

# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Field: Tyler  
 Facility: Colorado West Pad

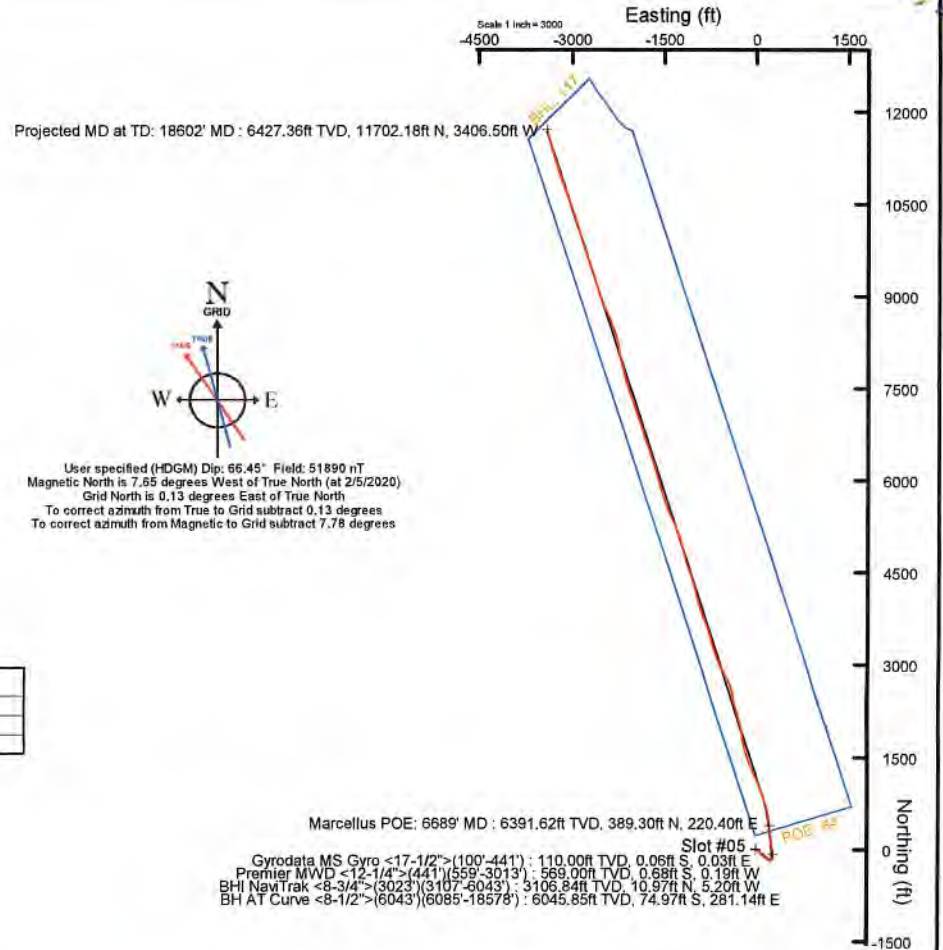
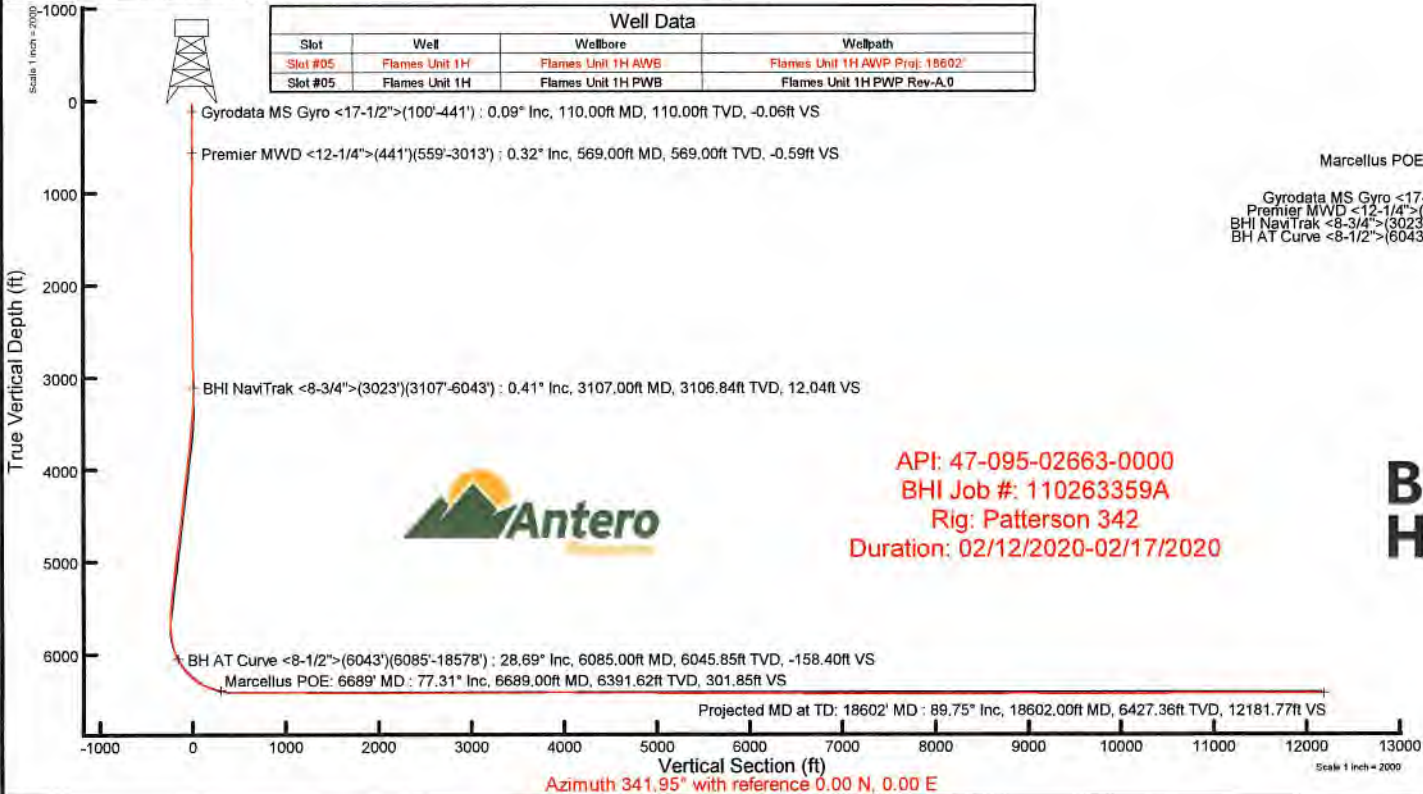
Slot: Slot #05  
 Well: Flames Unit 1H  
 Wellbore: Flames Unit 1H PWB

Plot reference wellpath is Flames Unit 1H PWP Rev-A.0	Grid System: NAD2011 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 773.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #05): -748.5 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: database on 2020-02-27; Database: WA_MPL_EasternUS_Defn

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Colorado West Pad	1699843.950	14308473.940	39°24'8.1990"N	80°47'22.6560"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot #05	5.43	-13.99	1699829.970	14308479.370	80°47'22.8340"W
Patterson 342 (RKB) to Ground level (At Slot: Slot #05)			25ft		
Mean Sea Level to Ground level (At Slot: Slot #05)			-748.5ft		
Patterson 342 (RKB) to Mean Sea Level			773.5ft		

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	3023.00	0.510	29.130	3022.84	10.34	-5.40	0.13	11.50
Proj. To Bottom	3103.00	0.510	29.130	3102.84	10.96	-5.05	0.00	11.99
Drift Out Csg	3303.00	0.510	29.130	3302.83	12.52	-4.18	0.00	13.20
End of 3D Arc	3712.44	8.092	128.304	3710.92	-3.78	19.36	2.00	-9.59
Curve KOP	5647.18	8.092	128.304	5626.39	-172.59	233.07	0.00	-236.31
Avoid No-Go	6091.34	30.000	0.000	6052.33	-77.87	258.42	8.00	-154.11
POE	6653.16	74.514	351.500	6388.00	352.63	216.22	8.00	268.28
Landing Pt.	6846.73	90.000	351.500	6414.00	541.75	187.96	8.00	456.85
On Azimuth	7165.14	90.000	341.948	6414.00	851.30	114.92	3.00	773.79
BHL	18544.31	90.000	341.948	6414.00	11670.30	-3411.35	0.00	12152.96

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #05	Flames Unit 1H	Flames Unit 1H AWB	Flames Unit 1H AWP Proj: 18602
Slot #05	Flames Unit 1H	Flames Unit 1H PWB	Flames Unit 1H PWP Rev-A.0



User specified (HDGM) Dip: 66.45° Field: 51890 nT  
 Magnetic North is 7.65 degrees West of True North (at 2/5/2020)  
 Grid North is 0.13 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.13 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.78 degrees

Marcellus POE: 6689' MD : 6391.62ft TVD, 389.30ft N, 220.40ft E

Slot #05 -  
 Gyrodatta MS Gyro <17-1/2">(100'-441') : 110.00ft TVD, 0.06ft S, 0.03ft E  
 Premier MWD <12-1/4">(441')(559'-3013') : 569.00ft TVD, 0.68ft S, 0.19ft W  
 BHI NaviTrak <8-3/4">(3023')(3107'-6043') : 3106.84ft TVD, 10.97ft N, 5.20ft W  
 BH AT Curve <8-1/2">(6043')(6085'-18578') : 6045.85ft TVD, 74.97ft S, 281.14ft E



API: 47-095-02663-0000  
 BHI Job #: 110263359A  
 Rig: Patterson 342  
 Duration: 02/12/2020-02/17/2020





# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'

Page 1 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Delaset
Scale	0.999604	Report Generated	2/27/2020 at 2:02:00 PM
Convergence at slot	0.13° 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	5.43	-13.99	1699829.97	14308479.37	39°24'8.2530"N	80°47'22.8340"W
Facility Reference Pt			1699843.95	14308473.94	39°24'8.1990"N	80°47'22.6560"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	773.50ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	773.50ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Ground Level at Slot (Slot #05)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.95°



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 2 of 11



REFERENCE WELLPATH IDENTIFICATION			
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Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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	148.510	0.00	0.00	0.00	0.00	1699829.97	14308479.37	39°24'8.2530"N	80°47'22.8340"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	148.510	25.00	0.00	0.00	0.00	1699829.97	14308479.37	39°24'8.2530"N	80°47'22.8340"W	0.00	0.000	0.00	0.00	0.00	
110.00	0.090	148.510	110.00	-0.06	-0.06	0.03	1699830.00	14308479.31	39°24'8.2524"N	80°47'22.8335"W	0.07	148.510	0.11	0.11	0.00	Gyrodata MS Gyro <17-1/2">(100'-441')
135.00	0.180	141.920	135.00	-0.12	-0.10	0.07	1699830.04	14308479.27	39°24'8.2520"N	80°47'22.8331"W	0.13	146.452	0.36	0.36	-26.36	
160.00	0.190	105.540	160.00	-0.18	-0.15	0.13	1699830.10	14308479.22	39°24'8.2516"N	80°47'22.8323"W	0.20	137.677	0.46	0.04	-145.52	
185.00	0.110	151.740	185.00	-0.23	-0.18	0.18	1699830.15	14308479.19	39°24'8.2512"N	80°47'22.8316"W	0.26	134.061	0.56	-0.32	184.80	
210.00	0.120	147.560	210.00	-0.28	-0.22	0.21	1699830.18	14308479.15	39°24'8.2508"N	80°47'22.8313"W	0.31	136.572	0.05	0.04	-16.72	
235.00	0.190	121.130	235.00	-0.33	-0.27	0.26	1699830.23	14308479.10	39°24'8.2504"N	80°47'22.8307"W	0.37	135.640	0.39	0.28	-105.72	
260.00	0.050	127.260	260.00	-0.37	-0.29	0.30	1699830.27	14308479.08	39°24'8.2501"N	80°47'22.8301"W	0.42	134.016	0.56	-0.56	24.52	
285.00	0.130	156.270	285.00	-0.41	-0.33	0.32	1699830.29	14308479.04	39°24'8.2498"N	80°47'22.8298"W	0.46	135.194	0.36	0.32	116.04	
310.00	0.100	159.800	310.00	-0.46	-0.37	0.34	1699830.31	14308479.00	39°24'8.2493"N	80°47'22.8296"W	0.51	137.377	0.12	-0.12	14.12	
335.00	0.100	298.950	335.00	-0.47	-0.38	0.33	1699830.30	14308478.99	39°24'8.2492"N	80°47'22.8298"W	0.51	139.100	0.75	0.00	556.60	
360.00	0.170	138.850	360.00	-0.48	-0.40	0.34	1699830.31	14308478.97	39°24'8.2491"N	80°47'22.8297"W	0.52	139.906	1.06	0.28	-640.40	
385.00	0.070	120.340	385.00	-0.53	-0.44	0.37	1699830.34	14308478.93	39°24'8.2487"N	80°47'22.8292"W	0.57	139.327	0.42	-0.40	-74.04	
410.00	0.030	203.600	410.00	-0.55	-0.45	0.38	1699830.35	14308478.92	39°24'8.2486"N	80°47'22.8291"W	0.59	139.417	0.29	-0.16	333.04	
435.00	0.120	242.970	435.00	-0.56	-0.47	0.36	1699830.33	14308478.90	39°24'8.2484"N	80°47'22.8294"W	0.59	142.467	0.39	0.36	157.48	
451.00	0.210	257.690	451.00	-0.56	-0.48	0.32	1699830.29	14308478.89	39°24'8.2483"N	80°47'22.8300"W	0.58	146.754	0.62	0.56	92.00	
569.00	0.320	242.860	569.00	-0.59	-0.68	-0.19	1699829.78	14308478.69	39°24'8.2463"N	80°47'22.8364"W	0.70	195.602	0.11	0.09	-12.57	Premier MWD <12-1/4">(441')(559'-3013')
662.00	0.170	215.540	662.00	-0.71	-0.91	-0.50	1699829.47	14308478.46	39°24'8.2440"N	80°47'22.8404"W	1.04	208.858	0.20	-0.16	-29.38	
755.00	0.390	141.080	755.00	-1.09	-1.27	-0.38	1699829.59	14308478.10	39°24'8.2405"N	80°47'22.8389"W	1.32	196.775	0.41	0.24	-80.06	
847.00	0.520	124.290	846.99	-1.71	-1.75	0.16	1699830.13	14308477.63	39°24'8.2358"N	80°47'22.8320"W	1.75	174.770	0.20	0.14	-18.25	
939.00	0.670	157.230	938.99	-2.58	-2.48	0.71	1699830.68	14308476.89	39°24'8.2285"N	80°47'22.8250"W	2.58	163.942	0.40	0.16	35.80	
1035.00	0.500	146.120	1034.98	-3.54	-3.34	1.16	1699831.13	14308476.03	39°24'8.2200"N	80°47'22.8192"W	3.54	160.803	0.21	-0.18	-11.57	
1130.00	0.550	167.190	1129.98	-4.39	-4.13	1.50	1699831.47	14308475.24	39°24'8.2122"N	80°47'22.8150"W	4.39	160.094	0.21	0.05	22.18	
1224.00	0.330	145.710	1223.98	-5.10	-4.79	1.75	1699831.72	14308474.58	39°24'8.2056"N	80°47'22.8118"W	5.10	159.965	0.29	-0.23	-22.85	
1319.00	0.310	250.440	1318.98	-5.37	-5.11	1.66	1699831.63	14308474.27	39°24'8.2025"N	80°47'22.8130"W	5.37	161.989	0.53	-0.02	110.24	
1414.00	0.700	275.980	1413.97	-5.14	-5.13	0.84	1699830.81	14308474.24	39°24'8.2023"N	80°47'22.8234"W	5.20	170.694	0.46	0.41	26.88	
1508.00	1.080	299.170	1507.96	-4.26	-4.64	-0.50	1699829.47	14308474.73	39°24'8.2072"N	80°47'22.8405"W	4.67	186.194	0.55	0.40	24.67	
1603.00	1.410	288.970	1602.94	-2.90	-3.82	-2.39	1699827.58	14308475.55	39°24'8.2153"N	80°47'22.8645"W	4.51	212.013	0.42	0.35	-10.74	
1697.00	0.930	326.830	1696.92	-1.46	-2.81	-3.90	1699826.07	14308476.56	39°24'8.2253"N	80°47'22.8838"W	4.81	234.244	0.94	-0.51	40.28	



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 3 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
1792.00	0.580	331.790	1791.91	-0.24	-1.74	-4.55	1699825.42	14308477.63	39°24'8.2359"N	80°47'22.8920"W	4.87	249.071	0.37	-0.37	5.22	
1887.00	0.520	342.150	1886.91	0.66	-0.91	-4.91	1699825.06	14308478.46	39°24'8.2442"N	80°47'22.8965"W	4.99	259.541	0.12	-0.06	10.91	
1981.00	0.210	337.380	1980.91	1.26	-0.34	-5.11	1699824.86	14308479.03	39°24'8.2498"N	80°47'22.8990"W	5.12	266.176	0.33	-0.33	-5.07	
2076.00	0.430	340.480	2075.90	1.79	0.16	-5.29	1699824.68	14308479.53	39°24'8.2547"N	80°47'22.9014"W	5.30	271.681	0.23	0.23	3.26	
2171.00	0.420	1.640	2170.90	2.47	0.84	-5.40	1699824.57	14308480.21	39°24'8.2614"N	80°47'22.9028"W	5.47	278.831	0.16	-0.01	22.27	
2265.00	0.700	329.720	2264.90	3.36	1.68	-5.68	1699824.29	14308481.05	39°24'8.2697"N	80°47'22.9063"W	5.93	286.467	0.44	0.30	-33.96	
2360.00	0.640	334.910	2359.89	4.45	2.66	-6.20	1699823.77	14308482.03	39°24'8.2795"N	80°47'22.9129"W	6.75	293.231	0.09	-0.06	5.46	
2455.00	0.760	9.020	2454.88	5.54	3.76	-6.33	1699823.65	14308483.13	39°24'8.2904"N	80°47'22.9144"W	7.36	300.753	0.45	0.13	35.91	
2550.00	0.810	14.720	2549.87	6.66	5.04	-6.06	1699823.92	14308484.40	39°24'8.3029"N	80°47'22.9110"W	7.88	309.741	0.10	0.05	6.00	
2644.00	0.810	354.280	2643.87	7.87	6.34	-5.95	1699824.02	14308485.71	39°24'8.3158"N	80°47'22.9096"W	8.70	316.796	0.31	0.00	-21.74	
2739.00	0.790	348.330	2738.86	9.18	7.65	-6.15	1699823.82	14308487.02	39°24'8.3288"N	80°47'22.9121"W	9.82	321.184	0.09	-0.02	-6.26	
2833.00	0.500	23.240	2832.85	10.13	8.66	-6.12	1699823.85	14308488.03	39°24'8.3387"N	80°47'22.9117"W	10.61	324.741	0.51	-0.31	37.14	
2928.00	0.600	21.020	2927.85	10.83	9.51	-5.78	1699824.19	14308488.87	39°24'8.3471"N	80°47'22.9073"W	11.13	328.695	0.11	0.11	-2.34	
3023.00	0.510	29.130	3022.84	11.50	10.34	-5.40	1699824.58	14308489.71	39°24'8.3553"N	80°47'22.9024"W	11.66	332.438	0.13	-0.09	8.54	
3107.00	0.410	2.350	3106.84	12.04	10.97	-5.20	1699824.77	14308490.33	39°24'8.3615"N	80°47'22.8999"W	12.14	334.621	0.28	-0.12	-31.88	BHI NaviTrak <8-3/4">(3023')(3107'-8043')
3202.00	0.490	341.090	3201.84	12.76	11.69	-5.32	1699824.65	14308491.06	39°24'8.3687"N	80°47'22.9014"W	12.84	335.531	0.19	0.08	-22.38	
3296.00	3.240	108.230	3295.79	11.59	11.24	-2.93	1699827.04	14308490.60	39°24'8.3642"N	80°47'22.8709"W	11.61	345.406	3.78	2.93	135.26	
3391.00	6.930	109.670	3390.40	6.50	8.47	5.02	1699834.99	14308487.84	39°24'8.3366"N	80°47'22.7697"W	9.85	30.672	3.89	3.88	1.52	
3485.00	7.410	127.930	3483.68	-2.00	2.83	15.15	1699845.11	14308482.20	39°24'8.2807"N	80°47'22.6409"W	15.41	79.403	2.47	0.51	19.43	
3580.00	6.480	129.600	3577.98	-11.60	-4.35	24.11	1699854.07	14308475.02	39°24'8.2095"N	80°47'22.5270"W	24.50	100.226	1.00	-0.98	1.76	
3674.00	5.650	125.730	3671.45	-19.82	-10.43	31.95	1699861.91	14308468.94	39°24'8.1492"N	80°47'22.4272"W	33.61	108.082	0.98	-0.88	-4.12	
3769.00	7.410	146.640	3765.84	-29.50	-18.28	39.12	1699869.07	14308461.10	39°24'8.0714"N	80°47'22.3362"W	43.18	115.049	3.09	1.85	22.01	
3863.00	7.800	144.830	3859.02	-41.45	-28.56	46.13	1699876.08	14308450.82	39°24'7.9697"N	80°47'22.2472"W	54.25	121.764	0.49	0.41	-1.93	
3958.00	6.700	139.410	3953.26	-52.72	-38.04	53.44	1699883.39	14308441.35	39°24'7.8758"N	80°47'22.1543"W	65.60	125.440	1.36	-1.16	-5.71	
4055.00	5.840	136.740	4049.68	-62.42	-45.93	60.51	1699890.45	14308433.46	39°24'7.7977"N	80°47'22.0645"W	75.97	127.200	0.94	-0.89	-2.75	
4150.00	8.400	126.390	4143.94	-72.44	-53.57	69.41	1699899.35	14308425.82	39°24'7.7220"N	80°47'21.9514"W	87.67	127.659	3.00	2.69	-10.89	
4244.00	9.200	116.830	4236.84	-83.32	-61.03	81.64	1699911.58	14308418.36	39°24'7.6479"N	80°47'21.7958"W	101.93	126.780	1.77	0.85	-10.17	
4339.00	6.400	123.450	4330.95	-92.83	-67.38	92.84	1699922.77	14308412.02	39°24'7.5849"N	80°47'21.6533"W	114.71	125.971	3.09	-2.95	6.97	
4433.00	7.840	141.040	4424.24	-102.92	-75.25	101.24	1699931.17	14308404.15	39°24'7.5069"N	80°47'21.5465"W	126.15	126.623	2.76	1.53	18.71	
4529.00	7.770	136.790	4519.35	-114.91	-85.07	109.80	1699939.73	14308394.33	39°24'7.4096"N	80°47'21.4377"W	138.90	127.768	0.61	-0.07	-4.43	



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 4 of 11



REFERENCE WELLPATH IDENTIFICATION			
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Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
4623.00	6.860	133.120	4612.58	-125.58	-93.54	118.25	1699948.17	14308385.86	39°24'7.3257"N	80°47'21.3304"W	150.78	128.346	1.09	-0.97	-3.90	
4718.00	8.000	138.010	4706.78	-136.59	-102.34	126.82	1699956.74	14308377.08	39°24'7.2387"N	80°47'21.2215"W	162.96	128.902	1.37	1.20	5.19	
4812.00	10.090	127.400	4799.62	-149.38	-112.20	137.73	1699967.65	14308367.21	39°24'7.1409"N	80°47'21.0827"W	177.65	129.167	2.84	2.22	-11.29	
4907.00	10.130	120.060	4893.14	-162.43	-121.44	151.58	1699981.49	14308357.98	39°24'7.0493"N	80°47'20.9066"W	194.22	128.701	1.36	0.04	-7.73	
5002.00	9.600	115.410	4988.74	-174.10	-129.02	165.96	1699995.87	14308350.40	39°24'6.9740"N	80°47'20.7236"W	210.22	127.862	1.01	-0.56	-4.89	
5097.00	8.380	127.520	5080.58	-185.26	-136.64	178.61	1700008.51	14308342.78	39°24'6.8984"N	80°47'20.5627"W	224.88	127.417	2.36	-1.28	12.75	
5191.00	8.370	126.910	5173.58	-196.51	-144.92	189.51	1700019.41	14308334.51	39°24'6.8163"N	80°47'20.4241"W	238.57	127.405	0.10	-0.01	-0.65	
5285.00	8.170	121.830	5266.60	-207.22	-152.55	200.66	1700030.55	14308326.88	39°24'6.7406"N	80°47'20.2823"W	252.06	127.244	0.81	-0.21	-5.40	
5380.00	7.740	126.890	5360.69	-217.62	-159.95	211.51	1700041.40	14308319.48	39°24'6.6672"N	80°47'20.1443"W	265.18	127.098	0.86	-0.45	5.33	
5475.00	8.300	122.230	5454.76	-228.13	-167.45	222.43	1700052.31	14308311.99	39°24'6.5929"N	80°47'20.0055"W	278.41	126.973	0.90	0.59	-4.91	
5570.00	6.660	116.670	5548.95	-237.28	-173.58	233.15	1700063.03	14308305.86	39°24'6.5321"N	80°47'19.8690"W	290.67	126.667	1.89	-1.73	-5.89	
5664.00	8.460	77.320	5642.19	-241.76	-174.51	244.78	1700074.65	14308304.93	39°24'6.5226"N	80°47'19.7210"W	300.62	125.486	5.70	1.91	-41.86	
5759.00	12.360	43.450	5735.69	-237.56	-165.58	258.61	1700088.47	14308313.85	39°24'6.6105"N	80°47'19.5446"W	307.07	122.631	7.47	4.11	-35.65	
5854.00	13.670	30.520	5828.27	-225.28	-148.53	271.30	1700101.16	14308330.90	39°24'6.7788"N	80°47'19.3823"W	309.30	118.699	3.35	1.38	-13.61	
5948.00	16.470	13.420	5919.07	-206.55	-125.98	280.04	1700109.90	14308353.44	39°24'7.0014"N	80°47'19.2703"W	307.07	114.221	5.56	2.98	-18.19	
6043.00	23.970	358.290	6008.21	-176.48	-93.53	282.60	1700112.45	14308385.88	39°24'7.3221"N	80°47'19.2368"W	297.67	108.312	9.56	7.89	-15.93	
6085.00	28.690	353.170	6045.85	-158.40	-74.97	281.14	1700111.00	14308404.43	39°24'7.5055"N	80°47'19.2548"W	290.97	104.932	12.46	11.24	-12.19	BH AT Curve <8-1/2">(6043')(6085'-18578')
6180.00	33.750	348.390	6127.08	-109.77	-26.44	273.11	1700102.97	14308452.94	39°24'7.9853"N	80°47'19.3556"W	274.39	95.530	5.93	5.33	-5.03	
6247.00†	40.605	348.113	6180.43	-69.55	13.17	264.87	1700094.73	14308492.53	39°24'8.3771"N	80°47'19.4595"W	265.19	87.154	10.23	10.23	-0.41	Middlesex: 6247' MD
6275.00	43.470	348.020	6201.22	-50.91	31.51	260.99	1700090.86	14308510.87	39°24'8.5584"N	80°47'19.5083"W	262.88	83.116	10.23	10.23	-0.33	
6369.00	52.390	354.430	6264.18	17.78	100.38	250.64	1700080.51	14308579.71	39°24'9.2393"N	80°47'19.6381"W	269.99	68.174	10.75	9.49	6.82	
6462.00†	61.152	354.028	6315.09	93.72	177.70	242.81	1700072.68	14308657.00	39°24'10.0037"N	80°47'19.7356"W	300.89	53.802	9.43	9.42	-0.43	Burkett: 6462' MD
6464.00	61.340	354.020	6316.06	95.43	179.44	242.63	1700072.50	14308658.74	39°24'10.0209"N	80°47'19.7378"W	301.77	53.514	9.43	9.42	-0.39	
6511.00	65.040	354.670	6337.25	136.40	221.18	238.50	1700068.37	14308700.46	39°24'10.4335"N	80°47'19.7892"W	325.27	47.158	7.97	7.87	1.38	
6525.00†	66.231	354.609	6343.03	148.84	233.88	237.31	1700067.18	14308713.15	39°24'10.5591"N	80°47'19.8040"W	333.19	45.417	8.52	8.51	-0.43	Tully: 6525' MD
6558.00	69.040	354.470	6355.58	178.62	264.25	234.40	1700064.28	14308743.52	39°24'10.8593"N	80°47'19.8401"W	353.23	41.574	8.52	8.51	-0.42	
6605.00	73.950	354.440	6370.49	222.12	308.60	230.10	1700059.97	14308787.85	39°24'11.2978"N	80°47'19.8936"W	384.94	36.709	10.45	10.45	-0.06	
6639.00†	75.025	353.191	6379.59	254.18	341.17	226.57	1700056.45	14308820.40	39°24'11.6197"N	80°47'19.9376"W	409.55	33.588	4.75	3.16	-3.67	Hamilton: 6639' MD
6653.00	75.470	352.680	6383.15	267.47	354.61	224.90	1700054.78	14308833.83	39°24'11.7526"N	80°47'19.9584"W	419.91	32.384	4.75	3.18	-3.65	
6689.00†	77.308	352.523	6391.62	301.85	389.30	220.40	1700050.28	14308868.52	39°24'12.0956"N	80°47'20.0148"W	447.36	29.515	5.12	5.11	-0.44	Marcellus POE: 6689' MD



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'

Page 5 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWP
Slot	Slot #05		

WELLPATH DATA (218 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
6748.00	80.320	352.270	6403.07	358.77	446.67	212.74	1700042.62	14308925.86	39°24'12.6627"N	80°47'20.1106"W	494.74	25.467	5.12	5.11	-0.43	
6843.00	88.550	350.730	6412.27	451.93	540.09	198.76	1700028.66	14309019.25	39°24'13.5865"N	80°47'20.2858"W	575.51	20.205	8.81	8.66	-1.62	
6937.00	90.220	347.710	6413.28	545.15	632.42	181.19	1700011.08	14309111.53	39°24'14.4993"N	80°47'20.5070"W	657.86	15.987	3.67	1.78	-3.21	
7032.00	90.800	342.630	6412.44	639.97	724.22	156.88	1699986.79	14309203.30	39°24'15.4072"N	80°47'20.8139"W	741.01	12.223	5.38	0.61	-5.35	
7127.00	89.720	340.650	6412.00	734.96	814.38	126.96	1699956.88	14309293.42	39°24'16.2990"N	80°47'21.1924"W	824.21	8.861	2.37	-1.14	-2.08	
7222.00	89.750	340.580	6412.44	829.93	903.99	95.43	1699925.36	14309383.00	39°24'17.1854"N	80°47'21.5914"W	909.01	6.026	0.08	0.03	-0.07	
7316.00	89.780	340.330	6412.83	923.90	992.57	63.98	1699893.92	14309471.55	39°24'18.0616"N	80°47'21.9894"W	994.63	3.688	0.27	0.03	-0.27	
7411.00	89.750	339.380	6413.22	1018.83	1081.76	31.26	1699861.22	14309560.70	39°24'18.9438"N	80°47'22.4036"W	1082.21	1.655	1.00	-0.03	-1.00	
7505.00	89.660	335.640	6413.70	1112.53	1168.59	-4.69	1699825.28	14309647.50	39°24'19.8029"N	80°47'22.8590"W	1168.60	359.770	3.98	-0.10	-3.98	
7600.00	89.630	334.450	6414.29	1206.84	1254.72	-44.77	1699785.22	14309733.59	39°24'20.6551"N	80°47'23.3670"W	1255.52	357.957	1.25	-0.03	-1.25	
7694.00	89.910	337.930	6414.67	1300.35	1340.71	-82.71	1699747.29	14309819.54	39°24'21.5058"N	80°47'23.8478"W	1343.25	356.470	3.71	0.30	3.70	
7789.00	89.260	338.940	6415.36	1395.17	1429.05	-117.63	1699712.39	14309907.85	39°24'22.3797"N	80°47'24.2900"W	1433.88	355.295	1.26	-0.68	1.06	
7883.00	89.660	341.700	6416.24	1489.12	1517.55	-149.28	1699680.75	14309996.31	39°24'23.2551"N	80°47'24.6906"W	1524.87	354.382	2.97	0.43	2.94	
7978.00	89.450	343.070	6416.98	1584.11	1608.09	-178.02	1699652.02	14310086.82	39°24'24.1506"N	80°47'25.0542"W	1617.91	353.683	1.46	-0.22	1.44	
8073.00	89.450	347.520	6417.89	1678.92	1699.95	-202.13	1699627.92	14310178.64	39°24'25.0591"N	80°47'25.3586"W	1711.92	353.219	4.68	0.00	4.68	
8167.00	89.630	350.920	6418.65	1772.15	1792.27	-219.71	1699610.35	14310270.93	39°24'25.9720"N	80°47'25.5798"W	1805.69	353.011	3.62	0.19	3.62	
8262.00	91.110	354.640	6418.04	1865.43	1886.50	-231.65	1699598.41	14310365.12	39°24'26.9036"N	80°47'25.7291"W	1900.67	353.000	4.21	1.56	3.92	
8357.00	89.660	349.860	6417.40	1958.87	1980.60	-244.45	1699585.61	14310459.18	39°24'27.8339"N	80°47'25.8895"W	1995.63	352.964	5.26	-1.53	-5.03	
8452.00	90.310	346.900	6417.42	2053.26	2073.64	-263.59	1699566.49	14310552.19	39°24'28.7539"N	80°47'26.1305"W	2090.33	352.756	3.19	0.68	-3.12	
8547.00	90.280	341.650	6416.93	2148.15	2165.05	-289.32	1699540.76	14310643.56	39°24'29.6580"N	80°47'26.4557"W	2184.30	352.388	5.53	-0.03	-5.53	
8641.00	90.120	340.460	6416.60	2242.14	2253.96	-319.84	1699510.26	14310732.43	39°24'30.5374"N	80°47'26.8418"W	2276.54	351.924	1.28	-0.17	-1.27	
8736.00	89.940	346.040	6416.55	2337.07	2344.89	-347.21	1699482.90	14310823.33	39°24'31.4367"N	80°47'27.1878"W	2370.46	351.577	5.88	-0.19	5.87	
8830.00	90.250	350.580	6416.40	2430.47	2436.92	-366.25	1699463.87	14310915.32	39°24'32.3467"N	80°47'27.4277"W	2464.29	351.453	4.84	0.33	4.83	
8925.00	90.090	347.380	6416.12	2524.74	2530.15	-384.41	1699445.72	14311008.52	39°24'33.2686"N	80°47'27.6563"W	2559.19	351.361	3.37	-0.17	-3.37	
9019.00	90.120	341.930	6415.94	2618.60	2620.77	-409.27	1699420.86	14311099.10	39°24'34.1648"N	80°47'27.9704"W	2652.53	351.124	5.80	0.03	-5.80	
9114.00	90.150	337.010	6415.72	2713.49	2709.71	-442.58	1699387.57	14311188.00	39°24'35.0446"N	80°47'28.3921"W	2745.61	350.724	5.18	0.03	-5.18	
9208.00	89.690	332.720	6415.85	2806.75	2794.79	-482.50	1699347.67	14311273.04	39°24'35.8863"N	80°47'28.8981"W	2836.13	350.205	4.59	-0.49	-4.56	
9303.00	89.850	330.480	6416.23	2900.19	2878.35	-527.68	1699302.50	14311356.57	39°24'36.7132"N	80°47'29.4713"W	2926.32	349.612	2.36	0.17	-2.36	
9398.00	90.150	331.720	6416.23	2993.49	2961.51	-573.59	1699256.61	14311439.71	39°24'37.5363"N	80°47'30.0538"W	3016.55	349.039	1.34	0.32	1.31	
9492.00	90.340	335.030	6415.83	3086.43	3045.53	-615.71	1699214.51	14311523.69	39°24'38.3676"N	80°47'30.5879"W	3107.15	348.571	3.53	0.20	3.52	



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 6 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
9587.00	89.570	338.120	6415.91	3181.00	3132.69	-653.47	1699176.76	14311610.82	39°24'39.2299"N	80°47'31.0665"W	3200.12	348.217	3.35	-0.81	3.25	
9682.00	89.510	340.770	6416.67	3275.90	3221.63	-686.82	1699143.42	14311699.72	39°24'40.1098"N	80°47'31.4888"W	3294.03	347.965	2.79	-0.06	2.79	
9777.00	90.150	345.390	6416.95	3370.85	3312.50	-714.46	1699115.79	14311790.55	39°24'41.0084"N	80°47'31.8383"W	3388.67	347.829	4.91	0.67	4.86	
9872.00	90.180	345.470	6416.68	3465.68	3404.44	-738.36	1699091.90	14311882.46	39°24'41.9177"N	80°47'32.1400"W	3483.59	347.763	0.09	0.03	0.08	
9967.00	89.880	343.410	6416.63	3560.58	3495.95	-763.84	1699066.43	14311973.93	39°24'42.8227"N	80°47'32.4620"W	3578.43	347.675	2.19	-0.32	-2.17	
10061.00	90.620	342.980	6416.22	3654.56	3585.94	-791.02	1699039.27	14312063.88	39°24'43.7127"N	80°47'32.8056"W	3672.15	347.560	0.91	0.79	-0.46	
10156.00	90.830	338.390	6415.01	3749.50	3675.56	-822.43	1699007.87	14312153.47	39°24'44.5992"N	80°47'33.2032"W	3766.45	347.387	4.84	0.22	-4.83	
10250.00	90.370	334.620	6414.03	3843.05	3761.75	-859.90	1698970.42	14312239.62	39°24'45.4519"N	80°47'33.6780"W	3858.78	347.124	4.04	-0.49	-4.01	
10345.00	90.030	339.320	6413.70	3937.67	3849.15	-897.05	1698933.28	14312326.99	39°24'46.3166"N	80°47'34.1488"W	3952.30	346.881	4.96	-0.36	4.95	
10440.00	89.660	342.100	6413.95	4032.64	3938.81	-928.43	1698901.91	14312416.61	39°24'47.2034"N	80°47'34.5460"W	4046.75	346.737	2.95	-0.39	2.93	
10534.00	89.600	344.890	6414.56	4126.59	4028.92	-955.13	1698875.22	14312506.69	39°24'48.0947"N	80°47'34.8836"W	4140.59	346.663	2.97	-0.06	2.97	
10630.00	89.510	347.810	6415.31	4222.29	4122.20	-977.78	1698852.57	14312599.93	39°24'49.0171"N	80°47'35.1695"W	4236.58	346.656	3.04	-0.09	3.04	
10724.00	90.370	347.330	6415.41	4315.84	4213.99	-998.02	1698832.35	14312691.69	39°24'49.9248"N	80°47'35.4246"W	4330.56	346.676	1.05	0.91	-0.51	
10819.00	90.310	343.930	6414.84	4410.63	4306.01	-1021.59	1698808.79	14312783.66	39°24'50.8347"N	80°47'35.7223"W	4425.53	346.653	3.58	-0.06	-3.58	
10913.00	90.090	341.510	6414.51	4504.61	4395.76	-1049.51	1698780.88	14312873.38	39°24'51.7224"N	80°47'36.0754"W	4519.31	346.572	2.59	-0.23	-2.57	
11008.00	89.910	340.570	6414.51	4599.60	4485.60	-1080.38	1698750.02	14312963.19	39°24'52.6111"N	80°47'36.4660"W	4613.87	346.458	1.01	-0.19	-0.99	
11103.00	89.290	340.930	6415.18	4694.58	4575.29	-1111.70	1698718.72	14313052.84	39°24'53.4982"N	80°47'36.8624"W	4708.41	346.343	0.75	-0.65	0.38	
11197.00	88.710	340.350	6416.82	4788.54	4663.96	-1142.85	1698687.57	14313141.47	39°24'54.3753"N	80°47'37.2568"W	4801.94	346.232	0.87	-0.62	-0.62	
11292.00	88.490	345.370	6419.14	4883.47	4754.68	-1170.83	1698659.60	14313232.16	39°24'55.2726"N	80°47'37.6107"W	4896.72	346.166	5.29	-0.23	5.28	
11386.00	89.450	348.540	6420.83	4977.08	4846.23	-1192.04	1698638.40	14313323.67	39°24'56.1779"N	80°47'37.8783"W	4990.68	346.181	3.52	1.02	3.37	
11481.00	89.420	344.780	6421.77	5071.74	4938.64	-1213.96	1698616.50	14313416.05	39°24'57.0917"N	80°47'38.1548"W	5085.66	346.190	3.96	-0.03	-3.96	
11575.00	89.660	342.140	6422.52	5165.69	5028.74	-1240.71	1698589.75	14313506.11	39°24'57.9828"N	80°47'38.4931"W	5179.54	346.141	2.82	0.26	-2.81	
11669.00	89.350	340.150	6423.33	5259.68	5117.69	-1271.09	1698559.39	14313595.03	39°24'58.8626"N	80°47'38.8775"W	5273.18	346.052	2.14	-0.33	-2.12	
11764.00	89.480	338.630	6424.30	5354.57	5206.60	-1304.53	1698525.96	14313683.90	39°24'59.7422"N	80°47'39.3010"W	5367.54	345.934	1.61	0.14	-1.60	
11858.00	90.400	337.870	6424.40	5448.38	5293.91	-1339.36	1698491.14	14313771.17	39°25'0.6058"N	80°47'39.7423"W	5460.71	345.802	1.27	0.98	-0.81	
11953.00	90.520	334.870	6423.64	5542.91	5380.93	-1377.43	1698453.09	14313858.16	39°25'1.4668"N	80°47'40.2249"W	5554.44	345.642	3.16	0.13	-3.16	
12048.00	90.000	335.860	6423.21	5637.28	5467.28	-1417.03	1698413.50	14313944.48	39°25'2.3211"N	80°47'40.7269"W	5647.93	345.470	1.18	-0.55	1.04	
12143.00	89.850	339.580	6423.33	5732.01	5555.18	-1453.04	1698377.51	14314032.33	39°25'3.1906"N	80°47'41.1832"W	5742.06	345.342	3.92	-0.16	3.92	
12238.00	89.080	341.850	6424.22	5826.97	5644.83	-1484.41	1698346.15	14314121.96	39°25'4.0774"N	80°47'41.5803"W	5836.75	345.267	2.52	-0.81	2.39	
12333.00	90.250	341.950	6424.78	5921.97	5735.13	-1513.93	1698316.64	14314212.22	39°25'4.9705"N	80°47'41.9538"W	5931.58	345.213	1.24	1.23	0.11	



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 7 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
12428.00	89.850	340.500	6424.69	6016.96	5825.07	-1544.50	1698286.08	14314302.12	39°25'5.8602"N	80°47'42.3407"W	6026.36	345.150	1.58	-0.42	-1.53	
12522.00	89.170	344.500	6425.50	6110.93	5914.70	-1572.76	1698257.83	14314391.72	39°25'6.7466"N	80°47'42.6982"W	6120.23	345.109	4.32	-0.72	4.26	
12617.00	89.850	346.320	6426.31	6205.75	6006.63	-1596.69	1698233.91	14314483.61	39°25'7.6558"N	80°47'43.0005"W	6215.22	345.114	2.05	0.72	1.92	
12712.00	89.910	345.260	6426.51	6300.54	6098.72	-1620.01	1698210.60	14314575.66	39°25'8.5665"N	80°47'43.2949"W	6310.22	345.124	1.12	0.06	-1.12	
12806.00	89.780	343.180	6426.76	6394.46	6189.17	-1645.57	1698185.05	14314666.08	39°25'9.4610"N	80°47'43.6180"W	6404.20	345.111	2.22	-0.14	-2.21	
12900.00	89.820	340.520	6427.09	6488.45	6278.49	-1674.85	1698155.79	14314755.36	39°25'10.3444"N	80°47'43.9885"W	6498.04	345.064	2.83	0.04	-2.83	
12995.00	89.450	341.650	6427.70	6583.43	6368.35	-1705.65	1698125.00	14314845.19	39°25'11.2333"N	80°47'44.3783"W	6592.81	345.006	1.25	-0.39	1.19	
13089.00	89.140	342.940	6428.85	6677.42	6457.89	-1734.23	1698096.43	14314934.69	39°25'12.1189"N	80°47'44.7400"W	6686.70	344.968	1.41	-0.33	1.37	
13184.00	89.510	340.430	6429.97	6772.41	6548.07	-1764.08	1698066.59	14315024.83	39°25'13.0108"N	80°47'45.1177"W	6781.53	344.922	2.67	0.39	-2.64	
13279.00	89.170	338.420	6431.07	6867.30	6637.00	-1797.46	1698033.23	14315113.72	39°25'13.8905"N	80°47'45.5405"W	6876.09	344.846	2.15	-0.36	-2.12	
13373.00	89.480	341.050	6432.17	6961.22	6725.16	-1830.01	1698000.69	14315201.86	39°25'14.7626"N	80°47'45.9527"W	6969.70	344.778	2.82	0.33	2.80	
13468.00	89.380	343.290	6433.12	7056.21	6815.59	-1859.10	1697971.61	14315292.25	39°25'15.6570"N	80°47'46.3208"W	7064.60	344.743	2.36	-0.11	2.36	
13563.00	90.120	343.800	6433.53	7151.17	6906.70	-1886.01	1697944.71	14315383.32	39°25'16.5580"N	80°47'46.6610"W	7159.57	344.727	0.95	0.78	0.54	
13658.00	90.310	340.540	6433.18	7246.15	6997.12	-1915.09	1697915.64	14315473.71	39°25'17.4524"N	80°47'47.0290"W	7254.47	344.693	3.44	0.20	-3.43	
13752.00	89.850	340.160	6433.05	7340.12	7085.65	-1946.70	1697884.04	14315562.20	39°25'18.3280"N	80°47'47.4293"W	7348.20	344.638	0.63	-0.49	-0.40	
13847.00	90.580	342.370	6432.69	7435.10	7175.61	-1977.21	1697853.54	14315652.12	39°25'19.2178"N	80°47'47.8155"W	7443.03	344.595	2.45	0.77	2.33	
13941.00	90.490	340.260	6431.81	7529.09	7264.64	-2007.32	1697823.45	14315741.12	39°25'20.0985"N	80°47'48.1966"W	7536.87	344.554	2.25	-0.10	-2.24	
14036.00	90.340	340.730	6431.12	7624.05	7354.19	-2039.04	1697791.74	14315830.63	39°25'20.9842"N	80°47'48.5982"W	7631.63	344.503	0.52	-0.16	0.49	
14130.00	89.690	340.560	6431.10	7718.03	7442.88	-2070.20	1697760.60	14315919.28	39°25'21.8614"N	80°47'48.9926"W	7725.42	344.456	0.71	-0.69	-0.18	
14225.00	89.750	341.900	6431.56	7813.02	7532.82	-2100.76	1697730.04	14316009.19	39°25'22.7511"N	80°47'49.3796"W	7820.27	344.417	1.41	0.06	1.41	
14320.00	90.120	345.340	6431.67	7907.96	7623.95	-2127.55	1697703.27	14316100.29	39°25'23.6524"N	80°47'49.7183"W	7915.24	344.408	3.64	0.39	3.62	
14415.00	89.940	347.420	6431.62	8002.67	7716.27	-2149.92	1697680.91	14316192.57	39°25'24.5653"N	80°47'50.0007"W	8010.18	344.431	2.20	-0.19	2.19	
14509.00	90.580	347.210	6431.19	8096.26	7807.98	-2170.56	1697660.27	14316284.24	39°25'25.4722"N	80°47'50.2611"W	8104.06	344.464	0.72	0.68	-0.22	
14604.00	89.200	345.770	6431.38	8190.96	7900.34	-2192.75	1697638.09	14316376.57	39°25'26.3855"N	80°47'50.5412"W	8199.00	344.488	2.10	-1.45	-1.52	
14698.00	89.540	348.300	6432.41	8284.57	7991.94	-2213.84	1697617.01	14316468.13	39°25'27.2912"N	80°47'50.8073"W	8292.90	344.517	2.72	0.36	2.69	
14792.00	89.850	350.820	6432.91	8377.74	8084.37	-2230.87	1697599.99	14316560.52	39°25'28.2052"N	80°47'51.0217"W	8386.53	344.573	2.70	0.33	2.68	
14886.00	90.250	349.630	6432.83	8470.76	8177.00	-2246.83	1697584.04	14316653.12	39°25'29.1211"N	80°47'51.2224"W	8480.07	344.636	1.34	0.43	-1.27	
14981.00	90.150	348.340	6432.50	8565.04	8270.25	-2264.98	1697565.89	14316746.33	39°25'30.0431"N	80°47'51.4510"W	8574.80	344.684	1.36	-0.11	-1.36	
15076.00	90.620	342.940	6431.86	8659.81	8362.25	-2288.53	1697542.35	14316838.29	39°25'30.9529"N	80°47'51.7485"W	8669.75	344.694	5.71	0.49	-5.68	
15171.00	92.520	340.540	6429.26	8754.76	8452.42	-2318.28	1697512.61	14316928.42	39°25'31.8447"N	80°47'52.1251"W	8764.58	344.662	3.22	2.00	-2.53	





# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 8 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
15265.00	92.190	338.050	6425.39	8848.57	8540.27	-2351.49	1697479.42	14317016.24	39°25'32.7137"N	80°47'52.5457"W	8858.08	344.606	2.67	-0.35	-2.65	
15360.00	88.950	337.300	6424.45	8943.29	8628.13	-2387.57	1697443.35	14317104.06	39°25'33.5829"N	80°47'53.0030"W	8952.38	344.532	3.50	-3.41	-0.79	
15454.00	88.950	337.570	6426.17	9036.98	8714.92	-2423.63	1697407.30	14317190.82	39°25'34.4415"N	80°47'53.4601"W	9045.65	344.459	0.29	0.00	0.29	
15549.00	88.920	335.780	6427.94	9131.56	8802.13	-2461.24	1697369.71	14317278.00	39°25'35.3043"N	80°47'53.9368"W	9139.76	344.378	1.88	-0.03	-1.88	
15643.00	88.920	336.710	6429.71	9225.07	8888.15	-2499.10	1697331.87	14317363.99	39°25'36.1553"N	80°47'54.4168"W	9232.81	344.296	0.99	0.00	0.99	
15738.00	88.120	338.420	6432.16	9319.76	8975.93	-2535.34	1697295.64	14317451.73	39°25'37.0237"N	80°47'54.8762"W	9327.13	344.227	1.99	-0.84	1.80	
15832.00	89.570	343.620	6434.06	9413.69	9064.77	-2565.89	1697265.10	14317540.53	39°25'37.9024"N	80°47'55.2630"W	9420.93	344.195	5.74	1.54	5.53	
15927.00	90.120	344.150	6434.31	9508.64	9156.04	-2592.26	1697238.74	14317631.76	39°25'38.8050"N	80°47'55.5964"W	9515.92	344.192	0.80	0.58	0.56	
16021.00	90.520	344.160	6433.79	9602.57	9246.46	-2617.93	1697213.09	14317722.15	39°25'39.6993"N	80°47'55.9209"W	9609.92	344.192	0.43	0.43	0.01	
16115.00	90.950	341.160	6432.58	9696.54	9336.17	-2645.94	1697185.09	14317811.83	39°25'40.5865"N	80°47'56.2753"W	9703.87	344.177	3.22	0.46	-3.19	
16210.00	90.310	340.930	6431.54	9791.52	9426.02	-2676.79	1697154.24	14317901.63	39°25'41.4752"N	80°47'56.6660"W	9798.72	344.147	0.72	-0.67	-0.24	
16305.00	90.490	340.650	6430.88	9886.50	9515.72	-2708.05	1697123.00	14317991.31	39°25'42.3625"N	80°47'57.0618"W	9893.56	344.114	0.35	0.19	-0.29	
16399.00	90.430	339.760	6430.12	9980.45	9604.17	-2739.88	1697091.18	14318079.71	39°25'43.2373"N	80°47'57.4649"W	9987.34	344.078	0.95	-0.06	-0.95	
16494.00	90.460	340.300	6429.38	10075.40	9693.45	-2772.33	1697058.75	14318168.96	39°25'44.1204"N	80°47'57.8758"W	10082.10	344.039	0.57	0.03	0.57	
16588.00	89.850	341.110	6429.13	10169.37	9782.17	-2803.39	1697027.70	14318257.65	39°25'44.9980"N	80°47'58.2692"W	10175.94	344.009	1.08	-0.65	0.86	
16683.00	89.940	344.230	6429.30	10264.35	9872.84	-2831.68	1696999.42	14318348.29	39°25'45.8948"N	80°47'58.6272"W	10270.90	343.996	3.29	0.09	3.28	
16778.00	90.340	345.270	6429.07	10359.24	9964.50	-2856.67	1696974.44	14318439.90	39°25'46.8012"N	80°47'58.9430"W	10365.89	344.003	1.17	0.42	1.09	
16873.00	90.430	344.420	6428.43	10454.11	10056.19	-2881.50	1696949.61	14318531.56	39°25'47.7080"N	80°47'59.2569"W	10460.88	344.011	0.90	0.09	-0.89	
16967.00	91.200	343.210	6427.10	10548.05	10146.45	-2907.70	1696923.43	14318621.79	39°25'48.6007"N	80°47'59.5882"W	10554.87	344.009	1.53	0.82	-1.29	
17061.00	90.000	343.010	6426.11	10642.03	10236.39	-2935.01	1696896.13	14318711.69	39°25'49.4902"N	80°47'59.9337"W	10648.85	344.001	1.29	-1.28	-0.21	
17156.00	90.030	341.010	6426.09	10737.02	10326.74	-2964.35	1696866.80	14318802.00	39°25'50.3838"N	80°48'0.3051"W	10743.79	343.984	2.11	0.03	-2.11	
17251.00	91.020	338.590	6425.22	10831.94	10415.89	-2997.15	1696834.02	14318891.11	39°25'51.2656"N	80°48'0.7205"W	10838.53	343.947	2.75	1.04	-2.55	
17345.00	89.570	339.580	6424.73	10925.82	10503.69	-3030.70	1696800.47	14318978.88	39°25'52.1341"N	80°48'1.1457"W	10932.19	343.905	1.87	-1.54	1.05	
17440.00	89.820	342.360	6425.24	11020.80	10593.49	-3061.67	1696769.51	14319068.64	39°25'53.0223"N	80°48'1.5379"W	11027.05	343.880	2.94	0.26	2.93	
17534.00	90.180	340.950	6425.24	11114.79	10682.71	-3091.26	1696739.94	14319157.83	39°25'53.9047"N	80°48'1.9124"W	11120.98	343.861	1.55	0.38	-1.50	
17628.00	90.460	339.060	6424.71	11208.73	10771.04	-3123.40	1696707.81	14319246.12	39°25'54.7784"N	80°48'2.3195"W	11214.76	343.829	2.03	0.30	-2.01	
17723.00	89.720	339.420	6424.56	11303.63	10859.87	-3157.07	1696674.15	14319334.92	39°25'55.6571"N	80°48'2.7461"W	11309.46	343.790	0.87	-0.78	0.38	
17818.00	89.780	340.630	6424.98	11398.57	10949.15	-3189.52	1696641.72	14319424.16	39°25'56.5402"N	80°48'3.1572"W	11404.25	343.759	1.28	0.06	1.27	
17912.00	89.940	341.720	6425.21	11492.56	11038.12	-3219.86	1696611.40	14319513.10	39°25'57.4202"N	80°48'3.5413"W	11498.16	343.738	1.17	0.17	1.16	
18007.00	89.820	342.490	6425.41	11587.56	11128.52	-3249.05	1696582.22	14319603.47	39°25'58.3144"N	80°48'3.9107"W	11593.12	343.724	0.82	-0.13	0.81	



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 9 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

WELLPATH DATA (218 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
18101.00	89.820	343.520	6425.70	11681.54	11218.42	-3276.52	1696554.75	14319693.32	39°25'59.2034"N	80°48'4.2584"W	11687.11	343.719	1.10	0.00	1.10	
18196.00	89.820	344.310	6426.00	11776.48	11309.70	-3302.84	1696528.44	14319784.57	39°26'0.1062"N	80°48'4.5912"W	11782.11	343.720	0.83	0.00	0.83	
18291.00	89.600	346.350	6426.48	11871.31	11401.59	-3326.90	1696504.40	14319876.43	39°26'1.0149"N	80°48'4.8953"W	11877.06	343.733	2.16	-0.23	2.15	
18385.00	89.940	346.360	6426.86	11965.03	11492.94	-3349.07	1696482.23	14319967.74	39°26'1.9182"N	80°48'5.1753"W	11970.96	343.754	0.36	0.36	0.01	
18480.00	89.910	344.350	6426.98	12059.86	11584.85	-3373.09	1696458.22	14320059.61	39°26'2.8271"N	80°48'5.4788"W	12065.92	343.766	2.12	-0.03	-2.12	
18574.00	89.780	344.080	6427.24	12153.79	11675.30	-3398.66	1696432.66	14320150.03	39°26'3.7217"N	80°48'5.8022"W	12159.92	343.770	0.32	-0.14	-0.29	
18578.00	89.750	343.720	6427.25	12157.78	11679.15	-3399.77	1696431.55	14320153.87	39°26'3.7597"N	80°48'5.8162"W	12163.92	343.770	9.03	-0.75	-9.00	
18602.00‡	89.750	343.720	6427.36	12181.77	11702.18	-3406.50	1696424.83	14320176.90	39°26'3.9875"N	80°48'5.9013"W	12187.92	343.770	0.00	0.00	0.00	Projected MD at TD: 18602' MD

HOLE & CASING SECTIONS - Ref Wellbore: Flames Unit 1H AWB Ref Wellpath: Flames Unit 1H AWP Proj: 18602'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.00	105.00	80.00	25.00	105.00	0.00	0.00	-0.05	0.03
17.5in Open Hole	105.00	438.00	333.00	105.00	438.00	-0.05	0.03	-0.47	0.35
13.375in Casing Surface	25.00	438.00	413.00	25.00	438.00	0.00	0.00	-0.47	0.35
12.25in Open Hole	438.00	3103.00	2665.00	438.00	3102.84	-0.47	0.35	10.94	-5.20
9.625in Casing Intermediate	25.00	3103.00	3078.00	25.00	3102.84	0.00	0.00	10.94	-5.20
8.75in Open Hole	3103.00	6113.00	3010.00	3102.84	6070.24	10.94	-5.20	-61.34	279.32
8.5in Open Hole	6113.00	18602.00	12489.00	6070.24	6427.36	-61.34	279.32	11702.18	-3406.50
5.5in Casing Production	25.00	18602.00	18577.00	25.00	6427.36	0.00	0.00	11702.18	-3406.50



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'

Page 10 of 11



## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Flames Unit 1H - POE - Rev-2	6388.00	352.63	216.22	1700046.10	14308831.86	39°24'11.7332"N	80°47'20.0691"W	point
Flames Unit 1H - BHL - Rev-3	6414.00	11670.30	-3411.35	1696419.98	14320145.03	39°26'3.6725"N	80°48'5.9640"W	point
Flames Unit 1H - LP - Rev-2	6414.00	541.75	187.96	1700017.85	14309020.90	39°24'13.6031"N	80°47'20.4235"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Flames Unit 1H AWB Ref Wellpath: Flames Unit 1H AWP Proj: 18602'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.00	451.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2">(100'-441')	Flames Unit 1H AWB	1/30/2020
451.00	3023.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12-1/4">(441')(559'-3013')	Flames Unit 1H AWB	1/30/2020
3023.00	6043.00	BH NaviTrak (2019) (Axial)	03 BH NaviTrak <8-3/4">(3023')(3107'-6043')	Flames Unit 1H AWB	2/7/2020
6043.00	18602.00	BH AutoTrak Curve (2019) (Short spacing)	04 BH AT Curve <8-1/2">(6043')(6085'-18578')	Flames Unit 1H AWB	2/7/2020



# Actual Wellpath Report

Flames Unit 1H AWP Proj: 18602'  
Page 11 of 11



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 1H
Field	Tyler	API	47-095-02663-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 1H AWB
Slot	Slot #05		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-095-02663-0000 BHI Job #: 110263359A Rig: Patterson 342 Duration: 02/12/2020-02/17/2020 Gyrodatta MS Gyro &lt;17-1/2"&gt;(100'-441') Premier MWD &lt;12-1/4"&gt;(441')(559'-3013') BHI NaviTrak &lt;8-3/4"&gt;(3023')(3107'-6043') BH AT Curve &lt;8-1/2"&gt;(6043')(6085'-18578') Middlesex: 6247' MD Burkett: 6462' MD Tully: 6525' MD Hamilton: 6639' MD Marcellus POE: 6689' MD Projected MD at TD: 18602' MD</p>