

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Blizzard Pad

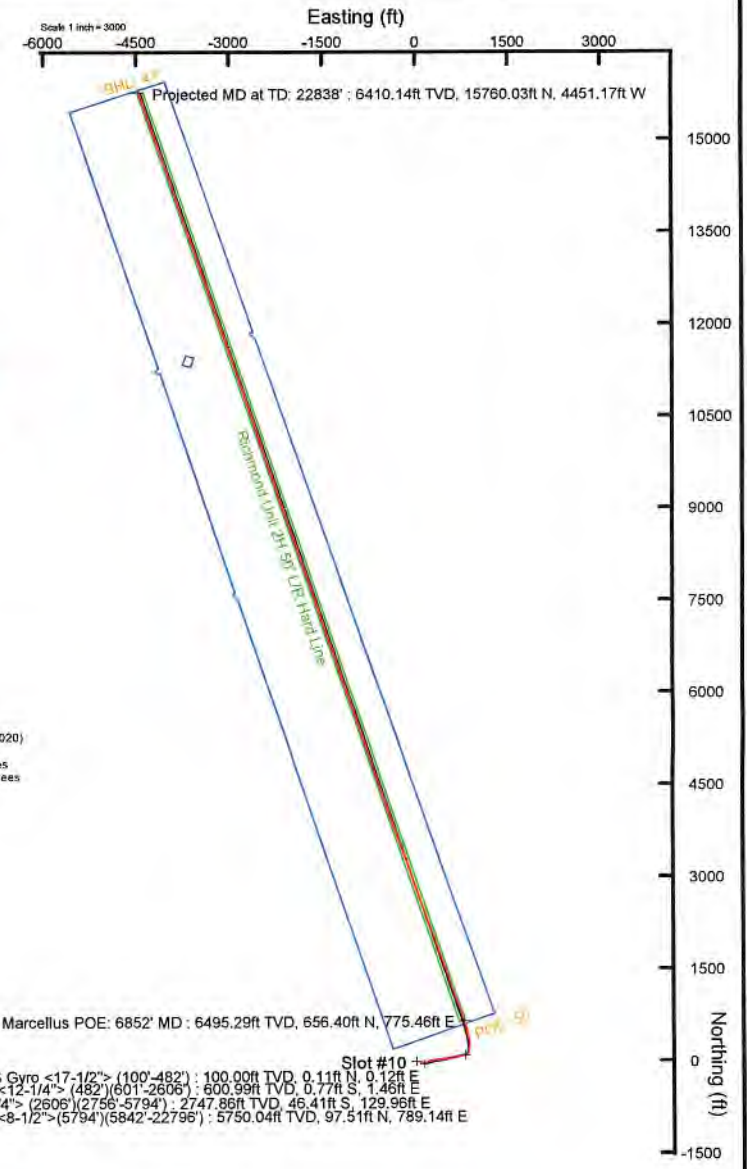
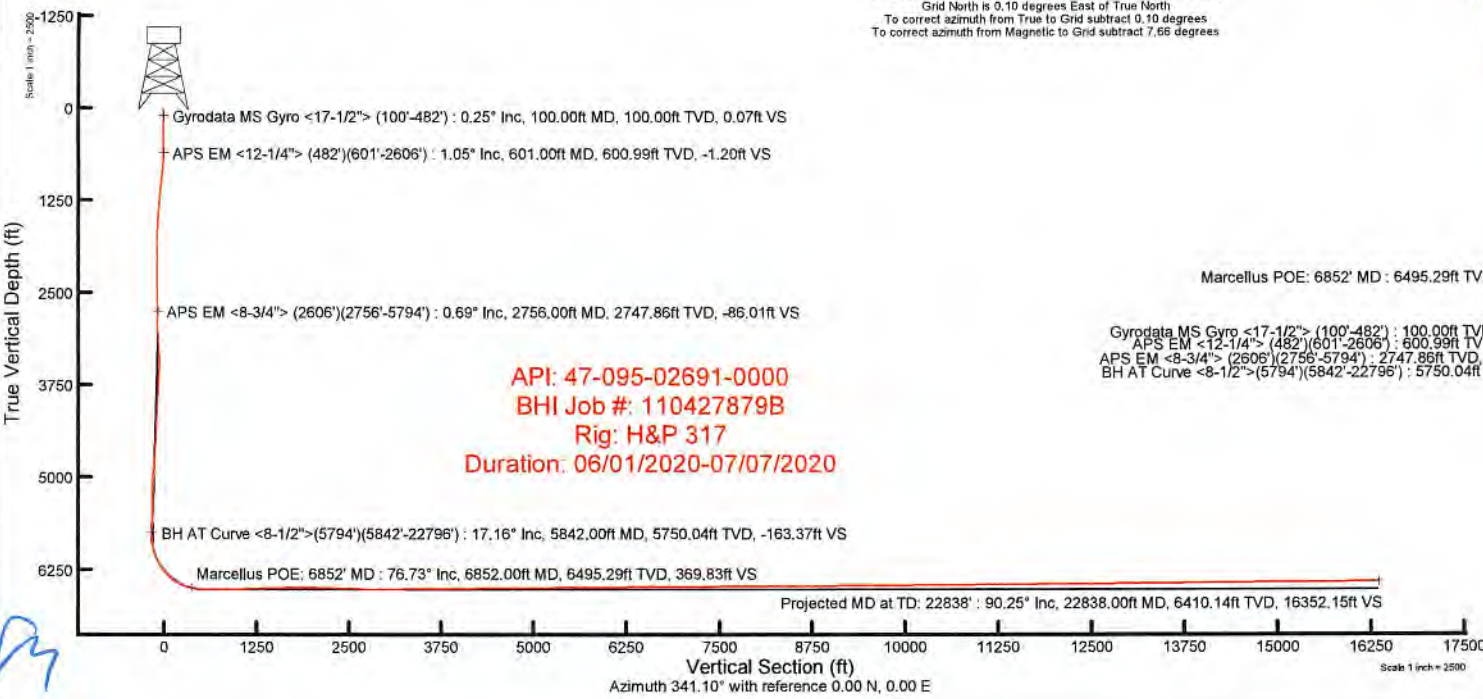
Slot: Slot #10
 Well: Richmond Unit 2H
 Wellbore: Richmond Unit 2H PWB

H&P reference wellbore is Richmond Unit 2H PWP Rev-C.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellbore interval depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1029.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot #10): -1004 feet	Depths are in feet
Official wellbore MDs are referenced to each pattern default MD datum	Created by: dslavet on 2023/07/18 Database: WA_MPL_EasternR_Data

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Blizzard Pad	1682386.190	14343430.420	39°28'54.1703"N	80°51'4.2494"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #10	216.10	185.23	1682583.350	14343646.430
			39°29'56.3030"N	80°51'1.8819"W
H&P 317 (RKB) to Ground level (At Slot #10)	25.5ft			
Mean Sea Level to Ground level (At Slot #10)	-1004ft			
H&P 317 (RKB) to Mean Sea Level	1029.5ft			

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	2606.00	0.780	59.210	2597.87	-47.26	128.24	0.31	-86.25
Proj To Bottom	2683.00	0.780	59.210	2674.87	-46.72	129.14	0.00	-86.03
Drill Out Csg	2783.00	0.780	59.210	2774.86	-46.03	130.31	0.00	-85.75
Hold Tangent	3446.52	14.050	77.159	3433.35	-25.66	213.34	2.00	-93.38
Curve KOP	5886.05	14.050	77.159	5797.96	105.86	790.31	0.00	-155.85
POE	6838.08	74.217	341.096	6495.00	647.04	748.18	8.00	369.81
Landing Pt.	7013.44	90.000	341.096	6519.00	810.85	692.08	9.00	542.95
BHL	22612.18	90.000	341.096	6519.00	15757.42	-4426.54	0.00	16341.70

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #10	Richmond Unit 2H	Richmond Unit 2H AW6	Richmond Unit 2H AW6 Proj_C22838
Slot #10	Richmond Unit 2H	Richmond Unit 2H PWB	Richmond Unit 2H PWP Rev-C.0



User specified (HDGM) Dip: 66.46° Field: 51790 nT
 Magnetic North is 7.56 degrees West of True North (at 7/2/2020)
 Grid North is 0.10 degrees East of True North
 To correct azimuth from True to Grid subtract 0.10 degrees
 To correct azimuth from Magnetic to Grid subtract 7.66 degrees



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Delaset
Scale	0.999602	Report Generated	7/16/2020 at 2:26:44 PM
Convergence at slot	0.10° East	Database	WA_MPL_EasternUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	216.10	185.23	1682583.35	14343646.43	39°29'56.3030"N	80°51'1.8819"W
Facility Reference Pt			1682398.19	14343430.42	39°29'54.1703"N	80°51'4.2494"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	1029.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1029.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot #10)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.10°



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
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Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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	47.440	0.00	0.00	0.00	0.00	1682583.35	14343646.43	39°29'56.3030"N	80°51'1.8819"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	47.440	25.50	0.00	0.00	0.00	1682583.35	14343646.43	39°29'56.3030"N	80°51'1.8819"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.250	47.440	100.00	0.07	0.11	0.12	1682583.47	14343646.54	39°29'56.3041"N	80°51'1.8804"W	0.16	47.440	0.34	0.34	0.00	Gyrodata MS Gyro <17-1/2"> (100'-482')
200.00	0.200	68.640	200.00	0.16	0.32	0.44	1682583.79	14343646.75	39°29'56.3062"N	80°51'1.8763"W	0.55	54.065	0.10	-0.05	21.20	
300.00	0.060	138.100	300.00	0.12	0.35	0.64	1682583.99	14343646.78	39°29'56.3064"N	80°51'1.8738"W	0.73	61.644	0.19	-0.14	69.46	
400.00	0.120	182.320	400.00	-0.03	0.20	0.67	1682584.02	14343646.63	39°29'56.3050"N	80°51'1.8734"W	0.70	73.247	0.09	0.06	44.22	
482.00	0.180	202.740	482.00	-0.20	0.00	0.62	1682583.97	14343646.43	39°29'56.3030"N	80°51'1.8741"W	0.62	90.236	0.10	0.07	24.90	
601.00	1.050	122.980	600.99	-1.20	-0.77	1.46	1682584.81	14343645.66	39°29'56.2954"N	80°51'1.8633"W	1.65	117.755	0.87	0.73	-67.03	APS EM <12-1/4"> (482')(601'-2606')
692.00	5.350	107.810	691.83	-4.39	-2.52	6.20	1682589.55	14343643.91	39°29'56.2780"N	80°51'1.8029"W	6.69	112.122	4.78	4.73	-16.67	
783.00	8.650	108.990	782.14	-11.13	-6.05	16.71	1682600.06	14343640.39	39°29'56.2430"N	80°51'1.6689"W	17.77	109.887	3.63	3.63	1.30	
874.00	9.610	108.820	871.98	-19.98	-10.72	30.37	1682613.71	14343635.71	39°29'56.1965"N	80°51'1.4947"W	32.21	109.445	1.06	1.05	-0.19	
967.00	9.230	112.980	963.73	-29.71	-16.14	44.59	1682627.92	14343630.30	39°29'56.1428"N	80°51'1.3135"W	47.42	109.898	0.84	-0.41	4.47	
1059.00	9.530	109.100	1054.50	-39.33	-21.51	58.58	1682641.91	14343624.93	39°29'56.0894"N	80°51'1.1351"W	62.40	110.165	0.76	0.33	-4.22	
1153.00	7.520	111.060	1147.46	-48.07	-26.27	71.67	1682654.99	14343620.17	39°29'56.0422"N	80°51'0.9682"W	76.34	110.129	2.16	-2.14	2.09	
1248.00	6.670	111.650	1241.73	-55.65	-30.54	82.60	1682665.92	14343615.90	39°29'55.9998"N	80°51'0.8289"W	88.07	110.290	0.90	-0.89	0.62	
1343.00	6.420	112.740	1336.11	-62.76	-34.63	92.63	1682675.94	14343611.82	39°29'55.9593"N	80°51'0.7011"W	98.89	110.497	0.29	-0.26	1.15	
1437.00	5.270	121.850	1429.62	-69.60	-38.94	101.14	1682684.45	14343607.51	39°29'55.9165"N	80°51'0.5925"W	108.38	111.055	1.57	-1.22	9.69	
1532.00	4.620	121.000	1524.27	-75.90	-43.21	108.13	1682691.44	14343603.24	39°29'55.8742"N	80°51'0.5035"W	116.44	111.782	0.69	-0.68	-0.89	
1627.00	3.490	115.140	1619.03	-80.84	-46.41	114.03	1682697.33	14343600.04	39°29'55.8425"N	80°51'0.4284"W	123.11	112.146	1.27	-1.19	-6.17	
1722.00	0.910	251.870	1713.98	-82.84	-47.87	115.93	1682699.23	14343598.58	39°29'55.8280"N	80°51'0.4041"W	125.42	112.438	4.42	-2.72	143.93	
1817.00	0.920	65.980	1808.97	-82.76	-47.80	115.91	1682699.21	14343598.65	39°29'55.8287"N	80°51'0.4044"W	125.38	112.410	1.92	0.01	183.27	
1911.00	1.090	108.240	1902.96	-83.24	-47.77	117.45	1682700.75	14343598.68	39°29'55.8290"N	80°51'0.3848"W	126.79	112.133	0.79	0.18	44.96	
2006.00	1.050	95.820	1997.94	-84.15	-48.14	119.17	1682702.47	14343598.31	39°29'55.8253"N	80°51'0.3628"W	128.53	111.997	0.25	-0.04	-13.07	
2101.00	0.870	97.420	2092.93	-84.83	-48.32	120.75	1682704.05	14343598.13	39°29'55.8234"N	80°51'0.3426"W	130.06	111.810	0.19	-0.19	1.68	
2196.00	0.980	89.750	2187.92	-85.41	-48.41	122.28	1682705.58	14343598.04	39°29'55.8225"N	80°51'0.3231"W	131.51	111.599	0.17	0.12	-8.07	
2291.00	0.910	85.870	2282.91	-85.86	-48.35	123.84	1682707.14	14343598.10	39°29'55.8231"N	80°51'0.3032"W	132.95	111.328	0.10	-0.07	-4.08	
2386.00	0.800	80.450	2377.90	-86.16	-48.19	125.25	1682708.55	14343598.26	39°29'55.8247"N	80°51'0.2852"W	134.20	111.044	0.14	-0.12	-5.71	
2480.00	0.870	74.920	2471.89	-86.32	-47.89	126.59	1682709.89	14343598.55	39°29'55.8276"N	80°51'0.2682"W	135.34	110.725	0.11	0.07	-5.88	
2575.00	0.770	66.350	2566.88	-86.31	-47.45	127.87	1682711.17	14343599.00	39°29'55.8319"N	80°51'0.2518"W	136.39	110.360	0.17	-0.11	-9.02	
2606.00	0.780	59.210	2597.87	-86.25	-47.26	128.24	1682711.54	14343599.19	39°29'55.8338"N	80°51'0.2471"W	136.67	110.230	0.31	0.03	-23.03	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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	
2756.00	0.690	68.870	2747.86	-86.01	-46.41	129.96	1682713.26	14343600.04	39°29'55.8422"N	80°51'0.2251"W	138.00	109.653	0.10	-0.06	6.44	APS EM <8-3/4"> (2606')(2756'-5794')	
2851.00	0.640	46.880	2842.85	-85.77	-45.84	130.88	1682714.18	14343600.61	39°29'55.8478"N	80°51'0.2133"W	138.68	109.304	0.27	-0.05	-23.15		
2946.00	3.720	61.230	2937.77	-85.02	-44.00	133.97	1682717.27	14343602.45	39°29'55.8660"N	80°51'0.1739"W	141.01	108.180	3.27	3.24	15.11		
3041.00	8.790	55.880	3032.18	-82.58	-38.44	142.69	1682725.98	14343608.01	39°29'55.9208"N	80°51'0.0626"W	147.77	105.077	5.37	5.34	-5.63		
3136.00	8.780	48.070	3126.07	-77.84	-29.52	154.09	1682737.38	14343616.92	39°29'56.0087"N	80°50'59.9169"W	156.89	100.845	1.25	-0.01	-8.22		
3230.00	9.730	47.910	3218.84	-71.91	-19.40	165.32	1682748.61	14343627.04	39°29'56.1085"N	80°50'59.7734"W	166.46	96.694	1.01	1.01	-0.17		
3325.00	10.420	55.560	3312.38	-66.44	-9.16	178.36	1682761.64	14343637.27	39°29'56.2095"N	80°50'59.6068"W	178.60	92.941	1.58	0.73	8.05		
3420.00	11.670	68.760	3405.64	-63.75	-0.82	194.41	1682777.68	14343645.61	39°29'56.2917"N	80°50'59.4020"W	194.41	90.242	2.96	1.32	13.89		
3518.00	13.310	76.100	3501.32	-64.33	5.48	214.60	1682797.86	14343651.91	39°29'56.3536"N	80°50'59.1443"W	214.67	88.537	2.33	1.67	7.49		
3613.00	13.800	75.280	3593.67	-66.11	10.99	236.17	1682819.43	14343657.41	39°29'56.4077"N	80°50'58.8690"W	236.43	87.337	0.55	0.52	-0.86		
3708.00	14.820	81.570	3685.73	-69.14	15.65	259.15	1682842.40	14343662.07	39°29'56.4534"N	80°50'58.5757"W	259.62	86.545	1.96	1.07	6.62		
3803.00	17.280	82.700	3777.02	-74.19	19.22	285.17	1682868.41	14343665.64	39°29'56.4883"N	80°50'58.2438"W	285.82	86.144	2.61	2.59	1.19		
3898.00	17.980	82.620	3867.56	-79.95	22.90	313.71	1682896.93	14343669.32	39°29'56.5241"N	80°50'57.8797"W	314.54	85.825	0.74	0.74	-0.08		
3992.00	16.970	84.490	3957.22	-86.03	26.08	341.75	1682924.96	14343672.50	39°29'56.5551"N	80°50'57.5218"W	342.74	85.636	1.23	-1.07	1.99		
4087.00	16.370	82.760	4048.23	-91.94	29.10	368.83	1682952.03	14343675.52	39°29'56.5845"N	80°50'57.1763"W	369.98	85.489	0.82	-0.63	-1.82		
4182.00	14.390	86.340	4139.82	-97.75	31.54	393.90	1682977.09	14343677.96	39°29'56.6082"N	80°50'56.8565"W	395.16	85.422	2.31	-2.08	3.77		
4277.00	13.540	78.030	4232.02	-102.20	34.60	416.56	1682999.74	14343681.01	39°29'56.6381"N	80°50'56.5674"W	417.99	85.252	2.29	-0.89	-8.75		
4372.00	13.690	81.290	4324.35	-105.53	38.61	438.55	1683021.72	14343685.02	39°29'56.6773"N	80°50'56.2868"W	440.25	84.969	0.82	0.16	3.43		
4467.00	14.090	83.530	4416.58	-110.01	41.61	461.15	1683044.32	14343688.03	39°29'56.7067"N	80°50'55.9984"W	463.03	84.844	0.71	0.42	2.36		
4561.00	14.460	78.380	4507.88	-113.96	45.27	484.02	1683067.17	14343691.68	39°29'56.7424"N	80°50'55.7066"W	486.13	84.657	1.41	0.39	-5.48		
4656.00	13.280	80.160	4599.91	-117.18	49.52	506.39	1683089.53	14343695.93	39°29'56.7841"N	80°50'55.4211"W	508.80	84.415	1.32	-1.24	1.87		
4751.00	12.930	82.340	4692.43	-120.97	52.80	527.67	1683110.81	14343699.21	39°29'56.8162"N	80°50'55.1496"W	530.31	84.286	0.64	-0.37	2.29		
4846.00	12.260	89.570	4785.15	-126.24	54.29	548.29	1683131.42	14343700.70	39°29'56.8306"N	80°50'54.8865"W	550.97	84.345	1.80	-0.71	7.61		
4941.00	13.260	90.350	4877.80	-133.02	54.30	569.27	1683152.40	14343700.71	39°29'56.8303"N	80°50'54.6188"W	571.86	84.551	1.07	1.05	0.82		
5036.00	15.530	88.380	4969.82	-140.39	54.60	592.89	1683176.00	14343701.00	39°29'56.8328"N	80°50'54.3176"W	595.39	84.739	2.44	2.39	-2.07		
5131.00	15.870	83.460	5061.28	-146.95	56.44	618.50	1683201.61	14343702.84	39°29'56.8506"N	80°50'53.9908"W	621.07	84.787	1.45	0.36	-5.18		
5225.00	14.760	79.620	5151.94	-151.48	60.06	643.05	1683226.15	14343706.46	39°29'56.8859"N	80°50'53.6775"W	645.85	84.664	1.60	-1.18	-4.09		
5320.00	14.520	69.510	5243.87	-152.94	66.41	666.12	1683249.20	14343712.81	39°29'56.9483"N	80°50'53.3832"W	669.42	84.307	2.70	-0.25	-10.64		
5415.00	13.820	72.380	5335.98	-152.86	74.01	688.09	1683271.16	14343720.41	39°29'57.0231"N	80°50'53.1028"W	692.05	83.861	1.04	-0.74	3.02		
5510.00	13.080	77.280	5428.38	-154.27	79.81	709.39	1683292.45	14343726.21	39°29'57.0801"N	80°50'52.8309"W	713.86	83.581	1.43	-0.78	5.16		



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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

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5605.00	12.960	70.990	5520.94	-155.41	85.65	729.95	1683313.00	14343732.05	39°29'57.1374"N	80°50'52.5685"W	734.95	83.308	1.50	-0.13	-6.62	
5700.00	14.100	80.130	5613.31	-157.21	91.10	751.42	1683334.47	14343737.50	39°29'57.1910"N	80°50'52.2944"W	756.92	83.087	2.55	1.20	9.62	
5794.00	16.130	80.290	5704.05	-161.09	95.27	775.57	1683358.61	14343741.66	39°29'57.2317"N	80°50'51.9862"W	781.40	82.997	2.16	2.16	0.17	
5842.00	17.160	80.960	5750.04	-163.37	97.51	789.14	1683372.17	14343743.90	39°29'57.2536"N	80°50'51.8131"W	795.14	82.956	2.18	2.15	1.40	BH AT Curve <8-1/2">(5794)(5842-22796)
5914.00	16.150	66.280	5819.05	-164.34	103.21	808.81	1683391.83	14343749.59	39°29'57.3096"N	80°50'51.5621"W	815.36	82.728	5.99	-1.40	-20.39	
6008.00	16.620	27.430	5909.50	-153.93	120.45	827.02	1683410.04	14343766.83	39°29'57.4797"N	80°50'51.3294"W	835.75	81.714	11.46	0.50	-41.33	
6103.00	20.940	16.000	5999.45	-130.61	148.85	837.97	1683420.98	14343795.22	39°29'57.7602"N	80°50'51.1892"W	851.09	79.928	5.95	4.55	-12.03	
6198.00	24.940	10.790	6086.93	-99.27	184.86	846.40	1683429.41	14343831.22	39°29'58.1160"N	80°50'51.0808"W	866.35	77.680	4.72	4.21	-5.48	
6293.00	30.620	6.160	6170.96	-59.92	228.63	852.75	1683435.76	14343874.97	39°29'58.5485"N	80°50'50.9988"W	882.87	74.992	6.39	5.98	-4.87	
6388.00	38.100	0.210	6249.35	-10.22	282.08	855.46	1683438.47	14343928.40	39°29'59.0768"N	80°50'50.9631"W	900.77	71.750	8.62	7.87	-6.26	
6483.00	46.720	350.040	6319.51	51.82	345.65	849.57	1683432.58	14343991.94	39°29'59.7051"N	80°50'51.0369"W	917.19	67.861	11.57	9.07	-10.71	
6495.00†	47.606	349.679	6327.66	60.52	354.31	848.02	1683431.03	14344000.60	39°29'59.7907"N	80°50'51.0565"W	919.06	67.324	7.70	7.38	-3.01	Middlesex: 6495' MD
6578.00	53.760	347.430	6380.23	124.16	417.20	835.23	1683418.25	14344063.46	39°30'0.4125"N	80°50'51.2183"W	933.63	63.458	7.70	7.41	-2.71	
6625.00	57.690	347.840	6406.70	162.74	455.13	826.92	1683409.94	14344101.38	39°30'0.7875"N	80°50'51.3235"W	943.89	61.172	8.39	8.36	0.87	
6652.00†	59.970	347.612	6420.67	185.68	477.70	822.01	1683405.03	14344123.94	39°30'1.0107"N	80°50'51.3857"W	950.73	59.838	8.48	8.45	-0.84	Burkett: 6652' MD
6672.00	61.660	347.450	6430.42	203.03	494.75	818.24	1683401.26	14344140.98	39°30'1.1792"N	80°50'51.4334"W	956.18	58.841	8.48	8.45	-0.81	
6700.00†	63.524	347.071	6443.31	227.74	518.99	812.76	1683395.78	14344165.21	39°30'1.4189"N	80°50'51.5028"W	964.33	57.439	6.77	6.66	-1.36	Tully: 6700' MD
6719.00	64.790	346.820	6451.59	244.76	535.65	808.89	1683391.92	14344181.87	39°30'1.5836"N	80°50'51.5517"W	970.17	56.487	6.77	6.66	-1.32	
6767.00	68.610	345.090	6470.58	288.67	578.40	798.19	1683381.22	14344224.60	39°30'2.0064"N	80°50'51.6874"W	985.73	54.071	8.62	7.96	-3.60	
6814.00	73.920	343.830	6485.67	333.09	621.27	786.26	1683369.30	14344267.45	39°30'2.4302"N	80°50'51.8386"W	1002.09	51.688	11.58	11.30	-2.68	
6852.00†	76.729	342.003	6495.29	369.83	656.40	775.46	1683358.50	14344302.57	39°30'2.7776"N	80°50'51.9756"W	1015.97	49.753	8.73	7.39	-4.81	Marcellus POE: 6852' MD
6862.00	77.470	341.530	6497.53	379.57	665.66	772.41	1683355.45	14344311.82	39°30'2.8692"N	80°50'52.0143"W	1019.67	49.245	8.73	7.41	-4.73	
6957.00	83.770	339.540	6513.00	473.25	753.98	741.18	1683324.23	14344400.11	39°30'3.7426"N	80°50'52.4108"W	1057.27	44.510	6.95	6.63	-2.09	
7052.00	89.970	340.550	6518.19	568.04	843.10	708.82	1683291.89	14344489.19	39°30'4.6239"N	80°50'52.8216"W	1101.47	40.055	6.61	6.53	1.06	
7147.00	90.180	339.940	6518.06	663.03	932.51	676.71	1683259.79	14344578.56	39°30'5.5081"N	80°50'53.2293"W	1152.18	35.968	0.68	0.22	-0.64	
7242.00	89.720	339.460	6518.15	758.00	1021.60	643.76	1683226.85	14344667.63	39°30'6.3892"N	80°50'53.6479"W	1207.52	32.217	0.70	-0.48	-0.51	
7337.00	90.430	340.180	6518.02	852.98	1110.77	610.98	1683194.09	14344756.76	39°30'7.2711"N	80°50'54.0640"W	1267.72	28.813	1.06	0.75	0.76	
7432.00	91.570	341.700	6516.37	947.96	1200.55	579.97	1683163.09	14344846.49	39°30'8.1588"N	80°50'54.4578"W	1333.29	25.785	2.00	1.20	1.60	
7527.00	91.510	341.350	6513.81	1042.92	1290.62	549.87	1683133.00	14344936.53	39°30'9.0495"N	80°50'54.8398"W	1402.87	23.077	0.37	-0.06	-0.37	
7622.00	91.690	340.150	6511.16	1137.88	1380.27	518.57	1683101.71	14345026.15	39°30'9.9361"N	80°50'55.2373"W	1474.47	20.591	1.28	0.19	-1.26	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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
7716.00	91.750	339.760	6508.34	1231.82	1468.53	486.36	1683069.52	14345114.38	39°30'10.8090"N	80°50'55.6462"W	1546.98	18.324	0.42	0.06	-0.41	
7811.00	91.880	340.040	6505.33	1326.75	1557.70	453.73	1683036.90	14345203.51	39°30'11.6908"N	80°50'56.0606"W	1622.44	16.240	0.32	0.14	0.29	
7906.00	91.570	339.660	6502.47	1421.68	1646.85	421.02	1683004.20	14345292.62	39°30'12.5724"N	80°50'56.4760"W	1699.81	14.341	0.52	-0.33	-0.40	
8001.00	91.890	340.090	6499.77	1516.62	1736.01	388.35	1682971.54	14345381.75	39°30'13.4542"N	80°50'56.8909"W	1778.92	12.609	0.47	0.13	0.45	
8096.00	92.150	340.380	6496.58	1611.56	1825.36	356.24	1682939.45	14345471.06	39°30'14.3378"N	80°50'57.2986"W	1859.80	11.043	0.57	0.48	0.31	
8191.00	92.130	340.120	6493.04	1706.48	1914.71	324.16	1682907.38	14345560.38	39°30'15.2214"N	80°50'57.7060"W	1941.96	9.609	0.27	-0.02	-0.27	
8286.00	90.310	340.160	6491.01	1801.44	2004.04	291.89	1682875.13	14345649.67	39°30'16.1048"N	80°50'58.1157"W	2025.19	8.287	1.92	-1.92	0.04	
8380.00	89.290	340.470	6491.34	1895.43	2092.54	260.23	1682843.48	14345738.14	39°30'16.9801"N	80°50'58.5177"W	2108.66	7.089	1.13	-1.09	0.33	
8475.00	89.450	340.500	6492.39	1990.42	2182.08	228.50	1682811.76	14345827.64	39°30'17.8655"N	80°50'58.9207"W	2194.01	5.978	0.17	0.17	0.03	
8570.00	88.250	340.430	6494.29	2085.39	2271.59	196.74	1682780.01	14345917.11	39°30'18.7507"N	80°50'59.3239"W	2280.10	4.950	1.27	-1.26	-0.07	
8665.00	87.510	340.620	6497.81	2180.32	2361.10	165.09	1682748.37	14346006.58	39°30'19.6358"N	80°50'59.7258"W	2366.86	4.000	0.80	-0.78	0.20	
8760.00	87.630	340.830	6501.84	2275.24	2450.69	133.76	1682717.05	14346096.14	39°30'20.5218"N	80°51'0.1236"W	2454.34	3.124	0.25	0.13	0.22	
8854.00	88.610	340.650	6504.92	2369.18	2539.38	102.77	1682686.08	14346184.79	39°30'21.3989"N	80°51'0.5171"W	2541.46	2.317	1.06	1.04	-0.19	
8949.00	88.860	341.070	6507.02	2464.16	2629.11	71.63	1682654.95	14346274.48	39°30'22.2862"N	80°51'0.9125"W	2630.08	1.561	0.51	0.26	0.44	
9044.00	88.710	340.490	6509.03	2559.13	2718.79	40.36	1682623.69	14346364.13	39°30'23.1731"N	80°51'1.3095"W	2719.09	0.850	0.63	-0.16	-0.61	
9139.00	88.400	340.810	6511.43	2654.10	2808.40	8.89	1682592.24	14346453.70	39°30'24.0592"N	80°51'1.7090"W	2808.41	0.181	0.47	-0.33	0.34	
9234.00	89.420	340.350	6513.23	2749.08	2897.97	-22.69	1682560.67	14346543.24	39°30'24.9450"N	80°51'2.1100"W	2898.06	359.551	1.18	1.07	-0.48	
9329.00	90.030	342.510	6513.69	2844.07	2988.02	-52.94	1682530.43	14346633.25	39°30'25.8355"N	80°51'2.4941"W	2988.49	358.985	2.36	0.64	2.27	
9424.00	90.090	340.050	6513.59	2939.06	3077.99	-83.43	1682499.96	14346723.19	39°30'26.7252"N	80°51'2.8811"W	3079.12	358.447	2.59	0.06	-2.59	
9518.00	90.250	340.620	6513.31	3033.05	3166.50	-115.06	1682468.34	14346811.67	39°30'27.6005"N	80°51'3.2828"W	3168.59	357.919	0.63	0.17	0.61	
9613.00	90.310	340.790	6512.85	3128.05	3256.17	-146.45	1682436.96	14346901.29	39°30'28.4872"N	80°51'3.6814"W	3259.46	357.425	0.19	0.06	0.18	
9708.00	90.430	340.270	6512.23	3223.04	3345.73	-178.11	1682405.31	14346990.82	39°30'29.3729"N	80°51'4.0835"W	3350.47	356.953	0.56	0.13	-0.55	
9803.00	90.220	339.320	6511.70	3318.02	3434.88	-210.92	1682372.51	14347079.94	39°30'30.2546"N	80°51'4.5002"W	3441.35	356.486	1.02	-0.22	-1.00	
9898.00	90.220	339.520	6511.33	3412.97	3523.82	-244.32	1682339.13	14347168.84	39°30'31.1341"N	80°51'4.9244"W	3532.28	356.034	0.21	0.00	0.21	
9993.00	90.580	340.400	6510.67	3507.95	3613.07	-276.87	1682306.59	14347258.05	39°30'32.0167"N	80°51'5.3379"W	3623.66	355.618	1.00	0.38	0.93	
10088.00	90.520	339.940	6509.76	3602.93	3702.43	-309.10	1682274.38	14347347.38	39°30'32.9004"N	80°51'5.7471"W	3715.31	355.228	0.49	-0.06	-0.48	
10182.00	90.650	339.090	6508.80	3696.89	3790.48	-341.99	1682241.50	14347435.39	39°30'33.7712"N	80°51'6.1650"W	3805.87	354.845	0.91	0.14	-0.90	
10277.00	90.710	340.970	6507.67	3791.86	3879.76	-374.43	1682209.07	14347524.63	39°30'34.6541"N	80°51'6.5770"W	3897.78	354.488	1.98	0.06	1.98	
10372.00	90.710	340.550	6506.49	3886.86	3969.44	-405.73	1682177.78	14347614.28	39°30'35.5410"N	80°51'6.9745"W	3990.12	354.164	0.44	0.00	-0.44	
10467.00	90.650	340.440	6505.36	3981.84	4058.98	-437.45	1682146.07	14347703.79	39°30'36.4265"N	80°51'7.3773"W	4082.49	353.849	0.13	-0.06	-0.12	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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
10562.00	90.150	340.110	6504.70	4076.83	4148.41	-469.51	1682114.02	14347793.18	39°30'37.3108"N	80°51'7.7845"W	4174.89	353.543	0.63	-0.53	-0.35	
10657.00	90.520	340.470	6504.14	4171.82	4237.84	-501.55	1682082.00	14347882.57	39°30'38.1952"N	80°51'8.1914"W	4267.42	353.250	0.54	0.39	0.38	
10751.00	90.280	339.960	6503.49	4265.81	4326.29	-533.37	1682050.19	14347970.99	39°30'39.0699"N	80°51'8.5955"W	4359.04	352.972	0.60	-0.26	-0.54	
10846.00	90.980	341.730	6502.44	4360.79	4416.02	-564.54	1682019.04	14348060.88	39°30'39.9572"N	80°51'8.9913"W	4451.96	352.715	2.00	0.74	1.86	
10941.00	90.180	341.040	6501.48	4455.79	4506.04	-594.86	1681988.73	14348150.67	39°30'40.8474"N	80°51'9.3763"W	4545.14	352.480	1.11	-0.84	-0.73	
11036.00	91.050	341.410	6500.46	4550.78	4595.98	-625.44	1681958.16	14348240.57	39°30'41.7368"N	80°51'9.7645"W	4638.34	352.251	1.00	0.92	0.39	
11131.00	89.880	341.550	6499.69	4645.77	4686.06	-655.61	1681928.00	14348330.61	39°30'42.6276"N	80°51'10.1476"W	4731.70	352.036	1.24	-1.23	0.15	
11226.00	89.970	341.370	6499.82	4740.77	4776.13	-685.82	1681897.81	14348420.65	39°30'43.5182"N	80°51'10.5311"W	4825.11	351.829	0.21	0.09	-0.19	
11320.00	90.460	340.600	6499.46	4834.77	4865.00	-716.44	1681867.19	14348509.48	39°30'44.3971"N	80°51'10.9200"W	4917.47	351.623	0.97	0.52	-0.82	
11415.00	90.740	341.230	6498.47	4929.76	4954.77	-747.50	1681836.15	14348599.22	39°30'45.2848"N	80°51'11.3144"W	5010.84	351.421	0.73	0.29	0.66	
11510.00	90.400	339.570	6497.52	5024.75	5044.26	-779.37	1681804.29	14348688.67	39°30'46.1698"N	80°51'11.7191"W	5104.11	351.217	1.78	-0.36	-1.75	
11604.00	90.370	340.870	6496.89	5118.73	5132.71	-811.18	1681772.50	14348777.08	39°30'47.0445"N	80°51'12.1232"W	5196.41	351.019	1.38	-0.03	1.38	
11699.00	90.650	341.520	6496.05	5213.73	5222.63	-841.80	1681741.89	14348866.97	39°30'47.9337"N	80°51'12.5120"W	5290.04	350.844	0.74	0.29	0.68	
11794.00	90.460	341.060	6495.13	5308.72	5312.61	-872.27	1681711.43	14348956.91	39°30'48.8235"N	80°51'12.8989"W	5383.74	350.676	0.52	-0.20	-0.48	
11889.00	90.310	341.700	6494.49	5403.72	5402.63	-902.60	1681681.11	14349046.90	39°30'49.7137"N	80°51'13.2841"W	5477.51	350.515	0.69	-0.16	0.67	
11984.00	90.580	341.110	6493.75	5498.71	5492.67	-932.89	1681650.83	14349136.90	39°30'50.6040"N	80°51'13.6687"W	5571.33	350.361	0.68	0.28	-0.62	
12079.00	90.120	341.240	6493.17	5593.71	5582.59	-963.55	1681620.19	14349226.78	39°30'51.4932"N	80°51'14.0580"W	5665.13	350.207	0.50	-0.48	0.14	
12173.00	90.620	341.070	6492.56	5687.71	5671.54	-993.91	1681589.84	14349315.71	39°30'52.3729"N	80°51'14.4435"W	5757.98	350.060	0.56	0.53	-0.18	
12268.00	90.280	340.910	6491.82	5782.71	5761.36	-1024.85	1681558.91	14349405.49	39°30'53.2611"N	80°51'14.8365"W	5851.80	349.913	0.40	-0.36	-0.17	
12363.00	90.710	341.690	6491.00	5877.70	5851.34	-1055.31	1681528.46	14349495.43	39°30'54.1509"N	80°51'15.2233"W	5945.74	349.776	0.94	0.46	0.82	
12458.00	90.650	341.250	6489.87	5972.69	5941.41	-1085.50	1681498.28	14349585.46	39°30'55.0415"N	80°51'15.6066"W	6039.76	349.646	0.47	-0.06	-0.46	
12553.00	90.550	341.570	6488.87	6067.69	6031.45	-1115.78	1681468.01	14349675.47	39°30'55.9319"N	80°51'15.9911"W	6133.79	349.519	0.35	-0.11	0.34	
12648.00	90.520	341.200	6487.99	6162.68	6121.47	-1146.11	1681437.70	14349765.46	39°30'56.8221"N	80°51'16.3762"W	6227.84	349.395	0.39	-0.03	-0.39	
12743.00	90.490	341.410	6487.15	6257.68	6211.46	-1176.56	1681407.26	14349855.40	39°30'57.7120"N	80°51'16.7629"W	6321.91	349.274	0.22	-0.03	0.22	
12838.00	90.460	340.900	6486.36	6352.67	6301.36	-1207.24	1681376.59	14349945.27	39°30'58.6010"N	80°51'17.1525"W	6415.96	349.154	0.54	-0.03	-0.54	
12932.00	90.490	340.930	6485.58	6446.67	6390.19	-1237.98	1681345.87	14350034.07	39°30'59.4794"N	80°51'17.5429"W	6509.00	349.036	0.05	0.03	0.03	
13027.00	90.650	341.670	6484.64	6541.66	6480.17	-1268.43	1681315.43	14350124.01	39°31'0.3692"N	80°51'17.9296"W	6603.15	348.925	0.80	0.17	0.78	
13122.00	90.430	340.840	6483.74	6636.66	6570.13	-1298.96	1681284.91	14350213.93	39°31'1.2588"N	80°51'18.3173"W	6697.30	348.816	0.90	-0.23	-0.87	
13217.00	90.460	341.940	6483.00	6731.65	6660.16	-1329.27	1681254.61	14350303.92	39°31'2.1490"N	80°51'18.7023"W	6791.51	348.713	1.16	0.03	1.16	
13312.00	90.460	340.790	6482.24	6826.65	6750.17	-1359.63	1681224.26	14350393.90	39°31'3.0392"N	80°51'19.0878"W	6885.74	348.612	1.21	0.00	-1.21	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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
13407.00	90.180	340.480	6481.71	6921.64	6839.80	-1391.13	1681192.78	14350483.49	39°31'3.9254"N	80°51'19.4879"W	6979.83	348.504	0.44	-0.29	-0.33	
13502.00	90.430	341.040	6481.20	7016.64	6929.49	-1422.43	1681161.49	14350573.15	39°31'4.8124"N	80°51'19.8855"W	7073.97	348.400	0.65	0.26	0.59	
13596.00	90.310	341.660	6480.60	7110.63	7018.55	-1452.49	1681131.44	14350662.17	39°31'5.6931"N	80°51'20.2672"W	7167.27	348.308	0.67	-0.13	0.66	
13691.00	90.060	340.270	6480.29	7205.63	7108.35	-1483.48	1681100.47	14350751.94	39°31'6.5811"N	80°51'20.6607"W	7261.50	348.212	1.49	-0.26	-1.46	
13786.00	90.370	340.980	6479.93	7300.63	7197.97	-1514.99	1681068.96	14350841.52	39°31'7.4674"N	80°51'21.0610"W	7355.68	348.114	0.82	0.33	0.76	
13881.00	90.340	341.830	6479.35	7395.62	7288.01	-1545.28	1681038.68	14350931.52	39°31'8.3577"N	80°51'21.4457"W	7450.03	348.029	0.90	-0.03	0.89	
13976.00	90.550	341.580	6478.61	7490.61	7378.20	-1575.10	1681008.88	14351021.88	39°31'9.2496"N	80°51'21.8244"W	7544.46	347.949	0.34	0.22	-0.26	
14070.00	90.340	341.830	6477.88	7584.61	7467.45	-1604.61	1680979.38	14351110.89	39°31'10.1321"N	80°51'22.1991"W	7637.90	347.873	0.35	-0.22	0.27	
14165.00	90.370	340.770	6477.29	7679.60	7557.43	-1635.07	1680948.94	14351200.84	39°31'11.0219"N	80°51'22.5859"W	7732.28	347.792	1.12	0.03	-1.12	
14260.00	90.280	341.620	6476.75	7774.60	7647.36	-1665.69	1680918.33	14351290.73	39°31'11.9112"N	80°51'22.9748"W	7826.66	347.712	0.90	-0.09	0.89	
14355.00	90.090	340.420	6476.44	7869.60	7737.19	-1696.59	1680887.44	14351380.53	39°31'12.7995"N	80°51'23.3673"W	7921.02	347.632	1.28	-0.20	-1.26	
14450.00	90.180	340.510	6476.22	7964.59	7826.72	-1728.35	1680855.69	14351470.02	39°31'13.6849"N	80°51'23.7708"W	8015.29	347.547	0.13	0.09	0.09	
14545.00	90.340	341.490	6475.79	8059.59	7916.55	-1759.28	1680824.77	14351559.81	39°31'14.5731"N	80°51'24.1636"W	8109.67	347.471	1.05	0.17	1.03	
14639.00	90.310	340.790	6475.26	8153.59	8005.50	-1789.67	1680794.40	14351648.72	39°31'15.4527"N	80°51'24.5496"W	8203.10	347.398	0.75	-0.03	-0.74	
14734.00	90.250	340.770	6474.79	8248.58	8095.20	-1820.94	1680763.14	14351738.39	39°31'16.3398"N	80°51'24.9468"W	8297.47	347.323	0.07	-0.06	-0.02	
14829.00	90.460	341.250	6474.20	8343.58	8185.03	-1851.85	1680732.24	14351828.18	39°31'17.2281"N	80°51'25.3394"W	8391.90	347.252	0.55	0.22	0.51	
14924.00	90.220	339.930	6473.64	8438.57	8274.62	-1883.42	1680700.68	14351917.75	39°31'18.1141"N	80°51'25.7405"W	8486.27	347.177	1.41	-0.25	-1.39	
15019.00	90.400	339.880	6473.12	8533.55	8363.84	-1916.06	1680668.05	14352006.93	39°31'18.9963"N	80°51'26.1552"W	8580.51	347.097	0.20	0.19	-0.05	
15113.00	90.220	340.820	6472.62	8627.54	8452.36	-1947.67	1680636.46	14352095.41	39°31'19.8717"N	80°51'26.5567"W	8673.86	347.024	1.02	-0.19	1.00	
15208.00	90.340	341.380	6472.15	8722.54	8542.24	-1978.44	1680605.70	14352185.25	39°31'20.7605"N	80°51'26.9476"W	8768.36	346.960	0.60	0.13	0.59	
15303.00	90.180	340.180	6471.72	8817.54	8631.94	-2009.72	1680574.44	14352274.92	39°31'21.6475"N	80°51'27.3449"W	8862.81	346.894	1.27	-0.17	-1.26	
15398.00	90.280	341.440	6471.34	8912.53	8721.66	-2040.94	1680543.23	14352364.60	39°31'22.5347"N	80°51'27.7415"W	8957.28	346.829	1.33	0.11	1.33	
15493.00	90.430	340.480	6470.75	9007.53	8811.46	-2071.93	1680512.25	14352454.37	39°31'23.4227"N	80°51'28.1352"W	9051.78	346.768	1.02	0.16	-1.01	
15587.00	90.150	340.940	6470.27	9101.53	8900.18	-2102.98	1680481.21	14352543.05	39°31'24.3001"N	80°51'28.5296"W	9145.26	346.706	0.57	-0.30	0.49	
15682.00	90.340	341.410	6469.87	9196.52	8990.10	-2133.64	1680450.56	14352632.93	39°31'25.1892"N	80°51'28.9190"W	9239.82	346.649	0.53	0.20	0.49	
15777.00	90.430	340.820	6469.23	9291.52	9079.98	-2164.39	1680419.83	14352722.78	39°31'26.0781"N	80°51'29.3096"W	9334.38	346.593	0.63	0.09	-0.62	
15872.00	90.680	341.680	6468.31	9386.52	9169.94	-2194.92	1680389.31	14352812.70	39°31'26.9676"N	80°51'29.6974"W	9428.97	346.539	0.94	0.26	0.91	
15967.00	90.460	341.060	6467.36	9481.51	9259.95	-2225.27	1680358.97	14352902.68	39°31'27.8577"N	80°51'30.0829"W	9523.58	346.487	0.69	-0.23	-0.65	
16062.00	90.650	341.880	6466.44	9576.50	9350.02	-2255.46	1680328.79	14352992.71	39°31'28.7484"N	80°51'30.4663"W	9618.21	346.438	0.89	0.20	0.86	
16157.00	90.580	341.650	6465.42	9671.49	9440.25	-2285.18	1680299.08	14353082.90	39°31'29.6406"N	80°51'30.8439"W	9712.90	346.392	0.25	-0.07	-0.24	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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
16251.00	90.460	340.980	6464.57	9765.49	9529.29	-2315.30	1680268.98	14353171.91	39°31'30.5210"N	80°51'31.2263"W	9806.53	346.344	0.72	-0.13	-0.71	
16346.00	90.400	340.500	6463.86	9860.48	9618.97	-2346.63	1680237.66	14353261.55	39°31'31.4079"N	80°51'31.6244"W	9901.07	346.290	0.51	-0.06	-0.51	
16441.00	90.490	341.740	6463.12	9955.48	9708.85	-2377.37	1680206.93	14353351.40	39°31'32.2967"N	80°51'32.0149"W	9995.69	346.241	1.31	0.09	1.31	
16536.00	90.400	340.870	6462.38	10050.47	9798.84	-2407.82	1680176.49	14353441.35	39°31'33.1865"N	80°51'32.4017"W	10090.33	346.195	0.92	-0.09	-0.92	
16631.00	90.430	341.500	6461.69	10145.47	9888.76	-2438.46	1680145.87	14353531.23	39°31'34.0757"N	80°51'32.7909"W	10184.97	346.148	0.66	0.03	0.66	
16726.00	90.370	340.490	6461.03	10240.46	9978.58	-2469.39	1680114.95	14353621.02	39°31'34.9639"N	80°51'33.1839"W	10279.59	346.100	1.07	-0.06	-1.06	
16821.00	90.680	342.190	6460.16	10335.46	10068.58	-2499.79	1680084.56	14353710.98	39°31'35.8538"N	80°51'33.5699"W	10374.25	346.057	1.82	0.33	1.79	
16915.00	90.580	341.520	6459.13	10429.44	10157.90	-2529.06	1680055.30	14353800.26	39°31'36.7371"N	80°51'33.9417"W	10468.00	346.019	0.72	-0.11	-0.71	
17010.00	90.680	341.870	6458.08	10524.43	10248.08	-2558.89	1680025.48	14353890.41	39°31'37.6289"N	80°51'34.3207"W	10562.72	345.980	0.38	0.11	0.37	
17105.00	90.650	341.850	6456.98	10619.42	10338.35	-2588.47	1679995.92	14353980.65	39°31'38.5215"N	80°51'34.6963"W	10657.47	345.944	0.04	-0.03	-0.02	
17200.00	90.650	341.210	6455.90	10714.41	10428.46	-2618.56	1679965.83	14354070.71	39°31'39.4125"N	80°51'35.0786"W	10752.19	345.905	0.67	0.00	-0.67	
17294.00	90.650	341.850	6454.84	10808.40	10517.61	-2648.34	1679936.07	14354159.83	39°31'40.2940"N	80°51'35.4568"W	10845.91	345.867	0.68	0.00	0.68	
17389.00	90.400	341.160	6453.97	10903.39	10607.70	-2678.48	1679905.95	14354249.88	39°31'41.1849"N	80°51'35.8396"W	10940.63	345.829	0.77	-0.26	-0.73	
17484.00	90.620	341.340	6453.12	10998.39	10697.65	-2709.01	1679875.42	14354339.80	39°31'42.0744"N	80°51'36.2275"W	11035.33	345.789	0.30	0.23	0.19	
17579.00	90.650	341.270	6452.07	11093.38	10787.63	-2739.46	1679844.99	14354429.75	39°31'42.9642"N	80°51'36.6143"W	11130.03	345.751	0.08	0.03	-0.07	
17674.00	90.620	340.970	6451.01	11188.37	10877.52	-2770.20	1679814.26	14354519.60	39°31'43.8530"N	80°51'37.0048"W	11224.72	345.712	0.32	-0.03	-0.32	
17769.00	90.520	340.990	6450.07	11283.37	10967.32	-2801.16	1679783.31	14354609.37	39°31'44.7411"N	80°51'37.3981"W	11319.39	345.672	0.11	-0.11	0.02	
17864.00	90.520	341.230	6449.21	11378.37	11057.20	-2831.91	1679752.57	14354699.21	39°31'45.6299"N	80°51'37.7889"W	11414.09	345.634	0.25	0.00	0.25	
17958.00	90.550	341.390	6448.33	11472.36	11146.24	-2862.03	1679722.46	14354788.22	39°31'46.5103"N	80°51'38.1715"W	11507.82	345.599	0.17	0.03	0.17	
18053.00	90.490	340.760	6447.47	11567.36	11236.10	-2892.84	1679691.66	14354878.04	39°31'47.3989"N	80°51'38.5629"W	11602.52	345.562	0.67	-0.06	-0.66	
18148.00	90.680	341.440	6446.50	11662.35	11325.98	-2923.61	1679660.91	14354967.88	39°31'48.2876"N	80°51'38.9538"W	11697.23	345.526	0.74	0.20	0.72	
18243.00	90.580	341.350	6445.45	11757.34	11416.01	-2953.92	1679630.61	14355057.87	39°31'49.1779"N	80°51'39.3389"W	11791.98	345.493	0.14	-0.11	-0.09	
18338.00	90.580	341.320	6444.49	11852.34	11506.01	-2984.32	1679600.22	14355147.83	39°31'50.0678"N	80°51'39.7251"W	11886.73	345.460	0.03	0.00	-0.03	
18432.00	90.550	341.120	6443.56	11946.33	11595.00	-3014.58	1679569.97	14355236.79	39°31'50.9478"N	80°51'40.1095"W	11980.47	345.426	0.22	-0.03	-0.21	
18527.00	90.580	341.360	6442.63	12041.33	11684.95	-3045.13	1679539.43	14355326.70	39°31'51.8373"N	80°51'40.4977"W	12075.21	345.393	0.25	0.03	0.25	
18622.00	90.280	340.670	6441.91	12136.32	11774.77	-3076.04	1679508.54	14355416.50	39°31'52.7256"N	80°51'40.8903"W	12169.94	345.359	0.79	-0.32	-0.73	
18717.00	90.310	340.760	6441.43	12231.32	11864.44	-3107.41	1679477.18	14355506.13	39°31'53.6122"N	80°51'41.2890"W	12264.62	345.323	0.10	0.03	0.09	
18812.00	90.400	340.410	6440.84	12326.32	11954.04	-3138.99	1679445.61	14355595.69	39°31'54.4982"N	80°51'41.6902"W	12359.30	345.287	0.38	0.09	-0.37	
18907.00	90.180	340.540	6440.36	12421.31	12043.57	-3170.74	1679413.88	14355685.19	39°31'55.3836"N	80°51'42.0937"W	12453.97	345.250	0.27	-0.23	0.14	
19002.00	90.520	341.330	6439.78	12516.31	12133.36	-3201.77	1679382.86	14355774.94	39°31'56.2715"N	80°51'42.4879"W	12548.70	345.218	0.91	0.36	0.83	



Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH DATA (251 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
19096.00	90.340	340.590	6439.07	12610.30	12222.22	-3232.44	1679352.21	14355863.76	39°31'57.1501"N	80°51'42.8776"W	12642.44	345.186	0.81	-0.19	-0.79	
19191.00	90.520	340.700	6438.36	12705.30	12311.84	-3263.92	1679320.74	14355953.35	39°31'58.0364"N	80°51'43.2776"W	12737.14	345.152	0.22	0.19	0.12	
19286.00	90.520	340.790	6437.50	12800.29	12401.53	-3295.25	1679289.42	14356043.00	39°31'58.9233"N	80°51'43.6757"W	12831.85	345.120	0.09	0.00	0.09	
19381.00	90.550	341.010	6436.61	12895.29	12491.29	-3326.33	1679258.35	14356132.73	39°31'59.8109"N	80°51'44.0707"W	12926.60	345.089	0.23	0.03	0.23	
19476.00	90.650	340.830	6435.61	12990.28	12581.07	-3357.38	1679227.31	14356222.47	39°32'0.6987"N	80°51'44.4652"W	13021.34	345.058	0.22	-0.11	-0.19	
19571.00	90.520	341.320	6434.64	13085.27	12670.93	-3388.19	1679196.51	14356312.29	39°32'1.5872"N	80°51'44.8567"W	13116.11	345.029	0.53	0.14	0.52	
19666.00	90.520	341.060	6433.78	13180.27	12760.85	-3418.82	1679165.89	14356402.18	39°32'2.4764"N	80°51'45.2459"W	13210.89	345.002	0.27	0.00	-0.27	
19761.00	90.520	341.200	6432.92	13275.27	12850.74	-3449.55	1679135.18	14356492.03	39°32'3.3653"N	80°51'45.6363"W	13305.67	344.974	0.15	0.00	0.15	
19856.00	90.490	341.080	6432.08	13370.26	12940.64	-3480.25	1679104.49	14356581.89	39°32'4.2542"N	80°51'46.0264"W	13400.46	344.947	0.13	-0.03	-0.13	
19950.00	90.580	341.560	6431.20	13464.26	13029.68	-3510.36	1679074.39	14356670.90	39°32'5.1347"N	80°51'46.4089"W	13494.27	344.922	0.52	0.10	0.51	
20045.00	90.490	341.010	6430.32	13559.25	13119.65	-3540.84	1679043.93	14356760.84	39°32'6.0244"N	80°51'46.7962"W	13589.07	344.896	0.59	-0.09	-0.58	
20140.00	90.550	340.860	6429.45	13654.25	13209.44	-3571.87	1679012.91	14356850.59	39°32'6.9123"N	80°51'47.1905"W	13683.84	344.869	0.17	0.06	-0.16	
20235.00	90.460	340.810	6428.62	13749.24	13299.17	-3603.06	1678981.73	14356940.28	39°32'7.7996"N	80°51'47.5868"W	13778.60	344.841	0.11	-0.09	-0.05	
20330.00	90.550	340.960	6427.78	13844.24	13388.93	-3634.16	1678950.64	14357030.00	39°32'8.6872"N	80°51'47.9821"W	13873.38	344.814	0.18	0.09	0.16	
20425.00	90.520	340.890	6426.89	13939.23	13478.71	-3665.21	1678919.61	14357119.75	39°32'9.5749"N	80°51'48.3766"W	13968.16	344.788	0.08	-0.03	-0.07	
20520.00	90.520	341.100	6426.03	14034.23	13568.53	-3696.14	1678888.68	14357209.53	39°32'10.4631"N	80°51'48.7697"W	14062.94	344.762	0.22	0.00	0.22	
20615.00	90.340	340.830	6425.32	14129.23	13658.33	-3727.13	1678857.71	14357299.30	39°32'11.3511"N	80°51'49.1634"W	14157.73	344.737	0.34	-0.19	-0.28	
20709.00	90.370	340.340	6424.74	14223.22	13746.98	-3758.37	1678826.48	14357387.91	39°32'12.2278"N	80°51'49.5605"W	14251.49	344.709	0.52	0.03	-0.52	
20804.00	90.580	340.990	6423.95	14318.21	13836.62	-3789.83	1678795.04	14357477.52	39°32'13.1141"N	80°51'49.9602"W	14346.25	344.682	0.72	0.22	0.68	
20899.00	90.550	341.250	6423.01	14413.21	13926.50	-3820.57	1678764.31	14357567.36	39°32'14.0030"N	80°51'50.3508"W	14441.06	344.659	0.28	-0.03	0.27	
20994.00	90.550	341.010	6422.10	14508.21	14016.39	-3851.29	1678733.60	14357657.22	39°32'14.8918"N	80°51'50.7412"W	14535.88	344.636	0.25	0.00	-0.25	
21089.00	90.490	340.990	6421.24	14603.20	14106.22	-3882.22	1678702.69	14357747.00	39°32'15.7800"N	80°51'51.1342"W	14630.68	344.612	0.07	-0.06	-0.02	
21184.00	90.770	341.360	6420.19	14698.20	14196.13	-3912.87	1678672.05	14357836.88	39°32'16.6691"N	80°51'51.5238"W	14725.51	344.590	0.49	0.29	0.39	
21279.00	90.340	341.020	6419.27	14793.19	14286.05	-3943.50	1678641.43	14357926.77	39°32'17.5583"N	80°51'51.9130"W	14820.34	344.568	0.58	-0.45	-0.36	
21374.00	90.520	340.780	6418.56	14888.19	14375.82	-3974.58	1678610.36	14358016.50	39°32'18.4459"N	80°51'52.3080"W	14915.14	344.545	0.32	0.19	-0.25	
21468.00	90.520	341.090	6417.71	14982.18	14464.66	-4005.29	1678579.67	14358105.30	39°32'19.3244"N	80°51'52.6982"W	15008.95	344.523	0.33	0.00	0.33	
21563.00	90.400	340.520	6416.94	15077.18	14554.37	-4036.52	1678548.44	14358194.98	39°32'20.2116"N	80°51'53.0951"W	15103.75	344.499	0.61	-0.13	-0.60	
21658.00	90.580	340.950	6416.13	15172.17	14644.05	-4067.86	1678517.11	14358284.62	39°32'21.0983"N	80°51'53.4935"W	15198.54	344.476	0.49	0.19	0.45	
21753.00	90.340	341.320	6415.37	15267.17	14733.94	-4098.58	1678486.41	14358374.48	39°32'21.9872"N	80°51'53.8838"W	15293.38	344.455	0.46	-0.25	0.39	
21848.00	90.250	341.360	6414.88	15362.17	14823.95	-4128.97	1678456.03	14358464.45	39°32'22.8772"N	80°51'54.2700"W	15388.24	344.436	0.10	-0.09	0.04	



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Richmond Unit 2H
Field	Tyler		API	47-095-02691-0000
Facility	Blizzard Pad		Wellbore	Richmond Unit 2H AWB
Slot	Slot #10			

WELLPATH DATA (251 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
21942.00	90.150	340.910	6414.55	15456.17	14912.90	-4159.37	1678425.65	14358553.36	39°32'23.7568"N	80°51'54.6563"W	15482.08	344.416	0.49	-0.11	-0.48	
22037.00	90.340	341.080	6414.14	15551.16	15002.72	-4190.30	1678394.72	14358643.15	39°32'24.6450"N	80°51'55.0494"W	15576.91	344.395	0.27	0.20	0.18	
22132.00	90.310	341.460	6413.61	15646.16	15092.69	-4220.81	1678364.23	14358733.08	39°32'25.5346"N	80°51'55.4371"W	15671.77	344.376	0.40	-0.03	0.40	
22227.00	90.250	340.590	6413.14	15741.16	15182.52	-4251.70	1678333.35	14358822.88	39°32'26.4229"N	80°51'55.8296"W	15766.61	344.356	0.92	-0.06	-0.92	
22322.00	90.370	341.140	6412.63	15836.16	15272.27	-4282.84	1678302.23	14358912.59	39°32'27.3104"N	80°51'56.2254"W	15861.43	344.335	0.59	0.13	0.58	
22417.00	90.370	341.190	6412.01	15931.16	15362.18	-4313.51	1678271.57	14359002.47	39°32'28.1995"N	80°51'56.6152"W	15956.28	344.316	0.05	0.00	0.05	
22512.00	90.220	340.390	6411.52	16026.15	15451.89	-4344.76	1678240.32	14359092.14	39°32'29.0866"N	80°51'57.0124"W	16051.10	344.295	0.86	-0.16	-0.84	
22607.00	90.400	341.080	6411.01	16121.15	15541.57	-4376.11	1678208.99	14359181.78	39°32'29.9733"N	80°51'57.4108"W	16145.92	344.274	0.75	0.19	0.73	
22701.00	90.090	340.940	6410.61	16215.15	15630.45	-4406.70	1678178.42	14359270.63	39°32'30.8522"N	80°51'57.7996"W	16239.77	344.255	0.36	-0.33	-0.15	
22796.00	90.250	341.120	6410.33	16310.15	15720.29	-4437.58	1678147.55	14359360.43	39°32'31.7406"N	80°51'58.1920"W	16334.62	344.237	0.25	0.17	0.19	
22838.00‡	90.250	341.120	6410.14	16352.15	15760.03	-4451.17	1678133.96	14359400.16	39°32'32.1336"N	80°51'58.3648"W	16376.55	344.229	0.00	0.00	0.00	Projected MD at TD: 22838'

HOLE & CASING SECTIONS - Ref Wellbore: Richmond Unit 2H AWB Ref Wellpath: Richmond Unit 2H AWP Proj: 22838'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.50	105.50	80.00	25.50	105.50	0.00	0.00	0.13	0.14
17.5in Open Hole	105.50	535.70	430.20	105.50	535.70	0.13	0.14	-0.24	0.75
13.375in Casing Surface	25.50	535.70	510.20	25.50	535.70	0.00	0.00	-0.24	0.75
12.25in Open Hole	535.70	2683.00	2147.30	535.70	2674.87	-0.24	0.75	-46.78	129.13
9.625in Casing Intermediate	25.50	2663.00	2637.50	25.50	2654.87	0.00	0.00	-46.89	128.90
8.75in Open Hole	2683.00	5870.00	3187.00	2674.87	5776.84	-46.78	129.13	99.16	797.10
8.5in Open Hole	5870.00	22838.00	16968.00	5776.84	6410.14	99.16	797.10	15760.03	-4451.17
5.5in Casing Production	25.50	22838.00	22812.50	25.50	6410.14	0.00	0.00	15760.03	-4451.17



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Richmond Unit 2H POE Rev-3	6495.00	647.04	748.18	1683331.23	14344293.21	39°30'2.6855"N	80°50'52.3238"W	point
Richmond Unit 2H POE Rev-2	6518.00	647.04	748.18	1683331.23	14344293.21	39°30'2.6855"N	80°50'52.3238"W	point
Richmond Unit 2H BHL Rev-3	6519.00	15757.42	-4426.54	1678158.58	14359397.55	39°32'32.1074"N	80°51'58.0505"W	point
Richmond Unit 2H LP Rev-2	6519.00	810.85	692.08	1683275.15	14344456.96	39°30'4.3055"N	80°50'53.0360"W	point
Richmond Unit 2H BHL Rev-2	6553.00	15757.42	-4426.54	1678158.58	14359397.55	39°32'32.1074"N	80°51'58.0505"W	point
Richmond Unit 2H LP Rev-1	6553.00	856.26	676.53	1683259.61	14344502.35	39°30'4.7546"N	80°50'53.2334"W	point
Richmond Unit 2H 50' L/R Hard Line	7000.00	8202.23	-1839.18	1680744.90	14351845.38	39°31'17.3979"N	80°51'25.1774"W	rectangle
	2D Rectangle 15971.9 x 100.							



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

WELLPATH COMPOSITION - Ref Wellbore: Richmond Unit 2H AWB Ref Wellpath: Richmond Unit 2H AWP Proj: 22838'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	482.00	Gyrodatta 2015 - GC+WIR+CAS	01 Gyrodatta MS Gyro <17-1/2"> (100'-482')	Richmond Unit 2H AWB	5/30/2020
482.00	2606.00	BH NaviTrak (2019) (Axial)	02 APS EM <12-1/4"> (482')(601'-2606')	Richmond Unit 2H AWB	5/30/2020
2606.00	5794.00	BH NaviTrak (2019) (Axial)	03 APS EM <8-3/4"> (2606')(2756'-5794')	Richmond Unit 2H AWB	7/3/2020
5794.00	22838.00	BH AutoTrak Curve (2019) (Short spacing)	04 BH AT Curve <8-1/2">(5794')(5842'-22796')	Richmond Unit 2H AWB	7/3/2020



Actual Wellpath Report

Richmond Unit 2H AWP Proj: 22838'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Richmond Unit 2H
Field	Tyler	API	47-095-02691-0000
Facility	Blizzard Pad	Wellbore	Richmond Unit 2H AWB
Slot	Slot #10		

COMMENTS
<p>Wellpath general comments API: 47-095-02691-0000 BHI Job #: 110427879B Rig: H&P 317 Duration: 06/01/2020-07/07/2020 Gyrodatta MS Gyro <17-1/2"> (100'-482') APS EM <12-1/4"> (482')(601'-2606') APS EM <8-3/4"> (2606')(2756'-5794') BH AT Curve <8-1/2">(5794')(5842'-22796') Middlesex: 6495' MD Burkett: 6652' MD Tully: 6700' MD Marcellus POE: 6852' MD Projected MD at TD: 22838'</p>