



# ANTERO RESOURCES CORPORATION

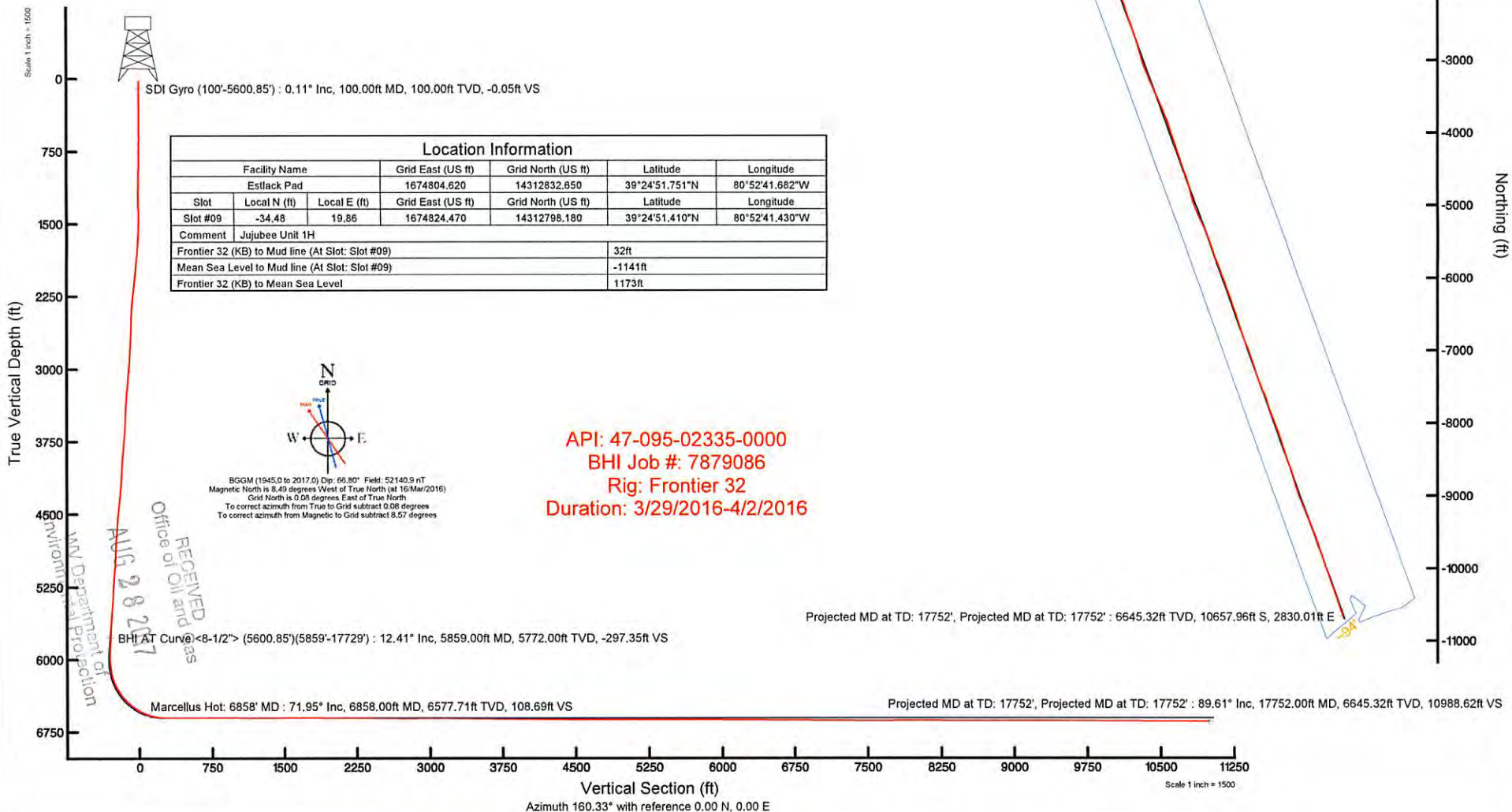
Location: Tyler County, WV  
 Field: Tyler  
 Facility: Estlack Pad

Slot: Slot #09  
 Well: Jujubee Unit 1H  
 Wellbore: Jujubee Unit 1H PWB



Plot reference wellpath is Jujubee Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 32 (KB)	* = Wellpath was transformed from a different geodetic datum
Measured depths are referenced to Frontier 32 (KB)	North Reference: Grid north
Frontier 32 (KB) to Mean Sea Level: 1173 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #09): -1141 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: hareluk on 2016-04-08
	Database: WA_MPL_EASTERNUS_Defn

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #09	Jujubee Unit 1H	Jujubee Unit 1H AWB	Jujubee Unit 1H AWP Proj: 17752'
Slot #09	Jujubee Unit 1H	Jujubee Unit 1H PWB	Jujubee Unit 1H PWP Rev-A.0



Location Information					
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Estlack Pad		1674804.620	14312832.650	39°24'51.751"N	80°52'41.682"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Longitude
Slot #09	-34.48	19.86	1674824.470	14312798.180	80°52'41.430"W
Comment		Jujubee Unit 1H			
Frontier 32 (KB) to Mud line (At Slot: Slot #09)					32ft
Mean Sea Level to Mud line (At Slot: Slot #09)					-1141ft
Frontier 32 (KB) to Mean Sea Level					1173ft

API: 47-095-02335-0000  
 BHI Job #: 7879086  
 Rig: Frontier 32  
 Duration: 3/29/2016-4/2/2016

BGGM (1945.0 to 2017.0) Dip: 65.80° Field: 52140.9 nT  
 Magnetic North is 8.49 degrees West of True North (at 16/Mar/2016)  
 Grid North is 0.08 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.08 degrees  
 To correct azimuth from Magnetic to Grid subtract 5.57 degrees

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Hareluk
Scale	0.999601	Report Generated	08/Apr/2016 at 16:54
Convergence at slot	0.08" East	Database/Source file	WA_MPL_EASTERNUS_Defn/Jujubee_Unit_1H_AWP_Proj_17752_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-34.48	19.86	1674824.47	14312798.18	39°24'51.410"N	80°52'41.430"W
Facility Reference Pt			1674804.62	14312832.65	39°24'51.751"N	80°52'41.682"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 32 (KB) to Facility Vertical Datum	32.00ft
Horizontal Reference Pt	Slot	Frontier 32 (KB) to Mean Sea Level	1173.00ft
Vertical Reference Pt	Frontier 32 (KB)	Frontier 32 (KB) to Mud Line at Slot (Slot #09)	32.00ft
MD Reference Pt	Frontier 32 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.33°

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Juybee Unit 1H AWP Proj: 17752  
Page n of nn



Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Wellbore
	Juybee Unit 1H AWB
	Juybee Unit 1H
	Slot
	Slot #09

WELLPATH DATA (369 stations) † = interpolated/extrapolated station														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[ft]	[°]	[ft/100ft]	
0.001	0.000	294.590	0.00	0.00	0.00	0.00	1674824.47	14312798.18	39°24'51.410"N	80°52'41.430"W	0.00	0.00	0.00	
32.00	0.000	294.590	32.00	0.00	0.00	0.00	1674824.47	14312798.18	39°24'51.410"N	80°52'41.430"W	0.00	0.00	0.00	
100.00	0.110	294.590	100.00	-0.05	0.03	-0.06	1674824.41	14312798.21	39°24'51.410"N	80°52'41.431"W	0.07	294.590	0.16	SDI Gyro (100°-5600.85)
125.00	0.150	309.200	125.00	-0.09	0.06	-0.11	1674824.36	14312798.24	39°24'51.411"N	80°52'41.431"W	0.12	298.495	0.21	
150.00	0.040	267.860	150.00	-0.12	0.08	-0.14	1674824.33	14312798.26	39°24'51.411"N	80°52'41.432"W	0.16	299.076	0.49	
175.00	0.170	171.140	175.00	-0.09	0.04	-0.14	1674824.33	14312798.22	39°24'51.410"N	80°52'41.432"W	0.15	286.012	0.72	
200.00	0.070	170.140	200.00	-0.04	-0.01	-0.14	1674824.33	14312798.17	39°24'51.410"N	80°52'41.432"W	0.14	265.573	0.40	
225.00	0.100	226.180	225.00	-0.01	-0.04	-0.15	1674824.32	14312798.14	39°24'51.410"N	80°52'41.432"W	0.15	254.692	0.34	
250.00	0.180	231.550	250.00	0.01	-0.08	-0.19	1674824.28	14312798.10	39°24'51.409"N	80°52'41.433"W	0.21	247.648	0.32	
275.00	0.140	246.560	275.00	0.02	-0.12	-0.25	1674824.22	14312798.06	39°24'51.409"N	80°52'41.433"W	0.28	245.294	0.23	
300.00	0.100	228.640	300.00	0.03	-0.14	-0.30	1674824.17	14312798.04	39°24'51.409"N	80°52'41.434"W	0.33	244.328	0.22	
325.00	0.060	155.250	325.00	0.06	-0.17	-0.31	1674824.16	14312798.01	39°24'51.408"N	80°52'41.434"W	0.35	241.240	0.40	
350.00	0.170	91.020	350.00	0.08	-0.18	-0.27	1674824.20	14312798.00	39°24'51.408"N	80°52'41.433"W	0.32	235.642	0.61	
375.00	0.210	90.220	375.00	0.11	-0.18	-0.18	1674824.29	14312798.00	39°24'51.408"N	80°52'41.432"W	0.26	225.087	0.16	
400.00	0.250	92.450	400.00	0.15	-0.19	-0.08	1674824.39	14312797.99	39°24'51.408"N	80°52'41.431"W	0.20	204.165	0.16	
425.00	0.210	93.880	425.00	0.19	-0.19	0.02	1674824.49	14312797.99	39°24'51.408"N	80°52'41.430"W	0.19	174.918	0.16	
450.00	0.300	92.730	450.00	0.23	-0.20	0.13	1674824.60	14312797.98	39°24'51.408"N	80°52'41.428"W	0.24	146.991	0.36	
475.00	0.390	97.970	475.00	0.29	-0.21	0.28	1674824.75	14312797.97	39°24'51.408"N	80°52'41.427"W	0.35	127.364	0.38	
500.00	0.430	95.840	500.00	0.37	-0.23	0.46	1674824.93	14312797.95	39°24'51.408"N	80°52'41.424"W	0.51	117.140	0.17	
525.00	0.520	94.110	525.00	0.46	-0.25	0.66	1674825.13	14312797.93	39°24'51.407"N	80°52'41.422"W	0.71	110.776	0.36	
550.00	0.670	91.870	550.00	0.56	-0.26	0.92	1674825.39	14312797.92	39°24'51.407"N	80°52'41.418"W	0.96	105.992	0.61	
575.00	0.800	84.650	574.99	0.66	-0.25	1.24	1674825.71	14312797.93	39°24'51.407"N	80°52'41.414"W	1.27	101.500	0.64	
600.00	0.910	78.490	599.99	0.73	-0.20	1.61	1674826.08	14312797.98	39°24'51.408"N	80°52'41.410"W	1.62	96.965	0.57	
625.00	1.080	70.470	624.99	0.76	-0.08	2.03	1674826.49	14312798.10	39°24'51.409"N	80°52'41.404"W	2.03	92.211	0.88	
650.00	1.220	63.060	649.98	0.72	0.12	2.49	1674826.95	14312798.30	39°24'51.411"N	80°52'41.398"W	2.49	87.209	0.82	
675.00	1.370	57.070	674.98	0.62	0.40	2.97	1674827.44	14312798.58	39°24'51.414"N	80°52'41.392"W	3.00	82.258	0.81	
700.00	1.660	54.510	699.97	0.45	0.78	3.52	1674827.99	14312798.96	39°24'51.418"N	80°52'41.385"W	3.60	77.550	1.19	
725.00	1.730	56.310	724.96	0.26	1.20	4.13	1674828.60	14312799.38	39°24'51.422"N	80°52'41.377"W	4.30	73.835	0.35	
750.00	1.740	55.300	749.94	0.07	1.62	4.75	1674829.22	14312799.80	39°24'51.426"N	80°52'41.369"W	5.02	71.162	0.13	
775.00	1.750	55.540	774.93	-0.12	2.05	5.38	1674829.85	14312800.23	39°24'51.430"N	80°52'41.361"W	5.76	69.107	0.05	

RECEIVED,  
Office of Oil and Gas  
AUG 28 2017  
WV Department of  
Environmental Protection



# Actual Wellpath Report

Juybee Unit 1H AWP Proj: 17752

Page n of nn



Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Estlack Pad
Well	Juybee Unit 1H
Wellbore	Juybee Unit 1H AWB
Slot	Slot #09

## REFERENCE WELLPATH IDENTIFICATION

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
800.00	1.800	53.990	799.92	-0.33	6.01	2.50	1674830.48	14312800.68	39°24'51.435"N	80°52'41.353"W	6.51	67.418	0.28	
825.00	1.750	52.260	824.91	-0.56	2.97	6.63	1674831.10	14312801.14	39°24'51.439"N	80°52'41.346"W	7.26	65.911	0.29	
850.00	1.350	46.350	849.90	-0.80	3.40	7.15	1674831.61	14312801.58	39°24'51.444"N	80°52'41.339"W	7.92	64.545	1.72	
875.00	1.010	31.010	874.89	-1.06	3.79	7.47	1674831.94	14312801.97	39°24'51.447"N	80°52'41.335"W	8.38	63.084	1.84	
900.00	0.760	17.840	899.89	-1.33	4.14	7.64	1674832.11	14312802.32	39°24'51.451"N	80°52'41.333"W	8.69	61.536	1.28	
925.00	0.670	357.310	924.89	-1.60	4.44	7.68	1674832.15	14312802.62	39°24'51.454"N	80°52'41.332"W	8.88	59.947	1.08	
950.00	0.700	327.140	949.89	-1.89	4.72	7.59	1674832.06	14312802.90	39°24'51.457"N	80°52'41.333"W	8.94	58.137	1.43	
975.00	0.920	308.980	974.89	-2.21	4.97	7.35	1674831.82	14312803.15	39°24'51.459"N	80°52'41.336"W	8.88	55.927	1.34	
1000.00	1.070	295.920	999.88	-2.55	5.20	6.99	1674831.45	14312803.38	39°24'51.461"N	80°52'41.341"W	8.71	53.334	1.08	
1025.00	1.220	287.490	1024.88	-2.87	5.38	6.52	1674830.99	14312803.56	39°24'51.463"N	80°52'41.347"W	8.46	50.468	0.90	
1050.00	1.460	281.850	1049.87	-3.20	5.53	5.96	1674830.43	14312803.71	39°24'51.465"N	80°52'41.354"W	8.13	47.138	1.09	
1075.00	1.560	278.820	1074.86	-3.53	5.65	5.31	1674829.78	14312803.82	39°24'51.466"N	80°52'41.362"W	7.75	43.240	0.51	
1100.00	1.580	278.290	1099.85	-3.85	5.75	4.63	1674829.10	14312803.93	39°24'51.467"N	80°52'41.371"W	7.38	38.866	0.10	
1125.00	1.540	275.370	1124.84	-4.16	5.83	3.96	1674828.43	14312804.01	39°24'51.468"N	80°52'41.380"W	7.05	34.169	0.36	
1150.00	1.420	275.220	1149.83	-4.43	5.89	3.31	1674827.78	14312804.07	39°24'51.468"N	80°52'41.388"W	6.76	29.370	0.48	
1175.00	1.310	274.580	1174.83	-4.68	5.94	2.72	1674827.19	14312804.12	39°24'51.469"N	80°52'41.395"W	6.53	24.611	0.44	
1200.00	1.010	269.410	1199.82	-4.87	5.96	2.22	1674826.69	14312804.14	39°24'51.469"N	80°52'41.402"W	6.36	20.392	1.27	
1225.00	0.820	253.820	1224.82	-4.95	5.91	1.82	1674826.29	14312804.09	39°24'51.468"N	80°52'41.407"W	6.18	17.153	1.25	
1250.00	0.970	244.820	1249.82	-4.94	5.77	1.46	1674825.93	14312803.95	39°24'51.467"N	80°52'41.411"W	5.95	14.207	0.82	
1275.00	0.920	237.250	1274.81	-4.88	5.57	1.10	1674825.57	14312803.75	39°24'51.465"N	80°52'41.416"W	5.68	11.173	0.54	
1300.00	0.920	220.340	1299.81	-4.73	5.31	0.80	1674825.27	14312803.49	39°24'51.462"N	80°52'41.420"W	5.37	8.585	1.08	
1325.00	1.050	216.460	1324.81	-4.50	4.97	0.54	1674825.01	14312803.15	39°24'51.459"N	80°52'41.423"W	5.00	6.147	0.58	
1350.00	1.110	221.900	1349.80	-4.26	4.61	0.24	1674824.71	14312802.79	39°24'51.456"N	80°52'41.427"W	4.61	2.952	0.47	
1375.00	1.080	220.400	1374.80	-4.03	4.25	-0.08	1674824.39	14312802.43	39°24'51.452"N	80°52'41.431"W	4.25	358.964	0.17	
1400.00	1.160	226.220	1399.79	-3.80	3.89	-0.41	1674824.06	14312802.07	39°24'51.448"N	80°52'41.435"W	3.91	353.956	0.56	
1425.00	1.420	248.340	1424.79	-3.69	3.60	-0.88	1674823.59	14312801.78	39°24'51.446"N	80°52'41.441"W	3.71	346.235	2.23	
1450.00	1.710	254.110	1449.78	-3.70	3.39	-1.53	1674822.94	14312801.57	39°24'51.443"N	80°52'41.449"W	3.72	335.699	1.32	
1475.00	1.850	261.360	1474.76	-3.81	3.22	-2.29	1674822.18	14312801.40	39°24'51.442"N	80°52'41.459"W	3.95	324.651	1.06	
1500.00	2.380	271.560	1499.75	-4.07	3.18	-3.21	1674821.27	14312801.36	39°24'51.441"N	80°52'41.471"W	4.51	314.757	2.59	
1525.00	2.540	278.230	1524.72	-4.52	3.27	-4.27	1674820.20	14312801.45	39°24'51.442"N	80°52'41.484"W	5.38	307.442	1.31	

RECEIVED  
Office of Oil and Gas  
AUG 28 2017  
WV Department of  
Environmental Protection



# Actual Wellpath Report

Jubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jubee Unit 1H
Field	Tyler	Wellbore	Jubee Unit 1H AWP
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
1550.00	2.780	280.480	1549.70	-5.08	3.46	-5.42	1674819.05	14312801.64	39°24'51.444"N	80°52'41.499"W	6.43	302.576	1.05	
1575.00	3.400	283.720	1574.66	-5.79	3.75	-6.73	1674817.74	14312801.93	39°24'51.447"N	80°52'41.516"W	7.71	299.097	2.58	
1600.00	4.020	287.670	1599.61	-6.73	4.19	-8.29	1674816.19	14312802.37	39°24'51.452"N	80°52'41.536"W	9.29	296.812	2.68	
1625.00	4.520	290.100	1624.54	-7.90	4.79	-10.05	1674814.43	14312802.97	39°24'51.457"N	80°52'41.558"W	11.13	295.503	2.13	
1650.00	4.870	291.050	1649.45	-9.22	5.51	-11.96	1674812.51	14312803.69	39°24'51.465"N	80°52'41.582"W	13.17	294.741	1.43	
1675.00	5.310	290.080	1674.36	-10.65	6.29	-14.04	1674810.44	14312804.47	39°24'51.472"N	80°52'41.609"W	15.39	294.137	1.79	
1700.00	5.720	291.020	1699.24	-12.20	7.14	-16.29	1674808.19	14312805.31	39°24'51.481"N	80°52'41.637"W	17.78	293.655	1.68	
1725.00	5.920	290.900	1724.11	-13.85	8.04	-18.66	1674805.82	14312806.22	39°24'51.490"N	80°52'41.668"W	20.32	293.319	0.80	
1750.00	6.260	289.800	1748.97	-15.56	8.96	-21.14	1674803.33	14312807.14	39°24'51.499"N	80°52'41.699"W	22.97	292.974	1.44	
1775.00	6.390	289.990	1773.82	-17.31	9.90	-23.73	1674800.75	14312808.08	39°24'51.508"N	80°52'41.732"W	25.72	292.645	0.53	
1800.00	6.840	290.510	1798.65	-19.16	10.90	-26.44	1674798.04	14312809.07	39°24'51.518"N	80°52'41.767"W	28.59	292.404	1.82	
1825.00	7.160	289.970	1823.47	-21.12	11.95	-29.29	1674795.19	14312810.13	39°24'51.529"N	80°52'41.803"W	31.64	292.195	1.31	
1850.00	7.490	288.670	1848.26	-23.12	13.01	-32.30	1674792.18	14312811.18	39°24'51.539"N	80°52'41.841"W	34.82	291.931	1.48	
1875.00	7.820	288.670	1873.04	-25.19	14.07	-35.46	1674789.03	14312812.25	39°24'51.550"N	80°52'41.882"W	38.15	291.646	1.32	
1900.00	8.130	287.940	1897.80	-27.32	15.16	-38.75	1674785.74	14312813.33	39°24'51.560"N	80°52'41.924"W	41.61	291.368	1.30	
1925.00	8.290	286.900	1922.54	-29.47	16.23	-42.16	1674782.33	14312814.40	39°24'51.571"N	80°52'41.967"W	45.17	291.055	0.87	
1950.00	8.480	285.170	1947.27	-31.60	17.24	-45.66	1674778.83	14312815.41	39°24'51.581"N	80°52'42.012"W	48.80	290.680	1.26	
1975.00	8.970	283.480	1971.98	-33.72	18.17	-49.33	1674775.16	14312816.34	39°24'51.590"N	80°52'42.058"W	52.57	290.221	2.21	
2000.00	9.560	280.190	1996.66	-35.82	18.99	-53.27	1674771.22	14312817.17	39°24'51.598"N	80°52'42.108"W	56.56	289.623	3.17	
2025.00	10.230	277.610	2021.29	-37.87	19.66	-57.52	1674766.98	14312817.83	39°24'51.605"N	80°52'42.163"W	60.78	288.867	3.21	
2050.00	11.040	276.600	2045.86	-39.95	20.22	-62.10	1674762.40	14312818.40	39°24'51.611"N	80°52'42.221"W	65.31	288.040	3.32	
2075.00	12.210	275.890	2070.34	-42.15	20.77	-67.10	1674757.39	14312818.94	39°24'51.616"N	80°52'42.285"W	70.24	287.199	4.71	
2100.00	13.440	274.980	2094.72	-44.50	21.29	-72.63	1674751.87	14312819.47	39°24'51.621"N	80°52'42.355"W	75.68	286.341	4.99	
2125.00	14.210	275.060	2118.99	-46.99	21.82	-78.58	1674745.92	14312819.99	39°24'51.627"N	80°52'42.431"W	81.55	285.517	3.08	
2150.00	14.660	274.890	2143.20	-49.59	22.36	-84.79	1674739.72	14312820.53	39°24'51.632"N	80°52'42.510"W	87.69	284.772	1.81	
2175.00	14.830	274.940	2167.38	-52.24	22.90	-91.13	1674733.38	14312821.07	39°24'51.638"N	80°52'42.591"W	93.96	284.108	0.68	
2200.00	14.900	274.570	2191.54	-54.89	23.43	-97.52	1674726.99	14312821.60	39°24'51.643"N	80°52'42.672"W	100.29	283.512	0.47	
2225.00	15.070	274.890	2215.69	-57.56	23.97	-103.96	1674720.55	14312822.14	39°24'51.648"N	80°52'42.754"W	106.69	282.982	0.76	
2250.00	15.070	274.560	2239.83	-60.25	24.50	-110.44	1674714.08	14312822.67	39°24'51.654"N	80°52'42.837"W	113.12	282.509	0.34	
2275.00	14.890	274.010	2263.99	-62.87	24.99	-116.88	1674707.64	14312823.16	39°24'51.658"N	80°52'42.919"W	119.52	282.066	0.92	

RECEIVED  
Office of Oil and Gas  
AUG 28 2017  
WV Department of Environmental Protection



Actual Wellpath Report  
 Juybee Unit 1H AWP Proj: 17752  
 Page n of m



Operator	ANTERO RESORCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Estack Pad
Slot	Slot #09
Well	Juybee Unit 1H
Wellbore	Juybee Unit 1H AWB

WELLPATH DATA (369 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
2300.00	14.530	273.420	2288.17	-65.39	25.40	-123.22	1674701.30	14312823.57	39°24'51.663"N	80°52'43.000"W	125.81	281.647	1.56	
2325.00	14.030	272.370	2312.39	-67.76	25.71	-129.37	1674695.15	14312823.88	39°24'51.666"N	80°52'43.078"W	131.90	281.240	2.25	
2350.00	13.250	271.000	2336.69	-69.91	25.89	-135.27	1674689.26	14312824.05	39°24'51.668"N	80°52'43.153"W	137.72	280.833	3.38	
2375.00	12.360	269.450	2361.07	-71.79	25.91	-140.81	1674683.72	14312824.08	39°24'51.668"N	80°52'43.224"W	143.17	280.426	3.82	
2400.00	12.010	268.120	2385.50	-73.46	25.80	-146.08	1674678.45	14312823.97	39°24'51.667"N	80°52'43.291"W	148.34	280.015	1.79	
2425.00	11.800	266.680	2409.97	-74.98	25.57	-151.23	1674673.30	14312823.73	39°24'51.665"N	80°52'43.357"W	153.38	279.595	1.46	
2450.00	11.670	265.550	2434.44	-76.36	25.22	-156.31	1674668.23	14312823.39	39°24'51.661"N	80°52'43.421"W	158.33	279.166	1.06	
2475.00	11.620	264.050	2458.93	-77.62	24.76	-161.33	1674663.20	14312822.93	39°24'51.657"N	80°52'43.485"W	163.22	278.727	1.23	
2500.01	11.420	262.730	2483.43	-78.75	24.19	-166.29	1674658.24	14312822.36	39°24'51.651"N	80°52'43.548"W	168.04	278.276	1.32	
2525.01	11.400	261.810	2507.94	-79.78	23.52	-171.19	1674653.34	14312821.69	39°24'51.645"N	80°52'43.611"W	172.80	277.824	0.73	
2550.01	11.390	260.880	2532.45	-80.72	22.78	-176.08	1674648.46	14312820.95	39°24'51.637"N	80°52'43.673"W	177.54	277.372	0.74	
2575.01	11.820	260.510	2556.94	-81.62	21.97	-181.04	1674643.50	14312820.14	39°24'51.630"N	80°52'43.736"W	182.37	276.918	1.75	
2600.01	11.460	260.130	2581.42	-82.50	21.12	-186.01	1674638.53	14312819.29	39°24'51.621"N	80°52'43.800"W	187.21	276.478	1.47	
2625.01	11.210	259.140	2605.93	-83.29	20.24	-190.85	1674633.70	14312818.41	39°24'51.613"N	80°52'43.861"W	191.91	276.053	1.27	
2650.01	11.080	259.180	2630.46	-84.04	19.33	-195.59	1674628.96	14312817.50	39°24'51.604"N	80°52'43.922"W	196.54	275.643	0.52	
2675.01	10.880	259.790	2655.01	-84.79	18.46	-200.27	1674624.28	14312816.63	39°24'51.595"N	80°52'43.981"W	201.12	275.266	0.93	
2700.01	10.410	261.820	2679.58	-85.63	17.72	-204.83	1674619.72	14312815.89	39°24'51.588"N	80°52'44.040"W	205.60	274.944	2.40	
2725.01	10.430	264.360	2704.16	-86.63	17.17	-209.32	1674615.24	14312815.35	39°24'51.583"N	80°52'44.097"W	210.02	274.691	1.84	
2750.01	10.500	266.680	2728.75	-87.82	16.82	-213.84	1674610.71	14312814.99	39°24'51.579"N	80°52'44.154"W	214.50	274.497	1.71	
2775.01	10.400	265.930	2753.33	-89.07	16.53	-218.37	1674606.19	14312814.70	39°24'51.576"N	80°52'44.212"W	218.99	274.328	0.68	
2800.01	10.500	265.350	2777.92	-90.26	16.18	-222.89	1674601.67	14312814.36	39°24'51.573"N	80°52'44.270"W	223.48	274.153	0.58	
2825.01	10.860	266.210	2802.49	-91.50	15.84	-227.57	1674597.05	14312814.02	39°24'51.570"N	80°52'44.329"W	228.06	273.983	1.57	
2850.01	11.620	265.530	2827.01	-92.80	15.49	-232.37	1674592.19	14312813.66	39°24'51.566"N	80°52'44.390"W	232.89	273.814	3.09	
2875.01	11.820	265.640	2851.48	-94.14	15.10	-237.43	1674587.13	14312813.27	39°24'51.562"N	80°52'44.455"W	237.91	273.639	0.80	
2900.01	11.960	265.410	2875.95	-95.49	14.70	-242.57	1674582.00	14312812.87	39°24'51.558"N	80°52'44.520"W	243.01	273.468	0.59	
2925.01	12.140	268.480	2900.40	-96.98	14.42	-247.78	1674576.79	14312812.60	39°24'51.556"N	80°52'44.587"W	248.20	273.331	2.66	
2950.01	11.920	271.090	2924.85	-98.72	14.40	-252.99	1674571.58	14312812.57	39°24'51.556"N	80°52'44.653"W	253.40	273.258	2.35	
2975.01	11.800	271.530	2949.31	-100.56	14.52	-258.13	1674566.45	14312812.69	39°24'51.557"N	80°52'44.719"W	258.53	273.219	0.60	
3000.01	11.550	272.440	2973.80	-102.42	14.69	-263.18	1674561.39	14312812.87	39°24'51.559"N	80°52'44.783"W	263.59	273.195	1.24	
3025.01	10.930	277.000	2998.32	-104.43	15.09	-268.03	1674556.54	14312813.26	39°24'51.563"N	80°52'44.845"W	268.46	273.222	4.33	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jubee Unit 1H
Field	Tyler	Wellbore	Jubee Unit 1H AWP
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
3050.01	10.710	279.880	3022.87	-106.64	15.78	-272.68	1674551.90	14312813.95	39°24'51.570"N	80°52'44.904"W	273.13	273.311	2.33	
3075.01	10.550	279.960	3047.45	-108.92	16.57	-277.22	1674547.36	14312814.74	39°24'51.577"N	80°52'44.962"W	277.71	273.421	0.64	
3100.01	10.220	278.340	3072.04	-111.09	17.29	-281.67	1674542.92	14312815.46	39°24'51.585"N	80°52'45.019"W	282.20	273.512	1.76	
3125.01	10.040	276.300	3096.65	-113.08	17.85	-286.03	1674538.56	14312816.02	39°24'51.590"N	80°52'45.074"W	286.58	273.571	1.61	
3150.01	10.020	274.750	3121.26	-114.94	18.27	-290.36	1674534.23	14312816.44	39°24'51.594"N	80°52'45.129"W	290.93	273.600	1.08	
3175.01	9.950	273.480	3145.89	-116.69	18.58	-294.68	1674529.90	14312816.75	39°24'51.598"N	80°52'45.184"W	295.27	273.608	0.92	
3200.01	10.310	273.000	3170.50	-118.40	18.83	-299.07	1674525.52	14312817.00	39°24'51.600"N	80°52'45.240"W	299.67	273.602	1.48	
3225.01	11.370	274.300	3195.05	-120.26	19.13	-303.77	1674520.83	14312817.30	39°24'51.603"N	80°52'45.300"W	304.37	273.603	4.35	
3250.01	11.870	274.760	3219.54	-122.33	19.53	-308.78	1674515.81	14312817.70	39°24'51.607"N	80°52'45.364"W	309.40	273.618	2.03	
3275.01	11.990	275.070	3244.00	-124.48	19.97	-313.93	1674510.66	14312818.14	39°24'51.612"N	80°52'45.430"W	314.57	273.640	0.54	
3300.01	11.860	275.170	3268.46	-126.64	20.43	-319.08	1674505.52	14312818.60	39°24'51.616"N	80°52'45.495"W	319.73	273.664	0.53	
3325.01	11.540	274.580	3292.94	-128.75	20.86	-324.13	1674500.47	14312819.03	39°24'51.620"N	80°52'45.559"W	324.80	273.683	1.37	
3350.01	11.000	273.080	3317.46	-130.70	21.19	-329.00	1674495.60	14312819.36	39°24'51.624"N	80°52'45.622"W	329.69	273.685	2.46	
3375.01	10.570	270.750	3342.01	-132.42	21.35	-333.68	1674490.92	14312819.52	39°24'51.625"N	80°52'45.681"W	334.36	273.661	2.45	
3400.01	10.310	268.320	3366.60	-133.91	21.31	-338.21	1674486.40	14312819.48	39°24'51.625"N	80°52'45.739"W	338.88	273.606	2.05	
3425.01	10.310	266.240	3391.20	-135.21	21.10	-342.68	1674481.93	14312819.27	39°24'51.623"N	80°52'45.796"W	343.33	273.524	1.49	
3450.01	10.180	263.030	3415.80	-136.31	20.69	-347.10	1674477.51	14312818.86	39°24'51.619"N	80°52'45.852"W	347.72	273.410	2.34	
3475.01	10.130	261.690	3440.41	-137.23	20.10	-351.47	1674473.14	14312818.27	39°24'51.613"N	80°52'45.908"W	352.04	273.273	0.97	
3500.01	10.600	262.520	3465.00	-138.15	19.48	-355.93	1674468.69	14312817.65	39°24'51.607"N	80°52'45.965"W	356.46	273.133	1.97	
3525.01	10.800	262.640	3489.56	-139.14	18.88	-360.53	1674464.09	14312817.06	39°24'51.601"N	80°52'46.023"W	361.02	272.998	0.80	
3550.01	10.840	262.800	3514.12	-140.14	18.29	-365.18	1674459.43	14312816.46	39°24'51.596"N	80°52'46.083"W	365.64	272.867	0.20	
3575.01	10.970	263.690	3538.67	-141.20	17.73	-369.88	1674454.74	14312815.91	39°24'51.590"N	80°52'46.142"W	370.31	272.745	0.85	
3600.01	11.420	266.680	3563.19	-142.45	17.33	-374.72	1674449.90	14312815.50	39°24'51.586"N	80°52'46.204"W	375.12	272.648	2.94	
3625.01	11.670	267.930	3587.69	-143.91	17.09	-379.71	1674444.91	14312815.27	39°24'51.584"N	80°52'46.268"W	380.10	272.577	1.41	
3650.01	11.810	268.420	3612.16	-145.47	16.93	-384.80	1674439.83	14312815.10	39°24'51.582"N	80°52'46.333"W	385.17	272.519	0.69	
3675.01	11.840	270.080	3636.63	-147.13	16.86	-389.92	1674434.71	14312815.04	39°24'51.582"N	80°52'46.398"W	390.28	272.477	1.37	
3700.01	11.730	272.050	3661.11	-148.93	16.96	-395.02	1674429.60	14312815.13	39°24'51.583"N	80°52'46.463"W	395.39	272.458	1.67	
3725.01	11.820	272.410	3685.58	-150.84	17.16	-400.12	1674424.51	14312815.33	39°24'51.585"N	80°52'46.528"W	400.49	272.455	0.46	
3750.01	11.940	272.300	3710.04	-152.77	17.37	-405.26	1674419.37	14312815.54	39°24'51.587"N	80°52'46.593"W	405.64	272.454	0.49	
3775.01	12.330	273.240	3734.49	-154.77	17.62	-410.51	1674414.12	14312815.80	39°24'51.590"N	80°52'46.660"W	410.89	272.458	1.75	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'  
Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWP
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
3800.01	12.580	273.590	3758.90	-156.89	17.94	-415.90	1674408.74	14312816.12	39°24'51.593"N	80°52'46.729"W	416.28	272.471	1.04	
3825.01	12.710	273.450	3783.29	-159.04	18.28	-421.36	1674403.28	14312816.45	39°24'51.596"N	80°52'46.798"W	421.75	272.484	0.53	
3850.01	12.820	273.520	3807.67	-161.22	18.62	-426.87	1674397.77	14312816.79	39°24'51.600"N	80°52'46.869"W	427.28	272.497	0.44	
3875.01	12.790	273.410	3832.05	-163.39	18.95	-432.40	1674392.24	14312817.12	39°24'51.603"N	80°52'46.939"W	432.82	272.510	0.15	
3900.01	12.320	272.820	3856.45	-165.50	19.25	-437.83	1674386.82	14312817.42	39°24'51.606"N	80°52'47.008"W	438.25	272.517	1.95	
3925.01	12.260	271.980	3880.88	-167.50	19.47	-443.14	1674381.50	14312817.64	39°24'51.608"N	80°52'47.076"W	443.57	272.516	0.75	
3950.01	12.180	271.180	3905.31	-169.42	19.62	-448.43	1674376.22	14312817.79	39°24'51.610"N	80°52'47.143"W	448.86	272.505	0.75	
3975.01	12.080	270.240	3929.76	-171.24	19.68	-453.69	1674370.96	14312817.85	39°24'51.611"N	80°52'47.210"W	454.11	272.484	0.89	
4000.01	12.080	269.820	3954.20	-173.01	19.68	-458.92	1674365.73	14312817.86	39°24'51.611"N	80°52'47.277"W	459.34	272.456	0.35	
4025.01	11.770	268.590	3978.66	-174.68	19.61	-464.08	1674360.57	14312817.79	39°24'51.610"N	80°52'47.343"W	464.50	272.420	1.60	
4050.01	11.600	267.750	4003.15	-176.23	19.45	-469.14	1674355.51	14312817.62	39°24'51.608"N	80°52'47.407"W	469.55	272.374	0.96	
4075.01	11.220	266.120	4027.65	-177.65	19.19	-474.08	1674350.58	14312817.36	39°24'51.606"N	80°52'47.470"W	474.47	272.318	1.99	
4100.01	11.030	264.360	4052.18	-178.89	18.79	-478.89	1674345.77	14312816.96	39°24'51.602"N	80°52'47.531"W	479.26	272.247	1.56	
4125.01	10.920	263.090	4076.72	-179.99	18.27	-483.62	1674341.04	14312816.44	39°24'51.597"N	80°52'47.592"W	483.96	272.163	1.06	
4150.01	11.160	264.490	4101.26	-181.11	17.75	-488.38	1674336.29	14312815.92	39°24'51.592"N	80°52'47.652"W	488.70	272.082	1.44	
4175.01	11.290	267.200	4125.78	-182.41	17.40	-493.23	1674331.44	14312815.57	39°24'51.588"N	80°52'47.714"W	493.54	272.020	2.17	
4200.01	11.330	267.710	4150.30	-183.85	17.18	-498.13	1674326.54	14312815.36	39°24'51.586"N	80°52'47.776"W	498.43	271.976	0.43	
4225.01	11.460	268.650	4174.81	-185.37	17.03	-503.07	1674321.61	14312815.20	39°24'51.585"N	80°52'47.839"W	503.35	271.938	0.91	
4250.01	11.640	272.260	4199.30	-187.09	17.07	-508.07	1674316.60	14312815.24	39°24'51.585"N	80°52'47.903"W	508.36	271.924	2.98	
4275.01	11.620	275.030	4223.79	-189.08	17.39	-513.10	1674311.58	14312815.56	39°24'51.589"N	80°52'47.967"W	513.39	271.941	2.23	
4300.01	11.430	276.470	4248.28	-191.23	17.89	-518.07	1674306.61	14312816.06	39°24'51.594"N	80°52'48.030"W	518.38	271.977	1.38	
4325.01	11.360	276.880	4272.79	-193.42	18.46	-522.97	1674301.71	14312816.63	39°24'51.599"N	80°52'48.093"W	523.30	272.022	0.43	
4350.01	11.470	277.420	4297.30	-195.65	19.08	-527.88	1674296.80	14312817.25	39°24'51.606"N	80°52'48.156"W	528.23	272.070	0.61	
4375.01	11.610	278.060	4321.79	-197.95	19.75	-532.84	1674291.85	14312817.92	39°24'51.612"N	80°52'48.219"W	533.20	272.123	0.76	
4400.01	11.600	278.710	4346.28	-200.32	20.48	-537.81	1674286.87	14312818.66	39°24'51.620"N	80°52'48.282"W	538.20	272.181	0.52	
4425.01	11.720	279.080	4370.76	-202.73	21.26	-542.80	1674281.88	14312819.44	39°24'51.627"N	80°52'48.346"W	543.22	272.243	0.57	
4450.01	12.310	279.710	4395.21	-205.26	22.12	-547.94	1674276.75	14312820.29	39°24'51.636"N	80°52'48.411"W	548.38	272.311	2.42	
4475.01	12.550	280.220	4419.63	-207.92	23.05	-553.24	1674271.45	14312821.22	39°24'51.645"N	80°52'48.479"W	553.72	272.385	1.06	
4500.01	12.560	280.220	4444.03	-210.63	24.01	-558.59	1674266.11	14312822.18	39°24'51.655"N	80°52'48.547"W	559.10	272.461	0.04	
4525.01	12.280	279.460	4468.45	-213.28	24.93	-563.88	1674260.81	14312823.10	39°24'51.664"N	80°52'48.614"W	564.44	272.531	1.30	





# Actual Wellpath Report

Jubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jubee Unit 1H
Field	Tyler	Wellbore	Jubee Unit 1H AWB
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
4550.01	11.990	278.660	4492.89	-215.81	25.76	-569.07	1674255.62	14312823.93	39°24'51.672"N	80°52'48.680"W	569.66	272.592	1.34	
4575.01	11.830	278.290	4517.35	-218.24	26.52	-574.18	1674250.52	14312824.69	39°24'51.680"N	80°52'48.745"W	574.79	272.644	0.71	
4600.01	11.680	277.760	4541.82	-220.61	27.23	-579.22	1674245.48	14312825.40	39°24'51.687"N	80°52'48.810"W	579.86	272.692	0.74	
4625.01	11.300	276.390	4566.32	-222.85	27.84	-584.16	1674240.54	14312826.01	39°24'51.693"N	80°52'48.872"W	584.83	272.729	1.87	
4650.01	11.030	275.370	4590.85	-224.94	28.34	-588.98	1674235.73	14312826.51	39°24'51.698"N	80°52'48.934"W	589.66	272.755	1.34	
4675.01	10.750	274.550	4615.40	-226.91	28.75	-593.68	1674231.03	14312826.92	39°24'51.702"N	80°52'48.994"W	594.38	272.772	1.28	
4700.01	10.680	273.450	4639.96	-228.77	29.07	-598.32	1674226.39	14312827.24	39°24'51.705"N	80°52'49.053"W	599.02	272.782	0.86	
4725.01	10.370	271.980	4664.54	-230.51	29.29	-602.88	1674221.83	14312827.46	39°24'51.707"N	80°52'49.111"W	603.59	272.781	1.64	
4750.01	10.080	271.210	4689.15	-232.12	29.41	-607.32	1674217.40	14312827.58	39°24'51.709"N	80°52'49.167"W	608.03	272.773	1.28	
4775.01	9.900	269.830	4713.77	-233.62	29.45	-611.65	1674213.06	14312827.62	39°24'51.709"N	80°52'49.223"W	612.36	272.757	1.20	
4800.01	10.050	269.180	4738.39	-235.04	29.42	-615.98	1674208.73	14312827.58	39°24'51.709"N	80°52'49.278"W	616.68	272.734	0.75	
4825.01	10.680	268.640	4762.98	-236.47	29.33	-620.48	1674204.24	14312827.50	39°24'51.708"N	80°52'49.335"W	621.17	272.706	2.55	
4850.01	11.080	268.100	4787.53	-237.93	29.20	-625.20	1674199.52	14312827.36	39°24'51.707"N	80°52'49.395"W	625.88	272.674	1.65	
4875.01	11.190	267.200	4812.06	-239.37	29.00	-630.02	1674194.70	14312827.17	39°24'51.705"N	80°52'49.457"W	630.69	272.635	0.82	
4900.01	10.950	266.090	4836.60	-240.72	28.72	-634.81	1674189.91	14312826.89	39°24'51.702"N	80°52'49.518"W	635.46	272.590	1.28	
4925.01	10.710	265.260	4861.15	-241.96	28.36	-639.50	1674185.23	14312826.53	39°24'51.699"N	80°52'49.577"W	640.12	272.540	1.14	
4950.01	10.430	264.310	4885.73	-243.11	27.95	-644.06	1674180.67	14312826.12	39°24'51.695"N	80°52'49.636"W	644.67	272.485	1.32	
4975.01	10.340	263.500	4910.32	-244.17	27.47	-648.54	1674176.19	14312825.64	39°24'51.690"N	80°52'49.693"W	649.13	272.425	0.69	
5000.01	10.470	263.710	4934.91	-245.20	26.97	-653.03	1674171.70	14312825.14	39°24'51.685"N	80°52'49.750"W	653.59	272.365	0.54	
5025.01	11.140	265.350	4959.46	-246.36	26.52	-657.70	1674167.04	14312824.69	39°24'51.681"N	80°52'49.809"W	658.23	272.309	2.95	
5050.01	11.550	266.050	4983.97	-247.66	26.15	-662.60	1674162.14	14312824.32	39°24'51.677"N	80°52'49.872"W	663.12	272.260	1.73	
5075.01	11.630	265.950	5008.47	-249.02	25.80	-667.61	1674157.13	14312823.97	39°24'51.674"N	80°52'49.936"W	668.11	272.213	0.33	
5100.01	12.390	267.400	5032.92	-250.48	25.50	-672.80	1674151.94	14312823.67	39°24'51.671"N	80°52'50.002"W	673.29	272.171	3.27	
5125.01	13.240	268.460	5057.29	-252.16	25.30	-678.34	1674146.40	14312823.47	39°24'51.669"N	80°52'50.072"W	678.82	272.136	3.53	
5150.01	13.770	268.420	5081.60	-253.97	25.15	-684.18	1674140.56	14312823.32	39°24'51.668"N	80°52'50.147"W	684.64	272.105	2.12	
5175.01	14.130	268.560	5105.87	-255.85	24.99	-690.21	1674134.54	14312823.16	39°24'51.666"N	80°52'50.224"W	690.66	272.073	1.45	
5200.01	14.170	268.860	5130.11	-257.78	24.85	-696.32	1674128.43	14312823.02	39°24'51.665"N	80°52'50.301"W	696.76	272.044	0.33	
5225.01	14.000	268.240	5154.36	-259.68	24.70	-702.40	1674122.35	14312822.87	39°24'51.663"N	80°52'50.379"W	702.83	272.014	0.91	
5250.01	13.830	267.550	5178.62	-261.50	24.47	-708.41	1674116.35	14312822.65	39°24'51.661"N	80°52'50.456"W	708.83	271.979	0.95	
5275.01	13.750	266.630	5202.90	-263.22	24.17	-714.36	1674110.40	14312822.34	39°24'51.658"N	80°52'50.531"W	714.77	271.938	0.93	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
5300.01	13.630	265.450	5227.19	-264.82	23.76	-720.26	1674104.50	14312821.93	39°24'51.654"N	80°52'50.607"W	720.65	271.890	1.22	
5325.01	13.530	264.330	5251.49	-266.29	23.24	-726.11	1674098.66	14312821.41	39°24'51.649"N	80°52'50.681"W	726.48	271.833	1.13	
5350.01	13.500	263.280	5275.80	-267.66	22.61	-731.91	1674092.85	14312820.78	39°24'51.643"N	80°52'50.755"W	732.26	271.769	0.99	
5375.01	13.470	262.550	5300.11	-268.93	21.89	-737.70	1674087.07	14312820.06	39°24'51.636"N	80°52'50.829"W	738.02	271.700	0.69	
5400.01	13.440	261.850	5324.43	-270.12	21.10	-743.46	1674081.31	14312819.27	39°24'51.628"N	80°52'50.902"W	743.76	271.626	0.66	
5425.01	13.560	261.310	5348.73	-271.26	20.25	-749.23	1674075.54	14312818.42	39°24'51.620"N	80°52'50.976"W	749.51	271.548	0.70	
5450.01	13.820	261.300	5373.02	-272.39	19.35	-755.08	1674069.69	14312817.53	39°24'51.611"N	80°52'51.050"W	755.33	271.468	1.04	
5475.01	13.680	262.580	5397.31	-273.58	18.52	-760.97	1674063.81	14312816.69	39°24'51.603"N	80°52'51.125"W	761.19	271.394	1.34	
5500.01	13.080	268.130	5421.63	-275.07	18.05	-766.73	1674058.05	14312816.22	39°24'51.598"N	80°52'51.199"W	766.94	271.348	5.67	
5525.01	12.780	271.440	5446.00	-276.94	18.02	-772.32	1674052.46	14312816.20	39°24'51.598"N	80°52'51.270"W	772.53	271.337	3.20	
5550.01	12.620	271.760	5470.38	-278.93	18.18	-777.81	1674046.97	14312816.35	39°24'51.600"N	80°52'51.340"W	778.02	271.339	0.70	
5575.01	12.730	271.110	5494.78	-280.90	18.31	-783.30	1674041.49	14312816.49	39°24'51.601"N	80°52'51.410"W	783.51	271.339	0.72	
5600.01	12.760	269.630	5519.16	-282.79	18.35	-788.81	1674035.98	14312816.52	39°24'51.602"N	80°52'51.480"W	789.02	271.333	1.31	
5600.85	12.650	269.320	5519.98	-282.85	18.35	-788.99	1674035.79	14312816.52	39°24'51.602"N	80°52'51.482"W	789.21	271.332	15.41	
5859.00	12.410	261.340	5772.00	-297.35	13.84	-844.69	1673980.12	14312812.01	39°24'51.558"N	80°52'52.192"W	844.80	270.938	0.68	BHI AT Curve <8-1/2"> (5600.85')(5859-17729')
5904.00	12.120	261.610	5815.97	-299.20	12.42	-854.14	1673970.67	14312810.59	39°24'51.544"N	80°52'52.313"W	854.23	270.833	0.66	
5954.00	12.180	261.520	5864.85	-301.25	10.87	-864.55	1673960.27	14312809.05	39°24'51.529"N	80°52'52.445"W	864.62	270.721	0.13	
6000.00	12.270	261.740	5909.81	-303.16	9.46	-874.19	1673950.63	14312807.63	39°24'51.515"N	80°52'52.568"W	874.24	270.620	0.22	
6045.00	11.710	259.490	5953.83	-304.83	7.94	-883.41	1673941.42	14312806.11	39°24'51.500"N	80°52'52.686"W	883.44	270.515	1.62	
6095.00	12.260	238.920	6002.76	-304.59	4.27	-892.95	1673931.88	14312802.45	39°24'51.464"N	80°52'52.807"W	892.96	270.274	8.57	
6140.00	12.810	227.160	6046.69	-301.68	-1.59	-900.70	1673924.13	14312796.59	39°24'51.406"N	80°52'52.906"W	900.70	269.899	5.79	
6190.00	12.990	217.500	6095.44	-296.45	-9.82	-908.19	1673916.65	14312788.36	39°24'51.325"N	80°52'53.002"W	908.24	269.381	4.32	
6236.00	14.580	202.450	6140.13	-289.35	-19.28	-913.55	1673911.29	14312778.91	39°24'51.232"N	80°52'53.070"W	913.75	268.791	8.50	
6285.00	19.420	187.060	6186.99	-277.49	-33.07	-916.91	1673907.93	14312765.12	39°24'51.095"N	80°52'53.113"W	917.50	267.934	13.41	
6324.00	22.490	180.080	6223.42	-264.67	-46.97	-917.71	1673907.12	14312751.22	39°24'50.958"N	80°52'53.124"W	918.92	267.070	10.13	
6346.00†	24.295	178.286	6243.61	-256.41	-55.71	-917.58	1673907.25	14312742.50	39°24'50.871"N	80°52'53.122"W	919.27	266.526	8.82	Sycamore: 6346' MD
6380.00	27.120	175.960	6274.24	-242.29	-70.43	-916.83	1673908.01	14312727.78	39°24'50.726"N	80°52'53.113"W	919.53	265.607	8.82	
6428.00	31.410	173.070	6316.11	-219.54	-93.77	-914.55	1673910.29	14312704.44	39°24'50.495"N	80°52'53.084"W	919.34	264.146	9.41	
6474.00	35.060	170.390	6354.58	-194.83	-118.71	-910.90	1673913.94	14312679.52	39°24'50.249"N	80°52'53.038"W	918.60	262.575	8.55	
6524.00	40.020	168.520	6394.21	-164.76	-148.64	-905.29	1673919.54	14312649.60	39°24'49.953"N	80°52'52.967"W	917.42	260.676	10.18	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jubee Unit 1H
Field	Tyler	Wellbore	Jubee Unit 1H AWP
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
6549.00†	42.258	167.135	6413.04	-148.45	-164.72	-901.82	1673923.01	14312633.53	39°24'49.794"N	80°52'52.923"W	916.74	259.649	9.67	Middlesex: 6549' MD
6570.00	44.150	166.060	6428.35	-134.16	-178.70	-898.49	1673926.34	14312619.55	39°24'49.656"N	80°52'52.881"W	916.09	258.751	9.67	
6615.00	49.140	163.380	6459.23	-101.55	-210.24	-889.84	1673934.99	14312588.02	39°24'49.344"N	80°52'52.771"W	914.34	256.707	11.90	
6665.00	53.710	161.710	6490.40	-62.50	-247.51	-878.10	1673946.72	14312550.77	39°24'48.975"N	80°52'52.622"W	912.32	254.258	9.51	
6708.00†	57.741	160.692	6514.61	-26.98	-281.14	-866.65	1673958.17	14312517.15	39°24'48.643"N	80°52'52.477"W	911.11	252.027	9.58	Burkett: 6708' MD
6713.00	58.210	160.580	6517.27	-22.74	-285.14	-865.24	1673959.58	14312513.16	39°24'48.603"N	80°52'52.459"W	911.01	251.760	9.58	
6759.00	63.190	159.870	6539.77	17.36	-322.87	-851.67	1673973.14	14312475.44	39°24'48.230"N	80°52'52.287"W	910.81	249.238	10.91	
6771.00†	64.193	159.789	6545.09	28.12	-332.97	-847.96	1673976.85	14312465.34	39°24'48.130"N	80°52'52.240"W	910.99	248.561	8.38	Tully: 6771' MD
6806.00	67.120	159.560	6559.51	60.00	-362.87	-836.88	1673987.92	14312435.46	39°24'47.835"N	80°52'52.099"W	912.16	246.559	8.38	
6854.00	71.530	159.380	6576.46	104.89	-404.92	-821.13	1674003.66	14312393.43	39°24'47.419"N	80°52'51.899"W	915.54	243.751	9.19	
6858.00†	71.953	159.412	6577.71	108.69	-408.47	-819.80	1674005.09	14312389.87	39°24'47.384"N	80°52'51.882"W	915.92	243.515	10.61	Marcellus Hot: 6858' MD
6900.00	76.400	159.740	6589.16	149.09	-446.33	-805.70	1674019.09	14312352.03	39°24'47.009"N	80°52'51.703"W	921.07	241.015	10.61	
6949.00	81.240	160.670	6598.66	197.14	-491.55	-789.43	1674035.36	14312306.83	39°24'46.562"N	80°52'51.497"W	929.96	238.091	10.05	
6996.00	86.810	161.370	6603.55	243.86	-535.73	-774.23	1674050.55	14312262.66	39°24'46.125"N	80°52'51.304"W	941.51	235.319	11.94	
7045.00	89.990	161.670	6604.92	292.83	-582.18	-758.71	1674066.06	14312216.23	39°24'45.666"N	80°52'51.107"W	956.34	232.500	6.52	
7139.00	90.020	158.620	6604.91	386.82	-670.58	-726.79	1674097.97	14312127.86	39°24'44.792"N	80°52'50.701"W	988.89	227.303	3.24	
7234.00	89.990	156.140	6604.90	481.68	-758.27	-690.25	1674134.49	14312040.21	39°24'43.925"N	80°52'50.237"W	1025.39	222.312	2.61	
7330.00	90.200	156.020	6604.74	577.42	-846.02	-651.33	1674173.40	14311952.49	39°24'43.057"N	80°52'49.743"W	1067.70	217.592	0.25	
7424.00	90.080	158.270	6604.51	671.27	-932.64	-614.82	1674209.89	14311865.91	39°24'42.200"N	80°52'49.279"W	1117.06	213.394	2.40	
7519.00	90.020	159.230	6604.43	766.23	-1021.18	-580.39	1674244.31	14311777.41	39°24'41.325"N	80°52'48.842"W	1174.59	209.612	1.01	
7612.00	89.650	160.750	6604.70	859.22	-1108.56	-548.57	1674276.12	14311690.06	39°24'40.461"N	80°52'48.438"W	1236.87	206.328	1.68	
7707.00	89.580	161.730	6605.33	954.21	-1198.51	-518.02	1674306.66	14311600.15	39°24'39.571"N	80°52'48.050"W	1305.67	203.375	1.03	
7802.00	89.580	161.760	6606.03	1049.18	-1288.73	-488.26	1674336.41	14311509.97	39°24'38.679"N	80°52'47.673"W	1378.12	200.750	0.03	
7895.00	89.520	164.580	6606.76	1142.05	-1377.73	-461.34	1674363.32	14311421.00	39°24'37.799"N	80°52'47.331"W	1452.92	198.513	3.03	
7989.00	89.860	167.230	6607.27	1235.60	-1468.89	-438.45	1674386.20	14311329.88	39°24'36.898"N	80°52'47.041"W	1532.93	196.620	2.84	
8084.00	90.230	167.300	6607.20	1329.90	-1561.56	-417.51	1674407.13	14311237.25	39°24'35.982"N	80°52'46.776"W	1616.41	194.969	0.40	
8179.00	90.350	164.840	6606.71	1424.42	-1653.75	-394.64	1674429.99	14311145.09	39°24'35.070"N	80°52'46.486"W	1700.19	193.422	2.59	
8273.00	90.970	161.740	6605.63	1518.27	-1743.77	-367.61	1674457.00	14311055.11	39°24'34.180"N	80°52'46.144"W	1782.10	191.905	3.36	
8368.00	89.830	156.030	6604.97	1613.20	-1832.35	-333.41	1674491.20	14310966.57	39°24'33.304"N	80°52'45.709"W	1862.43	190.313	6.13	
8463.00	89.860	154.360	6605.23	1707.81	-1918.58	-293.55	1674531.03	14310880.37	39°24'32.452"N	80°52'45.203"W	1940.91	188.699	1.76	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 West Department of  
 Environmental Protection



# Actual Wellpath Report

Juybee Unit 1H AWP Proj: 17752

Page n of m



Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Estack Pad
Well	Juybee Unit 1H
Wellbore	Juybee Unit 1H AWB
Slot	Slot #09

WELLPATH DATA (369 stations)														
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
8558.00	89.550	154.270	6605.71	1802.29	-2004.19	-252.38	1674572.19	14310794.79	39°24'31.605N	80°52'44.680W	2020.02	187.177	0.34	
8653.00	89.460	155.810	6606.54	1896.88	-2090.31	-212.29	1674612.26	14310708.70	39°24'30.753N	80°52'44.171W	2101.07	185.799	1.62	
8747.00	89.770	160.160	6607.17	1990.78	-2177.44	-177.07	1674647.47	14310621.62	39°24'29.892N	80°52'43.723W	2184.62	184.649	4.64	
8843.00	89.670	162.520	6607.64	2086.75	-2268.38	-146.35	1674678.18	14310530.71	39°24'28.992N	80°52'43.334W	2273.10	183.692	2.46	
8937.00	90.110	163.100	6607.82	2180.66	-2358.18	-118.57	1674705.94	14310440.94	39°24'28.104N	80°52'42.981W	2361.16	182.878	0.77	
9033.00	89.770	160.960	6607.92	2276.62	-2449.49	-88.96	1674735.55	14310349.67	39°24'27.202N	80°52'42.605W	2451.11	182.080	2.26	
9128.00	89.460	159.600	6608.56	2371.61	-2538.92	-56.90	1674767.59	14310260.28	39°24'26.317N	80°52'42.199W	2539.56	181.284	1.47	
9223.00	89.400	161.690	6609.50	2466.60	-2628.54	-25.42	1674799.06	14310170.69	39°24'24.537N	80°52'41.799W	2628.66	180.554	2.20	
9317.00	89.460	161.880	6610.44	2560.56	-2717.83	3.66	1674828.43	14310081.44	39°24'24.548N	80°52'41.426W	2717.83	179.917	0.21	
9411.00	89.430	164.780	6611.35	2654.42	-2807.86	30.92	1674855.38	14309991.44	39°24'23.658N	80°52'41.084W	2808.03	179.369	3.09	
9505.00	89.770	165.610	6612.00	2748.08	-2898.74	54.94	1674879.39	14309900.60	39°24'22.760N	80°52'40.780W	2899.26	178.914	0.95	
9599.00	90.470	163.660	6611.81	2841.81	-2989.37	79.84	1674904.28	14309810.01	39°24'21.863N	80°52'40.464W	2990.44	178.470	2.20	
9695.00	91.060	160.190	6610.52	2937.75	-3080.61	109.62	1674934.05	14309718.80	39°24'20.961N	80°52'40.086W	3082.56	177.962	3.67	
9789.00	89.490	158.060	6610.07	3031.72	-3168.43	143.11	1674967.53	14309631.02	39°24'20.093N	80°52'39.661W	3171.66	177.414	2.81	
9884.00	89.490	156.750	6610.92	3126.59	-3256.14	179.61	1675004.01	14309543.35	39°24'19.226N	80°52'39.198W	3261.09	176.843	1.38	
9979.00	89.400	156.010	6611.84	3221.36	-3343.17	217.67	1675042.06	14309456.55	39°24'18.365N	80°52'38.715W	3350.25	176.275	0.78	
10074.00	89.400	156.510	6612.83	3316.11	-3430.13	255.92	1675080.29	14309369.43	39°24'17.505N	80°52'38.229W	3439.66	175.733	0.53	
10169.00	89.460	155.700	6613.78	3410.85	-3516.98	294.40	1675118.75	14309282.61	39°24'16.646N	80°52'37.740W	3529.28	175.215	0.85	
10263.00	89.370	156.640	6614.74	3504.60	-3602.96	332.37	1675156.71	14309196.66	39°24'15.796N	80°52'37.258W	3618.26	174.729	1.00	
10358.00	89.370	157.350	6615.78	3599.43	-3690.40	369.50	1675193.82	14309109.26	39°24'14.931N	80°52'36.786W	3708.85	174.282	0.75	
10453.00	89.400	157.660	6616.80	3694.31	-3778.17	408.84	1675230.15	14309021.53	39°24'14.063N	80°52'36.325W	3799.90	173.869	0.33	
10548.00	89.370	161.760	6617.82	3789.28	-3867.25	438.78	1675263.07	14308932.48	39°24'13.182N	80°52'35.907W	3892.06	173.527	4.32	
10642.00	89.370	162.310	6618.86	3883.23	-3956.66	467.77	1675292.05	14308843.11	39°24'12.298N	80°52'35.539W	3984.21	173.258	0.59	
10736.00	89.430	161.820	6619.84	3977.18	-4046.09	496.71	1675320.98	14308753.71	39°24'11.414N	80°52'35.172W	4076.46	173.001	0.53	
10831.00	89.430	161.690	6620.79	4072.15	-4136.31	526.45	1675350.71	14308663.53	39°24'10.522N	80°52'34.795W	4169.67	172.747	0.14	
10926.00	89.490	161.650	6621.68	4167.12	-4226.48	556.33	1675380.58	14308573.39	39°24'09.630N	80°52'34.416W	4262.94	172.501	0.08	
11021.00	89.490	161.610	6622.53	4262.09	-4316.64	586.27	1675410.50	14308483.27	39°24'08.739N	80°52'34.036W	4356.27	172.266	0.04	
11115.00	89.460	161.790	6623.39	4356.06	-4405.88	615.78	1675440.00	14308394.07	39°24'07.856N	80°52'33.661W	4448.70	172.044	0.19	
11220.00	89.400	160.260	6624.43	4461.04	-4505.17	649.92	1675474.13	14308294.82	39°24'06.874N	80°52'33.228W	4551.80	171.791	1.46	
11303.00	89.430	160.440	6625.28	4544.04	-4583.33	677.83	1675502.03	14308216.69	39°24'06.101N	80°52'32.874W	4633.18	171.588	0.22	

RECEIVED  
Office of Oil and Gas  
AUG 28 2017  
WV Department of  
Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWP
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
11397.00	90.200	164.070	6625.58	4637.97	-4672.84	706.47	1675530.66	14308127.21	39°24'05.216"N	80°52'32.511"W	4725.94	171.403	3.95	
11492.00	90.290	166.400	6625.18	4732.61	-4764.70	730.68	1675554.86	14308035.39	39°24'04.308"N	80°52'32.204"W	4820.40	171.281	2.45	
11586.00	90.040	166.210	6624.91	4826.10	-4856.02	752.94	1675577.10	14307944.10	39°24'03.405"N	80°52'31.922"W	4914.05	171.186	0.33	
11679.00	89.890	164.050	6624.96	4918.77	-4945.90	776.80	1675600.96	14307854.26	39°24'02.517"N	80°52'31.620"W	5006.53	171.074	2.33	
11775.00	90.050	159.490	6625.01	5014.71	-5037.06	806.83	1675630.97	14307763.14	39°24'01.615"N	80°52'31.239"W	5101.27	170.900	4.75	
11869.00	89.920	156.120	6625.04	5108.61	-5124.08	842.33	1675666.46	14307676.15	39°24'00.755"N	80°52'30.788"W	5192.86	170.665	3.59	
11964.00	89.890	154.750	6625.20	5203.26	-5210.48	881.82	1675705.94	14307589.79	39°23'59.900"N	80°52'30.287"W	5284.58	170.394	1.44	
12059.00	89.800	156.580	6625.45	5297.94	-5297.04	920.97	1675745.07	14307503.26	39°23'59.044"N	80°52'29.789"W	5376.50	170.137	1.93	
12154.00	89.920	157.690	6625.68	5392.79	-5384.57	957.88	1675781.97	14307415.77	39°23'58.179"N	80°52'29.321"W	5469.11	169.913	1.18	
12249.00	89.920	159.930	6625.82	5487.75	-5473.14	992.22	1675816.29	14307327.23	39°23'57.303"N	80°52'28.885"W	5562.35	169.725	2.36	
12344.00	89.920	161.620	6625.95	5582.74	-5562.84	1023.50	1675847.56	14307237.57	39°23'56.416"N	80°52'28.488"W	5656.21	169.575	1.78	
12438.00	89.950	160.520	6626.06	5676.73	-5651.76	1053.99	1675878.04	14307148.69	39°23'55.537"N	80°52'28.101"W	5749.19	169.436	1.17	
12534.00	90.040	157.860	6626.07	5772.71	-5741.48	1088.09	1675912.13	14307059.00	39°23'54.649"N	80°52'27.668"W	5843.68	169.269	2.77	
12628.00	89.950	157.700	6626.07	5866.61	-5828.50	1123.64	1675947.66	14306972.01	39°23'53.789"N	80°52'27.217"W	5935.83	169.088	0.20	
12722.00	89.830	159.050	6626.25	5960.56	-5915.89	1158.28	1675982.29	14306884.66	39°23'52.925"N	80°52'26.777"W	6028.21	168.922	1.44	
12817.00	89.700	159.590	6626.64	6055.54	-6004.76	1191.83	1676015.82	14306795.82	39°23'52.046"N	80°52'26.352"W	6121.90	168.774	0.58	
12911.00	89.730	160.350	6627.11	6149.54	-6093.08	1224.03	1676048.01	14306707.54	39°23'51.172"N	80°52'25.943"W	6214.81	168.641	0.81	
13007.00	89.670	160.870	6627.61	6245.53	-6183.63	1255.90	1676079.86	14306617.03	39°23'50.277"N	80°52'25.539"W	6309.88	168.519	0.55	
13102.00	89.700	160.770	6628.14	6340.53	-6273.36	1287.11	1676111.06	14306527.34	39°23'49.390"N	80°52'25.143"W	6404.03	168.405	0.11	
13197.00	89.610	160.880	6628.71	6435.52	-6363.08	1318.31	1676142.25	14306437.65	39°23'48.502"N	80°52'24.747"W	6498.21	168.295	0.15	
13291.00	89.670	161.570	6629.30	6529.51	-6452.08	1348.56	1676172.49	14306348.69	39°23'47.622"N	80°52'24.363"W	6591.51	168.194	0.74	
13387.00	89.790	161.330	6629.75	6625.49	-6543.09	1379.10	1676203.02	14306257.71	39°23'46.723"N	80°52'23.976"W	6686.85	168.098	0.28	
13482.00	89.610	161.790	6630.25	6720.47	-6633.21	1409.15	1676233.06	14306167.63	39°23'45.831"N	80°52'23.595"W	6781.24	168.006	0.52	
13577.00	89.730	162.750	6630.80	6815.41	-6723.70	1438.08	1676261.98	14306077.18	39°23'44.937"N	80°52'23.228"W	6875.77	167.927	1.02	
13672.00	89.640	160.290	6631.32	6910.38	-6813.79	1468.19	1676292.08	14305987.12	39°23'44.046"N	80°52'22.846"W	6970.17	167.840	2.59	
13766.00	89.670	157.270	6631.88	7004.33	-6901.40	1502.21	1676326.08	14305899.54	39°23'43.179"N	80°52'22.414"W	7063.00	167.720	3.21	
13862.00	89.700	158.440	6632.41	7100.24	-6990.32	1538.40	1676362.25	14305810.66	39°23'42.300"N	80°52'21.955"W	7157.60	167.588	1.22	
13956.00	89.640	160.980	6632.95	7194.23	-7078.48	1570.99	1676394.83	14305722.54	39°23'41.428"N	80°52'21.541"W	7250.71	167.487	2.70	
14051.00	89.700	162.400	6633.50	7289.20	-7168.66	1600.84	1676424.66	14305632.39	39°23'40.537"N	80°52'21.163"W	7345.23	167.412	1.50	
14146.00	89.670	162.920	6634.02	7384.12	-7259.35	1629.15	1676452.97	14305541.74	39°23'39.640"N	80°52'20.804"W	7439.91	167.351	0.55	

APPROVED  
 Environmental Protection  
 WV Department of  
 Environmental Protection  
 AUG 28 2017



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

WELLPATH DATA (369 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)	Comments
14240.00	89.950	160.760	6634.33	7478.08	-7348.66	1658.44	1676482.25	14305452.47	39°23'38.757"N	80°52'20.432"W	7533.47	167.283	2.32	
14335.00	89.920	159.750	6634.44	7573.07	-7438.07	1690.54	1676514.33	14305363.09	39°23'37.873"N	80°52'20.025"W	7627.77	167.195	1.06	
14430.00	89.920	156.300	6634.58	7667.98	-7526.15	1726.08	1676549.86	14305275.04	39°23'37.002"N	80°52'19.574"W	7721.55	167.083	3.63	
14524.00	90.810	159.120	6633.98	7761.87	-7613.12	1761.73	1676585.49	14305188.11	39°23'36.142"N	80°52'19.121"W	7814.30	166.971	3.15	
14619.00	89.920	162.040	6633.37	7856.86	-7702.70	1793.31	1676617.06	14305098.56	39°23'35.256"N	80°52'18.721"W	7908.70	166.894	3.21	
14713.00	89.980	161.650	6633.45	7950.83	-7792.02	1822.60	1676646.34	14305009.28	39°23'34.372"N	80°52'18.349"W	8002.34	166.835	0.42	
14808.00	89.890	159.160	6633.56	8045.82	-7881.51	1854.46	1676678.19	14304919.82	39°23'33.488"N	80°52'17.945"W	8096.74	166.760	2.62	
14903.00	89.920	158.090	6633.72	8140.77	-7969.98	1889.08	1676712.80	14304831.40	39°23'32.613"N	80°52'17.506"W	8190.80	166.666	1.13	
14998.00	89.920	159.190	6633.85	8235.73	-8058.45	1923.68	1676747.38	14304742.96	39°23'31.738"N	80°52'17.066"W	8284.88	166.574	1.16	
15093.00	89.820	160.300	6634.07	8330.73	-8147.57	1956.57	1676780.26	14304653.87	39°23'30.856"N	80°52'16.649"W	8379.21	166.497	1.17	
15188.00	89.890	161.730	6634.31	8425.72	-8237.40	1987.48	1676811.15	14304564.08	39°23'29.968"N	80°52'16.257"W	8473.78	166.435	1.51	
15283.00	89.760	162.700	6634.60	8520.66	-8327.86	2016.49	1676840.16	14304473.65	39°23'29.074"N	80°52'15.889"W	8568.52	166.388	1.03	
15378.00	89.850	162.050	6634.92	8615.60	-8418.40	2045.26	1676868.91	14304383.15	39°23'28.178"N	80°52'15.525"W	8663.29	166.345	0.69	
15472.00	89.980	159.770	6635.06	8709.59	-8507.23	2076.00	1676899.64	14304294.36	39°23'27.300"N	80°52'15.135"W	8756.86	166.286	2.43	
15566.00	89.890	161.470	6635.17	8803.59	-8595.90	2107.19	1676930.82	14304205.73	39°23'26.423"N	80°52'14.739"W	8850.41	166.226	1.81	
15661.00	89.920	163.310	6635.32	8898.52	-8686.44	2135.93	1676959.54	14304115.22	39°23'25.528"N	80°52'14.375"W	8945.19	166.185	1.94	
15756.00	90.100	164.080	6635.31	8993.35	-8777.62	2162.60	1676986.21	14304024.08	39°23'24.626"N	80°52'14.037"W	9040.10	166.159	0.83	
15851.00	89.610	162.520	6635.55	9088.22	-8868.61	2189.90	1677013.49	14303933.12	39°23'23.727"N	80°52'13.690"W	9134.98	166.130	1.72	
15946.00	90.100	161.430	6635.79	9183.18	-8958.94	2219.30	1677042.88	14303842.82	39°23'22.834"N	80°52'13.318"W	9229.73	166.087	1.26	
16041.00	90.190	159.060	6635.55	9278.18	-9048.35	2251.40	1677074.97	14303753.46	39°23'21.949"N	80°52'12.910"W	9324.24	166.027	2.50	
16136.00	89.610	157.590	6635.71	9373.11	-9136.63	2286.49	1677110.04	14303665.21	39°23'21.076"N	80°52'12.465"W	9418.39	165.950	1.66	
16231.00	89.640	158.020	6636.34	9468.02	-9224.59	2322.38	1677145.91	14303577.29	39°23'20.207"N	80°52'12.010"W	9512.43	165.869	0.45	
16325.00	89.670	157.640	6636.90	9561.93	-9311.63	2357.85	1677181.37	14303490.28	39°23'19.346"N	80°52'11.560"W	9605.52	165.791	0.41	
16420.00	89.580	158.210	6637.52	9656.84	-9399.67	2393.55	1677217.06	14303402.28	39°23'18.475"N	80°52'11.106"W	9699.63	165.714	0.61	
16515.00	89.610	159.410	6638.19	9751.80	-9488.24	2427.89	1677251.38	14303313.74	39°23'17.599"N	80°52'10.671"W	9793.94	165.647	1.26	
16609.00	89.640	160.500	6638.81	9845.80	-9576.54	2460.10	1677283.59	14303225.47	39°23'16.726"N	80°52'10.262"W	9887.48	165.593	1.16	
16704.00	89.640	161.530	6639.41	9940.79	-9666.37	2491.01	1677314.48	14303135.68	39°23'15.838"N	80°52'09.870"W	9982.18	165.549	1.08	
16799.00	89.760	161.820	6639.90	10035.76	-9756.55	2520.88	1677344.34	14303045.53	39°23'14.946"N	80°52'09.491"W	10076.96	165.513	0.33	
16893.00	89.610	161.620	6640.42	10129.73	-9845.81	2550.36	1677373.81	14302956.32	39°23'14.063"N	80°52'09.117"W	10170.76	165.478	0.27	
16988.00	89.700	161.470	6640.99	10224.71	-9935.92	2580.43	1677403.87	14302866.24	39°23'13.172"N	80°52'08.736"W	10265.53	165.441	0.18	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

WELLPATH DATA (369 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]	Comments
17082.00	89.700	160.970	6641.49	10318.70	-10024.92	2610.69	1677434.12	14302777.28	39°23'12.292"N	80°52'08.352"W	10359.28	165.403	0.53	
17176.00	89.700	160.540	6641.98	10412.69	-10113.66	2641.68	1677465.09	14302688.57	39°23'11.415"N	80°52'07.959"W	10452.97	165.361	0.46	
17272.00	89.640	160.260	6642.53	10508.69	-10204.10	2673.88	1677497.28	14302598.17	39°23'10.521"N	80°52'07.551"W	10548.61	165.316	0.30	
17367.00	89.670	160.550	6643.10	10603.69	-10293.59	2705.74	1677529.12	14302508.71	39°23'09.636"N	80°52'07.147"W	10643.27	165.273	0.31	
17462.00	89.700	160.970	6643.62	10698.68	-10383.29	2737.04	1677560.42	14302419.05	39°23'08.749"N	80°52'06.750"W	10737.97	165.233	0.44	
17558.00	89.730	162.010	6644.10	10794.66	-10474.32	2767.52	1677590.88	14302328.06	39°23'07.848"N	80°52'06.363"W	10833.77	165.200	1.08	
17652.00	89.610	161.640	6644.64	10888.63	-10563.63	2796.84	1677620.19	14302238.79	39°23'06.965"N	80°52'05.992"W	10927.60	165.171	0.41	
17729.00	89.610	159.990	6645.17	10965.62	-10636.35	2822.14	1677645.48	14302166.10	39°23'06.246"N	80°52'05.671"W	11004.38	165.140	2.14	
17752.00	89.610	159.990	6645.32	10988.62	-10657.96	2830.01	1677653.35	14302144.49	39°23'06.033"N	80°52'05.571"W	11027.28	165.129	0.00	Projected MD at TD: 17752', Projected MD at TD: 17752'

HOLE & CASING SECTIONS - Ref Wellbore: Jujubee Unit 1H AWB Ref Wellpath: Jujubee Unit 1H AWP Proj: 17752'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	32.00	72.00	40.00	32.00	72.00	0.00	0.00	0.01	-0.02
13.375in Casing Surface	32.00	370.00	338.00	32.00	370.00	0.00	0.00	-0.18	-0.20
9.625in Casing Intermediate	32.00	2581.00	2549.00	32.00	2562.80	0.00	0.00	21.76	-182.25

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection



# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Jujubee Unit 1H POE Rev-1	6582.00	-399.74	-825.14	1673999.66	14312398.60	39°24'47.470"N	80°52'51.950"W	point
Jujubee Unit 1H BHL Rev-1	6606.00	-10695.62	2854.47	1677677.80	14302106.85	39°23'05.660"N	80°52'05.260"W	point
Jujubee Unit 1H Landing Pt. Rev-1	6606.00	-554.26	-769.92	1674054.86	14312244.14	39°24'45.942"N	80°52'51.249"W	point
Jujubee Unit 1H DC	6650.00	0.00	0.00	1674824.47	14312798.18	39°24'51.410"N	80°52'41.430"W	polygon

WELLPATH COMPOSITION - Ref Wellbore: Jujubee Unit 1H AWB Ref Wellpath: Jujubee Unit 1H AWP Proj: 17752'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
32.00	5600.85	BHI Generic gyro - northseeking (Standard)	01_SDI Gyro (100' - 5600.85')	Jujubee Unit 1H AWB	
5600.85	17729.00	Navitrak w/ Surcon: (MagCAD, Short spacing)	02_BHI AT Curve <8-1/2">(5600.85')(5859'-17729')	Jujubee Unit 1H AWB	
17729.00	17752.00	Blind Drilling (std)	Projection to bit	Jujubee Unit 1H AWB	

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

Jujubee Unit 1H AWP Proj: 17752'

Page n of nn



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #09
Area	Tyler County, WV	Well	Jujubee Unit 1H
Field	Tyler	Wellbore	Jujubee Unit 1H AWB
Facility	Estlack Pad		

WELLPATH COMMENTS					
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Comment	
100.00	0.110	294.590	100.00	SDI Gyro (100'-5600.85')	
5859.00	12.410	261.340	5772.00	BHI AT Curve <8-1/2"> (5600.85')(5859'-17729')	
6346.00	24.295	178.286	6243.61	Sycamore: 6346' MD	
6549.00	42.258	167.135	6413.04	Middlesex: 6549' MD	
6708.00	57.741	160.692	6514.61	Burkett: 6708' MD	
6771.00	64.193	159.789	6545.09	Tully: 6771' MD	
6858.00	71.953	159.412	6577.71	Marcellus Hot: 6858' MD	
17752.00	89.610	159.990	6645.32	Projected MD at TD: 17752', Projected MD at TD: 17752'	

COMMENTS
<p>Wellpath general comments            API: 47-095-02335-0000            BHI Job #: 7879086            Rig: Frontier 32            Duration: 3/29/2016-4/2/2016            SDI Gyro (100' - 5600.85')            BHI AT Curve &lt;8-1/2"&gt;(5600.85')(5859'-17729')            Sycamore: 6346' MD            Middlesex: 6549' MD            Burkett: 6708' MD            Tully: 6771' MD            Marcellus Hot: 6858' MD            Projected MD at TD: 17752'</p>

RECEIVED  
 Office of Oil and Gas  
 AUG 28 2017  
 WV Department of  
 Environmental Protection