2357.03	2561.45	251.14	1673325.21	1428208.70	39°20'43.673"N	80°53'00.952"W	2573.73	5.600	1.01	0.79	-0.64	
9524.00	89.350	341.460	6639.77	2450.96	2649.69	218.79	1673292.87	1428183.91	39°20'44.546"N	80°53'01.362"W	2658.71	4.720	3.58	-1.15	3.39	
9619.00	89.690	343.190	6640.56	2545.95	2740.20	189.95	1673264.04	1428159.38	39°20'45.441"N	80°53'01.728"W	2746.77	3.965	1.86	0.36	1.82	
9714.00	90.220	341.920	6640.64	2640.94	2830.83	161.47	1673235.57	1428134.69	39°20'46.337"N	80°53'02.089"W	2835.43	3.265	1.45	0.56	-1.34	
9809.00	91.510	339.110	6639.20	2735.89	2920.37	129.79	1673203.90	1428110.07	39°20'47.222"N	80°53'02.490"W	2923.25	2.545	3.25	1.36	-2.96	
9903.00	89.850	335.640	6638.09	2829.57	3007.11	93.64	1673167.76	1428085.48	39°20'48.080"N	80°53'02.949"W	3008.57	1.783	4.09	-1.77	-3.69	
9999.00	88.710	332.840	6639.29	2924.69	3093.55	51.92	1673126.07	1428060.97	39°20'48.935"N	80°53'03.479"W	3093.99	0.962	3.15	-1.19	-2.92	
10093.00	89.630	338.860	6640.66	3018.11	3179.28	13.49	1673087.65	1428036.28	39°20'49.783"N	80°53'03.967"W	3179.30	0.243	6.48	0.98	6.40	
10188.00	89.630	344.340	6641.27	3113.07	3269.38	-16.49	1673057.69	1428011.81	39°20'50.674"N	80°53'04.347"W	3269.42	359.711	5.77	0.00	5.77	
10283.00	89.750	346.190	6641.78	3207.90	3361.25	-40.65	1673033.53	1428011.81	39°20'51.582"N	80°53'04.653"W	3361.50	359.307	1.95	0.13	1.95	
10378.00	90.220	344.380	6641.81	3302.74	3453.13	-64.78	1673009.41	1428011.81	39°20'52.490"N	80°53'04.958"W	3453.74	358.925	1.97	0.49	-1.91	
10473.00	90.310	337.790	6641.37	3397.67	3542.95	-95.56	1672978.65	1428011.81	39°20'53.378"N	80°53'05.349"W	3544.24	358.455	6.94	0.09	-6.94	
10567.00	90.150	332.890	6640.99	3491.02	3628.35	-134.77	1672939.45	1428011.81	39°20'54.223"N	80°53'05.846"W	3630.85	357.873	5.22	-0.17	-5.21	



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 7 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #10
ANTERO RESOURCES CORPORATION	Well
Ritchie County, WV	Griff Unit 2H
Ritchie	Wellbore
Hichman Pad	Griff Unit 2H AWB

WELLPATH DATA (246 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
ft	°	°	ft	ft	ft	ft	ft	ft	°	°	ft	°	ft/100ft	ft/100ft	°/100ft	
10662.00	90.030	333.770	6640.84	3584.96	3713.24	-177.41	1672889.83	14288892.04	39°20'55.063"N	80°53'06.388"W	3717.48	357.265	0.93	-0.13	0.93	
10757.00	89.880	341.460	6640.92	3679.62	3801.02	-213.56	1672860.69	14288979.78	39°20'55.931"N	80°53'06.847"W	3807.01	356.784	8.10	-0.16	8.09	
10851.00	90.150	349.450	6640.89	3773.36	3891.93	-237.15	1672837.12	14289070.66	39°20'56.829"N	80°53'07.145"W	3899.15	356.513	8.50	0.29	8.50	
10946.00	90.120	352.550	6640.67	3867.16	3985.75	-252.01	1672822.26	14289164.44	39°20'57.757"N	80°53'07.333"W	3993.71	356.382	3.26	-0.03	3.26	
11041.00	90.220	350.950	6640.39	3960.76	4079.77	-265.64	1672808.64	14289268.41	39°20'58.686"N	80°53'07.505"W	4088.40	356.275	1.69	0.11	-1.68	
11134.00	90.150	347.010	6640.09	4053.04	4171.03	-283.41	1672790.87	14289349.64	39°20'59.588"N	80°53'07.730"W	4180.65	356.113	4.24	-0.08	-4.24	
11229.00	90.220	342.510	6639.78	4147.90	4262.67	-308.38	1672765.91	14289441.24	39°21'00.494"N	80°53'08.046"W	4273.81	355.862	4.74	0.07	-4.74	
11323.00	90.120	344.430	6639.50	4241.86	4352.78	-335.12	1672739.18	14289531.31	39°21'01.385"N	80°53'08.385"W	4365.66	355.598	2.05	-0.11	2.04	
11418.00	90.120	345.180	6639.30	4336.74	4444.46	-360.02	1672714.29	14289622.96	39°21'02.292"N	80°53'08.701"W	4459.01	355.369	0.79	0.00	0.79	
11513.00	90.060	345.280	6639.15	4431.58	4536.32	-384.24	1672690.08	14289714.78	39°21'03.200"N	80°53'09.007"W	4652.56	355.158	0.12	-0.06	0.11	
11608.00	89.850	343.210	6639.23	4526.49	4627.74	-410.03	1672664.30	14289806.17	39°21'04.104"N	80°53'09.334"W	4845.87	354.937	2.19	-0.22	-2.18	
11703.00	90.370	342.410	6639.04	4621.48	4718.50	-438.11	1672636.24	14289896.89	39°21'05.001"N	80°53'09.690"W	4738.79	354.695	1.00	0.55	-0.84	
11798.00	89.910	340.990	6638.81	4716.48	4808.69	-467.94	1672606.42	14289987.04	39°21'05.893"N	80°53'10.068"W	4831.40	354.442	1.57	-0.48	-1.49	
11892.00	90.090	342.450	6638.81	4810.48	4897.94	-497.42	1672576.95	14290076.26	39°21'06.776"N	80°53'10.442"W	4923.14	354.201	1.56	0.19	1.55	
11987.00	90.620	340.720	6638.22	4905.47	4988.07	-527.43	1672546.95	14290166.36	39°21'07.667"N	80°53'10.823"W	5015.88	353.964	1.90	0.56	-1.82	
12081.00	88.830	342.510	6638.68	4999.46	5077.27	-557.07	1672517.32	14290255.51	39°21'08.549"N	80°53'11.199"W	5107.74	353.739	2.69	-1.90	1.90	
12177.00	89.020	346.670	6640.48	5095.32	5169.78	-582.57	1672491.83	14290347.99	39°21'09.463"N	80°53'11.522"W	5202.50	353.571	4.34	0.20	4.33	
12271.00	90.000	349.850	6641.28	5188.72	5261.80	-601.69	1672472.71	14290439.97	39°21'10.373"N	80°53'11.764"W	5296.09	353.476	3.54	1.04	3.38	
12366.00	89.880	345.090	6641.38	5283.25	5354.51	-622.30	1672452.12	14290532.64	39°21'11.290"N	80°53'12.025"W	5390.55	353.371	5.01	-0.13	-5.01	
12460.00	89.320	346.140	6642.04	5377.05	5445.56	-645.65	1672428.77	14290623.66	39°21'12.190"N	80°53'12.321"W	5483.70	353.238	1.27	-0.60	1.12	
12555.00	89.820	343.540	6642.75	5471.92	5537.24	-670.49	1672403.94	14290715.30	39°21'13.096"N	80°53'12.635"W	5577.69	353.096	2.79	0.53	-2.74	
12650.00	90.430	340.480	6642.54	5566.91	5627.58	-699.83	1672374.62	14290805.61	39°21'13.990"N	80°53'13.007"W	5670.93	352.911	3.28	0.64	-3.22	
12746.00	89.820	339.160	6642.33	5662.84	5717.69	-732.95	1672341.52	14290895.68	39°21'14.881"N	80°53'13.427"W	5764.47	352.695	1.51	-0.64	-1.37	
12840.00	89.720	340.080	6642.71	5756.76	5805.80	-765.68	1672308.79	14290983.76	39°21'15.752"N	80°53'13.843"W	5856.07	352.487	0.98	-0.11	0.98	
12935.00	90.980	338.550	6642.13	5851.66	5894.67	-799.23	1672275.25	14291072.59	39°21'16.631"N	80°53'14.269"W	5948.61	352.279	2.09	1.33	-1.61	
13029.00	90.250	338.830	6641.12	5945.50	5982.24	-833.39	1672241.11	14291160.12	39°21'17.497"N	80°53'14.702"W	6040.01	352.069	0.83	-0.78	0.30	
13123.00	90.680	335.120	6640.36	6039.13	6068.73	-870.15	1672204.36	14291246.58	39°21'18.352"N	80°53'15.169"W	6130.80	351.840	3.97	0.46	-3.95	
13218.00	88.830	331.160	6640.76	6132.99	6153.46	-913.06	1672161.47	14291331.28	39°21'19.190"N	80°53'15.714"W	6220.83	351.560	4.60	-1.95	-4.17	
13312.00	88.920	337.250	6642.61	6226.08	6238.04	-953.94	1672120.61	14291415.82	39°21'20.026"N	80°53'16.233"W	6310.56	351.306	6.48	0.10	6.48	
13407.00	90.280	340.020	6643.28	6320.91	6326.50	-988.54	1672086.02	14291504.24	39°21'20.901"N	80°53'16.672"W	6403.27	351.119	3.25	1.43	2.92	



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 8 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #10
Area	Ritchie County, WV	Well	Griff Unit 2H
Field	Ritchie	Wellbore	Griff Unit 2H AWB
Facility	Hichman Pad		

WELLPATH DATA (246 stations)

MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US E)	Grid North (US N)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
13501.00	89.970	335.790	6414.66	6413.58	-1023.89	1672050.68	14291591.29	39°21'21.762"N	80°53'17.120"W	6494.79	350.930	4.51	-0.33	-4.50		
13595.00	89.570	339.970	6643.45	6508.40	-1059.28	1672015.31	14291678.31	39°21'22.623"N	80°53'17.569"W	6586.38	350.745	4.47	-0.43	-4.45		
13690.00	89.910	345.090	6643.88	6603.37	-1087.79	1671986.81	14291768.86	39°21'23.519"N	80°53'17.931"W	6680.38	350.629	5.40	0.36	5.39		
13784.00	90.060	344.680	6643.90	6697.24	-1112.30	1671962.31	14291859.57	39°21'24.416"N	80°53'18.242"W	6773.92	350.549	0.46	0.16	-0.44		
13878.00	89.970	345.950	6643.88	6791.07	-1136.13	1671938.49	14291950.47	39°21'25.315"N	80°53'18.544"W	6867.53	350.477	1.35	-0.10	-1.35		
13973.00	89.600	347.850	6644.24	6885.71	-1157.66	1671916.97	14292042.95	39°21'26.230"N	80°53'18.816"W	6962.34	350.429	2.04	-0.39	-2.00		
14067.00	89.850	349.930	6644.69	6979.01	-1175.77	1671898.87	14292135.15	39°21'27.141"N	80°53'19.045"W	7056.30	350.408	2.23	0.27	2.21		
14161.00	89.970	345.770	6644.83	7072.48	-1195.55	1671879.09	14292226.98	39°21'28.050"N	80°53'19.296"W	7150.19	350.375	4.43	0.13	-4.43		
14256.00	90.310	345.270	6644.60	7167.30	-1219.31	1671855.35	14292318.93	39°21'28.959"N	80°53'19.597"W	7244.85	350.311	0.64	0.36	-0.53		
14351.00	90.890	342.930	6643.81	7262.22	-1245.33	1671829.34	14292410.25	39°21'29.862"N	80°53'19.927"W	7339.29	350.231	2.54	0.61	-2.46		
14445.00	90.030	344.380	6642.85	7356.17	-1271.78	1671802.90	14292500.40	39°21'30.754"N	80°53'20.262"W	7432.67	350.148	1.79	-0.91	-1.54		
14540.00	90.650	341.330	6642.29	7451.14	-1299.78	1671774.91	14292591.13	39°21'31.651"N	80°53'20.617"W	7526.90	350.056	3.28	0.65	-3.21		
14635.00	89.720	335.480	6641.98	7545.92	-1334.73	1671739.97	14292679.39	39°21'32.525"N	80°53'21.060"W	7619.92	349.912	6.24	-0.98	-6.16		
14730.00	90.180	332.810	6642.06	7640.04	-1376.16	1671698.56	14292764.84	39°21'33.370"N	80°53'21.587"W	7711.38	349.720	2.85	0.48	-2.81		
14824.00	89.850	330.890	6642.04	7732.58	-1420.50	1671654.24	14292847.68	39°21'34.190"N	80°53'22.150"W	7800.90	349.508	2.07	-0.35	-2.04		
14919.00	89.080	333.110	6642.93	7826.15	-1465.10	1671609.66	14292931.52	39°21'35.019"N	80°53'22.716"W	7891.54	349.301	2.47	-0.81	-2.34		
15013.00	88.000	337.740	6645.32	7919.49	-1504.17	1671570.60	14293016.92	39°21'35.864"N	80°53'23.212"W	7982.77	349.139	5.06	-1.15	-4.93		
15108.00	88.370	342.040	6648.33	8014.36	-1536.80	1671537.98	14293106.02	39°21'36.745"N	80°53'23.626"W	8076.48	349.031	4.54	0.39	4.53		
15203.00	89.820	348.600	6649.84	8109.13	-1560.86	1671513.93	14293197.82	39°21'37.653"N	80°53'24.031"W	8171.22	348.988	7.07	1.53	6.91		
15296.00	89.660	353.180	6650.26	8200.97	-1575.58	1671499.22	14293289.59	39°21'38.561"N	80°53'24.444"W	8264.14	349.009	4.93	-0.17	-4.92		
15391.00	90.000	353.450	6650.54	8294.09	-1586.64	1671488.16	14293383.90	39°21'39.493"N	80°53'24.857"W	8356.88	349.058	0.46	0.36	0.28		
15486.00	89.420	348.540	6651.02	8387.87	-1601.51	1671473.30	14293477.66	39°21'40.421"N	80°53'25.270"W	8453.79	349.080	5.20	-0.61	-5.17		
15581.00	88.950	348.420	6652.37	8482.24	-1620.48	1671454.34	14293570.70	39°21'41.341"N	80°53'25.685"W	8548.78	349.073	0.51	-0.49	-0.13		
15675.00	90.180	347.670	6653.09	8575.70	-1639.95	1671434.88	14293662.62	39°21'42.250"N	80°53'26.100"W	8642.76	349.062	1.53	1.31	-0.80		
15769.00	89.970	341.680	6652.96	8669.55	-1664.78	1671410.06	14293753.20	39°21'43.146"N	80°53'26.516"W	8736.44	349.015	6.38	-0.22	-6.37		
15863.00	88.830	340.850	6653.95	8763.53	-1694.97	1671379.88	14293842.18	39°21'44.026"N	80°53'26.929"W	8829.58	348.933	1.50	-1.21	-0.88		
15958.00	89.510	340.220	6655.32	8858.50	-1726.62	1671348.24	14293931.70	39°21'44.912"N	80°53'27.343"W	8923.57	348.843	0.98	0.72	-0.66		
16053.00	89.820	336.230	6655.88	8953.28	-1761.86	1671313.02	14294019.87	39°21'45.784"N	80°53'27.758"W	9016.94	348.732	4.21	0.33	-4.20		
16147.00	90.180	333.490	6655.88	9046.56	-1801.79	1671273.10	14294104.92	39°21'46.625"N	80°53'28.173"W	9108.21	348.590	2.94	0.38	-2.91		
16243.00	88.620	334.240	6656.88	9141.60	-1844.07	1671230.84	14294191.07	39°21'47.477"N	80°53'28.588"W	9201.08	348.439	1.80	-1.62	-0.78		



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'

Page 9 of 12



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Ritchie County, WV
Field	Ritchie
Facility	Hichman Pad
Slot	Slot #10
Well	Griff Unit 2H
Wellbore	Griff Unit 2H AWB

WELLPATH DATA (246 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
16337.00	89.380	336.170	6658.52	9234.94	9099.71	-1888.48	1671191.44	14294276.35	39°21'48.32"N	80°53'28.02"W	9292.59	348.306	2.21	0.81	2.05	
16431.00	89.450	342.590	6659.49	9328.79	9187.64	-1916.57	1671158.37	14294384.24	39°21'49.19"N	80°53'28.44"W	9385.41	348.217	6.83	0.07	6.83	
16527.00	89.260	342.310	6660.57	9424.78	9279.17	-1945.51	1671129.43	14294455.73	39°21'50.09"N	80°53'28.80"W	9480.93	348.159	0.35	-0.20	-0.29	
16621.00	89.510	338.110	6661.58	9518.71	9367.59	-1972.33	1671097.63	14294544.12	39°21'50.97"N	80°53'29.21"W	9574.01	348.081	4.48	0.27	-4.47	
16715.00	89.230	337.730	6662.61	9612.48	9454.69	-2012.66	1671062.31	14294631.18	39°21'51.83"N	80°53'29.66"W	9666.54	347.983	0.50	-0.30	-0.40	
16809.00	89.140	343.430	6663.95	9706.40	9543.30	-2043.90	1671031.09	14294719.75	39°21'52.70"N	80°53'30.05"W	9759.72	347.912	6.06	-0.10	6.06	
16903.00	89.350	342.130	6665.19	9800.38	9633.07	-2071.72	1671003.27	14294809.49	39°21'53.59"N	80°53'30.41"W	9853.33	347.863	1.40	0.22	-1.38	
16998.00	89.970	341.840	6665.75	9895.38	9723.41	-2101.10	1670973.90	14294899.80	39°21'54.48"N	80°53'30.78"W	9947.84	347.807	0.72	0.65	-0.31	
17092.00	89.970	342.280	6665.80	9989.38	9812.84	-2130.06	1670944.96	14294989.19	39°21'55.37"N	80°53'31.15"W	10041.37	347.753	0.47	0.00	0.47	
17187.00	89.570	345.480	6666.18	10084.31	9904.10	-2156.43	1670918.60	14295080.41	39°21'56.27"N	80°53'31.48"W	10136.14	347.717	3.39	-0.42	3.37	
17282.00	89.660	347.820	6666.82	10178.98	9996.52	-2178.36	1670896.68	14295172.80	39°21'57.18"N	80°53'31.76"W	10231.11	347.707	2.46	0.09	2.46	
17377.00	89.480	348.000	6667.53	10273.46	10089.41	-2198.26	1670876.79	14295265.65	39°21'58.10"N	80°53'32.05"W	10326.11	347.709	0.27	-0.19	0.19	
17472.00	88.710	344.850	6669.03	10368.14	10181.73	-2220.55	1670854.50	14295357.93	39°21'59.01"N	80°53'32.29"W	10421.06	347.697	3.41	-0.81	-3.32	
17565.00	89.480	345.340	6670.50	10460.98	10271.59	-2244.47	1670830.59	14295447.76	39°21'59.90"N	80°53'32.60"W	10513.95	347.674	0.98	0.83	0.53	
17660.00	89.880	342.010	6671.03	10555.92	10362.75	-2271.17	1670803.91	14295538.87	39°22'00.80"N	80°53'32.93"W	10608.71	347.638	3.53	0.42	-3.51	
17755.00	89.350	340.840	6671.67	10650.91	10452.79	-2301.43	1670773.66	14295628.89	39°22'01.69"N	80°53'33.32"W	10703.15	347.583	1.35	-0.56	-1.23	
17850.00	89.480	340.060	6672.64	10745.88	10542.31	-2333.22	1670741.88	14295718.37	39°22'02.58"N	80°53'33.72"W	10797.42	347.520	0.83	0.14	-0.82	
17944.00	89.390	338.040	6673.57	10839.75	10630.09	-2368.83	1670708.29	14295806.11	39°22'03.45"N	80°53'34.15"W	10890.39	347.448	2.15	-0.10	-2.15	
18039.00	89.450	335.530	6674.53	10934.36	10717.39	-2404.27	1670670.86	14295893.37	39°22'04.31"N	80°53'34.62"W	10983.75	347.356	2.64	0.06	-2.64	
18134.00	89.570	336.150	6675.34	11028.82	10804.06	-2443.15	1670632.00	14295980.01	39°22'05.17"N	80°53'35.12"W	11076.85	347.258	0.66	0.13	0.65	
18228.00	89.820	341.160	6675.84	11122.63	10891.58	-2477.35	1670597.81	14296067.50	39°22'06.03"N	80°53'35.56"W	11169.77	347.186	5.34	0.27	5.33	
18323.00	89.630	346.250	6676.30	11217.56	10982.74	-2504.00	1670571.17	14296158.62	39°22'06.93"N	80°53'35.89"W	11264.57	347.156	5.36	-0.20	5.36	
18417.00	90.000	349.270	6676.60	11311.06	11074.59	-2523.92	1670551.25	14296250.43	39°22'07.84"N	80°53'36.14"W	11358.55	347.161	3.24	0.39	3.21	
18512.00	90.580	344.640	6676.12	11405.66	11167.11	-2545.36	1670529.83	14296342.92	39°22'08.76"N	80°53'36.41"W	11453.52	347.160	4.91	0.61	-4.87	
18606.00	89.910	337.810	6675.72	11499.60	11256.05	-2575.60	1670498.60	14296431.82	39°22'09.64"N	80°53'36.80"W	11546.97	347.112	7.30	-0.71	-7.27	
18701.00	89.880	337.750	6675.89	11594.35	11344.00	-2611.52	1670463.69	14296519.73	39°22'10.51"N	80°53'37.25"W	11640.72	347.036	0.07	-0.03	-0.06	
18796.00	89.820	340.250	6676.14	11689.22	11432.68	-2645.56	1670429.66	14296608.38	39°22'11.38"N	80°53'37.69"W	11734.79	346.971	2.63	-0.06	2.63	
18890.00	89.880	342.840	6676.39	11783.21	11521.84	-2675.32	1670399.92	14296697.50	39°22'12.27"N	80°53'38.06"W	11828.36	346.928	2.76	0.06	2.76	
18984.00	89.910	343.620	6676.56	11877.18	11611.84	-2702.44	1670372.81	14296787.47	39°22'13.16"N	80°53'38.41"W	11922.17	346.899	0.83	0.03	0.83	
19079.00	89.850	342.580	6676.76	11972.16	11702.74	-2730.06	1670345.20	14296878.33	39°22'14.05"N	80°53'38.76"W	12016.96	346.869	1.10	-0.06	-1.09	



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'
Page 10 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Hichman Pad	Well	Griff Unit 2H
				Wellbore	Griff Unit 2H AWB

WELLPATH DATA (246 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
19174.00	89.880	341.380	6676.98	12067.16	11793.08	-2759.44	1670315.83	14296968.63	39°22'14.95"N	80°53'39.135"W	12111.61	346.830	1.26	0.03	-1.26	
19269.00	89.880	339.760	6677.18	12162.13	11882.66	-2791.04	1670284.24	14297058.18	39°22'15.837"N	80°53'39.536"W	12206.05	346.782	1.71	0.00	-1.71	
19362.00	89.880	338.610	6677.38	12255.02	11969.59	-2824.09	1670251.21	14297145.07	39°22'16.697"N	80°53'39.955"W	12298.23	346.724	1.24	0.00	-1.24	
19456.00	89.880	337.640	6677.57	12348.82	12056.82	-2859.11	1670216.20	14297232.27	39°22'17.559"N	80°53'40.400"W	12391.18	346.659	1.03	0.00	-1.03	
19470.00	89.940	337.800	6677.60	12362.78	12069.78	-2864.42	1670210.89	14297245.22	39°22'17.687"N	80°53'40.467"W	12405.01	346.649	1.22	0.43	1.14	
19494.00	89.940	337.800	6677.62	12386.72	12092.00	-2873.49	1670201.83	14297267.43	39°22'17.907"N	80°53'40.582"W	12428.73	346.632	0.00	0.00	0.00	Projected MD at TD: 19494'

HOLE & CASING SECTIONS - Ref Wellbore: Griff Unit 2H AWB Ref Wellpath: Griff Unit 2H AWP Proj: 19494'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	End N/S [ft]	Start E/W [ft]	End E/W [ft]
20in Conductor	24.50	104.50	80.00	24.50	104.50	0.00	0.00	0.00	-0.04
17.5in Open Hole	104.50	455.10	350.60	104.50	455.09	0.32	0.32	-0.04	1.34
13.375in Casing Surface	24.50	455.10	430.60	24.50	455.09	0.00	0.00	0.00	1.34
12.25in Open Hole	455.10	2619.50	2164.40	455.09	2581.04	2.06	2.06	1.34	366.51
9.625in Casing Intermediate	24.50	2619.50	2595.00	24.50	2581.04	0.00	0.00	0.00	-72.71
8.75in Open Hole	2619.50	6949.50	4330.00	2581.04	6618.82	-72.71	-72.71	366.51	366.51
8.5in Open Hole	6949.50	19494.00	12544.50	6618.82	6677.62	263.27	263.27	1144.23	1144.23
5.5in Casing Production	24.50	19494.00	19469.50	24.50	6677.62	0.00	12092.00	0.00	-2873.49



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'
Page 11 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Area	Field	Facility	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Ritchie County, WV	Ritchie	Hichman Pad	Well	Griff Unit 2H
				Wellbore	Griff Unit 2H AWB

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Griff Unit 2H POE Rev-2	6627.00	295.09	1139.71	1674213.42	14285475.25	39°20'21.262"N	80°52'49.680"W	point
Griff Unit 2H BHL Rev-2	6650.00	12052.71	-2839.01	1670236.29	14297228.16	39°22'17.519"N	80°53'40.144"W	point
Griff Unit 2H LP Rev-2	6650.00	462.96	1096.55	1674170.28	14285643.06	39°20'22.922"N	80°52'50.226"W	point

WELLPATH COMPOSITION - Ref Wellbore: Griff Unit 2H AWB Ref Wellpath: Griff Unit 2H AWP Proj: 19494'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	419.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-410')	Griff Unit 2H AWB
419.50	597.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4">(410')(498'-588')	Griff Unit 2H AWB
597.50	2537.50	ISWASA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(588')(700'-2528')	Griff Unit 2H AWB
2537.50	6874.50	ISWASA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2528')(2635'-6865')	Griff Unit 2H AWB
6874.50	19470.00	BHI Auto Trak Curve (Short)	05 BH AT Curve <8-1/2">(5874.5')(6929'-19470')	Griff Unit 2H AWB
19470.00	19494.00	Blind Drilling (std)	Projection to bit	Griff Unit 2H AWB



Actual Wellpath Report

Griff Unit 2H AWP Proj: 19494'
Page 12 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #10
ANTERO RESOURCES CORPORATION	Well	Griff Unit 2H
Ritchie County, WV	Wellbore	Griff Unit 2H AWB
Ritchie		
Hichman Pad		

COMMENTS

Wellpath general comments

API: 47-085-10330-0000
 BHI Job #: 109318199
 Rig: Frontier 22
 Duration: 08/09/2018-08/12/2018
 Gyrodota MS Gyro <17-1/2"> (100'-410')
 Gyrodota MS Gyro <12-1/4"> (410')(498'-588')
 WFT EM <12-1/4"> (588')(700'-2528')
 WFT EM <8-3/4"> (2528')(2635'-6865')
 BHI AT Curve <8-1/2"> (5874.5')(6929'-19470')
 Middlesex: 6627' MD
 Burkett: 6810' MD
 Tully: 6883' MD
 Marcellus POE: 6972' MD
 Projected MD at TD: 19494'