

ANTERO RESOURCES CORPORATION

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

Slot: Slot #06
 Well: Flames Unit 2H
 Wellbore: Flames Unit 2H PWB

Plot reference wellpath is: Flames Unit 2H PWP Rev-A.0	Grid System: NAD27 / 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 #06): -743.5 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: deloat on 2020-03-04; Database: WA_MPL_EasternUS_Deft

Location Information

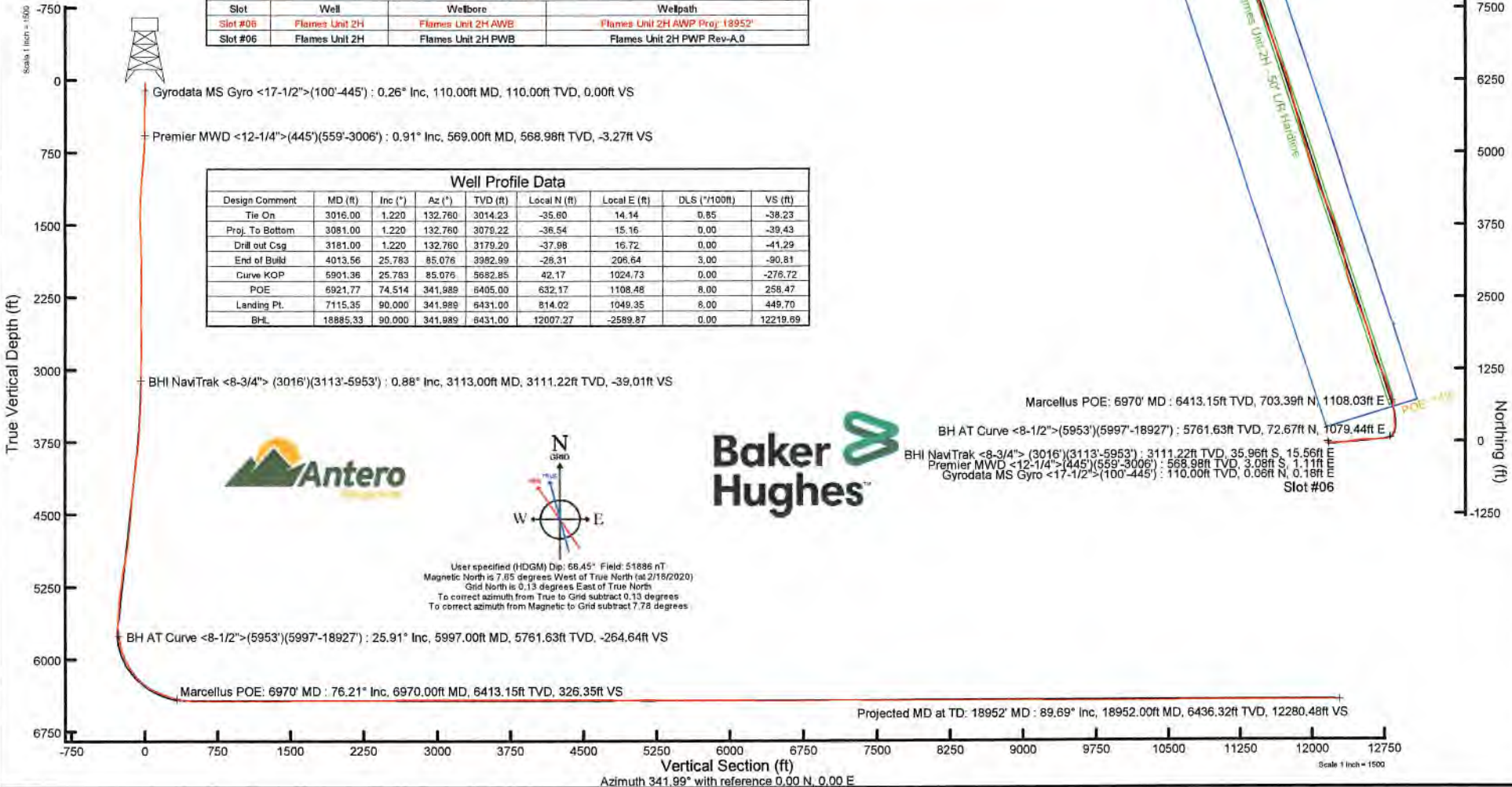
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Colorado West Pad	1699843.950	14308473.940	39°24'8.1990"N	80°47'22.6560"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #06	0.00	0.00	1699843.950	14308473.940	39°24'8.1990"N	80°47'22.6560"W
Patterson 342 (RKB) to Ground level (At Slot: Slot #06)						25ft
Mean Sea Level to Ground level (At Slot: Slot #06)						-748.5ft
Patterson 342 (RKB) to Mean Sea Level						773.5ft

Well Data

Slot	Well	Wellbore	Wellpath
Slot #06	Flames Unit 2H	Flames Unit 2H AWP	Flames Unit 2H AWP Proj: 18952'
Slot #06	Flames Unit 2H	Flames Unit 2H PWB	Flames Unit 2H PWP Rev-A.0

Well Profile Data

Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
Tie On	3016.00	1.220	132.760	3014.23	-35.60	14.14	0.85	-38.23
Proj. To Bottom	3081.00	1.220	132.760	3079.22	-36.54	15.16	0.00	-39.43
Drill out Csg	3181.00	1.220	132.780	3179.20	-37.98	16.72	0.00	-41.29
End of Build	4013.56	25.783	85.076	3982.99	-26.31	206.64	3.00	-90.81
Curve KOP	5901.36	25.783	85.076	5682.85	42.17	1024.73	0.00	-276.72
POE	6921.77	74.514	341.989	6405.00	632.17	1108.48	8.00	258.47
Landing Pt.	7115.35	90.000	341.989	6431.00	814.02	1049.35	8.00	449.70
BH	18885.33	90.000	341.989	8431.00	12007.27	-2589.87	0.00	12219.69



Gyrodatta MS Gyro <17-1/2">(100'-445') : 0.26° Inc, 110.00ft MD, 110.00ft TVD, 0.00ft VS

Premier MWD <12-1/4">(445')(559'-3006') : 0.91° Inc, 569.00ft MD, 568.98ft TVD, -3.27ft VS

BHI NavTrak <8-3/4"> (3016')(3113'-5953') : 0.88° Inc, 3113.00ft MD, 3111.22ft TVD, -39.01ft VS

BH AT Curve <8-1/2">(5953')(5997'-18927') : 25.91° Inc, 5997.00ft MD, 5761.63ft TVD, -264.64ft VS

Marcellus POE: 6970' MD : 76.21° Inc, 6970.00ft MD, 6413.15ft TVD, 326.35ft VS

Marcellus POE: 6970' MD : 6413.15ft TVD, 703.39ft N, 1108.03ft E

BH AT Curve <8-1/2">(5953')(5997'-18927') : 5761.63ft TVD, 72.67ft N, 1079.44ft E

BHI NavTrak <8-3/4"> (3016')(3113'-5953') : 3111.22ft TVD, 35.96ft S, 15.56ft E

Premier MWD <12-1/4">(445')(559'-3006') : 568.98ft TVD, 3.08ft S, 1.11ft E

Gyrodatta MS Gyro <17-1/2">(100'-445') : 110.00ft TVD, 0.06ft N, 0.18ft E

Slot #06



User specified (HDGM) Dip: 68.45° Field: 51886 nT
 Magnetic North is 7.85 degrees West of True North (at 2/18/2020)
 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

Vertical Section (ft)
 Azimuth 341.99° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

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	3/4/2020 at 11:48:55 AM
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	0.00	0.00	1699843.95	14308473.94	39°24'8.1990"N	80°47'22.6560"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 #06)	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	341.99°



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
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Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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	71.590	0.00	0.00	0.00	0.00	1699843.95	14308473.94	39°24'8.1990"N	80°47'22.6560"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	71.590	25.00	0.00	0.00	0.00	1699843.95	14308473.94	39°24'8.1990"N	80°47'22.6560"W	0.00	0.000	0.00	0.00	0.00	
110.00	0.260	71.590	110.00	0.00	0.06	0.18	1699844.13	14308474.00	39°24'8.1996"N	80°47'22.6536"W	0.19	71.590	0.31	0.31	0.00	Gyrodata MS Gyro <17-1/2">(100'-445')
135.00	0.400	89.200	135.00	-0.02	0.08	0.32	1699844.27	14308474.02	39°24'8.1998"N	80°47'22.6518"W	0.33	76.126	0.69	0.56	70.44	
160.00	0.420	95.460	160.00	-0.09	0.07	0.50	1699844.45	14308474.01	39°24'8.1997"N	80°47'22.6496"W	0.51	81.786	0.20	0.08	25.04	
185.00	0.460	98.790	185.00	-0.17	0.05	0.69	1699844.64	14308473.99	39°24'8.1995"N	80°47'22.6471"W	0.69	85.997	0.19	0.16	13.32	
210.00	0.450	119.350	210.00	-0.29	-0.01	0.88	1699844.83	14308473.93	39°24'8.1988"N	80°47'22.6448"W	0.88	90.977	0.65	-0.04	82.24	
235.00	0.590	130.110	235.00	-0.47	-0.15	1.06	1699845.01	14308473.79	39°24'8.1975"N	80°47'22.6424"W	1.07	97.831	0.68	0.56	43.04	
260.00	0.590	162.370	259.99	-0.71	-0.35	1.20	1699845.15	14308473.59	39°24'8.1955"N	80°47'22.6407"W	1.25	106.342	1.31	0.00	129.04	
285.00	0.700	178.820	284.99	-0.98	-0.63	1.24	1699845.19	14308473.31	39°24'8.1928"N	80°47'22.6402"W	1.39	116.799	0.86	0.44	65.80	
310.00	0.710	175.020	309.99	-1.28	-0.93	1.26	1699845.21	14308473.01	39°24'8.1897"N	80°47'22.6400"W	1.57	126.594	0.19	0.04	-15.20	
335.00	0.400	177.970	334.99	-1.51	-1.18	1.27	1699845.22	14308472.76	39°24'8.1874"N	80°47'22.6398"W	1.73	132.688	1.24	-1.24	11.80	
360.00	0.560	194.490	359.99	-1.70	-1.38	1.25	1699845.20	14308472.56	39°24'8.1853"N	80°47'22.6401"W	1.86	137.921	0.84	0.64	66.08	
385.00	0.420	192.560	384.99	-1.88	-1.59	1.20	1699845.15	14308472.35	39°24'8.1833"N	80°47'22.6408"W	1.99	143.017	0.56	-0.56	-7.72	
410.00	0.400	207.040	409.99	-2.02	-1.76	1.14	1699845.09	14308472.18	39°24'8.1816"N	80°47'22.6415"W	2.09	147.079	0.42	-0.08	57.92	
435.00	0.330	197.550	434.99	-2.14	-1.90	1.08	1699845.02	14308472.04	39°24'8.1802"N	80°47'22.6423"W	2.19	150.518	0.37	-0.28	-37.96	
455.00	0.240	211.330	454.99	-2.22	-1.99	1.04	1699844.99	14308471.95	39°24'8.1793"N	80°47'22.6428"W	2.25	152.526	0.56	-0.45	68.90	
569.00	0.910	167.660	568.98	-3.27	-3.08	1.11	1699845.06	14308470.86	39°24'8.1685"N	80°47'22.6420"W	3.27	160.261	0.66	0.59	-38.31	Premier MWD <12-1/4">(445')(559'-3006')
662.00	2.130	164.820	661.95	-5.73	-5.47	1.72	1699845.67	14308468.47	39°24'8.1449"N	80°47'22.6343"W	5.73	162.585	1.31	1.31	-3.05	
755.00	3.790	157.260	754.82	-10.52	-9.97	3.36	1699847.31	14308463.97	39°24'8.1003"N	80°47'22.6135"W	10.52	161.399	1.83	1.78	-8.13	
846.00	5.020	151.270	845.55	-17.43	-16.24	6.43	1699850.38	14308457.71	39°24'8.0384"N	80°47'22.5745"W	17.47	158.388	1.44	1.35	-6.58	
939.00	4.550	148.760	938.23	-25.02	-22.96	10.30	1699854.25	14308450.99	39°24'7.9718"N	80°47'22.5254"W	25.17	155.835	0.55	-0.51	-2.70	
1036.00	4.070	155.360	1034.95	-32.19	-29.38	13.73	1699857.68	14308444.57	39°24'7.9083"N	80°47'22.4819"W	32.43	154.947	0.71	-0.49	6.80	
1130.00	3.150	155.880	1128.76	-38.07	-34.77	16.18	1699860.12	14308439.18	39°24'7.8550"N	80°47'22.4509"W	38.35	155.046	0.98	-0.98	0.55	
1224.00	1.600	161.530	1222.68	-41.95	-38.37	17.65	1699861.59	14308435.58	39°24'7.8194"N	80°47'22.4323"W	42.24	155.298	1.67	-1.65	6.01	
1319.00	1.610	242.960	1317.65	-43.48	-40.24	16.88	1699860.82	14308433.72	39°24'7.8009"N	80°47'22.4421"W	43.63	157.239	2.20	0.01	85.72	
1414.00	1.910	261.200	1412.61	-43.44	-41.08	14.13	1699858.07	14308432.87	39°24'7.7926"N	80°47'22.4772"W	43.45	161.023	0.66	0.32	19.20	
1508.00	1.120	311.140	1506.58	-42.40	-40.72	11.89	1699855.83	14308433.24	39°24'7.7963"N	80°47'22.5057"W	42.42	163.725	1.56	-0.84	53.13	
1603.00	1.170	17.450	1601.56	-40.81	-39.18	11.48	1699855.43	14308434.77	39°24'7.8115"N	80°47'22.5109"W	40.83	163.671	1.32	0.05	69.80	
1698.00	1.750	26.790	1696.53	-38.99	-36.96	12.42	1699856.37	14308436.99	39°24'7.8334"N	80°47'22.4988"W	39.00	161.421	0.66	0.61	9.83	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
1793.00	1.720	20.390	1791.49	-36.85	-34.33	13.58	1699857.52	14308439.62	39°24'7.8594"N	80°47'22.4840"W	36.92	158.426	0.21	-0.03	-6.74	
1887.00	1.680	6.990	1885.45	-34.49	-31.64	14.23	1699858.18	14308442.31	39°24'7.8859"N	80°47'22.4756"W	34.70	155.779	0.42	-0.04	-14.26	
1982.00	0.910	349.750	1980.42	-32.48	-29.52	14.27	1699858.21	14308444.43	39°24'7.9069"N	80°47'22.4751"W	32.79	154.200	0.90	-0.81	-18.15	
2077.00	0.480	251.850	2075.42	-31.74	-28.90	13.76	1699857.70	14308445.05	39°24'7.9131"N	80°47'22.4816"W	32.01	154.544	1.14	-0.45	-103.05	
2172.00	1.290	210.930	2170.41	-32.44	-29.94	12.83	1699856.77	14308444.01	39°24'7.9028"N	80°47'22.4934"W	32.57	156.805	1.03	0.85	-43.07	
2266.00	1.320	182.490	2264.38	-34.15	-31.93	12.24	1699856.18	14308442.02	39°24'7.8831"N	80°47'22.5010"W	34.20	159.028	0.68	0.03	-30.26	
2361.00	1.200	132.830	2359.36	-36.04	-33.70	12.92	1699856.87	14308440.25	39°24'7.8656"N	80°47'22.4924"W	36.09	159.023	1.12	-0.13	-52.27	
2456.00	0.810	89.270	2454.35	-37.11	-34.37	14.32	1699858.27	14308439.59	39°24'7.8590"N	80°47'22.4745"W	37.23	157.377	0.87	-0.41	-45.85	
2550.00	1.090	19.280	2548.34	-36.60	-33.51	15.28	1699859.23	14308440.44	39°24'7.8674"N	80°47'22.4623"W	36.83	155.489	1.18	0.30	-74.46	
2645.00	1.320	329.360	2643.32	-34.81	-31.72	15.02	1699858.97	14308442.23	39°24'7.8851"N	80°47'22.4655"W	35.10	154.659	1.09	0.24	-52.55	
2740.00	1.200	266.580	2738.30	-33.49	-30.84	13.47	1699857.42	14308443.11	39°24'7.8939"N	80°47'22.4853"W	33.65	156.403	1.39	-0.13	-66.08	
2835.00	0.990	191.470	2833.29	-33.96	-31.70	12.31	1699856.26	14308442.25	39°24'7.8854"N	80°47'22.5000"W	34.01	158.771	1.42	-0.22	-79.06	
2929.00	1.770	152.120	2927.26	-36.09	-33.78	12.83	1699856.78	14308440.17	39°24'7.8648"N	80°47'22.4935"W	36.14	159.200	1.26	0.83	-41.86	
3016.00	1.220	132.760	3014.23	-38.23	-35.60	14.14	1699858.08	14308438.36	39°24'7.8468"N	80°47'22.4769"W	38.30	158.335	0.85	-0.63	-22.25	
3113.00	0.880	63.150	3111.22	-39.01	-35.96	15.56	1699859.51	14308437.99	39°24'7.8432"N	80°47'22.4588"W	39.19	156.598	1.27	-0.35	-71.76	BHI NaviTrak <8-3/4"> (3016')(3113'-5953')
3207.00	3.800	75.340	3205.13	-39.08	-34.85	19.22	1699863.16	14308439.11	39°24'7.8541"N	80°47'22.4121"W	39.80	151.119	3.13	3.11	12.97	
3302.00	8.300	73.700	3299.58	-39.47	-32.13	28.85	1699872.79	14308441.83	39°24'7.8808"N	80°47'22.2894"W	43.18	138.071	4.74	4.74	-1.73	
3397.00	9.610	84.070	3393.43	-41.34	-29.38	43.32	1699887.26	14308444.57	39°24'7.9076"N	80°47'22.1049"W	52.35	124.144	2.18	1.38	10.92	
3492.00	10.920	93.160	3486.91	-46.25	-29.06	60.20	1699904.12	14308444.89	39°24'7.9104"N	80°47'21.8900"W	66.84	115.767	2.19	1.38	9.57	
3587.00	12.860	90.150	3579.87	-52.79	-29.58	79.76	1699923.67	14308444.37	39°24'7.9048"N	80°47'21.6408"W	85.07	110.350	2.14	2.04	-3.17	
3681.00	15.230	85.400	3671.05	-58.92	-28.62	102.53	1699946.44	14308445.33	39°24'7.9138"N	80°47'21.3507"W	106.45	105.596	2.80	2.52	-5.05	
3775.00	16.750	88.260	3761.42	-65.57	-27.22	128.38	1699972.27	14308446.73	39°24'7.9270"N	80°47'21.0214"W	131.23	101.970	1.82	1.62	3.04	
3870.00	18.690	89.930	3851.90	-74.10	-26.78	157.28	1700001.17	14308447.17	39°24'7.9307"N	80°47'20.6532"W	159.55	99.664	2.11	2.04	1.76	
3965.00	22.170	88.640	3940.92	-83.93	-26.34	190.43	1700034.31	14308447.61	39°24'7.9343"N	80°47'20.2308"W	192.25	97.875	3.69	3.66	-1.36	
4060.00	26.630	87.380	4027.41	-94.72	-24.94	229.64	1700073.50	14308449.01	39°24'7.9472"N	80°47'19.7313"W	230.99	96.198	4.73	4.69	-1.33	
4155.00	27.600	86.680	4111.97	-105.95	-22.69	272.88	1700116.72	14308451.26	39°24'7.9684"N	80°47'19.1804"W	273.82	94.753	1.07	1.02	-0.74	
4252.00	24.970	85.780	4198.93	-116.53	-19.88	315.74	1700159.56	14308454.06	39°24'7.9952"N	80°47'18.6344"W	316.36	93.603	2.74	-2.71	-0.93	
4347.00	25.650	84.110	4284.81	-125.63	-16.30	356.19	1700200.00	14308457.65	39°24'8.0297"N	80°47'18.1190"W	356.56	92.620	1.04	0.72	-1.76	
4441.00	26.000	79.810	4369.43	-132.70	-10.56	396.71	1700240.50	14308463.38	39°24'8.0854"N	80°47'17.6026"W	396.85	91.525	2.03	0.37	-4.57	
4536.00	27.030	77.830	4454.44	-137.73	-2.33	438.31	1700282.08	14308471.61	39°24'8.1658"N	80°47'17.0725"W	438.31	90.304	1.43	1.08	-2.08	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
4631.00	26.650	80.570	4539.21	-143.11	5.71	480.43	1700324.19	14308479.65	39°24'8.2444"N	80°47'16.5357"W	480.46	89.319	1.36	-0.40	2.88	
4725.00	26.460	86.100	4623.31	-151.36	10.59	522.13	1700365.87	14308484.53	39°24'8.2916"N	80°47'16.0043"W	522.23	88.838	2.64	-0.20	5.88	
4819.00	26.300	82.410	4707.52	-160.23	14.77	563.66	1700407.39	14308488.70	39°24'8.3319"N	80°47'15.4751"W	563.86	88.499	1.75	-0.17	-3.93	
4913.00	25.150	83.600	4792.21	-168.02	19.74	604.16	1700447.87	14308493.68	39°24'8.3802"N	80°47'14.9591"W	604.48	88.128	1.34	-1.22	1.27	
5008.00	27.270	93.480	4877.47	-180.06	20.67	645.97	1700489.66	14308494.61	39°24'8.3884"N	80°47'14.4264"W	646.30	88.167	5.10	2.23	10.40	
5103.00	29.670	90.030	4960.98	-195.32	19.34	691.21	1700534.89	14308493.27	39°24'8.3741"N	80°47'13.8501"W	691.48	88.397	3.06	2.53	-3.63	
5197.00	29.870	90.600	5042.58	-209.99	19.08	737.88	1700581.54	14308493.02	39°24'8.3705"N	80°47'13.2556"W	738.13	88.519	0.37	0.21	0.61	
5291.00	29.580	85.740	5124.22	-222.98	20.56	784.43	1700628.07	14308494.49	39°24'8.3840"N	80°47'12.6625"W	784.70	88.498	2.58	-0.31	-5.17	
5385.00	28.280	86.540	5206.49	-234.09	23.63	829.80	1700673.42	14308497.56	39°24'8.4133"N	80°47'12.0845"W	830.14	88.369	1.44	-1.38	0.85	
5480.00	25.900	89.760	5291.07	-246.08	25.07	873.02	1700716.62	14308499.00	39°24'8.4266"N	80°47'11.5339"W	873.38	88.355	2.94	-2.51	3.38	
5575.00	23.740	84.780	5377.30	-256.65	26.90	912.82	1700756.41	14308500.83	39°24'8.4437"N	80°47'11.0268"W	913.22	88.312	3.16	-2.27	-5.24	
5670.00	24.700	78.520	5463.95	-263.14	32.59	951.32	1700794.90	14308506.52	39°24'8.4990"N	80°47'10.5362"W	951.88	88.038	2.88	1.01	-6.58	
5764.00	23.370	78.170	5549.80	-267.38	40.32	988.82	1700832.38	14308514.25	39°24'8.5746"N	80°47'10.0583"W	989.64	87.665	1.42	-1.41	-0.37	
5859.00	24.010	76.500	5636.79	-270.93	48.70	1026.06	1700869.60	14308522.62	39°24'8.6565"N	80°47'9.5837"W	1027.21	87.283	0.98	0.67	-1.76	
5953.00	26.000	61.790	5722.06	-268.78	62.92	1062.85	1700906.37	14308536.83	39°24'8.7962"N	80°47'9.1146"W	1064.71	86.612	6.93	2.12	-15.65	
5997.00	25.910	57.340	5761.63	-264.64	72.67	1079.44	1700922.96	14308546.58	39°24'8.8921"N	80°47'8.9029"W	1081.88	86.149	4.43	-0.20	-10.11	BH AT Curve <8-1/2">(5953')(5997'-18927')
6092.00	22.320	40.890	5848.42	-250.05	97.54	1108.77	1700952.28	14308571.44	39°24'9.1373"N	80°47'8.5286"W	1113.05	84.973	7.99	-3.78	-17.32	
6186.00	25.750	26.950	5934.33	-226.36	129.27	1129.73	1700973.23	14308603.16	39°24'9.4504"N	80°47'8.2606"W	1137.10	83.472	7.03	3.65	-14.83	
6280.00	30.130	15.850	6017.40	-192.28	170.22	1145.44	1700988.94	14308644.09	39°24'9.8547"N	80°47'8.0591"W	1158.02	81.548	7.22	4.66	-11.81	
6375.00	34.330	5.230	6097.81	-147.81	219.89	1154.41	1700997.90	14308693.74	39°24'10.3454"N	80°47'7.9434"W	1175.17	79.216	7.41	4.42	-11.18	
6469.00	40.430	356.570	6172.53	-93.86	276.81	1155.00	1700998.49	14308750.64	39°24'10.9079"N	80°47'7.9341"W	1187.71	76.523	8.55	6.49	-9.21	
6507.00†	43.795	355.819	6200.71	-69.16	302.23	1153.31	1700996.80	14308776.05	39°24'11.1592"N	80°47'7.9550"W	1192.25	75.316	8.95	8.85	-1.98	Middlesex: 6507' MD
6564.00	48.850	354.850	6240.06	-29.06	343.30	1149.94	1700993.43	14308817.10	39°24'11.5653"N	80°47'7.9966"W	1200.09	73.378	8.95	8.87	-1.70	
6610.00	53.070	355.550	6269.03	5.71	378.90	1146.96	1700990.45	14308852.68	39°24'11.9171"N	80°47'8.0335"W	1207.92	71.719	9.25	9.17	1.52	
6658.00	57.000	356.530	6296.53	43.86	418.13	1144.25	1700987.74	14308891.90	39°24'12.3050"N	80°47'8.0668"W	1218.25	69.927	8.36	8.19	2.04	
6740.00†	65.055	355.864	6336.22	113.35	489.65	1139.48	1700982.98	14308963.39	39°24'13.0119"N	80°47'8.1254"W	1240.23	66.746	9.85	9.82	-0.81	Burkett: 6740' MD
6754.00	66.430	355.760	6341.97	125.74	502.38	1138.55	1700982.04	14308976.12	39°24'13.1378"N	80°47'8.1369"W	1244.46	66.191	9.85	9.82	-0.75	
6817.00†	68.746	354.240	6365.99	182.49	560.39	1133.47	1700976.96	14309034.11	39°24'13.7113"N	80°47'8.1999"W	1264.43	63.692	4.30	3.68	-2.41	Tully: 6817' MD
6848.00	69.890	353.510	6376.94	210.87	589.23	1130.37	1700973.87	14309062.93	39°24'13.9963"N	80°47'8.2385"W	1274.73	62.468	4.30	3.69	-2.36	
6921.00†	73.179	347.916	6400.08	279.27	657.51	1119.17	1700962.68	14309131.19	39°24'14.6715"N	80°47'8.3791"W	1298.02	59.566	8.55	4.50	-7.66	Hamilton: 6921' MD



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
6943.00	74.200	346.270	6406.25	300.30	678.09	1114.45	1700957.96	14309151.76	39°24'14.8750"N	80°47'8.4385"W	1304.54	58.681	8.55	4.64	-7.48	
6970.00†	76.210	345.229	6413.15	326.35	703.39	1108.03	1700951.54	14309177.05	39°24'15.1252"N	80°47'8.5196"W	1312.44	57.592	8.33	7.44	-3.86	Marcellus POE: 6970' MD
7038.00	81.290	342.680	6426.41	392.97	767.46	1089.59	1700933.10	14309241.09	39°24'15.7588"N	80°47'8.7526"W	1332.74	54.841	8.33	7.47	-3.75	
7133.00	87.940	342.790	6435.32	487.49	857.73	1061.53	1700905.06	14309331.33	39°24'16.6517"N	80°47'9.1073"W	1364.75	51.062	7.00	7.00	0.12	
7228.00	89.970	341.790	6437.06	582.47	948.20	1032.64	1700876.18	14309421.77	39°24'17.5466"N	80°47'9.4726"W	1401.94	47.441	2.38	2.14	-1.05	
7322.00	90.280	338.690	6436.85	676.41	1036.66	1000.87	1700844.42	14309510.18	39°24'18.4216"N	80°47'9.8747"W	1440.97	43.994	3.31	0.33	-3.30	
7417.00	90.150	334.300	6436.49	770.95	1123.75	962.99	1700806.55	14309597.25	39°24'19.2832"N	80°47'10.3547"W	1479.92	40.595	4.62	-0.14	-4.62	
7511.00	89.350	334.300	6436.90	864.11	1208.45	922.22	1700765.81	14309681.91	39°24'20.1213"N	80°47'10.8714"W	1520.15	37.349	0.85	-0.85	0.00	
7605.00	89.510	336.260	6437.84	957.45	1293.83	882.92	1700726.52	14309767.26	39°24'20.9661"N	80°47'11.3696"W	1566.38	34.310	2.09	0.17	2.09	
7700.00	89.970	339.940	6438.27	1052.22	1381.96	847.49	1700691.10	14309855.35	39°24'21.8379"N	80°47'11.8182"W	1621.13	31.519	3.90	0.48	3.87	
7794.00	89.820	342.010	6438.44	1146.20	1470.82	816.85	1700660.48	14309944.17	39°24'22.7169"N	80°47'12.2059"W	1682.42	29.047	2.21	-0.16	2.20	
7889.00	90.770	347.230	6437.95	1241.06	1562.38	791.66	1700635.30	14310035.70	39°24'23.6224"N	80°47'12.5240"W	1751.51	26.871	5.58	1.00	5.49	
7982.00	90.520	347.820	6436.91	1333.62	1653.18	771.58	1700615.22	14310126.46	39°24'24.5203"N	80°47'12.7772"W	1824.37	25.019	0.69	-0.27	0.63	
8077.00	91.320	342.940	6435.38	1428.41	1745.06	747.61	1700591.26	14310218.31	39°24'25.4290"N	80°47'13.0798"W	1898.46	23.191	5.20	0.84	-5.14	
8172.00	90.280	341.190	6434.05	1523.40	1835.43	718.36	1700562.02	14310308.64	39°24'26.3229"N	80°47'13.4497"W	1971.00	21.375	2.14	-1.09	-1.84	
8267.00	90.030	341.540	6433.80	1618.39	1925.45	688.00	1700531.68	14310398.63	39°24'27.2133"N	80°47'13.8337"W	2044.68	19.663	0.45	-0.26	0.37	
8361.00	89.940	340.880	6433.82	1712.38	2014.44	657.72	1700501.41	14310487.58	39°24'28.0935"N	80°47'14.2168"W	2119.10	18.082	0.71	-0.10	-0.70	
8457.00	90.120	339.950	6433.77	1808.35	2104.89	625.55	1700469.25	14310577.99	39°24'28.9882"N	80°47'14.6240"W	2195.87	16.551	0.99	0.19	-0.97	
8551.00	90.550	338.830	6433.22	1902.25	2192.87	592.46	1700436.17	14310665.94	39°24'29.8585"N	80°47'15.0429"W	2271.49	15.119	1.28	0.46	-1.19	
8646.00	90.000	336.850	6432.77	1996.99	2280.85	556.63	1700400.36	14310753.88	39°24'30.7288"N	80°47'15.4968"W	2347.78	13.715	2.16	-0.58	-2.08	
8741.00	90.030	337.100	6432.74	2091.63	2368.28	519.47	1700363.21	14310841.27	39°24'31.5938"N	80°47'15.9676"W	2424.58	12.372	0.27	0.03	0.26	
8835.00	89.750	337.160	6432.92	2185.29	2454.89	482.94	1700326.70	14310927.85	39°24'32.4507"N	80°47'16.4304"W	2501.94	11.129	0.30	-0.30	0.06	
8930.00	90.340	338.320	6432.85	2280.03	2542.81	446.95	1700290.72	14311015.73	39°24'33.3205"N	80°47'16.8862"W	2581.79	9.969	1.37	0.62	1.22	
9024.00	90.280	338.950	6432.34	2373.86	2630.34	412.71	1700256.49	14311103.24	39°24'34.1865"N	80°47'17.3199"W	2662.52	8.917	0.67	-0.06	0.67	
9119.00	90.280	339.880	6431.87	2468.76	2719.28	379.31	1700223.11	14311192.13	39°24'35.0662"N	80°47'17.7428"W	2745.60	7.941	0.98	0.00	0.98	
9213.00	92.030	344.180	6429.98	2562.72	2808.65	350.32	1700194.13	14311281.47	39°24'35.9502"N	80°47'18.1094"W	2830.41	7.110	4.94	1.86	4.57	
9308.00	90.620	348.140	6427.78	2657.42	2900.84	327.61	1700171.42	14311373.63	39°24'36.8619"N	80°47'18.3960"W	2919.29	6.443	4.42	-1.48	4.17	
9402.00	90.340	349.900	6426.99	2750.71	2993.12	309.70	1700153.53	14311465.87	39°24'37.7743"N	80°47'18.6213"W	3009.10	5.907	1.90	-0.30	1.87	
9498.00	90.030	352.690	6426.68	2845.43	3088.00	295.17	1700139.01	14311560.71	39°24'38.7124"N	80°47'18.8036"W	3102.08	5.460	2.92	-0.32	2.91	
9592.00	90.090	352.110	6426.59	2937.89	3181.18	282.74	1700126.58	14311653.85	39°24'39.6336"N	80°47'18.9592"W	3193.72	5.079	0.62	0.06	-0.62	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
9687.00	90.180	351.600	6426.36	3031.48	3275.22	269.28	1700113.13	14311747.85	39°24'40.5634"N	80°47'19.1279"W	3286.27	4.700	0.55	0.09	-0.54	
9781.00	90.090	346.940	6426.14	3124.70	3367.55	251.79	1700095.64	14311840.15	39°24'41.4763"N	80°47'19.3480"W	3376.95	4.276	4.96	-0.10	-4.96	
9876.00	89.750	343.410	6426.27	3219.54	3459.37	227.48	1700071.34	14311931.93	39°24'42.3844"N	80°47'19.6549"W	3466.84	3.762	3.73	-0.36	-3.72	
9971.00	91.170	341.190	6425.51	3314.52	3549.86	198.60	1700042.48	14312022.39	39°24'43.2795"N	80°47'20.0202"W	3555.41	3.202	2.77	1.49	-2.34	
10065.00	89.690	339.270	6424.80	3408.47	3638.31	166.81	1700010.70	14312110.80	39°24'44.1544"N	80°47'20.4226"W	3642.13	2.625	2.58	-1.57	-2.04	
10160.00	90.220	338.950	6424.88	3503.35	3727.07	132.94	1699976.83	14312199.52	39°24'45.0324"N	80°47'20.8515"W	3729.44	2.043	0.65	0.56	-0.34	
10255.00	90.150	339.360	6424.57	3598.23	3815.85	99.13	1699943.04	14312288.27	39°24'45.9106"N	80°47'21.2796"W	3817.14	1.488	0.44	-0.07	0.43	
10350.00	89.750	338.070	6424.65	3693.07	3904.37	64.65	1699908.57	14312376.75	39°24'46.7863"N	80°47'21.7163"W	3904.90	0.949	1.42	-0.42	-1.36	
10444.00	90.220	337.690	6424.68	3786.83	3991.45	29.25	1699873.19	14312463.80	39°24'47.6478"N	80°47'22.1647"W	3991.55	0.420	0.64	0.50	-0.40	
10539.00	89.630	338.220	6424.80	3881.60	4078.50	-6.40	1699837.55	14312551.82	39°24'48.5189"N	80°47'22.6164"W	4079.51	359.910	0.83	-0.62	0.56	
10634.00	89.600	338.620	6425.44	3976.41	4167.84	-41.34	1699802.62	14312640.12	39°24'49.3928"N	80°47'23.0589"W	4168.04	359.432	0.42	-0.03	0.42	
10728.00	89.660	337.020	6426.05	4070.15	4254.88	-76.83	1699767.15	14312727.13	39°24'50.2538"N	80°47'23.5085"W	4255.57	358.966	1.70	0.06	-1.70	
10822.00	89.660	335.420	6426.61	4163.67	4340.89	-114.73	1699729.27	14312813.11	39°24'51.1048"N	80°47'23.9888"W	4342.41	358.486	1.70	0.00	-1.70	
10917.00	89.510	335.890	6427.30	4258.09	4427.44	-153.89	1699690.12	14312899.62	39°24'51.9612"N	80°47'24.4852"W	4430.12	358.009	0.52	-0.16	0.49	
11011.00	89.880	339.210	6427.80	4351.79	4514.31	-189.78	1699654.24	14312986.45	39°24'52.8205"N	80°47'24.9399"W	4518.29	357.593	3.55	0.39	3.53	
11106.00	89.970	339.930	6427.92	4446.71	4603.33	-222.94	1699621.10	14313075.44	39°24'53.7011"N	80°47'25.3598"W	4608.73	357.227	0.76	0.09	0.76	
11201.00	90.060	339.380	6427.90	4541.63	4692.40	-255.97	1699588.08	14313164.48	39°24'54.5822"N	80°47'25.7780"W	4699.38	356.878	0.59	0.09	-0.58	
11295.00	89.910	342.720	6427.92	4635.60	4781.30	-286.49	1699557.57	14313253.33	39°24'55.4615"N	80°47'26.1642"W	4789.87	356.571	3.56	-0.16	3.55	
11389.00	89.380	342.590	6428.50	4729.60	4871.02	-314.52	1699529.56	14313343.02	39°24'56.3489"N	80°47'26.5186"W	4881.16	356.306	0.58	-0.56	-0.14	
11484.00	89.780	344.950	6429.20	4824.54	4962.22	-341.06	1699503.02	14313434.19	39°24'57.2509"N	80°47'26.8542"W	4973.93	356.068	2.52	0.42	2.48	
11578.00	89.940	345.160	6429.43	4918.41	5053.04	-365.31	1699478.79	14313524.97	39°24'58.1491"N	80°47'27.1604"W	5066.23	355.865	0.28	0.17	0.22	
11673.00	90.150	344.180	6429.35	5013.30	5144.66	-390.42	1699453.68	14313616.56	39°24'59.0552"N	80°47'27.4777"W	5159.46	355.660	1.05	0.22	-1.03	
11767.00	90.310	342.380	6428.98	5107.27	5234.68	-417.46	1699426.65	14313706.54	39°24'59.9455"N	80°47'27.8196"W	5251.30	355.440	1.92	0.17	-1.91	
11862.00	89.690	342.410	6428.98	5202.27	5325.24	-446.20	1699397.93	14313797.06	39°25'0.8412"N	80°47'28.1830"W	5343.90	355.210	0.65	-0.65	0.03	
11957.00	89.720	344.890	6429.47	5297.22	5416.38	-472.94	1699371.20	14313888.17	39°25'1.7426"N	80°47'28.5211"W	5436.99	355.010	2.61	0.03	2.61	
12053.00	90.000	346.800	6429.70	5393.00	5509.47	-496.41	1699347.74	14313981.21	39°25'2.6631"N	80°47'28.8174"W	5531.78	354.851	2.01	0.29	1.99	
12147.00	90.310	345.890	6429.45	5486.73	5600.81	-518.60	1699325.55	14314072.52	39°25'3.5664"N	80°47'29.0975"W	5624.77	354.710	1.02	0.33	-0.97	
12242.00	89.940	345.990	6429.24	5581.50	5692.96	-541.68	1699302.48	14314164.64	39°25'4.4777"N	80°47'29.3888"W	5718.67	354.565	0.40	-0.39	0.11	
12337.00	89.540	345.570	6429.67	5676.29	5785.05	-565.02	1699279.16	14314256.69	39°25'5.3884"N	80°47'29.6835"W	5812.58	354.422	0.61	-0.42	-0.44	
12432.00	90.280	345.860	6429.82	5771.09	5877.11	-588.46	1699255.73	14314348.71	39°25'6.2988"N	80°47'29.9794"W	5906.50	354.282	0.84	0.78	0.31	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
12526.00	89.540	345.820	6429.97	5864.88	5968.25	-611.45	1699232.74	14314439.82	39°25'7.2002"N	80°47'30.2698"W	5999.49	354.150	0.79	-0.79	-0.04	
12621.00	89.510	346.790	6430.75	5959.60	6060.55	-633.94	1699210.26	14314532.08	39°25'8.1129"N	80°47'30.5536"W	6093.61	354.028	1.02	-0.03	1.02	
12716.00	89.380	346.700	6431.67	6054.27	6153.01	-655.73	1699188.49	14314624.50	39°25'9.0273"N	80°47'30.8284"W	6187.85	353.917	0.17	-0.14	-0.09	
12810.00	89.420	343.270	6432.66	6148.12	6243.79	-680.07	1699164.15	14314715.24	39°25'9.9250"N	80°47'31.1360"W	6280.71	353.784	3.65	0.04	-3.65	
12904.00	89.260	340.070	6433.74	6242.10	6333.00	-709.63	1699134.60	14314804.42	39°25'10.8074"N	80°47'31.5100"W	6372.63	353.607	3.41	-0.17	-3.40	
12999.00	89.510	339.390	6434.76	6337.02	6422.11	-742.54	1699101.71	14314893.49	39°25'11.6888"N	80°47'31.9267"W	6464.89	353.405	0.76	0.26	-0.72	
13094.00	89.690	338.470	6435.43	6431.88	6510.75	-776.69	1699067.57	14314982.10	39°25'12.5657"N	80°47'32.3593"W	6556.92	353.197	0.99	0.19	-0.97	
13189.00	89.720	336.970	6435.91	6526.62	6598.66	-812.71	1699031.57	14315069.97	39°25'13.4354"N	80°47'32.8156"W	6648.52	352.979	1.58	0.03	-1.58	
13284.00	90.030	336.260	6436.12	6621.20	6685.85	-850.41	1698993.87	14315157.13	39°25'14.2980"N	80°47'33.2935"W	6739.72	352.751	0.82	0.33	-0.75	
13378.00	90.120	339.300	6436.00	6714.93	6772.86	-885.96	1698958.35	14315244.11	39°25'15.1588"N	80°47'33.7439"W	6830.56	352.547	3.24	0.10	3.23	
13474.00	90.490	341.670	6435.49	6810.89	6863.34	-918.02	1698926.29	14315334.55	39°25'16.0537"N	80°47'34.1498"W	6924.46	352.381	2.50	0.39	2.47	
13568.00	90.280	341.170	6434.86	6904.88	6952.44	-947.97	1698896.35	14315423.61	39°25'16.9350"N	80°47'34.5289"W	7016.77	352.236	0.58	-0.22	-0.53	
13664.00	90.430	339.250	6434.26	7000.83	7042.76	-980.47	1698863.87	14315513.90	39°25'17.8285"N	80°47'34.9404"W	7110.69	352.074	2.01	0.16	-2.00	
13758.00	90.000	338.060	6433.91	7094.67	7130.31	-1014.69	1698829.67	14315601.42	39°25'18.6945"N	80°47'35.3738"W	7202.15	351.901	1.35	-0.46	-1.27	
13852.00	90.000	337.850	6433.91	7188.44	7217.44	-1049.97	1698794.40	14315688.51	39°25'19.5565"N	80°47'35.8208"W	7293.41	351.723	0.22	0.00	-0.22	
13947.00	89.880	339.070	6434.01	7283.25	7305.80	-1084.85	1698759.53	14315776.84	39°25'20.4306"N	80°47'36.2627"W	7385.91	351.554	1.29	-0.13	1.28	
14041.00	89.570	340.250	6434.46	7377.17	7393.94	-1117.52	1698726.87	14315864.94	39°25'21.3024"N	80°47'36.6764"W	7477.91	351.405	1.30	-0.33	1.26	
14136.00	89.720	340.500	6435.05	7472.13	7483.42	-1149.43	1698694.98	14315954.38	39°25'22.1875"N	80°47'37.0804"W	7571.18	351.268	0.31	0.16	0.26	
14231.00	89.720	342.450	6435.51	7567.13	7573.49	-1179.61	1698664.81	14316044.42	39°25'23.0784"N	80°47'37.4624"W	7664.81	351.147	2.05	0.00	2.05	
14325.00	89.780	344.570	6435.92	7661.09	7663.62	-1208.29	1698638.14	14316134.51	39°25'23.9698"N	80°47'37.7997"W	7757.98	351.055	2.26	0.06	2.26	
14420.00	89.690	346.880	6436.36	7755.88	7755.68	-1229.71	1698614.73	14316226.53	39°25'24.8802"N	80°47'38.0955"W	7852.56	350.990	2.43	-0.09	2.43	
14515.00	89.720	346.470	6436.85	7850.56	7848.12	-1251.61	1698592.84	14316318.94	39°25'25.7943"N	80°47'38.3718"W	7947.30	350.939	0.43	0.03	-0.43	
14609.00	89.630	347.080	6437.38	7944.23	7939.63	-1273.11	1698571.35	14316410.41	39°25'26.6992"N	80°47'38.6432"W	8041.05	350.890	0.66	-0.10	0.65	
14704.00	89.940	348.500	6437.74	8038.74	8032.47	-1293.20	1698551.26	14316503.22	39°25'27.6173"N	80°47'38.8965"W	8135.91	350.854	1.53	0.33	1.49	
14798.00	90.120	346.830	6437.69	8132.27	8124.30	-1313.28	1698531.19	14316595.01	39°25'28.5253"N	80°47'39.1497"W	8229.76	350.818	1.79	0.19	-1.78	
14892.00	90.150	344.640	6437.47	8226.07	8215.40	-1336.44	1698508.04	14316686.07	39°25'29.4262"N	80°47'39.4422"W	8323.39	350.760	2.33	0.03	-2.33	
14986.00	90.150	342.340	6437.22	8320.03	8305.51	-1363.15	1698481.34	14316776.15	39°25'30.3175"N	80°47'39.7800"W	8416.64	350.679	2.45	0.00	-2.45	
15081.00	89.880	341.400	6437.20	8415.03	8395.80	-1392.71	1698451.79	14316866.40	39°25'31.2104"N	80°47'40.1540"W	8510.53	350.581	1.03	-0.28	-0.99	
15176.00	89.880	340.920	6437.40	8510.02	8485.71	-1423.39	1698421.12	14316956.27	39°25'32.0997"N	80°47'40.5424"W	8604.26	350.478	0.51	0.00	-0.51	
15271.00	89.450	337.240	6437.95	8604.88	8574.43	-1457.31	1698387.22	14317044.95	39°25'32.9774"N	80°47'40.9720"W	8697.39	350.354	3.90	-0.45	-3.87	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
15365.00	89.970	337.740	6438.43	8698.58	8661.26	-1493.29	1698351.25	14317131.76	39°25'33.8364"N	80°47'41.4280"W	8789.05	350.218	0.77	0.55	0.53	
15460.00	89.880	337.940	6438.55	8793.34	8749.25	-1529.13	1698315.43	14317219.70	39°25'34.7068"N	80°47'41.8821"W	8881.87	350.086	0.23	-0.09	0.21	
15554.00	89.910	340.250	6438.73	8887.21	8837.05	-1562.67	1698281.91	14317307.48	39°25'35.5754"N	80°47'42.3070"W	8974.15	349.972	2.46	0.03	2.46	
15648.00	89.970	342.140	6438.82	8981.20	8926.03	-1592.97	1698251.62	14317396.42	39°25'36.4555"N	80°47'42.6905"W	9067.06	349.881	2.01	0.06	2.01	
15743.00	89.880	341.560	6438.95	9076.19	9016.30	-1622.56	1698222.04	14317486.66	39°25'37.3484"N	80°47'43.0650"W	9161.14	349.798	0.62	-0.09	-0.61	
15838.00	89.940	339.670	6439.10	9171.16	9105.91	-1654.09	1698190.52	14317576.23	39°25'38.2347"N	80°47'43.4642"W	9254.93	349.704	1.99	0.06	-1.99	
15933.00	89.750	342.050	6439.35	9266.14	9195.66	-1685.23	1698159.39	14317665.94	39°25'39.1224"N	80°47'43.8585"W	9348.80	349.615	2.51	-0.20	2.51	
16027.00	90.000	342.670	6439.56	9360.13	9285.23	-1713.72	1698130.91	14317755.48	39°25'40.0084"N	80°47'44.2190"W	9442.06	349.543	0.71	0.27	0.66	
16121.00	89.910	341.300	6439.63	9454.13	9374.62	-1742.79	1698101.85	14317844.83	39°25'40.8925"N	80°47'44.5868"W	9535.24	349.469	1.46	-0.10	-1.46	
16216.00	89.880	342.380	6439.81	9549.13	9464.89	-1772.40	1698072.26	14317935.06	39°25'41.7853"N	80°47'44.9616"W	9629.41	349.394	1.14	-0.03	1.14	
16311.00	90.000	342.560	6439.91	9644.13	9555.48	-1801.01	1698043.65	14318025.62	39°25'42.6813"N	80°47'45.3236"W	9723.72	349.326	0.23	0.13	0.19	
16405.00	90.120	344.760	6439.81	9738.08	9645.68	-1827.46	1698017.22	14318115.78	39°25'43.5733"N	80°47'45.6580"W	9817.26	349.272	2.34	0.13	2.34	
16500.00	89.910	345.010	6439.78	9832.96	9737.39	-1852.23	1697992.46	14318207.45	39°25'44.4803"N	80°47'45.9710"W	9911.99	349.230	0.34	-0.22	0.26	
16594.00	90.000	344.410	6439.86	9926.85	9828.06	-1877.02	1697967.68	14318298.09	39°25'45.3770"N	80°47'46.2843"W	10005.70	349.188	0.65	0.10	-0.64	
16689.00	89.940	345.200	6439.91	10021.74	9919.74	-1901.92	1697942.79	14318389.73	39°25'46.2837"N	80°47'46.5990"W	10100.42	349.146	0.83	-0.06	0.83	
16783.00	89.880	346.180	6440.05	10115.54	10010.82	-1925.15	1697919.57	14318480.78	39°25'47.1844"N	80°47'46.8925"W	10194.25	349.115	1.04	-0.06	1.04	
16878.00	89.820	346.740	6440.30	10210.25	10103.18	-1947.39	1697897.33	14318573.10	39°25'48.0977"N	80°47'47.1732"W	10289.15	349.090	0.59	-0.06	0.59	
16972.00	90.280	345.680	6440.22	10303.99	10194.47	-1969.80	1697874.94	14318664.35	39°25'49.0005"N	80°47'47.4562"W	10383.03	349.064	1.23	0.49	-1.13	
17067.00	90.120	345.060	6439.89	10398.83	10286.39	-1993.79	1697850.95	14318756.24	39°25'49.9095"N	80°47'47.7593"W	10477.83	349.030	0.67	-0.17	-0.65	
17161.00	90.220	344.200	6439.61	10492.73	10377.03	-2018.71	1697826.05	14318846.84	39°25'50.8059"N	80°47'48.0742"W	10571.56	348.991	0.92	0.11	-0.91	
17256.00	90.220	340.250	6439.25	10587.71	10467.47	-2047.70	1697797.06	14318937.25	39°25'51.7004"N	80°47'48.4411"W	10665.88	348.931	4.16	0.00	-4.16	
17351.00	90.280	337.900	6438.83	10682.58	10556.20	-2081.63	1697763.15	14319025.94	39°25'52.5781"N	80°47'48.8710"W	10759.49	348.845	2.47	0.06	-2.47	
17445.00	90.250	338.340	6438.40	10776.34	10643.31	-2116.95	1697727.85	14319113.02	39°25'53.4399"N	80°47'49.3186"W	10851.80	348.751	0.07	-0.03	0.06	
17540.00	90.250	338.340	6437.98	10871.13	10731.48	-2152.30	1697692.50	14319201.15	39°25'54.3121"N	80°47'49.7666"W	10945.19	348.659	0.40	0.00	0.40	
17634.00	90.120	339.330	6437.68	10964.98	10819.14	-2186.24	1697658.58	14319288.78	39°25'55.1792"N	80°47'50.1966"W	11037.82	348.576	1.06	-0.14	1.05	
17728.00	90.280	338.090	6437.35	11058.82	10906.73	-2220.37	1697624.46	14319376.32	39°25'56.0456"N	80°47'50.6291"W	11130.44	348.493	1.33	0.17	-1.32	
17823.00	90.340	338.320	6436.84	11153.62	10994.93	-2255.64	1697589.20	14319464.50	39°25'56.9182"N	80°47'51.0761"W	11223.92	348.406	0.25	0.06	0.24	
17917.00	90.000	335.400	6436.56	11247.23	11081.36	-2292.58	1697552.28	14319550.89	39°25'57.7732"N	80°47'51.5443"W	11316.03	348.311	3.13	-0.36	-3.11	
18012.00	90.400	338.600	6436.23	11341.86	11168.80	-2329.69	1697515.18	14319638.29	39°25'58.6382"N	80°47'52.0148"W	11409.18	348.218	3.39	0.42	3.37	
18107.00	89.750	340.960	6436.10	11436.78	11257.94	-2362.53	1697482.36	14319727.39	39°25'59.5199"N	80°47'52.4307"W	11503.16	348.148	2.58	-0.68	2.48	



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

WELLPATH DATA (220 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
18201.00	90.090	340.640	6436.23	11530.76	11346.71	-2393.44	1697451.46	14319816.13	39°26'0.3980"N	80°47'52.8222"W	11596.39	348.089	0.50	0.36	-0.34	
18296.00	90.030	341.310	6436.13	11625.74	11436.52	-2424.41	1697420.51	14319905.91	39°26'1.2863"N	80°47'53.2143"W	11690.67	348.031	0.71	-0.06	0.71	
18390.00	89.420	341.690	6436.58	11719.74	11525.66	-2454.23	1697390.69	14319995.01	39°26'2.1680"N	80°47'53.5919"W	11784.06	347.979	0.76	-0.65	0.40	
18485.00	90.180	346.810	6436.92	11814.63	11617.06	-2480.01	1697364.93	14320086.38	39°26'3.0719"N	80°47'53.9178"W	11878.83	347.949	5.45	0.80	5.39	
18579.00	90.310	348.140	6436.51	11908.20	11708.82	-2500.40	1697344.55	14320178.10	39°26'3.9793"N	80°47'54.1750"W	11972.82	347.946	1.42	0.14	1.41	
18674.00	90.150	347.300	6436.13	12002.72	11801.64	-2520.60	1697324.35	14320270.89	39°26'4.8971"N	80°47'54.4298"W	12067.82	347.944	0.90	-0.17	-0.88	
18769.00	90.180	344.030	6435.86	12097.51	11893.67	-2544.12	1697300.84	14320362.88	39°26'5.8072"N	80°47'54.7269"W	12162.73	347.926	3.44	0.03	-3.44	
18863.00	89.780	342.430	6435.89	12191.49	11983.67	-2571.24	1697273.73	14320452.84	39°26'6.6973"N	80°47'55.0700"W	12256.41	347.890	1.75	-0.43	-1.70	
18927.00	89.690	342.960	6436.19	12255.48	12044.77	-2590.28	1697254.70	14320513.92	39°26'7.3016"N	80°47'55.3109"W	12320.15	347.863	0.84	-0.14	0.83	
18952.00‡	89.690	342.960	6436.32	12280.48	12068.68	-2597.60	1697247.38	14320537.81	39°26'7.5380"N	80°47'55.4036"W	12345.06	347.853	0.00	0.00	0.00	Projected MD at TD: 18952' MD

HOLE & CASING SECTIONS - Ref Wellbore: Flames Unit 2H AWB Ref Wellpath: Flames Unit 2H AWP Proj: 18952'									
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	0.16
17.5in Open Hole	105.00	438.00	333.00	105.00	437.99	0.05	0.16	-1.92	1.07
13.375in Casing Surface	25.00	438.00	413.00	25.00	437.99	0.00	0.00	-1.92	1.07
12.25in Open Hole	438.00	3081.00	2643.00	437.99	3079.22	-1.92	1.07	-36.07	15.11
9.625in Casing Intermediate	25.00	3081.00	3056.00	25.00	3079.22	0.00	0.00	-36.07	15.11
8.75in Open Hole	3081.00	6027.00	2946.00	3079.22	5788.76	-36.07	15.11	79.99	1089.92
8.5in Open Hole	6027.00	18952.00	12925.00	5788.76	6436.32	79.99	1089.92	12068.68	-2597.60
5.5in Casing Production	25.00	18952.00	18927.00	25.00	6436.32	0.00	0.00	12068.68	-2597.60



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Flames Unit 2H - POE - Rev-3	6405.00	632.17	1108.48	1700951.99	14309105.86	39°24'14.4213"N	80°47'8.5160"W	point
Flames Unit 2H - BHL - Rev-4	6431.00	12007.27	-2589.87	1697255.11	14320476.43	39°26'6.9309"N	80°47'55.3068"W	point
Flames Unit 2H - LP - Rev-3	6431.00	814.03	1049.36	1700892.89	14309287.64	39°24'16.2201"N	80°47'9.2637"W	point
Flames Unit 2H - 50' L/R Hardline	6500.00	6319.72	-740.69	1699103.55	14314791.14	39°25'10.6768"N	80°47'31.9062"W	rectangle
2D Rectangle 11963.6 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Flames Unit 2H AWB Ref Wellpath: Flames Unit 2H AWP Proj: 18952'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.00	455.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2">(100'-445')	Flames Unit 2H AWB	1/30/2020
455.00	3016.00	OWSG MWD rev2 + HRGM	02 Premier MWD <12-1/4">(445')(559'-3006')	Flames Unit 2H AWB	1/30/2020
3016.00	5953.00	BH NaviTrak (2019) (Axial)	03 BH NaviTrak <8-3/4"> (3016')(3113'-5953')	Flames Unit 2H AWB	2/18/2020
5953.00	18952.00	BH AutoTrak Curve (2019) (Short spacing)	04 BH AT Curve <8-1/2">(5953')(5997'-18927')	Flames Unit 2H AWB	2/18/2020



Actual Wellpath Report

Flames Unit 2H AWP Proj: 18952'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Flames Unit 2H
Field	Tyler	API	47-095-02602-0000
Facility	Colorado West Pad	Wellbore	Flames Unit 2H AWB
Slot	Slot #06		

COMMENTS
<p>Wellpath general comments API: 47-095-02602-0000 BHI Job #: 110276125A Rig: Patterson 342 Duration: 02/20/2020-02/25/2020 Gyrodata MS Gyro <17-1/2">(100'-445') Premier MWD <12-1/4">(445')(559'-3006') BHI NaviTrak <8-3/4"> (3016')(3113'-5953') BH AT Curve <8-1/2">(5953')(5997'-18927') Middlesex: 6507' MD Burkett: 6740' MD Tully: 6817' MD Hamilton: 6921' MD Marcellus POE: 6970' MD Projected MD at TD: 18952' MD</p>