

ANTERO RESOURCES CORPORATION



Easting (ft)
 Scale 1 inch = 1500
 -4500 -3750 -3000 -2250 -1500 -750 0 750

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Bison Pad

Slot: Slot #03
 Well: Bill Unit 2H
 Wellbore: Bill Unit 2H PWB

API: 47-085-10241-0000
 BHI Job #: 10940532
 Rig: H&P 519
 Duration: 10/01/2018-10/03/2018

Projected MD at TD: 13306' : 6585.11ft TVD, 5862.89ft N, 2821.81ft W



Plot reference wellpath is Bill Unit 2H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1250.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #03): -1220.5 feet	Created by: delaset on 2018-10-05
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn



Gyrodata MS Gyro <17-1/2">(100'-583') : 0.21° Inc, 100.00ft MD, 100.00ft TVD, -0.04ft VS

WFT EM <12-1/4">(583')(657'-2519') : 1.02° Inc, 657.00ft MD, 656.99ft TVD, -2.62ft VS

Location Information					
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Bison Pad		1668323.988	14269435.805	39°17'42.740"N	80°54'04.890"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #03	-1.07	-50.32	1668273.693	14269434.739	39°17'42.730"N
H&P 519 (RKB) to Ground level (At Slot: Slot #03)				30ft	
Mean Sea Level to Ground level (At Slot: Slot #03)				-1220.5ft	
H&P 519 (RKB) to Mean Sea Level				1250.5ft	

WFT EM <8-3/4">(2519')(2668'-6261') : 0.54° Inc, 2668.00ft MD, 2666.48ft TVD, -30.07ft VS

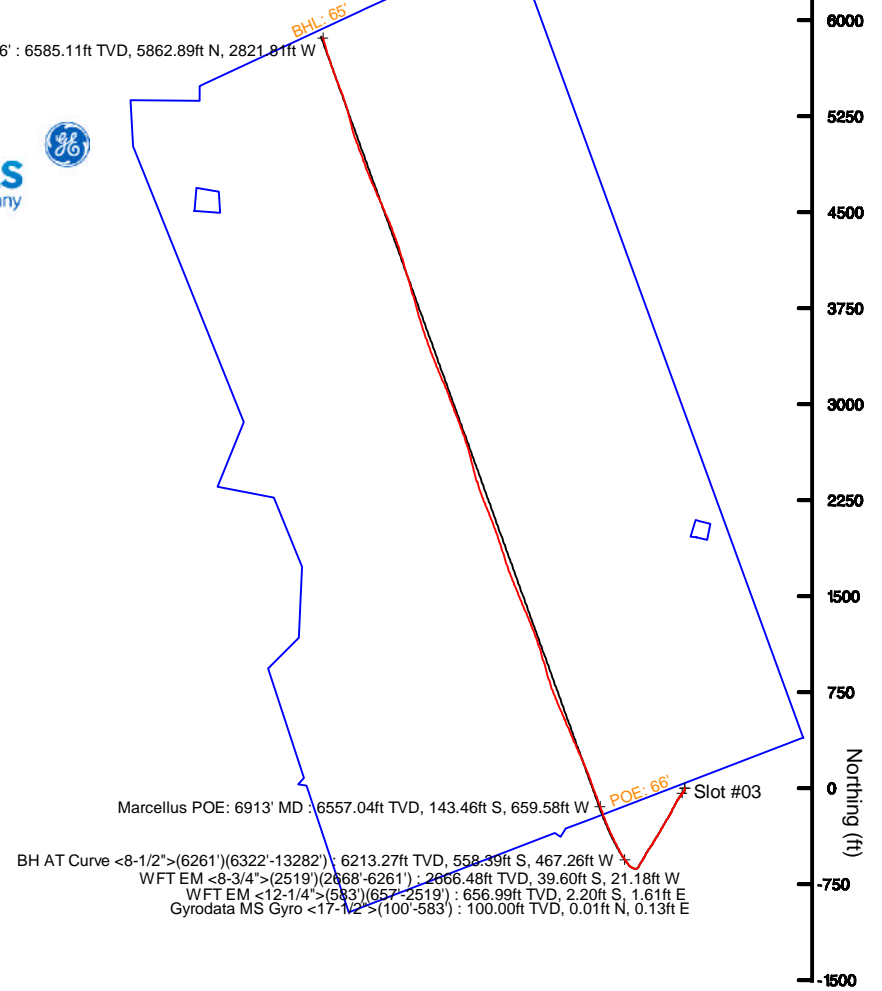
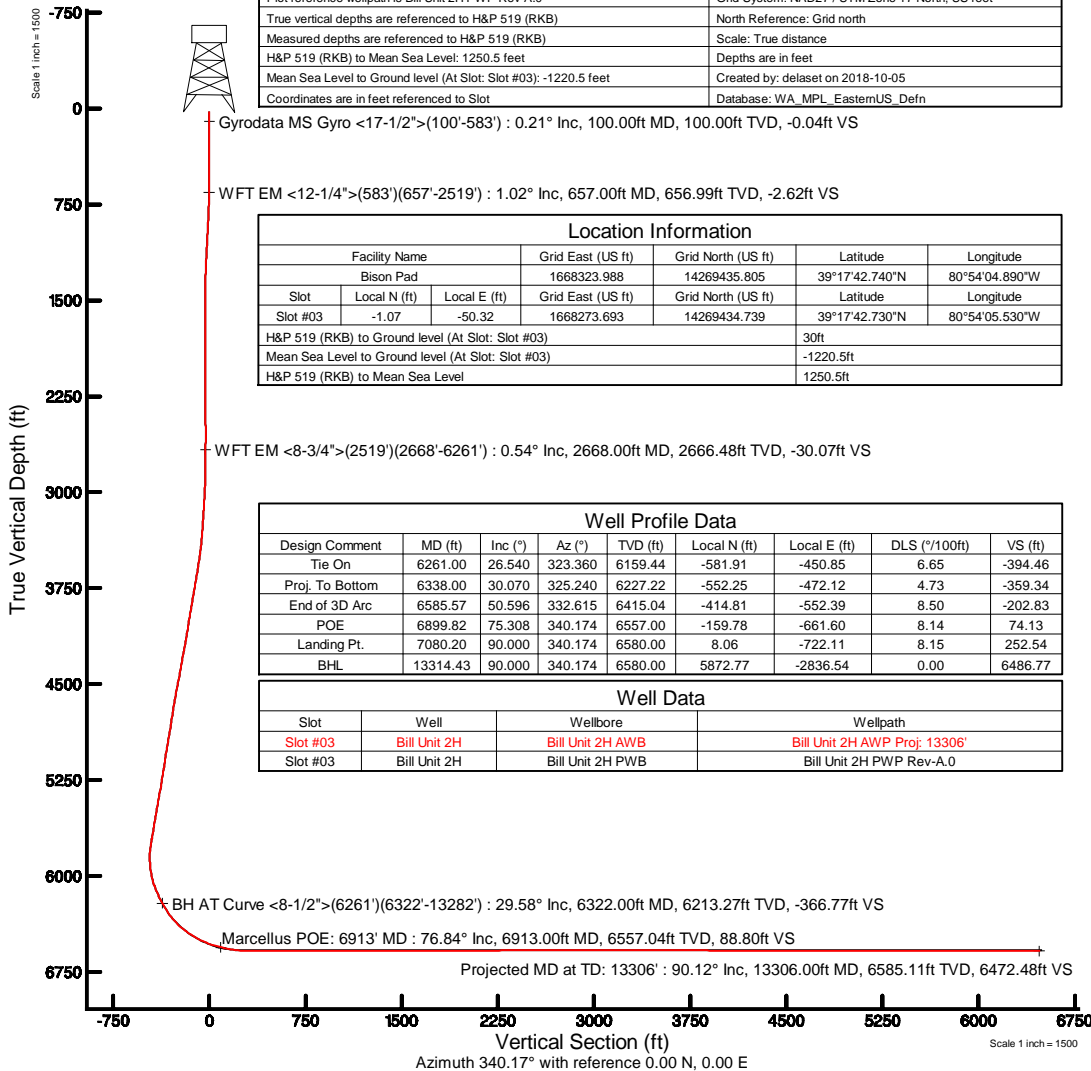
Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6261.00	26.540	323.360	6159.44	-581.91	-450.85	6.65	-394.46
Proj. To Bottom	6338.00	30.070	325.240	6227.22	-552.25	-472.12	4.73	-359.34
End of 3D Arc	6585.57	50.596	332.615	6415.04	-414.81	-552.39	8.50	-202.83
POE	6899.82	75.308	340.174	6557.00	-159.78	-661.60	8.14	74.13
Landing Pt.	7080.20	90.000	340.174	6580.00	8.06	-722.11	8.15	252.54
BHL	13314.43	90.000	340.174	6580.00	5872.77	-2836.54	0.00	6486.77

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #03	Bill Unit 2H	Bill Unit 2H AWB	Bill Unit 2H AWP Proj: 13306'
Slot #03	Bill Unit 2H	Bill Unit 2H PWB	Bill Unit 2H PWP Rev-A.0

BH AT Curve <8-1/2">(6261')(6322'-13282') : 29.58° Inc, 6322.00ft MD, 6213.27ft TVD, -366.77ft VS

Marcellus POE: 6913' MD : 76.84° Inc, 6913.00ft MD, 6557.04ft TVD, 88.80ft VS

Projected MD at TD: 13306' : 90.12° Inc, 13306.00ft MD, 6585.11ft TVD, 6472.48ft VS



User specified Dip: 66.41° Field: 51841 nT
 Magnetic North is 7.68 degrees West of True North (at 20/Sep/2018)
 Grid North is 0.06 degrees East of True North
 To correct azimuth from True to Grid subtract 0.06 degrees
 To correct azimuth from Magnetic to Grid subtract 7.74 degrees



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison 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	05/Oct/2018 at 18:24
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defn/Bill_Unit_2H_AWP_Proj_13306_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-1.07	-50.32	1668273.69	14269434.74	39°17'42.730"N	80°54'05.530"W
Facility Reference Pt			1668323.99	14269435.81	39°17'42.740"N	80°54'04.890"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 519 (RKB) to Facility Vertical Datum	30.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1250.50ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot #03)	30.00ft
MD Reference Pt	H&P 519 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	340.17°



Actual Wellpath Report

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Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
0.00†	0.000	87.480	0.00	0.00	0.00	0.00	1668273.69	14269434.74	39°17'42.730"N	80°54'05.530"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	87.480	30.00	0.00	0.00	0.00	1668273.69	14269434.74	39°17'42.730"N	80°54'05.530"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.210	87.480	100.00	-0.04	0.01	0.13	1668273.82	14269434.74	39°17'42.730"N	80°54'05.528"W	0.13	87.480	0.30	0.30	124.97	Gyrodata MS Gyro <17-1/2">(100'-583')
125.00	0.170	118.000	125.00	-0.08	-0.01	0.21	1668273.90	14269434.73	39°17'42.730"N	80°54'05.527"W	0.21	92.703	0.43	-0.16	122.08	
150.00	0.160	126.440	150.00	-0.14	-0.05	0.27	1668273.96	14269434.69	39°17'42.730"N	80°54'05.527"W	0.27	100.153	0.11	-0.04	33.76	
175.00	0.130	117.160	175.00	-0.19	-0.08	0.32	1668274.01	14269434.66	39°17'42.729"N	80°54'05.526"W	0.33	104.268	0.15	-0.12	-37.12	
200.00	0.130	107.250	200.00	-0.22	-0.10	0.37	1668274.07	14269434.64	39°17'42.729"N	80°54'05.525"W	0.39	105.423	0.09	0.00	-39.64	
225.00	0.150	162.450	225.00	-0.27	-0.14	0.41	1668274.10	14269434.60	39°17'42.729"N	80°54'05.525"W	0.43	109.168	0.52	0.08	220.80	
250.00	0.130	144.950	250.00	-0.33	-0.20	0.44	1668274.13	14269434.54	39°17'42.728"N	80°54'05.524"W	0.48	114.300	0.19	-0.08	-70.00	
275.00	0.130	142.320	275.00	-0.39	-0.24	0.47	1668274.16	14269434.50	39°17'42.728"N	80°54'05.524"W	0.53	117.311	0.02	0.00	-10.52	
300.00	0.120	154.040	300.00	-0.44	-0.29	0.50	1668274.19	14269434.45	39°17'42.727"N	80°54'05.524"W	0.58	120.062	0.11	-0.04	46.88	
308.00	0.120	166.530	308.00	-0.46	-0.30	0.50	1668274.20	14269434.43	39°17'42.727"N	80°54'05.524"W	0.59	121.108	0.33	0.00	156.13	
325.00	0.170	209.200	325.00	-0.49	-0.34	0.50	1668274.19	14269434.40	39°17'42.727"N	80°54'05.524"W	0.60	124.707	0.68	0.29	251.00	
350.00	0.180	186.820	350.00	-0.55	-0.41	0.47	1668274.17	14269434.32	39°17'42.726"N	80°54'05.524"W	0.63	131.240	0.27	0.04	-89.52	
375.00	0.220	177.390	375.00	-0.63	-0.50	0.47	1668274.16	14269434.24	39°17'42.725"N	80°54'05.524"W	0.69	136.827	0.21	0.16	-37.72	
400.00	0.210	193.080	400.00	-0.72	-0.59	0.46	1668274.16	14269434.14	39°17'42.724"N	80°54'05.524"W	0.75	142.106	0.24	-0.04	62.76	
425.00	0.230	191.270	425.00	-0.80	-0.69	0.44	1668274.14	14269434.05	39°17'42.723"N	80°54'05.524"W	0.82	147.263	0.08	0.08	-7.24	
450.00	0.220	170.610	450.00	-0.89	-0.78	0.44	1668274.13	14269433.95	39°17'42.722"N	80°54'05.524"W	0.90	150.695	0.33	-0.04	-82.64	
475.00	0.250	160.700	475.00	-0.99	-0.88	0.47	1668274.16	14269433.86	39°17'42.721"N	80°54'05.524"W	1.00	152.176	0.20	0.12	-39.64	
500.00	0.220	152.820	500.00	-1.09	-0.98	0.51	1668274.20	14269433.76	39°17'42.720"N	80°54'05.524"W	1.10	152.624	0.18	-0.12	-31.52	
525.00	0.410	138.480	525.00	-1.22	-1.09	0.59	1668274.28	14269433.65	39°17'42.719"N	80°54'05.523"W	1.24	151.619	0.82	0.76	-57.36	
550.00	0.510	137.030	550.00	-1.41	-1.24	0.72	1668274.42	14269433.50	39°17'42.718"N	80°54'05.521"W	1.43	149.683	0.40	0.40	-5.80	
575.00	0.540	136.000	575.00	-1.62	-1.40	0.88	1668274.57	14269433.34	39°17'42.716"N	80°54'05.519"W	1.66	147.875	0.13	0.12	-4.12	
583.00	0.540	135.960	583.00	-1.69	-1.46	0.93	1668274.63	14269433.28	39°17'42.716"N	80°54'05.518"W	1.73	147.360	0.00	0.00	-0.50	
657.00	1.020	139.010	656.99	-2.62	-2.20	1.61	1668275.30	14269432.54	39°17'42.708"N	80°54'05.510"W	2.73	143.901	0.65	0.65	4.12	WFT EM <12-1/4">(583')(657'-2519')
749.00	1.560	172.370	748.97	-4.61	-4.06	2.31	1668276.00	14269430.68	39°17'42.690"N	80°54'05.501"W	4.67	150.376	0.98	0.59	36.26	
840.00	2.940	190.930	839.89	-7.82	-7.58	2.03	1668275.72	14269427.16	39°17'42.655"N	80°54'05.504"W	7.85	164.994	1.70	1.52	20.40	
934.00	3.650	199.800	933.74	-12.20	-12.77	0.56	1668274.25	14269421.98	39°17'42.604"N	80°54'05.523"W	12.78	177.479	0.93	0.76	9.44	
1029.00	4.410	206.980	1028.50	-17.03	-18.87	-2.12	1668271.57	14269415.88	39°17'42.544"N	80°54'05.557"W	18.98	186.410	0.96	0.80	7.56	
1218.00	4.780	214.390	1216.90	-26.61	-31.84	-9.86	1668263.83	14269402.91	39°17'42.415"N	80°54'05.656"W	33.33	197.213	0.37	0.20	3.92	



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 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
1312.00	3.510	221.590	1310.65	-30.27	-37.22	-13.99	1668259.71	14269397.53	39°17'42.362"N	80°54'05.708"W	39.76	200.593	1.46	-1.35	7.66	
1407.00	1.570	222.640	1405.55	-32.26	-40.36	-16.80	1668256.90	14269394.40	39°17'42.331"N	80°54'05.744"W	43.71	202.600	2.04	-2.04	1.11	
1501.00	0.530	213.750	1499.54	-33.12	-41.66	-17.91	1668255.79	14269393.09	39°17'42.318"N	80°54'05.758"W	45.35	203.264	1.12	-1.11	-9.46	
1596.00	0.730	199.920	1594.53	-33.84	-42.60	-18.36	1668255.34	14269392.16	39°17'42.309"N	80°54'05.764"W	46.39	203.319	0.26	0.21	-14.56	
1691.00	0.090	237.190	1689.53	-34.33	-43.21	-18.63	1668255.07	14269391.55	39°17'42.303"N	80°54'05.768"W	47.05	203.326	0.70	-0.67	39.23	
1785.00	0.340	26.340	1783.53	-34.15	-43.00	-18.57	1668255.13	14269391.76	39°17'42.305"N	80°54'05.767"W	46.84	203.358	0.45	0.27	158.67	
1879.00	0.490	17.000	1877.52	-33.63	-42.36	-18.33	1668255.37	14269392.39	39°17'42.311"N	80°54'05.764"W	46.16	203.395	0.17	0.16	-9.94	
1974.00	0.860	21.560	1972.52	-32.77	-41.31	-17.95	1668255.75	14269393.44	39°17'42.322"N	80°54'05.759"W	45.04	203.482	0.39	0.39	4.80	
2068.00	0.600	17.770	2066.51	-31.86	-40.19	-17.54	1668256.16	14269394.57	39°17'42.333"N	80°54'05.754"W	43.85	203.577	0.28	-0.28	-4.03	
2163.00	0.320	283.630	2161.51	-31.32	-39.65	-17.64	1668256.06	14269395.10	39°17'42.338"N	80°54'05.755"W	43.40	203.988	0.74	-0.29	-99.09	
2257.00	0.570	277.050	2255.50	-30.96	-39.53	-18.36	1668255.34	14269395.22	39°17'42.339"N	80°54'05.764"W	43.59	204.916	0.27	0.27	-7.00	
2352.00	0.740	273.090	2350.50	-30.51	-39.44	-19.45	1668254.26	14269395.31	39°17'42.340"N	80°54'05.778"W	43.97	206.244	0.19	0.18	-4.17	
2446.00	0.920	271.130	2444.49	-30.00	-39.39	-20.81	1668252.90	14269395.36	39°17'42.341"N	80°54'05.795"W	44.55	207.841	0.19	0.19	-2.09	
2519.00	0.220	281.090	2517.48	-29.72	-39.36	-21.53	1668252.17	14269395.40	39°17'42.341"N	80°54'05.804"W	44.86	208.681	0.96	-0.96	13.64	
2668.00	0.540	115.330	2666.48	-30.07	-39.60	-21.18	1668252.53	14269395.15	39°17'42.339"N	80°54'05.800"W	44.91	208.134	0.51	0.21	-111.25	WFT EM <8-3/4">(2519')(2668'-6261')
2762.00	0.380	112.970	2760.48	-30.60	-39.91	-20.49	1668253.21	14269394.84	39°17'42.336"N	80°54'05.791"W	44.86	207.173	0.17	-0.17	-2.51	
2857.00	1.860	209.470	2855.46	-31.81	-41.38	-20.96	1668252.74	14269393.38	39°17'42.321"N	80°54'05.797"W	46.38	206.861	2.04	1.56	101.58	
2951.00	3.680	210.960	2949.35	-34.72	-45.29	-23.26	1668250.44	14269389.46	39°17'42.283"N	80°54'05.826"W	50.92	207.182	1.94	1.94	1.59	
3046.00	4.920	211.630	3044.08	-39.18	-51.38	-26.96	1668246.74	14269383.38	39°17'42.223"N	80°54'05.874"W	58.02	207.692	1.31	1.31	0.71	
3140.00	5.670	213.840	3137.68	-44.45	-58.67	-31.66	1668242.04	14269376.10	39°17'42.151"N	80°54'05.934"W	66.66	208.358	0.83	0.80	2.35	
3239.00	6.620	214.050	3236.11	-50.71	-67.46	-37.58	1668236.13	14269367.31	39°17'42.064"N	80°54'06.009"W	77.22	209.124	0.96	0.96	0.21	
3333.00	8.150	214.780	3329.33	-57.76	-77.42	-44.42	1668229.29	14269357.35	39°17'41.965"N	80°54'06.096"W	89.26	209.844	1.63	1.63	0.78	
3428.00	10.610	215.860	3423.05	-66.59	-90.04	-53.38	1668220.33	14269344.74	39°17'41.841"N	80°54'06.210"W	104.67	210.663	2.60	2.59	1.14	
3522.00	12.220	207.970	3515.19	-78.15	-105.84	-63.12	1668210.60	14269328.94	39°17'41.685"N	80°54'06.334"W	123.23	210.811	2.38	1.71	-8.39	
3617.00	13.290	207.270	3607.85	-92.34	-124.43	-72.84	1668200.88	14269310.36	39°17'41.501"N	80°54'06.458"W	144.18	210.345	1.14	1.13	-0.74	
3711.00	14.210	207.280	3699.15	-107.55	-144.28	-83.08	1668190.65	14269290.51	39°17'41.305"N	80°54'06.589"W	166.49	209.933	0.98	0.98	0.01	
3806.00	14.900	207.840	3791.10	-123.71	-165.45	-94.13	1668179.60	14269269.36	39°17'41.096"N	80°54'06.730"W	190.35	209.636	0.74	0.73	0.59	
3900.00	13.020	203.840	3882.32	-139.51	-185.82	-104.05	1668169.68	14269248.99	39°17'40.895"N	80°54'06.856"W	212.97	209.246	2.25	-2.00	-4.26	
3994.00	13.290	209.570	3973.86	-154.20	-204.91	-113.66	1668160.08	14269229.92	39°17'40.706"N	80°54'06.979"W	234.32	209.017	1.42	0.29	6.10	
4089.00	15.000	212.180	4065.98	-168.87	-224.81	-125.60	1668148.14	14269210.02	39°17'40.509"N	80°54'07.131"W	257.52	209.192	1.92	1.80	2.75	



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 stations)

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4183.00	16.010	211.570	4156.56	-184.45	-246.15	-138.87	1668134.88	14269188.69	39°17'40.299"N	80°54'07.300"W	282.62	209.429	1.09	1.07	-0.65	
4278.00	15.470	210.570	4247.99	-200.70	-268.22	-152.17	1668121.59	14269166.63	39°17'40.081"N	80°54'07.469"W	308.38	209.567	0.64	-0.57	-1.05	
4373.00	15.420	209.030	4339.56	-217.08	-290.17	-164.74	1668109.02	14269144.68	39°17'39.864"N	80°54'07.629"W	333.68	209.585	0.43	-0.05	-1.62	
4467.00	15.780	209.100	4430.10	-233.70	-312.27	-177.02	1668096.74	14269122.60	39°17'39.646"N	80°54'07.786"W	358.95	209.548	0.38	0.38	0.07	
4562.00	16.130	208.520	4521.44	-250.96	-335.15	-189.60	1668084.16	14269099.72	39°17'39.420"N	80°54'07.946"W	385.07	209.498	0.40	0.37	-0.61	
4656.00	15.740	211.390	4611.83	-267.62	-357.51	-202.48	1668071.29	14269077.38	39°17'39.199"N	80°54'08.110"W	410.86	209.526	0.94	-0.41	3.05	
4750.00	14.720	215.470	4702.53	-282.41	-378.12	-216.05	1668057.73	14269056.77	39°17'38.995"N	80°54'08.283"W	435.49	209.743	1.57	-1.09	4.34	
4845.00	14.790	210.890	4794.40	-296.95	-398.35	-229.28	1668044.50	14269036.54	39°17'38.795"N	80°54'08.452"W	459.63	209.923	1.23	0.07	-4.82	
4939.00	14.790	210.280	4885.29	-312.25	-419.01	-241.49	1668032.30	14269015.90	39°17'38.591"N	80°54'08.607"W	483.62	209.956	0.17	0.00	-0.65	
5034.00	15.160	211.310	4977.06	-327.82	-440.10	-254.06	1668019.74	14268994.82	39°17'38.383"N	80°54'08.768"W	508.16	209.997	0.48	0.39	1.08	
5128.00	14.670	215.400	5067.89	-342.32	-460.30	-267.34	1668006.46	14268974.62	39°17'38.183"N	80°54'08.937"W	532.30	210.148	1.23	-0.52	4.35	
5222.00	15.260	215.620	5158.71	-356.12	-480.06	-281.44	1667992.36	14268954.87	39°17'37.988"N	80°54'09.116"W	556.48	210.382	0.63	0.63	0.23	
5317.00	13.940	210.720	5250.64	-370.48	-500.06	-294.57	1667979.24	14268934.88	39°17'37.791"N	80°54'09.284"W	580.37	210.501	1.90	-1.39	-5.16	
5411.00	15.730	206.540	5341.51	-386.47	-521.20	-306.05	1667967.77	14268913.75	39°17'37.582"N	80°54'09.430"W	604.41	210.422	2.22	1.90	-4.45	
5506.00	14.360	209.810	5433.25	-402.99	-542.94	-317.66	1667956.16	14268892.02	39°17'37.367"N	80°54'09.578"W	629.04	210.331	1.70	-1.44	3.44	
5600.00	14.980	210.870	5524.18	-418.23	-563.48	-329.69	1667944.14	14268871.48	39°17'37.164"N	80°54'09.731"W	652.84	210.332	0.72	0.66	1.13	
5695.00	14.540	211.600	5616.05	-433.44	-584.18	-342.24	1667931.59	14268850.80	39°17'36.960"N	80°54'09.891"W	677.04	210.364	0.50	-0.46	0.77	
5742.00	14.630	209.490	5661.54	-440.99	-594.37	-348.25	1667925.58	14268840.61	39°17'36.859"N	80°54'09.968"W	688.88	210.367	1.15	0.19	-4.49	
5789.00	15.850	208.100	5706.88	-449.16	-605.20	-354.20	1667919.64	14268829.78	39°17'36.752"N	80°54'10.043"W	701.23	210.339	2.71	2.60	-2.96	
5836.00	14.110	212.110	5752.28	-456.99	-615.71	-360.26	1667913.57	14268819.27	39°17'36.648"N	80°54'10.121"W	713.37	210.333	4.31	-3.70	8.53	
5884.00	10.890	221.120	5799.14	-462.80	-624.09	-366.36	1667907.48	14268810.90	39°17'36.566"N	80°54'10.198"W	723.67	210.414	7.82	-6.71	18.77	
5931.00	8.300	248.050	5845.51	-465.08	-628.70	-372.43	1667901.41	14268806.29	39°17'36.520"N	80°54'10.276"W	730.73	210.641	10.88	-5.51	57.30	
5978.00	10.500	267.500	5891.88	-463.93	-630.16	-379.86	1667893.99	14268804.83	39°17'36.506"N	80°54'10.370"W	735.79	211.081	8.16	4.68	41.38	
6025.00	12.810	279.710	5937.92	-460.09	-629.47	-389.27	1667884.58	14268805.52	39°17'36.513"N	80°54'10.490"W	740.11	211.733	7.16	4.91	25.98	
6073.00	16.160	290.230	5984.39	-453.16	-626.26	-400.79	1667873.06	14268808.73	39°17'36.545"N	80°54'10.636"W	743.53	212.618	8.85	6.98	21.92	
6120.00	18.390	301.720	6029.28	-443.14	-620.10	-413.24	1667860.62	14268814.89	39°17'36.606"N	80°54'10.795"W	745.17	213.680	8.65	4.74	24.45	
6167.00	21.130	312.290	6073.53	-429.84	-610.49	-425.82	1667848.04	14268824.49	39°17'36.701"N	80°54'10.955"W	744.33	214.896	9.56	5.83	22.49	
6214.00	23.980	319.160	6116.93	-413.43	-597.56	-438.34	1667835.53	14268837.42	39°17'36.829"N	80°54'11.114"W	741.09	216.262	8.25	6.06	14.62	
6261.00	26.540	323.360	6159.44	-394.46	-581.91	-450.85	1667823.02	14268853.07	39°17'36.983"N	80°54'11.273"W	736.13	217.768	6.65	5.45	8.94	
6322.00	29.580	326.670	6213.27	-366.77	-558.39	-467.26	1667806.62	14268876.58	39°17'37.216"N	80°54'11.481"W	728.10	219.923	5.60	4.98	5.43	BH AT Curve <8-1/2">(6261')(6322'-13282')



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
6369.00	31.420	328.530	6253.76	-343.48	-538.24	-480.03	1667793.85	14268896.71	39°17'37.415"N	80°54'11.643"W	721.20	221.728	4.40	3.91	3.96	
6416.00	35.230	329.870	6293.03	-318.14	-516.06	-493.24	1667780.65	14268918.89	39°17'37.635"N	80°54'11.811"W	713.86	223.705	8.26	8.11	2.85	
6463.00	39.890	331.380	6330.28	-289.89	-491.09	-507.27	1667766.63	14268943.84	39°17'37.882"N	80°54'11.989"W	706.04	225.928	10.11	9.91	3.21	
6511.00	44.250	333.040	6365.90	-258.05	-462.64	-522.24	1667751.66	14268972.29	39°17'38.163"N	80°54'12.179"W	697.69	228.463	9.37	9.08	3.46	
6545.00†	47.823	333.713	6389.50	-233.75	-440.76	-533.20	1667740.70	14268994.15	39°17'38.379"N	80°54'12.318"W	691.79	230.422	10.60	10.51	1.98	Middlesex: 6545' MD
6558.00	49.190	333.950	6398.11	-224.07	-432.02	-537.50	1667736.41	14269002.89	39°17'38.466"N	80°54'12.373"W	689.60	231.209	10.60	10.52	1.83	
6606.00	53.010	334.180	6428.25	-186.93	-398.44	-553.83	1667720.08	14269036.46	39°17'38.798"N	80°54'12.580"W	682.26	234.268	7.97	7.96	0.48	
6653.00	56.740	334.790	6455.29	-148.69	-363.75	-570.38	1667703.54	14269071.14	39°17'39.141"N	80°54'12.790"W	676.50	237.473	8.01	7.94	1.30	
6700.00	60.250	335.610	6479.84	-108.77	-327.38	-587.18	1667686.75	14269107.50	39°17'39.501"N	80°54'13.003"W	672.28	240.859	7.61	7.47	1.74	
6738.00†	63.458	336.888	6497.77	-75.35	-296.71	-600.67	1667673.26	14269138.15	39°17'39.804"N	80°54'13.174"W	669.96	243.712	8.95	8.44	3.36	Burkett: 6738' MD
6747.00	64.220	337.180	6501.74	-67.28	-289.27	-603.82	1667670.11	14269145.58	39°17'39.877"N	80°54'13.214"W	669.54	244.402	8.95	8.46	3.24	
6795.00	67.420	338.730	6521.39	-23.54	-248.69	-620.25	1667653.69	14269186.15	39°17'40.279"N	80°54'13.423"W	668.25	248.152	7.29	6.67	3.23	
6823.00†	69.850	339.151	6531.59	2.53	-224.36	-629.62	1667644.33	14269210.47	39°17'40.519"N	80°54'13.541"W	668.40	250.387	8.79	8.68	1.51	Tully: 6823' MD
6842.00	71.500	339.430	6537.88	20.46	-207.59	-635.96	1667637.99	14269227.24	39°17'40.685"N	80°54'13.622"W	668.98	251.923	8.79	8.68	1.47	
6889.00	75.380	339.860	6551.28	65.50	-165.36	-651.62	1667622.33	14269269.45	39°17'41.103"N	80°54'13.821"W	672.27	255.761	8.30	8.26	0.91	
6913.00†	76.835	340.189	6557.04	88.80	-143.46	-659.58	1667614.38	14269291.34	39°17'41.319"N	80°54'13.921"W	675.00	257.729	6.21	6.06	1.37	Marcellus POE: 6913' MD
6936.00	78.230	340.500	6562.00	111.25	-122.31	-667.13	1667606.83	14269312.48	39°17'41.528"N	80°54'14.017"W	678.25	259.611	6.21	6.06	1.35	
6984.00	78.790	339.560	6571.56	158.29	-78.10	-683.20	1667590.77	14269356.67	39°17'41.965"N	80°54'14.221"W	687.65	263.478	2.25	1.17	-1.96	
7031.00	83.620	339.560	6578.75	204.72	-34.59	-699.41	1667574.56	14269400.16	39°17'42.396"N	80°54'14.427"W	700.27	267.169	10.28	10.28	0.00	
7079.00	87.850	340.440	6582.32	252.58	10.38	-715.78	1667558.20	14269445.11	39°17'42.840"N	80°54'14.634"W	715.86	270.831	9.00	8.81	1.83	
7173.00	90.120	339.700	6583.98	346.56	98.73	-747.82	1667526.18	14269533.43	39°17'43.714"N	80°54'15.041"W	754.31	277.521	2.54	2.41	-0.79	
7268.00	90.060	335.930	6583.83	441.46	186.68	-783.68	1667490.33	14269621.34	39°17'44.583"N	80°54'15.496"W	805.61	283.399	3.97	-0.06	-3.97	
7363.00	90.030	335.490	6583.76	536.17	273.27	-822.76	1667451.26	14269707.90	39°17'45.440"N	80°54'15.991"W	866.95	288.373	0.46	-0.03	-0.46	
7457.00	90.220	336.710	6583.55	629.93	359.21	-860.84	1667413.20	14269793.80	39°17'46.289"N	80°54'16.475"W	932.78	292.649	1.31	0.20	1.30	
7552.00	90.090	337.290	6583.30	724.78	446.65	-897.96	1667376.09	14269881.21	39°17'47.154"N	80°54'16.946"W	1002.91	296.446	0.63	-0.14	0.61	
7646.00	90.090	336.970	6583.15	818.65	533.26	-934.49	1667339.57	14269967.79	39°17'48.011"N	80°54'17.409"W	1075.94	299.711	0.34	0.00	-0.34	
7741.00	90.000	336.310	6583.07	913.47	620.48	-972.16	1667301.92	14270054.97	39°17'48.873"N	80°54'17.887"W	1153.30	302.548	0.70	-0.09	-0.69	
7836.00	89.780	337.910	6583.26	1008.33	707.99	-1009.11	1667264.99	14270142.45	39°17'49.738"N	80°54'18.356"W	1232.70	305.053	1.70	-0.23	1.68	
7931.00	89.910	340.970	6583.51	1103.31	796.93	-1042.47	1667231.64	14270231.35	39°17'50.618"N	80°54'18.779"W	1312.19	307.397	3.22	0.14	3.22	
8025.00	89.910	343.350	6583.66	1197.25	886.40	-1071.27	1667202.86	14270320.79	39°17'51.502"N	80°54'19.144"W	1390.44	309.606	2.53	0.00	2.53	



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 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
8120.00	89.940	345.060	6583.79	1292.01	977.81	-1097.12	1667177.01	14270412.16	39°17'52.406"N	80°54'19.472"W	1469.63	311.709	1.80	0.03	1.80	
8214.00	89.940	343.190	6583.88	1385.78	1068.22	-1122.84	1667151.31	14270502.54	39°17'53.300"N	80°54'19.798"W	1549.79	313.572	1.99	0.00	-1.99	
8309.00	89.820	339.840	6584.08	1480.74	1158.31	-1152.95	1667121.20	14270592.58	39°17'54.191"N	80°54'20.180"W	1634.31	315.133	3.53	-0.13	-3.53	
8404.00	89.910	338.480	6584.31	1575.73	1247.09	-1186.75	1667087.42	14270681.33	39°17'55.068"N	80°54'20.608"W	1721.51	316.420	1.43	0.09	-1.43	
8498.00	89.780	337.630	6584.56	1669.66	1334.28	-1221.88	1667052.31	14270768.48	39°17'55.930"N	80°54'21.054"W	1809.22	317.518	0.91	-0.14	-0.90	
8593.00	90.180	336.500	6584.59	1764.52	1421.77	-1258.90	1667015.30	14270855.94	39°17'56.796"N	80°54'21.524"W	1899.01	318.477	1.26	0.42	-1.19	
8687.00	89.910	337.650	6584.52	1858.38	1508.34	-1295.51	1666978.70	14270942.48	39°17'57.652"N	80°54'21.988"W	1988.33	319.341	1.26	-0.29	1.22	
8782.00	90.090	337.870	6584.52	1953.30	1596.28	-1331.47	1666942.76	14271030.37	39°17'58.521"N	80°54'22.445"W	2078.68	320.168	0.30	0.19	0.23	
8877.00	89.820	339.480	6584.60	2048.26	1684.77	-1366.01	1666908.23	14271118.83	39°17'59.396"N	80°54'22.883"W	2168.97	320.965	1.72	-0.28	1.69	
8971.00	91.660	342.520	6583.38	2142.23	1773.63	-1396.61	1666877.64	14271207.65	39°18'00.275"N	80°54'23.271"W	2257.49	321.782	3.78	1.96	3.23	
9066.00	90.180	342.140	6581.86	2237.15	1864.13	-1425.44	1666848.82	14271298.12	39°18'01.169"N	80°54'23.636"W	2346.67	322.596	1.61	-1.56	-0.40	
9160.00	90.180	341.670	6581.56	2331.10	1953.48	-1454.64	1666819.64	14271387.43	39°18'02.053"N	80°54'24.007"W	2435.58	323.327	0.50	0.00	-0.50	
9255.00	90.120	339.170	6581.31	2426.09	2042.98	-1486.47	1666787.82	14271476.90	39°18'02.938"N	80°54'24.410"W	2526.53	323.960	2.63	-0.06	-2.63	
9349.00	90.120	338.100	6581.11	2520.06	2130.52	-1520.72	1666753.59	14271564.40	39°18'03.803"N	80°54'24.845"W	2617.57	324.482	1.14	0.00	-1.14	
9444.00	90.090	338.500	6580.94	2615.01	2218.78	-1555.84	1666718.48	14271652.63	39°18'04.676"N	80°54'25.291"W	2709.92	324.961	0.42	-0.03	0.42	
9539.00	89.910	340.240	6580.94	2709.99	2307.69	-1589.31	1666685.02	14271741.50	39°18'05.555"N	80°54'25.715"W	2802.02	325.445	1.84	-0.19	1.83	
9633.00	89.970	342.640	6581.04	2803.96	2396.79	-1619.23	1666655.11	14271830.57	39°18'06.436"N	80°54'26.095"W	2892.49	325.958	2.55	0.06	2.55	
9728.00	90.180	345.770	6580.91	2898.72	2488.19	-1645.08	1666629.27	14271921.94	39°18'07.340"N	80°54'26.422"W	2982.85	326.529	3.30	0.22	3.29	
9822.00	90.060	345.190	6580.72	2992.31	2579.19	-1668.65	1666605.71	14272012.90	39°18'08.239"N	80°54'26.721"W	3071.91	327.098	0.63	-0.13	-0.62	
9917.00	89.820	343.270	6580.82	3087.07	2670.61	-1694.47	1666579.90	14272104.28	39°18'09.143"N	80°54'27.048"W	3162.81	327.605	2.04	-0.25	-2.02	
10011.00	90.090	339.890	6580.89	3181.03	2759.78	-1724.17	1666550.22	14272193.41	39°18'10.025"N	80°54'27.425"W	3254.10	328.005	3.61	0.29	-3.60	
10106.00	89.940	339.340	6580.87	3276.02	2848.83	-1757.26	1666517.14	14272282.43	39°18'10.905"N	80°54'27.844"W	3347.21	328.332	0.60	-0.16	-0.58	
10200.00	89.880	338.890	6581.01	3370.01	2936.66	-1790.77	1666483.64	14272370.22	39°18'11.774"N	80°54'28.270"W	3439.59	328.625	0.48	-0.06	-0.48	
10295.00	90.030	340.090	6581.09	3465.00	3025.63	-1824.05	1666450.37	14272459.16	39°18'12.653"N	80°54'28.692"W	3532.93	328.916	1.27	0.16	1.26	
10390.00	89.940	337.570	6581.11	3559.96	3114.21	-1858.36	1666416.08	14272547.70	39°18'13.529"N	80°54'29.127"W	3626.54	329.174	2.65	-0.09	-2.65	
10484.00	89.940	337.070	6581.21	3653.85	3200.95	-1894.60	1666379.85	14272634.40	39°18'14.387"N	80°54'29.587"W	3719.62	329.379	0.53	0.00	-0.53	
10579.00	89.940	337.440	6581.31	3748.72	3288.56	-1931.33	1666343.13	14272721.98	39°18'15.253"N	80°54'30.053"W	3813.75	329.575	0.39	0.00	0.39	
10673.00	89.750	338.600	6581.57	3842.66	3375.72	-1966.51	1666307.97	14272809.11	39°18'16.115"N	80°54'30.500"W	3906.75	329.777	1.25	-0.20	1.23	
10768.00	89.880	340.670	6581.87	3937.65	3464.78	-1999.57	1666274.92	14272898.13	39°18'16.996"N	80°54'30.919"W	4000.37	330.010	2.18	0.14	2.18	
10863.00	89.880	341.330	6582.07	4032.64	3554.60	-2030.50	1666244.01	14272987.92	39°18'17.884"N	80°54'31.311"W	4093.67	330.264	0.69	0.00	0.69	



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH DATA (177 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
10957.00	89.880	343.150	6582.27	4126.57	3644.12	-2059.17	1666215.35	14273077.40	39°18'18.769"N	80°54'31.675"W	4185.67	330.531	1.94	0.00	1.94	
11052.00	89.780	344.400	6582.55	4221.38	3735.33	-2085.72	1666188.81	14273168.57	39°18'19.671"N	80°54'32.011"W	4278.19	330.822	1.32	-0.11	1.32	
11147.00	89.850	343.850	6582.86	4316.15	3826.71	-2111.70	1666162.84	14273259.91	39°18'20.574"N	80°54'32.341"W	4370.70	331.109	0.58	0.07	-0.58	
11241.00	89.850	343.560	6583.10	4409.97	3916.93	-2138.08	1666136.47	14273350.10	39°18'21.466"N	80°54'32.675"W	4462.48	331.372	0.31	0.00	-0.31	
11336.00	89.940	343.570	6583.28	4504.81	4008.05	-2164.96	1666109.61	14273441.18	39°18'22.367"N	80°54'33.016"W	4555.38	331.624	0.10	0.09	0.01	
11430.00	90.120	343.970	6583.23	4598.62	4098.31	-2191.23	1666083.34	14273531.40	39°18'23.259"N	80°54'33.349"W	4647.32	331.868	0.47	0.19	0.43	
11525.00	90.000	342.210	6583.13	4693.49	4189.19	-2218.86	1666055.72	14273622.25	39°18'24.158"N	80°54'33.699"W	4740.54	332.092	1.86	-0.13	-1.85	
11620.00	90.060	340.600	6583.08	4788.47	4279.23	-2249.15	1666025.44	14273712.25	39°18'25.048"N	80°54'34.084"W	4834.30	332.274	1.70	0.06	-1.69	
11714.00	90.000	338.590	6583.03	4882.46	4367.33	-2281.92	1665992.69	14273800.32	39°18'25.919"N	80°54'34.499"W	4927.55	332.413	2.14	-0.06	-2.14	
11809.00	89.850	337.070	6583.15	4977.38	4455.30	-2317.77	1665956.85	14273888.25	39°18'26.789"N	80°54'34.954"W	5022.13	332.515	1.61	-0.16	-1.60	
11904.00	89.940	336.100	6583.33	5072.19	4542.48	-2355.52	1665919.12	14273975.40	39°18'27.651"N	80°54'35.433"W	5116.89	332.591	1.03	0.09	-1.02	
11998.00	89.780	336.250	6583.56	5165.96	4628.47	-2393.49	1665881.16	14274061.35	39°18'28.501"N	80°54'35.915"W	5210.71	332.655	0.23	-0.17	0.16	
12093.00	89.780	336.730	6583.92	5260.76	4715.58	-2431.39	1665843.28	14274148.43	39°18'29.362"N	80°54'36.396"W	5305.50	332.724	0.51	0.00	0.51	
12187.00	89.720	338.380	6584.33	5354.66	4802.46	-2467.28	1665807.41	14274235.27	39°18'30.221"N	80°54'36.852"W	5399.17	332.808	1.76	-0.06	1.76	
12282.00	89.660	340.250	6584.85	5449.65	4891.33	-2500.83	1665773.87	14274324.10	39°18'31.100"N	80°54'37.278"W	5493.56	332.920	1.97	-0.06	1.97	
12377.00	89.750	339.110	6585.34	5544.64	4980.41	-2533.82	1665740.89	14274413.15	39°18'31.981"N	80°54'37.696"W	5587.91	333.035	1.20	0.09	-1.20	
12471.00	90.090	340.250	6585.47	5638.63	5068.56	-2566.46	1665708.26	14274501.27	39°18'32.852"N	80°54'38.110"W	5681.29	333.145	1.27	0.36	1.21	
12566.00	89.970	344.950	6585.42	5733.52	5159.19	-2594.86	1665679.87	14274591.86	39°18'33.748"N	80°54'38.471"W	5774.99	333.299	4.95	-0.13	4.95	
12661.00	90.030	345.940	6585.42	5828.12	5251.14	-2618.74	1665656.01	14274683.77	39°18'34.658"N	80°54'38.773"W	5867.90	333.495	1.04	0.06	1.04	
12755.00	90.030	343.320	6585.37	5921.83	5341.77	-2643.65	1665631.10	14274774.36	39°18'35.554"N	80°54'39.089"W	5960.15	333.669	2.79	0.00	-2.79	
12850.00	89.970	339.450	6585.37	6016.79	5431.78	-2673.97	1665600.80	14274864.34	39°18'36.443"N	80°54'39.474"W	6054.28	333.790	4.07	-0.06	-4.07	
12946.00	90.000	338.030	6585.39	6112.75	5521.25	-2708.78	1665566.00	14274953.77	39°18'37.328"N	80°54'39.915"W	6149.93	333.867	1.48	0.03	-1.48	
13040.00	89.910	340.630	6585.47	6206.74	5609.19	-2741.95	1665532.84	14275041.68	39°18'38.198"N	80°54'40.336"W	6243.50	333.949	2.77	-0.10	2.77	
13135.00	90.150	342.520	6585.42	6301.70	5699.31	-2771.98	1665502.83	14275131.77	39°18'39.089"N	80°54'40.717"W	6337.67	334.063	2.01	0.25	1.99	
13230.00	90.060	343.090	6585.24	6396.60	5790.07	-2800.06	1665474.75	14275222.48	39°18'39.986"N	80°54'41.073"W	6431.58	334.192	0.61	-0.09	0.60	
13282.00	90.120	343.520	6585.16	6448.52	5839.87	-2815.00	1665459.82	14275272.27	39°18'40.478"N	80°54'41.263"W	6482.93	334.264	0.83	0.12	0.83	
13306.00	90.120	343.520	6585.11	6472.48	5862.89	-2821.81	1665453.01	14275295.28	39°18'40.706"N	80°54'41.349"W	6506.62	334.298	0.00	0.00	0.00	Projected MD at TD: 13306'



Actual Wellpath Report

Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Bill Unit 2H AWB Ref Wellpath: Bill Unit 2H AWP Proj: 13306'

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	30.00	110.00	80.00	30.00	110.00	0.00	0.00	0.00	0.16
17.5in Open Hole	110.00	610.20	500.20	110.00	610.19	0.00	0.16	-1.67	1.14
13.375in Casing Surface	30.00	610.20	580.20	30.00	610.19	0.00	0.00	-1.67	1.14
12.25in Open Hole	610.20	2583.00	1972.80	610.19	2581.48	-1.67	1.14	-39.37	-21.60
9.625in Casing Intermediate	30.00	2586.00	2556.00	30.00	2584.48	0.00	0.00	-39.38	-21.60
8.75in Open Hole	2586.00	6338.00	3752.00	2584.48	6227.14	-39.38	-21.60	-551.70	-471.60
8.5in Open Hole	6338.00	13306.00	6968.00	6227.14	6585.11	-551.70	-471.60	5862.89	-2821.81
5.5in Casing Production	30.00	13306.00	13276.00	30.00	6585.11	0.00	0.00	5862.89	-2821.81

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Bill Unit 2H POE - Rev-2	6557.00	-159.78	-661.60	1667612.36	14269275.03	39°17'41.158"N	80°54'13.947"W	point
Bill Unit 2H BHL - Rev-2	6580.00	5872.77	-2836.54	1665438.29	14275305.15	39°18'40.804"N	80°54'41.536"W	point
Bill Unit 2H LP - Rev-2	6580.00	8.06	-722.11	1667551.88	14269442.79	39°17'42.817"N	80°54'14.715"W	point



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Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

WELLPATH COMPOSITION - Ref Wellbore: Bill Unit 2H AWB Ref Wellpath: Bill Unit 2H AWP Proj: 13306'				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
30.00	583.00	Gyrodatab standard - Drop gyro or Multi-shot	01_Gyrodatab MS Gyro <17-1/2">(100'-583')	Bill Unit 2H AWB
583.00	2519.00	ISCWSA MWD, Rev. 4 (Standard)	02_WFT EM <12-1/4">(583')(657'-2519')	Bill Unit 2H AWB
2519.00	6261.00	ISCWSA MWD, Rev. 4 (Standard)	03_WFT EM <8-3/4">(2519')(2668'-6261')	Bill Unit 2H AWB
6261.00	13282.00	BHI AutoTrak Curve (Short)	04_BH AT Curve <8-1/2">(6261')(6322'-13282')	Bill Unit 2H AWB
13282.00	13306.00	Blind Drilling (std)	Projection to bit	Bill Unit 2H AWB



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Bill Unit 2H AWP Proj: 13306'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #03
Area	Ritchie County, WV	Well	Bill Unit 2H
Field	Ritchie	Wellbore	Bill Unit 2H AWB
Facility	Bison Pad		

COMMENTS
<p>Wellpath general comments API: 47-085-10241-0000 BHI Job #: 10940532 Rig: H&P 519 Duration: 10/01/2018-10/03/2018 Gyrodata MS Gyro <17-1/2">(100'-583') WFT EM <12-1/4">(583')(657'-2519') WFT EM <8-3/4">(2519')(2668'-6261') BH AT Curve <8-1/2">(6261')(6322'-13282') Middlesex: 6545' MD Burkett: 6738' MD Tully: 6823' MD Marcellus POE: 6913' MD Projected MD at TD: 13306'</p>