



ANTERO RESOURCES CORPORATION



Location: Tyler County, WV
 Field: Tyler
 Facility: Ritchie Petroleum Pad

Slot: Slot #04
 Well: Hopper Unit 3H
 Wellbore: Hopper Unit 3H PWB

Plot reference wellpath is Hopper Unit 3H PWB Rev-A.0
 True vertical depths are referenced to Frontier 32 (RKB)
 Measured depths are referenced to Frontier 32 (RKB)
 Frontier 32 (RKB) to Mean Sea Level: 1210 feet
 Mean Sea Level to Mud line (At Slot Slot #04): -1178 feet
 Coordinates are in feet referenced to Slot

Grid System: NAD83 (UTM Zone 17 North, US feet)
 North Reference: Grid north
 Scale: True distance
 Depths are in feet
 Created by: edwinray on 2017-11-28
 Database: WA_MPL_EASTERNUS.Dbn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Ritchie Petroleum Pad	1647374.770	14292738.540	80°58'31.380"W
Slot	15.19	13.35	39°21'33.440"N
Slot #04	1647368.114	14292753.710	80°58'31.210"W
Comment: Hopper Unit 3H			
Frontier 32 (RKB) to Mud line (At Slot Slot #04)			32ft
Frontier 32 (RKB) to Mean Sea Level			-1178ft
Frontier 32 (RKB) to Mean Sea Level			1210ft

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #04	Hopper Unit 3H	Hopper Unit 3H AWP	Hopper Unit 3H AWP Prod. 13688
Slot #04	Hopper Unit 3H	Hopper Unit 3H PWB	Hopper Unit 3H PWB Rev-A.0

Gyrodatta MS Gyro <17-1/2"> (100-300') : 0.22° Inc, 117.00ft TD, 0.08ft VS
 Gyrodatta MS Gyro <12-1/4"> (300)(330-512') : 0.18° Inc, 347.00ft TD, 0.05ft VS
 Directional ONE MWD <12-1/4"> (512)(564-2512') : 2.02° Inc, 581.00ft MD, 580.97ft TD, -2.26ft VS

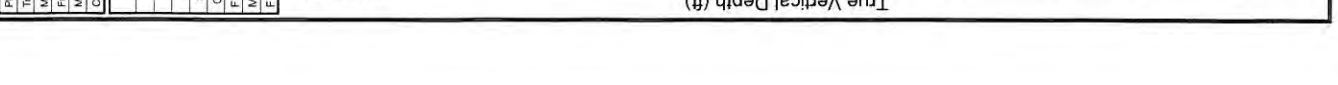
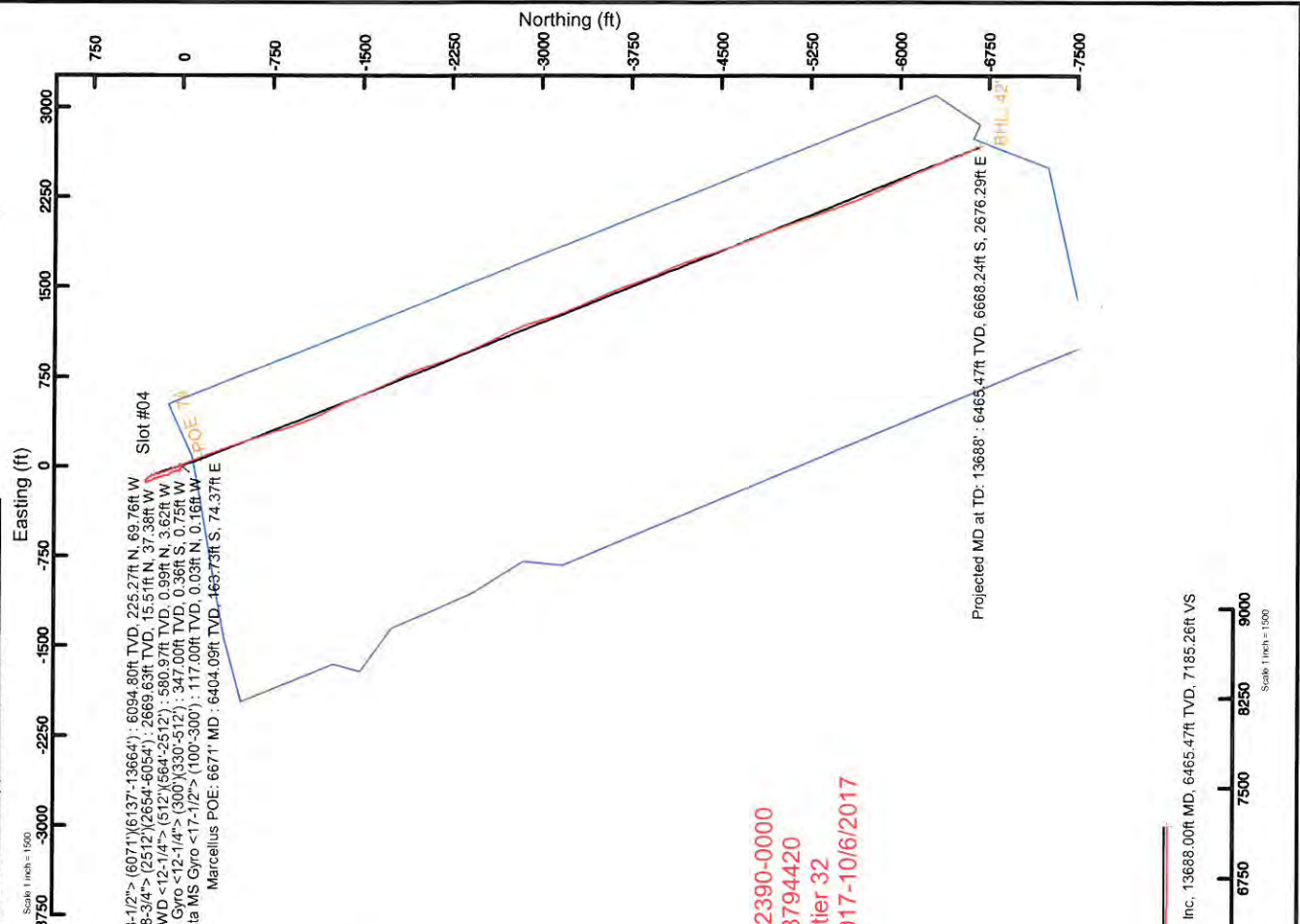
Well Profile Data					
Design Comment	MD (ft)	Az (°)	TVD (ft)	Local N (ft)	VS (ft)
The On	6071.00	26.050	153.920	6037.15	-81.62
Profi. To Bottom	6158.00	33.400	160.000	6112.67	-224.04
End of 3D Arc	6573.93	66.380	163.457	6376.99	-83.26
POE	6644.48	70.370	158.142	6403.00	-145.14
Landing Pt.	6682.59	90.000	158.145	6440.00	-343.64
BHL	13875.37	90.000	158.145	6440.00	-4666.76
					2668.46
					0.00
					7189.97

Directional ONE MWD <8-3/4"> (2512)(2654-6054') : 0.95° Inc, 2671.00ft MD, 2669.63ft TD, -28.30ft VS
 User specified (HDGM) Dip: 66.59° Field: 51906 RT
 Magnetic North is 7.80 degrees West of True North (at 03/Oct/2017)
 Grid North is 0.02 degrees East of True North
 To correct azimuth from True to Grid subtract 0.02 degrees
 To correct azimuth from Magnetic to Grid subtract 7.82 degrees

API: 47-095-02390-0000
 BH Job #: 87944420
 Rig: Frontier 32
 Duration: 10/4/2017-10/6/2017



BH AT Curve <8-1/2"> (6071)(6137-13664') : 6094.80ft TD, 6094.80ft TD, -235.05ft VS
 Marcellus POE: 6671' MD : 73.97° Inc, 6671.00ft MD, 6404.09ft TD, 179.65ft VS
 Projected MD at TD : 13688' : 89.82° Inc, 13688.00ft MD, 6465.47ft TD, 7185.26ft VS





Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Edsaryar
Scale	0.999600	Report Generated	28/Nov/2017 at 13:54
Convergence at slot	0.02° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Hopper_Unit_3H_AWP_Proj_13688_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	15.19	13.35	1647388.11	14292753.72	39°21'33.440"N	80°58'31.210"W
Facility Reference Pt			1647374.77	14292738.54	39°21'33.290"N	80°58'31.380"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Frontier 32 (RKB) to Facility Vertical Datum	32.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	1210.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Mud Line at Slot (Slot #04)	32.00ft
MD Reference Pt	Frontier 32 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	158.15°



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'
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Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH DATA (170 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	0.00	278.920	0.00	0.00	0.00	0.00	1647388.11	14292753.72	39°21'33.440"N	80°58'31.210"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.00	278.920	32.00	0.00	0.00	0.00	1647388.11	14292753.72	39°21'33.440"N	80°58'31.210"W	0.00	0.000	0.00	0.00	0.00	
117.00	0.20	278.920	117.00	-0.08	0.03	-0.16	1647387.95	14292753.74	39°21'33.440"N	80°58'31.212"W	0.16	278.920	0.26	0.26	-95.39	Gyrodata MS Gyro <17-1/2"> (100'-300')
217.00	0.13	214.040	217.00	-0.12	-0.04	-0.41	1647387.70	14292753.68	39°21'33.440"N	80°58'31.215"W	0.42	264.632	0.20	-0.09	-64.88	
317.00	0.28	225.050	317.00	0.04	-0.31	-0.65	1647387.46	14292753.41	39°21'33.437"N	80°58'31.218"W	0.72	244.849	0.15	0.15	11.01	
347.00	0.18	267.370	347.00	0.05	-0.36	-0.75	1647387.36	14292753.36	39°21'33.436"N	80°58'31.220"W	0.83	244.382	0.63	-0.33	141.07	Gyrodata MS Gyro <12-1/4"> (300')(330'-512')
436.00	0.30	300.420	436.00	-0.18	-0.25	-1.09	1647387.02	14292753.47	39°21'33.438"N	80°58'31.224"W	1.12	257.188	0.20	0.13	37.13	
529.00	1.31	296.490	529.99	-1.16	0.35	-2.25	1647385.86	14292754.07	39°21'33.443"N	80°58'31.239"W	2.28	278.823	1.09	1.09	-4.23	
581.00	2.02	293.980	580.97	-2.26	0.99	-3.62	1647384.49	14292754.71	39°21'33.450"N	80°58'31.256"W	3.75	285.248	1.37	1.37	-4.83	Directional ONE MWD <12-1/4"> (512')(564'-2512')
670.00	2.73	293.150	669.89	-4.89	2.46	-7.00	1647381.11	14292756.18	39°21'33.464"N	80°58'31.299"W	7.42	289.339	0.80	0.80	-0.93	
760.00	3.48	295.680	759.76	-8.42	4.48	-11.44	1647376.68	14292758.20	39°21'33.484"N	80°58'31.356"W	12.28	291.411	0.85	0.83	2.81	
849.00	4.32	297.480	848.55	-12.95	7.20	-16.84	1647371.28	14292760.92	39°21'33.511"N	80°58'31.424"W	18.32	293.149	0.95	0.94	2.02	
940.00	4.33	293.640	939.29	-18.00	10.16	-23.03	1647365.09	14292763.88	39°21'33.540"N	80°58'31.503"W	25.17	293.805	0.32	0.01	-4.22	
1028.00	4.21	291.050	1027.05	-22.57	12.65	-29.09	1647359.04	14292766.37	39°21'33.565"N	80°58'31.580"W	31.72	293.507	0.26	-0.14	-2.94	
1116.00	3.07	294.310	1114.87	-26.47	14.78	-34.25	1647353.88	14292768.50	39°21'33.586"N	80°58'31.646"W	37.31	293.345	1.32	-1.30	3.70	
1205.00	2.09	292.760	1203.78	-29.33	16.39	-37.92	1647350.21	14292770.10	39°21'33.602"N	80°58'31.693"W	41.31	293.378	1.10	-1.10	-1.74	
1293.00	0.90	288.370	1291.74	-30.90	17.23	-40.06	1647348.07	14292770.94	39°21'33.610"N	80°58'31.720"W	43.60	293.276	1.36	-1.35	-4.99	
1381.00	0.51	276.400	1379.74	-31.53	17.49	-41.10	1647347.03	14292771.20	39°21'33.613"N	80°58'31.733"W	44.67	293.054	0.47	-0.44	-13.60	
1470.00	0.51	272.190	1468.73	-31.88	17.55	-41.89	1647346.24	14292771.26	39°21'33.614"N	80°58'31.743"W	45.42	292.733	0.04	0.00	-4.73	
1558.00	0.39	246.210	1556.73	-32.03	17.45	-42.56	1647345.57	14292771.16	39°21'33.613"N	80°58'31.752"W	45.99	292.291	0.27	-0.14	-29.52	
1646.00	1.02	97.860	1644.73	-31.63	17.22	-42.05	1647346.08	14292770.93	39°21'33.610"N	80°58'31.745"W	45.44	292.265	1.55	0.72	-168.58	
1734.00	1.61	96.310	1732.70	-30.66	16.97	-40.05	1647348.08	14292770.69	39°21'33.608"N	80°58'31.720"W	43.50	292.970	0.67	0.67	-1.76	
1823.00	1.63	94.430	1821.67	-29.51	16.74	-37.54	1647350.58	14292770.45	39°21'33.606"N	80°58'31.688"W	41.11	294.030	0.06	0.02	-2.11	
1911.00	0.44	87.110	1909.65	-28.85	16.66	-35.96	1647352.17	14292770.37	39°21'33.605"N	80°58'31.668"W	39.63	294.858	1.36	-1.35	-8.32	
1999.00	0.24	138.600	1997.65	-28.56	16.54	-35.50	1647352.63	14292770.25	39°21'33.604"N	80°58'31.662"W	39.16	294.980	0.39	-0.23	58.51	
2087.00	0.30	158.270	2085.65	-28.16	16.19	-35.29	1647352.83	14292769.90	39°21'33.600"N	80°58'31.659"W	38.83	294.638	0.12	0.07	22.35	
2174.00	0.34	157.680	2174.65	-27.66	15.73	-35.11	1647353.02	14292769.44	39°21'33.596"N	80°58'31.657"W	38.47	294.130	0.05	0.04	-0.66	
2264.00	0.44	154.590	2262.65	-27.06	15.18	-34.86	1647353.27	14292768.89	39°21'33.590"N	80°58'31.654"W	38.02	293.529	0.12	0.11	-3.51	
2352.00	0.14	290.800	2350.65	-26.80	14.91	-34.82	1647353.31	14292768.63	39°21'33.587"N	80°58'31.653"W	37.88	293.185	0.62	-0.34	154.78	
2440.00	0.33	291.530	2438.64	-27.05	15.04	-35.15	1647352.97	14292768.76	39°21'33.589"N	80°58'31.657"W	38.24	293.167	0.22	0.22	0.83	



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot #04
ANTERO RESOURCES CORPORATION	Hopper Unit 3H
Area	Tyler County, WV
Field	Tyler
Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad

WELLPATH DATA (170 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
2529.00	0.440	293.940	2527.64	-27.47	15.28	-35.70	1647352.42	14292768.99	89°21'33.591"N	80°58'31.665"W	38.84	293.163	0.12	0.12	2.71	
2671.00	0.950	270.410	2669.63	-28.30	15.51	-37.38	1647350.75	14292769.22	89°21'33.593"N	80°58'31.686"W	40.47	292.529	0.40	0.36	-16.57	Directional ONE MWD <8-3/4"> (2512')(2654'-6054')
2760.00	0.800	250.900	2758.62	-28.61	15.31	-38.71	1647349.42	14292769.02	89°21'33.591"N	80°58'31.703"W	41.62	291.579	0.37	-0.17	-21.92	
2848.00	1.360	93.220	2846.61	-28.20	15.05	-38.24	1647349.89	14292768.76	89°21'33.589"N	80°58'31.697"W	41.10	291.479	2.41	0.64	-179.18	
2935.00	1.040	108.030	2934.60	-27.25	14.74	-36.44	1647351.69	14292768.46	89°21'33.586"N	80°58'31.674"W	39.31	292.026	0.50	-0.36	16.83	
3025.00	0.800	115.750	3023.58	-26.27	14.22	-35.11	1647353.01	14292767.94	89°21'33.581"N	80°58'31.657"W	37.88	292.050	0.30	-0.27	8.67	
3113.00	0.770	116.530	3111.58	-25.37	13.69	-34.03	1647354.10	14292767.40	89°21'33.575"N	80°58'31.643"W	36.68	291.916	0.04	-0.03	0.89	
3201.00	0.740	98.640	3199.57	-24.64	13.34	-32.94	1647355.19	14292767.06	89°21'33.572"N	80°58'31.629"W	35.54	292.049	0.27	-0.03	-20.33	
3289.00	1.990	339.810	3287.55	-25.88	14.69	-32.91	1647355.22	14292768.40	89°21'33.585"N	80°58'31.629"W	36.04	294.058	2.77	1.42	-135.03	
3378.00	1.820	330.550	3376.50	-28.83	17.37	-34.13	1647353.99	14292771.08	89°21'33.612"N	80°58'31.644"W	38.30	296.973	0.39	-0.19	-10.40	
3466.00	1.620	326.290	3464.46	-31.43	19.62	-35.51	1647352.62	14292773.33	89°21'33.634"N	80°58'31.662"W	40.57	298.925	0.27	-0.23	-4.84	
3554.00	2.950	344.550	3552.39	-34.90	22.84	-36.80	1647351.32	14292776.55	89°21'33.666"N	80°58'31.678"W	43.32	301.823	1.70	1.51	20.75	
3643.00	4.560	0.050	3641.20	-40.46	28.59	-37.41	1647350.72	14292782.29	89°21'33.723"N	80°58'31.686"W	47.08	307.384	2.12	1.81	17.42	
3731.00	6.470	344.070	3728.77	-48.70	37.19	-38.12	1647350.01	14292790.89	89°21'33.808"N	80°58'31.695"W	53.25	314.293	2.60	2.45	-9.02	
3819.00	8.240	344.450	3816.19	-58.83	47.05	-40.18	1647347.95	14292800.75	89°21'33.905"N	80°58'31.721"W	61.88	319.503	1.09	-0.28	-9.14	
3907.00	6.470	344.070	3903.46	-69.83	57.90	-43.23	1647344.90	14292811.59	89°21'34.012"N	80°58'31.760"W	72.26	323.250	2.01	2.01	0.43	
3996.00	7.640	336.310	3991.61	-82.08	69.46	-47.32	1647340.81	14292834.80	89°21'34.127"N	80°58'31.812"W	84.05	325.734	1.43	-0.67	-9.15	
4084.00	9.060	335.360	4078.68	-94.85	81.12	-52.56	1647335.57	14292834.80	89°21'34.242"N	80°58'31.879"W	96.66	327.058	1.62	1.61	-1.08	
4172.00	8.370	328.070	4165.62	-108.36	93.09	-58.99	1647329.15	14292846.78	89°21'34.360"N	80°58'31.961"W	110.21	327.639	1.33	-0.35	-8.28	
4261.00	8.370	320.660	4253.63	-121.20	103.85	-66.68	1647321.46	14292857.53	89°21'34.467"N	80°58'32.059"W	123.41	327.297	1.31	-0.43	-8.33	
4349.00	8.390	332.320	4340.70	-133.70	114.49	-73.72	1647314.42	14292868.16	89°21'34.572"N	80°58'32.148"W	136.17	327.222	1.93	0.02	13.25	
4437.00	8.260	343.330	4427.77	-146.38	126.23	-78.52	1647309.63	14292879.90	89°21'34.688"N	80°58'32.209"W	148.66	328.118	1.81	-0.15	12.51	
4526.00	9.270	353.690	4515.74	-159.66	139.48	-81.14	1647307.01	14292893.14	89°21'34.819"N	80°58'32.242"W	161.36	329.813	2.10	1.13	11.64	
4614.00	9.080	353.080	4602.61	-173.20	153.42	-82.75	1647305.39	14292907.08	89°21'34.957"N	80°58'32.263"W	174.31	331.658	0.24	-0.22	-0.69	
4702.00	9.040	347.520	4689.52	-186.73	167.06	-85.08	1647303.06	14292920.71	89°21'35.091"N	80°58'32.293"W	187.48	333.011	1.00	-0.05	-6.32	
4791.00	8.620	342.380	4777.46	-200.28	180.25	-88.61	1647299.54	14292933.89	89°21'35.222"N	80°58'32.338"W	200.85	333.820	1.00	-0.47	-5.78	
4879.00	8.390	338.260	4864.50	-213.28	192.50	-92.99	1647296.16	14292946.14	89°21'35.343"N	80°58'32.393"W	213.78	334.216	0.74	-0.26	-4.68	
4967.00	7.840	334.320	4951.62	-225.68	203.87	-97.97	1647290.19	14292957.51	89°21'35.455"N	80°58'32.457"W	226.19	334.334	0.89	-0.63	-4.48	
5055.00	8.890	345.130	5038.68	-238.42	215.85	-102.31	1647285.84	14292969.48	89°21'35.574"N	80°58'32.512"W	238.87	334.639	2.14	1.19	12.28	
5144.00	9.110	340.270	5126.59	-252.29	229.13	-106.46	1647281.70	14292982.76	89°21'35.705"N	80°58'32.565"W	252.65	335.080	0.89	0.25	-5.46	



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'
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Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH DATA (170 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
5232.00	9.320	334.510	6213.46	-266.36	242.12	-111.88	1647276.28	14292995.74	39°21'35.833"N	80°58'32.633"W	266.72	335.200	1.07	0.24	-6.55	
5320.00	8.630	337.810	6300.38	-280.08	254.66	-117.44	1647270.73	14293008.28	39°21'35.957"N	80°58'32.704"W	280.44	335.244	0.98	-0.78	3.75	
5408.00	8.870	334.810	6387.35	-293.45	266.92	-122.82	1647265.35	14293020.53	39°21'36.078"N	80°58'32.773"W	293.82	335.291	0.59	0.27	-3.41	
5497.00	7.740	341.040	6475.42	-306.29	278.80	-127.68	1647260.48	14293032.40	39°21'36.196"N	80°58'32.835"W	306.64	335.393	1.62	-1.27	7.00	
5541.00	8.200	339.470	6519.00	-312.38	284.54	-129.75	1647258.42	14293038.14	39°21'36.253"N	80°58'32.861"W	312.72	335.487	1.16	1.05	-3.57	
5585.00	8.500	337.490	6562.53	-318.77	290.48	-132.09	1647256.07	14293044.08	39°21'36.311"N	80°58'32.891"W	319.10	335.547	0.94	0.68	-4.50	
5629.00	6.980	335.240	6606.13	-324.70	295.91	-134.46	1647253.71	14293049.51	39°21'36.365"N	80°58'32.921"W	325.03	335.564	3.52	-3.45	-5.11	
5674.00	3.450	334.260	6650.93	-328.78	299.61	-136.19	1647251.98	14293055.21	39°21'36.402"N	80°58'32.943"W	329.12	335.556	7.85	-7.84	-2.18	
5718.00	2.790	47.320	6694.88	-330.48	301.53	-135.98	1647252.19	14293055.13	39°21'36.421"N	80°58'32.940"W	330.78	335.727	8.52	-1.50	166.05	
5762.00	6.460	75.670	6738.74	-330.54	302.87	-132.79	1647255.37	14293058.47	39°21'36.434"N	80°58'32.900"W	330.71	336.325	9.58	8.34	64.43	
5806.00	8.920	95.050	6782.35	-328.67	303.19	-126.99	1647261.17	14293056.78	39°21'36.437"N	80°58'32.826"W	328.71	337.273	8.05	5.59	44.05	
5850.00	9.530	111.710	6825.79	-324.62	301.54	-120.21	1647267.95	14293055.14	39°21'36.421"N	80°58'32.739"W	324.62	338.265	6.20	1.39	37.86	
5895.00	11.750	121.550	6870.01	-318.37	297.76	-112.84	1647275.31	14293051.36	39°21'36.383"N	80°58'32.549"W	318.43	339.245	6.36	4.93	21.87	
5939.00	13.670	133.960	6912.94	-310.03	291.81	-105.28	1647282.87	14293045.41	39°21'36.324"N	80°58'32.353"W	310.22	340.161	7.56	4.36	28.20	
5983.00	17.350	143.830	6955.34	-298.92	282.90	-97.66	1647290.49	14293036.50	39°21'36.236"N	80°58'32.452"W	299.28	340.954	10.26	8.36	22.43	
6027.00	21.280	150.300	6996.86	-284.65	270.66	-89.83	1647298.32	14293024.27	39°21'36.115"N	80°58'32.353"W	285.18	341.639	10.16	8.93	14.70	
6071.00	26.050	153.920	7037.15	-267.09	255.04	-81.62	1647306.52	14293008.65	39°21'35.961"N	80°58'32.248"W	267.78	342.253	11.33	10.84	8.23	
6137.00	32.200	161.870	7094.80	-235.05	225.27	-69.76	1647318.38	14292978.90	39°21'35.667"N	80°58'32.097"W	235.82	342.793	10.99	9.32	12.05	BH AT Curve <-8-1/2"> (6071)-(6137)-(13664)
6205.00	34.590	165.890	7151.57	-197.83	189.32	-59.42	1647328.72	14292942.96	39°21'35.311"N	80°58'31.966"W	198.43	342.576	4.79	3.51	5.91	
6252.00	38.990	163.710	7189.21	-169.88	162.17	-52.01	1647336.12	14292915.83	39°21'35.043"N	80°58'31.872"W	170.31	342.217	9.76	9.36	-4.64	
6300.00	42.500	160.170	7225.57	-138.64	132.41	-42.27	1647345.86	14292886.08	39°21'34.749"N	80°58'31.748"W	139.00	342.294	8.75	7.31	-7.38	
6347.00	46.250	157.820	7259.16	-105.78	101.75	-30.47	1647357.65	14292855.43	39°21'34.446"N	80°58'31.598"W	106.21	343.326	8.71	7.98	-5.00	
6388.00†	51.015	156.766	7286.25	-75.02	73.37	-18.59	1647369.53	14292827.06	39°21'34.165"N	80°58'31.446"W	75.69	345.782	11.78	11.62	-2.57	Middlesex: 6388' MD
6395.00	51.830	156.600	7290.61	-69.55	68.35	-16.42	1647371.70	14292822.04	39°21'34.116"N	80°58'31.419"W	70.30	346.488	11.78	11.64	-2.37	
6442.00	56.740	157.740	7318.04	-31.41	33.19	-1.63	1647386.48	14292786.89	39°21'33.768"N	80°58'31.231"W	33.23	357.181	10.63	10.45	2.43	
6490.00	62.090	158.920	7342.46	9.90	-5.21	13.61	1647401.72	14292748.52	39°21'33.389"N	80°58'31.037"W	14.57	110.934	11.34	11.15	2.46	
6550.00	68.610	159.750	7367.47	64.39	-56.20	32.83	1647420.93	14292697.54	39°21'32.884"N	80°58'30.792"W	65.09	149.709	10.94	10.87	1.38	
6581.00†	71.400	159.475	7378.07	93.51	-83.51	42.98	1647432.08	14292670.24	39°21'32.615"N	80°58'30.663"W	93.92	152.766	9.04	9.00	-0.89	Burkett: 6581' MD
6585.00	71.760	159.440	7379.33	97.30	-87.06	44.31	1647432.41	14292666.69	39°21'32.579"N	80°58'30.646"W	97.69	153.025	9.04	9.00	-0.87	
6632.00	73.780	158.550	7393.25	142.18	-128.97	60.40	1647448.49	14292624.80	39°21'32.165"N	80°58'30.441"W	142.41	154.903	4.66	4.30	-1.89	



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH DATA (170 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 [F/100ft]	Build Rate [F/100ft]	Turn Rate [F/100ft]	Comments
6644.00	73.837	158.285	6396.60	153.71	-139.68	64.64	1647452.73	14292614.09	39°21'32.059"N	80°58'30.388"W	153.92	155.166	2.18	0.48	-2.21	Tully, 6644' MD
6671.00	73.966	157.689	6404.09	179.65	-163.73	74.37	1647462.45	14292590.05	39°21'31.822"N	80°58'30.264"W	179.83	155.573	2.18	0.48	-2.21	Marcellus POE: 6671' MD
6680.00	74.010	157.490	6406.57	188.30	-171.73	77.66	1647465.75	14292582.06	39°21'31.742"N	80°58'30.222"W	188.48	155.665	2.18	0.48	-2.21	
6727.00	74.650	158.800	6419.26	233.55	-213.73	94.51	1647482.58	14292540.08	39°21'31.327"N	80°58'30.008"W	233.69	156.148	3.01	1.36	2.79	
6775.00	79.040	160.000	6430.19	280.27	-257.47	110.95	1647499.01	14292496.35	39°21'30.895"N	80°58'29.798"W	280.36	156.689	9.46	9.15	2.50	
6822.00	83.770	159.790	6437.21	326.70	-301.10	126.92	1647514.98	14292452.74	39°21'30.464"N	80°58'29.595"W	326.75	157.144	10.07	10.06	-0.45	
6871.00	89.050	160.010	6440.28	375.57	-347.01	143.72	1647531.77	14292406.85	39°21'30.010"N	80°58'29.382"W	375.59	157.503	10.78	10.78	0.45	
6966.00	89.480	160.080	6441.49	470.51	-436.30	176.13	1647564.18	14292317.60	39°21'29.127"N	80°58'28.969"W	470.51	158.016	0.46	0.45	0.07	
7060.00	89.350	161.140	6442.45	564.41	-524.96	207.34	1647595.37	14292228.97	39°21'28.251"N	80°58'28.572"W	564.42	158.448	1.14	-0.14	1.13	
7155.00	89.540	161.410	6443.37	659.27	-614.93	237.84	1647625.85	14292139.04	39°21'27.362"N	80°58'28.184"W	659.32	158.855	0.35	0.20	0.28	
7251.00	89.480	161.860	6444.20	755.09	-706.03	268.08	1647656.09	14292047.97	39°21'26.461"N	80°58'27.800"W	755.22	159.208	0.47	-0.06	0.47	
7346.00	89.350	162.300	6445.01	849.86	-796.43	297.29	1647686.28	14291957.61	39°21'25.568"N	80°58'27.428"W	850.11	159.531	0.50	0.06	0.49	
7441.00	89.350	162.040	6445.93	944.62	-886.86	326.37	1647714.35	14291867.21	39°21'24.674"N	80°58'27.058"W	945.01	159.796	0.38	-0.20	-0.33	
7536.00	89.350	160.440	6447.01	1039.47	-976.80	356.93	1647744.90	14291777.31	39°21'23.785"N	80°58'26.669"W	1039.97	159.927	1.66	0.00	-1.66	
7631.00	89.230	156.330	6448.18	1134.45	-1065.10	391.92	1647779.87	14291689.05	39°21'22.912"N	80°58'26.224"W	1134.91	159.798	4.33	-0.13	-4.33	
7727.00	88.460	153.640	6450.12	1230.27	-1152.07	432.50	1647820.44	14291602.12	39°21'22.052"N	80°58'25.708"W	1230.57	159.423	2.91	-0.80	-2.80	
7822.00	88.520	152.570	6452.82	1324.87	-1236.76	475.46	1647863.38	14291517.46	39°21'21.215"N	80°58'25.161"W	1325.00	158.971	1.13	0.06	-1.13	
7916.00	88.520	154.100	6455.05	1418.50	-1320.73	517.63	1647905.53	14291433.52	39°21'20.385"N	80°58'24.625"W	1418.55	158.599	1.63	0.00	1.63	
8011.00	88.770	156.260	6457.30	1513.34	-1406.93	557.49	1647945.38	14291347.36	39°21'19.533"N	80°58'24.118"W	1513.35	158.384	2.29	0.26	2.27	
8105.00	88.950	156.610	6459.17	1607.28	-1493.07	595.06	1647982.94	14291261.25	39°21'18.681"N	80°58'23.640"W	1607.28	158.270	0.42	0.19	0.37	
8200.00	89.690	156.660	6460.29	1702.24	-1580.27	632.74	1648020.60	14291174.08	39°21'17.819"N	80°58'23.161"W	1702.24	158.179	0.78	0.78	0.05	
8295.00	89.510	155.740	6460.96	1797.18	-1667.19	671.07	1648058.92	14291087.20	39°21'16.960"N	80°58'22.673"W	1797.18	158.074	0.99	-0.19	-0.97	
8390.00	89.380	154.590	6461.88	1892.05	-1753.40	710.97	1648098.80	14291001.02	39°21'16.108"N	80°58'22.165"W	1892.06	157.928	1.22	-0.14	-1.21	
8485.00	89.540	154.370	6462.77	1986.85	-1839.13	751.90	1648139.71	14290915.33	39°21'15.261"N	80°58'21.645"W	1986.89	157.764	0.29	0.17	-0.23	
8581.00	89.510	156.420	6463.57	2082.73	-1926.40	791.86	1648179.66	14290828.09	39°21'14.398"N	80°58'21.136"W	2082.81	157.655	2.14	-0.03	2.14	
8675.00	89.750	160.360	6464.18	2176.71	-2013.78	826.47	1648214.26	14290740.75	39°21'13.534"N	80°58'20.696"W	2176.78	157.686	4.20	0.26	4.19	
8770.00	89.750	161.890	6464.59	2271.58	-2103.67	857.21	1648244.98	14290650.90	39°21'12.646"N	80°58'20.305"W	2271.61	157.830	1.61	0.00	1.61	
8865.00	89.850	160.360	6464.92	2366.44	-2193.55	887.94	1648275.69	14290561.05	39°21'11.757"N	80°58'19.914"W	2366.46	157.962	1.61	0.11	-1.61	
8961.00	89.910	159.370	6465.12	2462.40	-2283.69	920.98	1648308.73	14290470.95	39°21'10.866"N	80°58'19.494"W	2462.40	158.036	1.03	0.06	-1.03	
9056.00	89.910	157.760	6465.27	2557.39	-2372.11	955.70	1648343.43	14290382.56	39°21'09.982"N	80°58'19.052"W	2557.40	158.066	1.69	0.00	-1.69	



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH DATA (170 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 (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
9151.00	89.850	155.380	6465.47	2652.35	-2459.27	993.47	1648381.19	14290295.43	39°21'09.13"N	80°58'18.57"W	2652.36	158.003	2.51	-0.06	-2.51	
9247.00	89.660	153.970	6465.88	2748.17	-2546.04	1034.53	1648422.23	14290208.70	39°21'08.27"N	80°58'18.04"W	2748.20	157.887	1.48	-0.20	-1.47	
9342.00	89.660	154.540	6466.45	2842.95	-2631.61	1075.80	1648463.48	14290123.16	39°21'07.42"N	80°58'17.52"W	2843.01	157.765	0.60	0.00	0.60	
9437.00	89.850	154.860	6466.85	2937.78	-2717.50	1116.40	1648504.06	14290037.31	39°21'06.57"N	80°58'17.00"W	2937.88	157.666	0.39	0.20	0.34	
9532.00	89.910	156.960	6467.05	3032.70	-2804.22	1155.17	1648542.82	14289950.63	39°21'05.72"N	80°58'16.51"W	3032.83	157.611	2.21	0.06	2.21	
9627.00	91.260	160.710	6466.08	3127.67	-2892.79	1189.46	1648577.10	14289862.09	39°21'04.84"N	80°58'16.07"W	3127.79	157.648	4.20	1.42	3.95	
9722.00	90.710	164.550	6464.45	3222.34	-2983.43	1217.81	1648605.44	14289771.49	39°21'03.94"N	80°58'15.71"W	3222.41	157.795	4.08	-0.58	4.04	
9817.00	90.830	162.710	6463.17	3316.90	-3074.56	1244.59	1648632.20	14289680.39	39°21'03.04"N	80°58'15.37"W	3316.92	157.962	1.94	0.13	-1.94	
9912.00	90.740	158.310	6461.87	3411.79	-3164.09	1276.27	1648663.87	14289590.90	39°21'02.16"N	80°58'14.97"W	3411.79	158.033	4.63	-0.09	-4.63	
10007.00	90.280	155.980	6461.02	3506.76	-3251.62	1313.17	1648700.75	14289503.41	39°21'01.29"N	80°58'14.50"W	3506.77	158.009	2.50	-0.48	-2.45	
10101.00	90.400	155.870	6460.47	3600.69	-3337.44	1351.51	1648739.08	14289417.62	39°21'00.45"N	80°58'14.01"W	3600.71	157.954	0.17	0.13	-0.12	
10196.00	90.250	156.550	6459.93	3695.63	-3424.37	1389.83	1648777.39	14289330.73	39°20'59.59"N	80°58'13.53"W	3695.66	157.909	0.73	-0.16	0.72	
10290.00	89.690	157.530	6459.98	3789.61	-3510.92	1426.50	1648814.04	14289244.21	39°20'58.73"N	80°58'13.06"W	3789.65	157.888	1.20	-0.60	1.04	
10386.00	89.750	157.030	6460.44	3885.60	-3599.47	1463.58	1648851.10	14289155.70	39°20'57.86"N	80°58'12.59"W	3885.64	157.873	0.52	0.06	-0.52	
10481.00	89.780	158.920	6460.83	3980.59	-3687.53	1499.20	1648886.71	14289067.67	39°20'56.98"N	80°58'12.13"W	3980.64	157.875	1.99	0.03	1.99	
10576.00	89.630	161.350	6461.32	4075.53	-3776.87	1531.48	1648918.98	14288978.37	39°20'56.10"N	80°58'11.72"W	4075.56	157.928	2.56	-0.16	2.56	
10671.00	89.750	159.490	6461.84	4170.45	-3866.37	1563.31	1648950.80	14288888.90	39°20'55.22"N	80°58'11.32"W	4170.47	157.985	1.96	0.13	-1.96	
10766.00	89.720	155.320	6462.28	4265.42	-3954.06	1599.81	1648987.28	14288801.25	39°20'54.35"N	80°58'10.86"W	4265.44	157.972	4.39	-0.03	-4.39	
10861.00	89.910	155.570	6462.58	4360.31	-4040.47	1639.28	1649026.74	14288714.88	39°20'53.50"N	80°58'10.35"W	4360.35	157.917	0.33	0.20	0.26	
10957.00	89.970	158.420	6462.68	4456.28	-4128.82	1676.80	1649064.24	14288626.55	39°20'52.62"N	80°58'09.88"W	4456.33	157.897	2.97	0.06	2.97	
11052.00	90.090	160.020	6462.63	4551.26	-4217.64	1710.50	1649097.93	14288537.77	39°20'51.74"N	80°58'09.45"W	4551.30	157.925	1.69	0.13	1.68	
11147.00	90.060	161.900	6462.51	4646.14	-4307.44	1741.49	1649128.90	14288448.01	39°20'50.86"N	80°58'09.05"W	4646.16	157.987	1.98	-0.03	1.98	
11242.00	90.250	161.840	6462.25	4740.94	-4397.72	1771.05	1649158.45	14288357.76	39°20'49.96"N	80°58'08.68"W	4740.95	158.064	0.21	0.20	-0.06	
11338.00	90.180	161.420	6461.89	4836.77	-4488.83	1801.31	1649188.70	14288266.69	39°20'49.06"N	80°58'08.29"W	4836.77	158.135	0.44	-0.07	-0.44	
11433.00	90.120	160.380	6461.64	4931.65	-4578.60	1832.39	1649219.77	14288176.96	39°20'48.18"N	80°58'07.90"W	4931.66	158.188	1.10	-0.06	-1.09	
11529.00	90.180	160.430	6461.39	5027.58	-4669.04	1864.59	1649251.95	14288086.56	39°20'47.28"N	80°58'07.49"W	5027.58	158.231	0.08	0.06	0.05	
11624.00	90.120	157.320	6461.14	5122.56	-4757.64	1898.82	1649286.17	14287997.99	39°20'46.41"N	80°58'07.05"W	5122.57	158.243	3.27	-0.06	-3.27	
11719.00	90.310	156.460	6460.79	5217.54	-4845.02	1936.11	1649323.44	14287910.65	39°20'45.54"N	80°58'06.58"W	5217.54	158.218	0.93	0.20	-0.91	
11814.00	90.150	158.980	6460.41	5312.52	-4932.92	1972.12	1649359.44	14287822.78	39°20'44.67"N	80°58'06.12"W	5312.53	158.209	2.66	-0.17	2.65	
11910.00	90.250	161.460	6460.07	5408.45	-5023.25	2004.61	1649391.91	14287732.49	39°20'43.78"N	80°58'05.71"W	5408.46	158.245	2.59	0.10	2.58	



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH DATA (170 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
12005.00	90.340	160.020	6459.58	15503.35	-5112.93	2035.94	1649423.24	14287642.85	39°20'42.900"N	80°58'05.313"W	5503.37	158.288	1.52	0.09	-1.52	
12089.00	90.310	160.430	6459.05	5597.29	-5201.38	2067.74	1649455.03	14287554.43	39°20'42.025"N	80°58'04.909"W	5597.31	158.320	0.44	-0.03	0.44	
12194.00	90.370	160.470	6458.49	5692.21	-5290.90	2099.53	1649486.80	14287464.94	39°20'41.140"N	80°58'04.505"W	5692.25	158.356	0.08	0.06	0.04	
12290.00	90.250	161.100	6457.97	5788.11	-5381.55	2131.13	1649518.38	14287374.33	39°20'40.244"N	80°58'04.103"W	5788.16	158.396	0.67	-0.13	0.66	
12385.00	89.660	159.480	6458.04	5883.04	-5470.98	2163.17	1649550.41	14287284.94	39°20'39.360"N	80°58'03.695"W	5883.11	158.427	1.81	-0.62	-1.71	
12480.00	89.720	158.880	6458.55	5978.02	-5559.78	2196.93	1649584.16	14287196.18	39°20'38.482"N	80°58'03.266"W	5978.10	158.439	0.63	0.06	-0.63	
12576.00	89.630	157.780	6459.10	6074.02	-5648.99	2232.38	1649619.60	14287107.00	39°20'37.601"N	80°58'02.815"W	6074.09	158.437	1.15	-0.09	-1.15	
12671.00	89.750	156.240	6459.61	6168.99	-5736.44	2269.48	1649656.68	14287019.58	39°20'36.736"N	80°58'02.343"W	6169.06	158.415	1.63	0.13	-1.62	
12766.00	89.720	156.030	6460.05	6263.93	-5823.32	2307.92	1649695.10	14286932.74	39°20'35.877"N	80°58'01.855"W	6263.98	158.380	0.22	-0.03	-0.22	
12859.00	89.600	154.520	6460.60	6356.81	-5907.79	2346.81	1649733.98	14286848.31	39°20'35.042"N	80°58'01.360"W	6356.85	158.335	1.63	-0.13	-1.62	
12954.00	89.510	155.630	6461.34	6451.67	-5993.94	2386.85	1649774.00	14286762.19	39°20'34.191"N	80°58'00.851"W	6451.69	158.287	1.17	-0.09	1.17	
13050.00	89.720	156.750	6461.99	6547.61	-6081.76	2425.60	1649812.74	14286674.40	39°20'33.323"N	80°58'00.358"W	6547.62	158.256	1.19	0.22	1.17	
13145.00	89.690	157.920	6462.48	6642.60	-6169.42	2462.21	1649849.33	14286586.78	39°20'32.456"N	80°57'59.892"W	6642.61	158.243	1.23	-0.03	1.23	
13239.00	89.690	156.960	6462.98	6736.59	-6256.23	2498.27	1649885.38	14286500.01	39°20'31.598"N	80°57'59.434"W	6736.60	158.232	1.02	0.00	-1.02	
13334.00	89.630	157.270	6463.55	6831.57	-6343.75	2535.21	1649922.31	14286412.52	39°20'30.733"N	80°57'58.964"W	6831.58	158.216	0.33	-0.06	0.33	
13429.00	89.600	158.390	6464.19	6926.57	-6431.72	2571.06	1649958.14	14286324.58	39°20'29.863"N	80°57'58.508"W	6926.57	158.211	1.18	-0.03	1.18	
13524.00	89.720	157.400	6464.75	7021.56	-6519.74	2606.81	1649993.88	14286236.50	39°20'28.993"N	80°57'58.054"W	7021.57	158.207	1.05	0.13	-1.04	
13619.00	89.720	154.440	6465.22	7116.48	-6606.46	2645.57	1650032.62	14286149.92	39°20'28.136"N	80°57'57.561"W	7116.48	158.176	3.12	0.00	-3.12	
13664.00	89.820	153.130	6465.40	7161.35	-6646.83	2665.44	1650052.49	14286109.56	39°20'27.737"N	80°57'57.308"W	7161.35	158.149	2.92	0.22	-2.91	
13688.00	89.820	153.130	6465.47	7185.26	-6668.24	2676.29	1650063.33	14286088.16	39°20'27.525"N	80°57'57.170"W	7185.26	158.132	0.00	0.00	0.00	Projected MD at TD. 13688'



Actual Wellpath Report

Hopper Unit 3H AWP Proj: 13688'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Hopper Unit 3H AWB Ref Wellpath: Hopper Unit 3H AWP Proj: 13688'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	32.00	112.00	80.00	32.00	112.00	0.00	0.00	0.02	-0.14
17.5in Open Hole	112.00	373.00	261.00	112.00	373.00	0.02	-0.14	-0.35	-0.84
13.375in Casing Surface	32.00	373.00	341.00	32.00	373.00	0.00	0.00	-0.35	-0.84
12.25in Open Hole	373.00	2603.00	2230.00	373.00	2601.64	-0.35	-0.84	15.45	-36.41
9.625in Casing Intermediate	32.00	2603.00	2571.00	32.00	2601.64	0.00	0.00	15.45	-36.41
8.75in Open Hole	2603.00	6158.00	3555.00	2601.64	6112.50	15.45	-36.41	214.49	-66.37
8.5in Open Hole	6158.00	13688.00	7530.00	6112.50	6465.47	214.49	-66.37	-6668.24	2676.29
5.5in Casing Production	32.00	13688.00	13656.00	32.00	6465.47	0.00	0.00	-6668.24	2676.29

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hopper Unit 3H POE - Rev-2	6403.00	-145.14	52.68	1647440.77	14292608.64	39°21'32.005"N	80°58'30.540"W	point
Hopper Unit 3H BHL - Rev-2	6440.00	-6666.76	2668.46	1650055.50	14286089.64	39°20'27.540"N	80°57'57.270"W	point
Hopper Unit 3H LP - Rev-1	6440.00	-343.64	132.30	1647520.36	14292410.22	39°21'30.043"N	80°58'29.527"W	point



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Hopper Unit 3H AWP Proj: 13688'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

WELLPATH COMPOSITION - Ref Wellbore: Hopper Unit 3H AWB Ref Wellpath: Hopper Unit 3H AWP Proj: 13688'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	317.00	Gyrodatta standard - Drop gyro or Multi-shot	01_Gyrodatta MS Gyro <17-1/2">(100'-300')	Hopper Unit 3H AWB
317.00	529.00	Gyrodatta standard - Drop gyro or Multi-shot	02_Gyrodatta MS Gyro <12-1/4">(300')(330'-512')	Hopper Unit 3H AWB
529.00	2529.00	ISWISA MWD, Rev. 4 (Standard)	03_Directional ONE MWD <12-1/4">(564'-2512')	Hopper Unit 3H AWB
2529.00	6071.00	ISWISA MWD, Rev. 4 (Standard)	04_Directional ONE MWD <8-3/4">(2512')(2654'-6054')	Hopper Unit 3H AWB
6071.00	13664.00	BHI AutoTrak Curve (Axial)	05_BHI AT Curve <8-1/2">(6071')(6137'-13664')	Hopper Unit 3H AWB
13664.00	13688.00	Blind Drilling (std)	Projection to bit	Hopper Unit 3H AWB



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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #04
Area	Tyler County, WV	Well	Hopper Unit 3H
Field	Tyler	Wellbore	Hopper Unit 3H AWB
Facility	Ritchie Petroleum Pad		

COMMENTS

Wellpath general comments

API: 47-095-02390-0000
 BH Job #: 8794420
 Rig: Frontier 32
 Duration: 10/4/2017-10/6/2017
 Gyrodatta MS Gyro <17-1/2"> (100'-300')
 Gyrodatta MS Gyro <12-1/4"> (300')(330'-512')
 Directional ONE MWD <12-1/4"> (512')(564'-2512')
 Directional ONE MWD <8-3/4"> (2512')(2654'-6054')
 BH AT Curve <8-1/2"> (6071')(6137'-13664')
 Middlesex: 6388' MD
 Burkett: 6581' MD
 Tully: 6644' MD
 Marcellus POE: 6671' MD
 Projected MD at TD: 13688'