

# ANTERO RESOURCES CORPORATION

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

Slot: Slot #07  
 Well: San Juan Unit 1H  
 Wellbore: San Juan Unit 1H PWB



API: 47-095-02380-0000  
 BHI Job #: 8752021  
 Rig: Frontier 22  
 Duration: 09/05/2017-09/06/2017

Plot reference wellbore is San Juan Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (R&B)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (R&B)	Scale: True distance
Frontier 22 (R&B) to Mean Sea Level: 1169.5 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot Slot #07): -1145 feet	Created by: dksant on 2017-10-31
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

- Gyrodatta MS Gyro <17-1/2"> (100°\730') : 0.22° Inc, 109.50ft MD, 109.50ft TVD, -0.04ft VS
- Gyrodatta MS Gyro <12-1/4"> (730°\795°-1083') : 0.23° Inc, 804.50ft MD, 804.49ft TVD, -2.34ft VS
- WFT EM <12-1/4"> (1083°\1166°-2502') : 0.82° Inc, 1175.50ft MD, 1175.41ft TVD, 3.29ft VS

Slot	Well	Wellbore	Wellpath
Slot #07	San Juan Unit 1H	San Juan Unit 1H AWP	San Juan Unit 1H AWP Proj: 15278
Slot #07	San Juan Unit 1H	San Juan Unit 1H PWB	San Juan Unit 1H PWP Rev-A.0

- WFT EM <8-3/4"> (2502°\2625°-6470') : 0.86° Inc, 2634.50ft MD, 2634.26ft TVD, -7.39ft VS

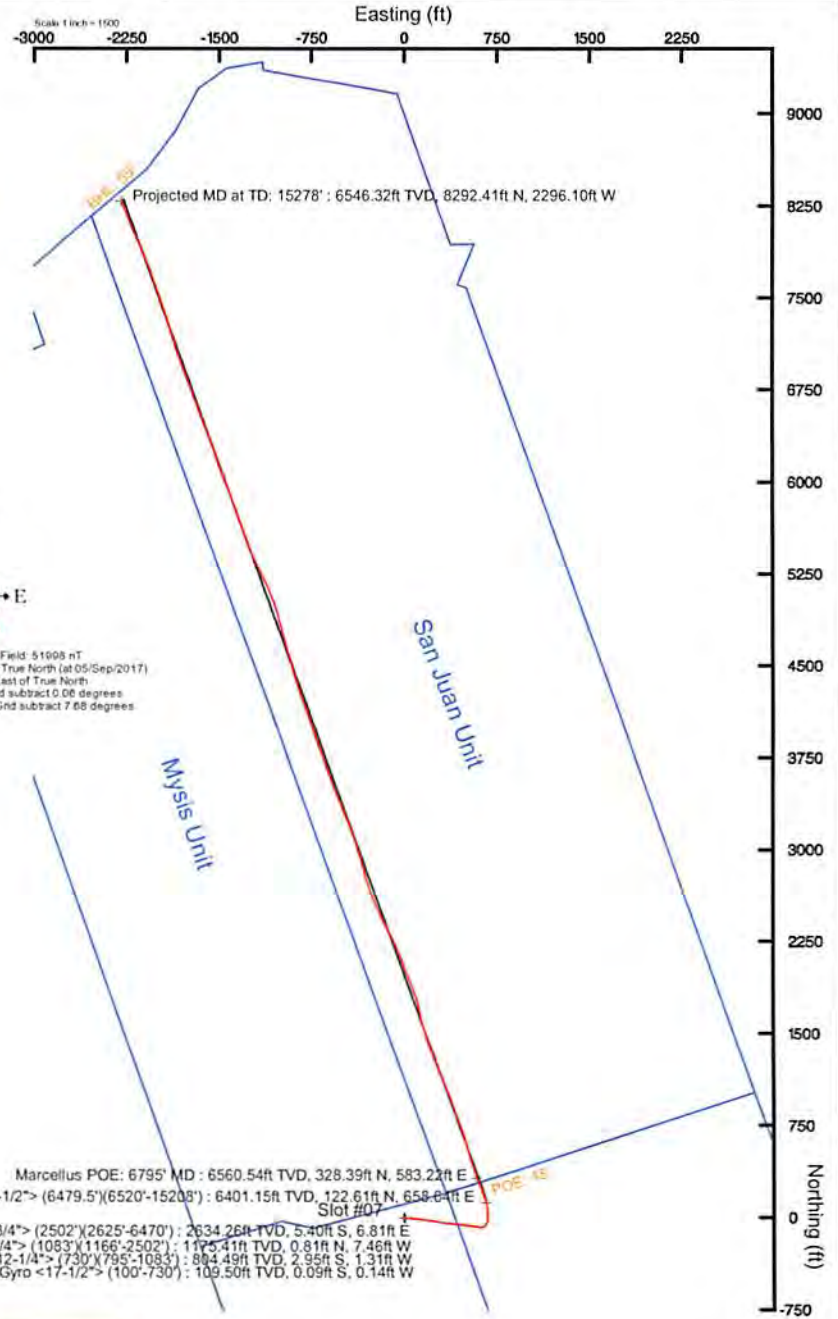
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Vera Pad	1667510.600	14316700.487	30°25'31.060"N	80°54'14.600"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #07	0.00	0.00	1667510.600	14316700.487
Comment: San Juan Unit 1H				
Frontier 22 (R&B) to Mud line (At Slot Slot #07)				24.5ft
Mean Sea Level to Mud line (At Slot Slot #07)				-1145ft
Frontier 22 (R&B) to Mean Sea Level				1169.5ft

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Te On	6479.50	36.460	346.870	8368.89	98.74	664.13	-132.17
Proj To Bobom	6540.50	41.690	345.250	8418.24	136.18	655.46	-94.02
End of 3D Arc	6595.36	47.484	343.903	8455.29	173.27	645.20	-55.84
POE	6806.92	72.673	340.100	8500.00	348.03	588.43	126.13
Landing Pt	6980.19	90.000	340.100	8588.00	506.57	530.60	298.77
BHL	15295.66	90.000	340.100	8588.00	8301.70	-2277.41	8582.24

- BHI AT Curve <8-1/2"> (6479.5°\6520°-15208') : 37.97° Inc, 6520.00ft MD, 6401.15ft TVD, -107.86ft VS
- Marcellus POE: 6795° MD : 70.84° Inc, 6795.00ft MD, 6560.54ft TVD, 111.30ft VS

Projected MD at TD: 15278° : 90.43° Inc, 15278.00ft MD, 6546.32ft TVD, 8579.83ft VS

Vertical Section (ft)  
 Azimuth 340.19° with reference 0.00 N, 0.00 E



Scale 1 inch = 1000

True Vertical Depth (ft)

Office of Oil and Gas  
 RECEIVED  
 FEB 13 2019  
 Environmental Protection  
 Department



# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'  
Page 1 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	San Juan Unit 1H
Field	Tyler	Wellbore	San Juan Unit 1H AWB
Facility	Vera Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	31/Oct/2017 at 16:11
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defn/San_Juan_Unit_1H_AWP_Proj_15278_.xml

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	1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W
Facility Reference Pt			1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1169.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Mud Line at Slot (Slot #07)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	340.19°

RECEIVED  
 Office of Oil and Gas  
 FEB 13 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'

Page 2 of 10



REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Tyler County, WV		Well	San Juan Unit 1H
Field	Tyler		Wellbore	San Juan Unit 1H AWP
Facility	Vera Pad			

WELLPATH DATA (188 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	237.500	0.00	0.00	0.00	0.00	1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	237.500	24.50	0.00	0.00	0.00	1667510.60	14316799.49	39°25'31.060"N	80°54'14.600"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.220	237.500	109.50	-0.04	-0.09	-0.14	1667510.46	14316799.40	39°25'31.059"N	80°54'14.602"W	0.16	237.500	0.26	0.26	-144.12	Gyrodata MS Gyro <17-1/2"> (100'-730')
209.50	0.220	239.390	209.50	-0.11	-0.29	-0.46	1667510.13	14316799.20	39°25'31.057"N	80°54'14.606"W	0.55	238.163	0.01	0.00	1.89	
309.50	0.260	190.720	309.50	-0.35	-0.61	-0.67	1667509.93	14316798.88	39°25'31.054"N	80°54'14.609"W	0.91	227.812	0.20	0.04	-48.67	
409.50	0.380	212.590	409.50	-0.74	-1.11	-0.89	1667509.71	14316798.38	39°25'31.049"N	80°54'14.611"W	1.43	218.777	0.17	0.12	21.87	
509.50	0.430	206.390	509.49	-1.21	-1.73	-1.24	1667509.36	14316797.76	39°25'31.043"N	80°54'14.616"W	2.13	215.642	0.07	0.05	-6.20	
609.50	0.280	165.520	609.49	-1.71	-2.30	-1.34	1667509.26	14316797.19	39°25'31.037"N	80°54'14.617"W	2.66	210.304	0.28	-0.15	-40.87	
709.50	0.250	171.410	709.49	-2.17	-2.75	-1.25	1667509.35	14316796.74	39°25'31.033"N	80°54'14.616"W	3.02	204.435	0.04	-0.03	5.89	
739.50	0.260	169.600	739.49	-2.30	-2.88	-1.23	1667509.37	14316796.60	39°25'31.032"N	80°54'14.618"W	3.13	203.072	0.04	0.03	-6.03	
804.50	0.230	304.580	804.49	-2.34	-2.95	-1.31	1667509.29	14316796.53	39°25'31.031"N	80°54'14.617"W	3.23	203.895	0.70	-0.05	207.66	Gyrodata MS Gyro <12-1/4"> (730')(795'-1083')
899.50	0.970	299.730	899.48	-1.57	-2.45	-2.16	1667508.44	14316797.04	39°25'31.036"N	80°54'14.628"W	3.27	221.484	0.78	0.78	-5.11	
992.50	1.490	296.340	992.46	-0.10	-1.52	-3.93	1667506.67	14316797.97	39°25'31.045"N	80°54'14.650"W	4.22	248.851	0.56	0.56	-3.65	
1092.50	1.510	300.840	1092.43	1.86	-0.27	-6.23	1667504.37	14316799.22	39°25'31.057"N	80°54'14.679"W	6.23	267.530	0.12	0.02	4.50	
1175.50	0.820	330.120	1175.41	3.29	0.81	-7.46	1667503.14	14316800.29	39°25'31.068"N	80°54'14.695"W	7.51	276.171	1.07	-0.83	35.28	MFT EM <12-1/4"> (1083')(1166'-2502')
1207.50	0.740	341.700	1207.41	3.72	1.20	-7.64	1667502.96	14316800.69	39°25'31.072"N	80°54'14.697"W	7.74	278.936	0.55	-0.25	36.19	
1238.50	0.640	344.070	1238.41	4.09	1.56	-7.75	1667502.85	14316801.04	39°25'31.075"N	80°54'14.699"W	7.91	281.365	0.34	-0.32	7.65	
1332.50	0.560	33.340	1332.40	4.89	2.45	-7.64	1667502.96	14316801.93	39°25'31.084"N	80°54'14.697"W	8.03	287.750	0.54	-0.09	52.41	
1427.50	0.920	87.800	1427.40	4.94	2.86	-6.63	1667503.98	14316802.35	39°25'31.088"N	80°54'14.684"W	7.22	293.373	0.79	0.38	57.33	
1521.50	1.280	100.250	1521.38	4.19	2.71	-4.84	1667505.76	14316802.19	39°25'31.087"N	80°54'14.662"W	5.54	299.213	0.46	0.38	13.24	
1616.50	0.890	128.400	1616.36	3.03	2.06	-3.22	1667507.38	14316801.54	39°25'31.080"N	80°54'14.641"W	3.82	302.621	0.68	-0.41	29.63	
1711.50	0.780	170.960	1711.35	1.76	0.96	-2.54	1667508.06	14316800.45	39°25'31.070"N	80°54'14.632"W	2.71	290.767	0.65	-0.12	44.80	
1805.50	0.940	182.990	1805.34	0.43	-0.44	-2.48	1667508.12	14316799.05	39°25'31.056"N	80°54'14.632"W	2.52	259.931	0.26	0.17	12.80	
1900.50	0.500	156.990	1900.33	-0.71	-1.60	-2.36	1667508.25	14316797.89	39°25'31.044"N	80°54'14.630"W	2.85	235.820	0.57	-0.46	-27.37	
1995.50	0.570	119.140	1995.33	-1.48	-2.21	-1.78	1667508.82	14316797.28	39°25'31.038"N	80°54'14.623"W	2.84	218.845	0.37	0.07	-39.84	
2089.50	0.760	98.400	2089.32	-2.12	-2.53	-0.76	1667509.84	14316796.96	39°25'31.035"N	80°54'14.610"W	2.64	196.628	0.32	0.20	-22.06	
2184.50	0.800	102.880	2184.32	-2.78	-2.77	0.51	1667511.11	14316796.72	39°25'31.033"N	80°54'14.593"W	2.82	169.482	0.08	0.04	4.72	
2279.50	0.850	99.130	2279.31	-3.48	-3.03	1.86	1667512.46	14316796.46	39°25'31.030"N	80°54'14.576"W	3.55	148.499	0.08	0.05	-3.95	
2373.50	0.950	102.540	2373.29	-4.23	-3.31	3.31	1667513.90	14316796.18	39°25'31.027"N	80°54'14.558"W	4.68	135.032	0.12	0.11	3.63	
2468.50	0.890	118.970	2468.28	-5.21	-3.84	4.72	1667515.32	14316795.65	39°25'31.022"N	80°54'14.540"W	6.08	129.114	0.28	-0.06	17.29	





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278



Operator	Area	Field	Facility
ANTERO RESOURCES CORPORATION	Tyler County, WV	Tyler	Vera Pad
		San Juan Unit 1H	
		Wellbore	
		San Juan Unit 1H AWB	
		Well	
		Slot	
		Slot #07	

## REFERENCE WELLPATH IDENTIFICATION

MD	Inclination	Azimuth	TVD	Vert	Sec	North	East	Grid East	Grid North	Latitude	Longitude	Closure	Dist	Closure	Dir	DLS	Build	Rate	Turn	Rate	Comments
ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	
2511.50	0.940	125.780	2511.28	-5.75	-4.21	5.30	1667515.90	14316795.28	39°25'31.018"N	80°54'14.533"W	6.76	128.442	0.28	178.442	0.08	128.402	0.09	-0.07	4.22	MFT EM <8-3/4" > (2502)(2625-6470)	
2634.50	0.860	130.970	2634.26	-7.39	-5.40	6.81	1667517.41	14316794.09	39°25'31.007"N	80°54'14.513"W	8.69	128.402	0.08	128.402	0.09	128.402	0.08	-0.07	4.22		
2729.50	0.070	131.220	2729.26	-7.97	-5.81	7.37	1667517.97	14316793.68	39°25'31.002"N	80°54'14.506"W	9.39	128.258	0.93	128.258	0.93	128.258	0.93	-0.83	-115.53		
2823.50	1.960	65.280	2823.24	-7.79	-5.09	8.85	1667519.45	14316794.40	39°25'31.010"N	80°54'14.487"W	10.21	119.885	2.03	119.885	2.03	119.885	2.03	2.01	46.87		
2918.50	3.680	85.550	2918.12	-8.46	-4.17	13.37	1667523.96	14316795.32	39°25'31.019"N	80°54'14.430"W	14.01	107.331	2.07	107.331	2.07	107.331	2.07	1.81	21.34		
3014.50	5.810	87.650	3013.79	-10.73	-3.73	21.30	1667531.89	14316795.75	39°25'31.023"N	80°54'14.329"W	21.62	99.944	2.23	99.944	2.23	99.944	2.23	2.22	2.19		
3108.50	7.600	91.960	3107.14	-14.46	-3.75	32.26	1667542.85	14316795.74	39°25'31.023"N	80°54'14.189"W	32.48	96.632	1.98	96.632	1.98	96.632	1.98	1.90	4.59		
3202.50	9.360	94.360	3201.10	-19.96	-4.55	46.25	1667556.83	14316794.93	39°25'31.015"N	80°54'14.011"W	46.47	95.623	1.89	95.623	1.89	95.623	1.85	1.85	2.53		
3297.50	10.860	94.880	3293.64	-26.79	-5.89	62.69	1667573.27	14316793.60	39°25'31.001"N	80°54'13.801"W	62.97	95.366	1.60	95.366	1.60	95.366	1.60	1.60	0.55		
3392.50	12.350	96.290	3386.69	-34.99	-7.76	81.71	1667592.28	14316791.73	39°25'30.982"N	80°54'13.559"W	82.08	95.427	1.60	95.427	1.60	95.427	1.57	1.48	1.48		
3486.50	11.820	93.660	3478.61	-43.25	-9.48	101.31	1667611.87	14316790.01	39°25'30.965"N	80°54'13.309"W	101.75	95.345	0.81	95.345	0.81	95.345	0.81	-0.56	-2.80		
3580.50	12.910	99.440	3570.43	-52.22	-11.82	121.28	1667631.83	14316787.68	39°25'30.942"N	80°54'13.055"W	121.85	95.565	1.75	95.565	1.75	95.565	1.65	6.15	6.15		
3676.50	12.570	97.790	3664.07	-62.30	-14.99	142.21	1667652.75	14316784.50	39°25'30.910"N	80°54'12.788"W	142.99	96.018	0.52	96.018	0.52	96.018	-0.35	-3.07	-3.07		
3770.50	11.810	94.900	3755.95	-71.06	-17.20	161.92	1667672.46	14316782.30	39°25'30.888"N	80°54'12.537"W	162.84	96.063	1.04	96.063	1.04	96.063	-0.81	-3.07	-3.07		
3864.50	13.070	98.800	3847.74	-80.17	-19.66	182.01	1667692.54	14316779.85	39°25'30.864"N	80°54'12.281"W	183.07	96.161	1.61	96.161	1.61	96.161	-0.32	4.15	4.15		
3959.50	12.770	98.810	3940.34	-90.34	-22.90	203.00	1667713.52	14316776.60	39°25'30.832"N	80°54'12.013"W	204.29	96.435	0.32	96.435	0.32	96.435	-0.32	0.01	-1.36		
4053.50	12.110	97.530	4032.13	-99.85	-26.78	223.05	1667733.56	14316773.72	39°25'30.803"N	80°54'11.758"W	224.53	96.593	0.76	96.593	0.76	96.593	-0.70	-1.36	-1.36		
4147.50	11.430	95.520	4124.15	-108.36	-27.97	242.09	1667752.59	14316771.53	39°25'30.781"N	80°54'11.515"W	243.70	96.590	0.84	96.590	0.84	96.590	-0.72	-2.14	-2.14		
4242.50	12.640	100.940	4217.07	-117.70	-30.85	261.67	1667772.16	14316768.65	39°25'30.752"N	80°54'11.266"W	263.48	96.723	1.74	96.723	1.74	96.723	-0.52	5.71	5.71		
4337.50	12.150	100.950	4309.85	-128.13	-34.72	281.69	1667792.18	14316764.78	39°25'30.714"N	80°54'11.011"W	283.82	97.026	0.52	97.026	0.52	97.026	-0.10	0.01	0.01		
4431.50	12.890	98.040	4401.62	-138.09	-38.06	301.78	1667812.26	14316761.44	39°25'30.681"N	80°54'10.755"W	304.17	97.189	1.03	97.189	1.03	97.189	0.79	-3.10	-3.10		
4526.50	12.490	96.690	4494.30	-147.62	-40.74	322.48	1667832.95	14316758.76	39°25'30.654"N	80°54'10.491"W	325.04	97.201	0.52	97.201	0.52	97.201	-0.42	-1.42	-1.42		
4621.50	11.770	95.730	4587.17	-156.38	-42.91	342.32	1667852.78	14316756.60	39°25'30.632"N	80°54'10.238"W	345.00	97.144	0.79	97.144	0.79	97.144	-0.76	-1.01	-1.01		
4716.50	13.240	98.740	4679.92	-165.76	-45.53	362.72	1667873.17	14316753.98	39°25'30.606"N	80°54'09.978"W	365.56	97.154	1.69	97.154	1.69	97.154	1.55	3.17	3.17		
4811.50	13.440	97.420	4772.36	-176.01	-48.61	384.42	1667894.86	14316750.90	39°25'30.576"N	80°54'09.702"W	387.48	97.206	0.38	97.206	0.38	97.206	0.21	-1.39	-1.39		
4906.50	13.150	95.870	4863.84	-185.64	-51.11	405.89	1667916.32	14316748.40	39°25'30.551"N	80°54'09.428"W	409.09	97.177	0.49	97.177	0.49	97.177	-0.31	-1.65	-1.65		
5000.50	12.750	95.330	4956.42	-194.78	-53.19	427.07	1667937.50	14316746.32	39°25'30.530"N	80°54'09.158"W	430.37	97.099	0.44	97.099	0.44	97.099	-0.42	-0.57	-0.57		
5095.50	12.590	96.280	5049.11	-203.79	-55.30	447.80	1667958.22	14316744.21	39°25'30.509"N	80°54'08.894"W	451.21	97.040	0.28	97.040	0.28	97.040	-0.17	1.00	1.00		
5190.50	12.800	96.300	5141.79	-212.97	-57.58	468.56	1667978.97	14316741.93	39°25'30.486"N	80°54'08.630"W	472.08	97.006	0.22	97.006	0.22	97.006	0.22	0.02	0.02		
5284.50	12.970	95.030	5233.42	-221.98	-59.65	489.41	1667999.82	14316739.86	39°25'30.465"N	80°54'08.364"W	493.04	96.949	0.35	96.949	0.35	96.949	0.18	-1.35	-1.35		

RECEIVED  
Office of Oil and Gas  
FEB 13 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'

Page 4 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION		Slot #07
Area	Tyler County, WV		Well
Field	Tyler		Wellbore
Facility	Vera Pad		

WELLPATH DATA (188 stations) + = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	(°/100ft)	(°/100ft)	(°/100ft)	
5378.50	12.590	98.240	5325.09	-231.23	-62.04	510.06	1668020.46	14316737.47	39°25'30.441"N	80°54'08.101"W	513.82	96.936	0.86	-0.40	3.41	
5473.50	12.540	97.640	5417.82	-240.86	-64.90	530.53	1668040.92	14316734.61	39°25'30.413"N	80°54'07.840"W	534.48	96.974	0.15	-0.05	-0.63	
5567.50	11.650	100.160	5509.73	-250.30	-67.93	549.99	1668060.36	14316731.58	39°25'30.383"N	80°54'07.592"W	554.17	97.041	1.10	-0.95	2.68	
5662.50	11.560	99.240	5602.79	-259.72	-71.15	568.82	1668079.19	14316728.36	39°25'30.351"N	80°54'07.352"W	573.26	97.130	0.22	-0.09	-0.97	
5756.50	11.730	99.140	5694.85	-268.91	-74.18	587.55	1668097.92	14316725.34	39°25'30.321"N	80°54'07.114"W	592.22	97.196	0.18	0.18	-0.11	
5851.50	12.320	98.890	5787.77	-278.46	-77.28	607.10	1668117.46	14316722.24	39°25'30.290"N	80°54'06.865"W	612.00	97.255	0.62	0.62	-0.26	
5882.50	12.560	99.590	5818.04	-281.70	-78.35	613.69	1668124.04	14316721.16	39°25'30.279"N	80°54'06.781"W	618.67	97.276	0.91	0.77	2.26	
5914.50	12.310	93.570	5849.29	-284.76	-79.15	620.53	1668130.88	14316720.37	39°25'30.271"N	80°54'06.694"W	625.55	97.269	4.12	-0.78	-18.81	
5946.50	12.000	84.180	5880.58	-286.92	-79.02	627.24	1668137.59	14316720.50	39°25'30.272"N	80°54'06.608"W	632.20	97.180	6.25	-0.97	-29.34	
5977.50	11.530	73.320	5910.93	-287.87	-77.81	633.42	1668143.76	14316721.71	39°25'30.284"N	80°54'06.529"W	638.18	97.003	7.29	-1.52	-35.03	
6008.50	11.820	62.070	5941.29	-287.59	-75.43	639.19	1668149.53	14316724.09	39°25'30.308"N	80°54'06.456"W	643.63	96.730	7.39	0.94	-36.29	
6040.50	12.980	49.760	5972.55	-285.87	-71.57	644.83	1668155.17	14316727.94	39°25'30.346"N	80°54'06.384"W	648.79	96.333	9.00	3.63	-38.47	
6071.50	14.540	39.270	6002.66	-282.65	-66.31	649.95	1668160.29	14316733.21	39°25'30.398"N	80°54'06.319"W	653.33	95.825	9.47	5.03	-33.84	
6102.50	15.650	34.110	6032.59	-278.19	-59.83	654.76	1668165.10	14316739.68	39°25'30.462"N	80°54'06.257"W	657.49	95.221	5.62	3.58	-16.65	
6133.50	16.750	33.700	6062.36	-273.07	-52.65	659.58	1668169.92	14316746.85	39°25'30.533"N	80°54'06.196"W	661.68	94.564	3.57	3.55	-1.32	
6165.50	17.260	26.610	6092.97	-267.06	-44.57	664.27	1668174.60	14316754.93	39°25'30.612"N	80°54'06.136"W	665.76	93.839	6.67	1.59	-22.16	
6196.50	18.860	15.830	6122.61	-260.23	-36.13	667.56	1668177.89	14316763.37	39°25'30.696"N	80°54'06.094"W	668.53	93.098	10.27	-1.29	-34.77	
6228.50	19.250	9.240	6153.04	-251.85	-26.46	669.67	1668180.00	14316773.04	39°25'30.791"N	80°54'06.067"W	670.19	92.263	9.81	7.47	-20.59	
6259.50	22.780	6.470	6181.97	-242.00	-15.45	671.17	1668181.50	14316784.04	39°25'30.900"N	80°54'06.047"W	671.35	91.319	11.83	11.39	-8.94	
6291.50	25.380	2.080	6211.18	-230.07	-2.44	672.11	1668182.44	14316797.05	39°25'31.029"N	80°54'06.035"W	672.12	90.208	9.86	8.13	-13.72	
6322.50	28.450	359.780	6238.82	-216.95	11.59	672.33	1668182.66	14316811.07	39°25'31.167"N	80°54'06.032"W	672.43	89.012	10.46	9.90	-7.42	
6353.50	31.230	357.720	6265.71	-202.33	27.01	671.98	1668182.31	14316826.48	39°25'31.320"N	80°54'06.037"W	672.52	87.698	9.56	8.97	-6.65	
6385.50	34.170	356.210	6292.64	-185.77	44.27	671.05	1668181.39	14316843.74	39°25'31.490"N	80°54'06.048"W	672.51	86.226	9.53	9.19	-4.72	
6416.50	36.090	354.380	6317.99	-168.55	62.04	669.59	1668179.92	14316861.50	39°25'31.666"N	80°54'06.067"W	672.45	84.706	7.06	6.19	-5.90	
6448.50	35.940	351.430	6343.88	-150.20	80.71	667.26	1668177.59	14316880.16	39°25'31.851"N	80°54'06.096"W	672.13	83.103	5.44	-0.47	-9.22	
6479.50	36.460	348.870	6368.89	-132.17	98.74	664.13	1668174.46	14316898.19	39°25'32.029"N	80°54'06.136"W	671.43	81.543	5.16	1.68	-8.26	
6520.00	37.970	345.300	6401.15	-107.86	122.61	658.64	1668168.98	14316922.04	39°25'32.265"N	80°54'06.205"W	669.96	79.455	6.50	3.73	-8.81	BHI AT Curve <8-1/2"> (6479.5')(6520'-15208')
6529.00	38.870	344.567	6408.20	-102.29	128.01	657.19	1668167.53	14316927.44	39°25'32.318"N	80°54'06.224"W	669.54	78.978	11.21	10.00	-8.15	Middlesex: 6529' MD
6577.00	43.740	341.090	6444.25	-70.66	158.25	647.80	1668158.14	14316957.67	39°25'32.617"N	80°54'06.343"W	666.84	76.272	11.21	10.15	-7.24	
6624.00	49.850	339.350	6476.42	-36.42	190.46	636.18	1668146.53	14316989.87	39°25'32.936"N	80°54'06.490"W	664.08	73.334	13.28	13.00	-3.70	

RECEIVED  
 Division of Oil and Gas  
 FEB 13 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278  
Page 5 of 10



REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Area	Tyler County, WV
Field	Tyler
Facility	Vera Pad
Slot	Slot #07
Well	San Juan Unit 1H
Wellbore	San Juan Unit 1H AWB

WELLPATH DATA (188 stations) * = Interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert.Sect (ft)	North (ft)	East (ft)	Grid East (ft)	Grid North (ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
6669.00	55.091	338.898	6503.82	-0.75	223.79	623.47	1668133.82	14317023.18	39°25'33.265"N	80°54'08.652"W	662.41	70.255	11.67	11.65	-1.00	Burkett: 6669' MD
6672.00	55.440	338.870	6505.53	1.71	226.09	622.58	1668132.93	14317025.48	39°25'33.288"N	80°54'08.663"W	662.36	70.042	11.67	11.65	-0.93	
6718.00	61.723	338.654	6529.50	40.94	262.66	608.36	1668118.72	14317062.04	39°25'33.650"N	80°54'08.844"W	662.64	66.648	13.67	13.66	-0.47	Tully: 6718' MD
6719.00	61.860	338.650	6529.97	41.82	263.48	608.04	1668118.40	14317062.86	39°25'33.658"N	80°54'08.848"W	662.67	66.572	13.67	13.66	-0.44	
6766.00	67.220	339.070	6550.15	84.23	303.04	592.75	1668103.11	14317102.41	39°25'34.049"N	80°54'07.042"W	665.72	62.921	11.43	11.40	0.89	
6795.00	70.835	339.721	6550.54	111.30	328.39	583.22	1668093.59	14317127.74	39°25'34.299"N	80°54'07.163"W	669.32	60.618	12.64	12.47	2.24	Marcellus POE: 6795' MD
6813.00	73.080	340.110	6566.12	128.41	344.46	577.35	1668087.71	14317143.81	39°25'34.458"N	80°54'07.238"W	672.30	59.179	12.64	12.47	2.16	
6861.00	78.670	341.840	6577.83	174.94	388.45	562.19	1668072.56	14317187.78	39°25'34.993"N	80°54'07.431"W	683.34	55.357	12.16	11.65	3.60	
6908.00	83.590	342.290	6585.07	221.33	432.62	547.89	1668058.27	14317231.93	39°25'35.330"N	80°54'07.612"W	698.10	51.705	10.51	10.47	0.96	
6956.00	89.720	343.070	6587.87	269.18	478.34	533.63	1668044.02	14317277.64	39°25'35.782"N	80°54'07.793"W	716.64	48.127	12.87	12.77	1.63	
7050.00	90.490	344.250	6587.70	363.01	568.54	507.19	1668017.59	14317367.80	39°25'36.674"N	80°54'08.129"W	761.89	41.736	1.50	0.82	1.26	
7146.00	90.250	343.620	6587.08	458.60	660.79	480.62	1667991.03	14317460.01	39°25'37.586"N	80°54'08.466"W	817.10	36.030	0.70	-0.25	-0.66	
7241.00	90.340	338.530	6586.59	553.76	750.63	449.82	1667960.24	14317549.81	39°25'38.474"N	80°54'08.858"W	875.09	30.933	5.36	0.09	-5.36	
7336.00	90.120	340.000	6586.21	648.74	839.47	416.19	1667926.62	14317638.62	39°25'39.352"N	80°54'09.285"W	936.97	26.371	1.56	-0.23	1.55	
7431.00	89.910	340.340	6586.18	743.74	928.84	383.96	1667894.41	14317727.95	39°25'40.236"N	80°54'09.694"W	1005.07	22.459	0.42	-0.22	0.36	
7526.00	89.480	339.700	6586.69	838.74	1018.12	351.50	1667861.96	14317817.19	39°25'41.119"N	80°54'10.107"W	1077.09	19.047	0.81	-0.45	-0.67	
7620.00	89.630	338.340	6587.42	932.72	1105.88	317.85	1667828.32	14317904.92	39°25'41.987"N	80°54'10.534"W	1150.65	16.036	1.46	0.16	-1.45	
7715.00	89.630	336.940	6588.03	1027.62	1193.73	281.71	1667792.20	1431992.74	39°25'42.855"N	80°54'10.994"W	1226.52	13.278	1.47	0.00	-1.47	
7809.00	89.570	338.580	6588.69	1121.53	1290.73	246.13	1667756.64	14318079.71	39°25'43.716"N	80°54'11.446"W	1304.17	10.879	1.75	-0.06	1.74	
7904.00	89.630	340.620	6589.35	1216.51	1369.77	213.02	1667723.54	14318168.71	39°25'44.596"N	80°54'11.867"W	1386.23	8.840	2.15	0.06	2.15	
7998.00	89.570	341.900	6590.01	1310.49	1458.78	182.52	1667693.35	14318257.68	39°25'45.476"N	80°54'12.250"W	1470.19	7.143	1.36	-0.06	1.36	
8093.00	89.540	343.920	6590.75	1405.38	1549.58	154.91	1667665.45	14318348.44	39°25'46.374"N	80°54'12.605"W	1557.30	5.709	2.13	-0.03	2.13	
8188.00	89.630	348.630	6591.44	1499.81	1641.84	132.38	1667642.92	14318440.67	39°25'47.286"N	80°54'12.891"W	1647.17	4.610	4.96	0.09	4.96	
8282.00	89.630	346.780	6592.04	1593.00	1733.68	112.36	1667622.91	14318532.47	39°25'48.194"N	80°54'13.145"W	1737.31	3.708	1.97	0.00	-1.97	
8377.00	89.660	340.320	6592.63	1667.79	1824.74	85.47	1667596.04	14318623.49	39°25'48.084"N	80°54'13.486"W	1826.74	2.982	6.80	0.03	-6.80	
8472.00	89.600	338.280	6593.25	1782.77	1913.60	51.90	1667562.47	14318712.32	39°25'49.972"N	80°54'13.913"W	1914.30	1.553	2.15	-0.06	-2.15	
8566.00	89.570	338.620	6593.93	1876.72	2001.03	17.37	1667527.96	14318799.71	39°25'50.837"N	80°54'14.352"W	2001.10	0.497	0.36	-0.03	0.36	
8661.00	89.630	339.240	6594.59	1971.70	2089.67	-16.78	1667493.82	14318888.32	39°25'51.713"N	80°54'14.786"W	2089.74	359.540	0.66	0.06	0.65	
8755.00	89.780	336.420	6595.07	2065.61	2176.71	-52.25	1667458.37	14318975.33	39°25'52.574"N	80°54'15.236"W	2177.34	358.625	3.00	0.16	-3.00	
8851.00	90.220	333.270	6595.07	2161.18	2263.60	-63.05	1667417.58	14319062.17	39°25'53.433"N	80°54'15.755"W	2265.51	357.646	3.31	0.46	-3.28	

RECEIVED  
Office of Oil and Gas  
FEB 13 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'  
Page 6 of 10



REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Slot	Slot #07
Area	Tyler County, WV		Well	San Juan Unit 1H
Field	Tyler		Wellbore	San Juan Unit 1H AWB
Facility	Vera Pad			

WELLPATH DATA (188 stations)																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Closure Dist (ft)	Closure Dir (°)	DLS (ft/100ft)	Build Rate (ft/100ft)	Turn Rate (ft/100ft)	Comments
8945.00	90.280	332.360	6594.66	2254.40	2347.21	-136.00	1667374.66	14319145.78	39°25'54.260"N	80°54'16.301"W	2351.15	356.684	0.97	0.06	-0.97	
9041.00	90.120	334.710	6594.33	2349.74	2433.14	-178.78	1667331.90	14319231.65	39°25'55.110"N	80°54'16.845"W	2439.70	355.798	2.45	-0.17	2.45	
9136.00	90.220	336.720	6594.05	2444.45	2519.73	-217.84	1667292.84	14319318.21	39°25'55.966"N	80°54'17.342"W	2529.13	355.059	2.12	0.11	2.12	
9231.00	90.180	338.160	6593.71	2539.33	2607.46	-254.29	1667256.41	14319405.90	39°25'56.833"N	80°54'17.805"W	2619.83	354.430	1.52	-0.04	1.52	
9325.00	90.280	340.180	6593.34	2633.31	2695.31	-287.71	1667223.00	14319493.72	39°25'57.702"N	80°54'18.230"W	2710.62	353.907	2.15	0.11	2.15	
9420.00	90.490	344.490	6592.70	2728.22	2785.81	-316.53	1667194.19	14319584.18	39°25'58.597"N	80°54'18.596"W	2803.73	353.518	4.54	0.22	4.54	
9515.00	90.490	344.870	6591.89	2822.93	2877.43	-341.63	1667169.10	14319675.78	39°25'59.503"N	80°54'18.915"W	2897.64	353.229	0.40	0.00	0.40	
9610.00	90.770	344.490	6590.84	2917.63	2969.05	-366.73	1667144.01	14319767.34	39°26'00.408"N	80°54'19.234"W	2991.61	352.959	0.50	0.29	-0.40	
9705.00	90.520	341.660	6589.77	3012.49	3059.92	-394.38	1667116.37	14319858.18	39°26'01.307"N	80°54'19.585"W	3085.23	352.656	2.99	-0.26	-2.98	
9799.00	90.520	339.640	6588.92	3106.48	3148.60	-425.53	1667085.24	14319946.82	39°26'02.184"N	80°54'19.981"W	3177.22	352.303	2.15	0.00	-2.15	
9894.00	90.430	337.890	6588.13	3201.45	3237.14	-459.93	1667050.85	14320035.33	39°26'03.059"N	80°54'20.418"W	3269.65	351.914	1.84	-0.09	-1.84	
9989.00	90.370	337.560	6587.47	3296.36	3325.05	-495.94	1667014.86	14320123.20	39°26'03.928"N	80°54'20.876"W	3361.83	351.517	0.35	-0.06	-0.35	
10084.00	90.310	338.270	6586.90	3391.28	3413.08	-531.66	1666979.15	14320211.20	39°26'04.799"N	80°54'21.330"W	3454.24	351.146	0.75	-0.06	0.75	
10178.00	90.580	338.720	6586.17	3485.23	3500.53	-566.12	1666944.71	14320298.61	39°26'05.663"N	80°54'21.768"W	3546.01	350.813	0.56	0.29	0.48	
10274.00	90.430	339.980	6585.33	3581.22	3590.36	-599.97	1666910.87	14320388.40	39°26'06.551"N	80°54'22.198"W	3640.14	350.513	1.32	-0.16	1.31	
10368.00	90.400	340.590	6584.65	3675.21	3678.85	-631.68	1666879.17	14320476.86	39°26'07.426"N	80°54'22.601"W	3732.68	350.257	0.65	-0.03	0.65	
10463.00	90.460	339.100	6583.93	3770.21	3768.02	-664.41	1666846.46	14320566.00	39°26'08.308"N	80°54'23.017"W	3826.15	350.000	1.57	0.06	-1.57	
10558.00	90.460	339.930	6583.17	3865.20	3857.01	-697.66	1666813.22	14320654.95	39°26'09.188"N	80°54'23.439"W	3919.60	349.747	0.87	0.00	0.87	
10653.00	90.340	341.030	6582.51	3960.19	3946.55	-729.40	1666781.49	14320744.45	39°26'10.073"N	80°54'23.843"W	4013.39	349.529	1.16	-0.13	1.16	
10748.00	90.490	340.340	6581.82	4055.19	4036.20	-760.82	1666750.09	14320834.07	39°26'10.960"N	80°54'24.242"W	4107.28	349.325	0.74	0.16	-0.73	
10841.00	90.340	340.620	6581.15	4148.18	4123.85	-791.89	1666719.02	14320921.68	39°26'11.826"N	80°54'24.637"W	4199.19	349.130	0.34	-0.16	0.30	
10936.00	90.460	341.220	6580.48	4243.17	4213.63	-822.95	1666687.98	14321011.43	39°26'12.714"N	80°54'25.032"W	4293.24	348.949	0.64	0.13	0.63	
11032.00	90.490	342.280	6579.69	4339.13	4304.80	-853.01	1666657.93	14321102.56	39°26'13.615"N	80°54'25.413"W	4388.49	348.792	1.10	0.03	1.10	
11127.00	90.580	343.430	6578.80	4434.02	4395.57	-881.01	1666629.94	14321193.29	39°26'14.513"N	80°54'25.769"W	4482.99	348.666	1.21	0.09	1.21	
11222.00	90.400	344.100	6577.99	4528.83	4486.78	-907.57	1666603.39	14321284.46	39°26'15.414"N	80°54'26.106"W	4577.65	348.565	0.73	-0.19	0.71	
11317.00	90.580	345.000	6577.18	4623.55	4578.34	-932.88	1666578.10	14321375.99	39°26'16.320"N	80°54'26.428"W	4672.41	348.483	0.97	0.19	0.95	
11411.00	90.460	344.490	6576.32	4717.25	4669.02	-957.61	1666553.38	14321466.64	39°26'17.216"N	80°54'26.742"W	4766.21	348.409	0.56	-0.13	-0.54	
11506.00	90.920	345.450	6575.18	4811.91	4760.76	-982.24	1666528.75	14321558.34	39°26'18.123"N	80°54'27.055"W	4861.04	348.342	1.12	0.48	1.01	
11601.00	90.340	345.390	6574.13	4906.51	4852.70	-1006.16	1666504.85	14321650.24	39°26'19.032"N	80°54'27.358"W	4955.91	348.286	0.61	-0.61	-0.06	
11696.00	90.800	343.840	6573.19	5001.23	4944.24	-1031.52	1666479.50	14321741.75	39°26'19.937"N	80°54'27.680"W	5050.70	348.215	1.90	0.48	-1.84	

RECEIVED  
 Office of Oil and Gas  
 FEB 13 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'  
Page 7 of 10



REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #07
Operator	ANTERO RESOURCES CORPORATION		
Area	Tyler County, WV		
Field	Tyler		
Well	San Juan Unit 1H		
Wellbore	San Juan Unit 1H AWB		
Facility	Vera Pad		

WELLPATH DATA (188 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [IUS, ft]	Grid North [IUS, ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
11791.00	90.830	339.290	6571.84	5096.18	5034.28	-1061.71	1666449.32	14321831.75	39°26'20.827"N	80°54'28.064"W	5145.02	348.091	4.58	0.03	-4.58	
11866.00	90.950	336.960	6570.36	5191.10	5122.43	-1097.09	1666413.95	14321919.86	39°26'21.999"N	80°54'28.514"W	5238.60	347.911	2.46	0.13	-2.46	
11980.00	90.890	334.920	6568.85	5284.82	5208.25	-1135.41	1666375.65	14322005.64	39°26'22.547"N	80°54'29.001"W	5330.57	347.702	2.17	-0.06	-2.17	
12076.00	90.890	333.390	6567.36	5380.28	5294.63	-1177.25	1666333.82	14322091.99	39°26'23.401"N	80°54'29.533"W	5423.93	347.464	1.59	0.00	-1.59	
12171.00	91.080	333.980	6565.73	5474.65	5379.77	-1219.36	1666291.73	14322177.10	39°26'24.243"N	80°54'30.089"W	5516.23	347.229	0.65	0.20	0.62	
12265.00	90.830	338.400	6564.16	5568.38	5465.74	-1257.29	1666253.81	14322263.03	39°26'25.093"N	80°54'30.551"W	5608.48	347.045	4.71	-0.27	4.70	
12360.00	90.950	340.760	6562.68	5663.36	5554.75	-1290.43	1666220.68	14322352.01	39°26'25.973"N	80°54'30.972"W	5702.67	346.922	2.49	0.13	2.48	
12455.00	90.650	340.630	6561.36	5758.35	5644.40	-1321.84	1666189.29	14322441.62	39°26'26.860"N	80°54'31.372"W	5797.11	346.820	0.34	-0.32	-0.14	
12550.00	90.650	341.650	6560.28	5853.33	5734.29	-1352.54	1666158.60	14322531.48	39°26'27.749"N	80°54'31.762"W	5891.65	346.728	1.07	0.00	1.07	
12644.00	90.520	340.500	6559.32	5947.31	5823.21	-1383.03	1666128.12	14322620.36	39°26'28.628"N	80°54'32.149"W	5985.19	346.640	1.23	-0.14	-1.22	
12739.00	90.620	338.780	6558.37	6042.30	5912.26	-1416.08	1666095.09	14322709.38	39°26'29.508"N	80°54'32.569"W	6079.48	346.531	1.81	0.11	-1.81	
12834.00	90.650	338.760	6557.32	6137.20	6000.19	-1452.02	1666059.17	14322797.27	39°26'30.378"N	80°54'33.026"W	6173.38	346.396	2.13	0.03	-2.13	
12929.00	90.550	339.770	6556.33	6232.13	6088.42	-1487.19	1666024.01	14322885.47	39°26'31.250"N	80°54'33.473"W	6267.43	346.273	3.17	-0.11	3.17	
13024.00	90.610	342.220	6555.36	6327.11	6178.23	-1518.12	1665993.09	14322975.24	39°26'32.138"N	80°54'33.867"W	6362.02	346.195	2.58	0.06	2.58	
13119.00	90.550	340.410	6554.40	6422.08	6268.22	-1548.55	1665962.67	14323065.19	39°26'33.028"N	80°54'34.253"W	6456.67	346.123	1.91	-0.06	-1.91	
13214.00	90.280	339.410	6553.72	6517.08	6357.43	-1581.19	1665930.05	14323154.37	39°26'33.910"N	80°54'34.668"W	6551.12	346.033	1.09	-0.28	-1.05	
13309.00	89.880	338.880	6553.58	6612.07	6446.50	-1614.23	1665897.02	14323243.40	39°26'34.790"N	80°54'35.088"W	6645.53	345.942	0.65	-0.42	0.49	
13404.00	89.850	338.650	6553.81	6707.06	6535.35	-1647.86	1665863.40	14323332.21	39°26'35.669"N	80°54'35.516"W	6739.90	345.848	1.30	-0.03	-1.29	
13500.00	89.850	340.130	6554.06	6803.05	6625.20	-1681.65	1665829.62	14323422.03	39°26'36.557"N	80°54'35.945"W	6835.29	345.758	1.54	0.00	1.54	
13595.00	89.820	338.800	6554.33	6898.04	6714.16	-1714.98	1665796.31	14323511.95	39°26'37.437"N	80°54'36.369"W	6929.73	345.671	1.40	-0.03	-1.40	
13690.00	89.780	339.270	6554.66	6993.02	6802.87	-1748.97	1665762.33	14323599.63	39°26'38.314"N	80°54'36.801"W	7024.10	345.582	0.50	-0.04	0.49	
13784.00	89.850	340.160	6554.97	7087.01	6891.04	-1781.56	1665729.76	14323687.76	39°26'39.185"N	80°54'37.215"W	7112.19	345.505	0.95	0.07	0.95	
13879.00	90.220	339.950	6554.91	7182.01	6980.34	-1813.96	1665697.36	14323777.03	39°26'40.068"N	80°54'37.627"W	7206.87	345.433	0.45	0.39	-0.22	
13974.00	90.310	341.600	6554.47	7277.00	7070.04	-1845.24	1665666.10	14323866.69	39°26'40.955"N	80°54'38.025"W	7306.87	345.372	1.74	0.09	1.74	
14069.00	90.310	342.490	6553.96	7370.85	7159.46	-1874.22	1665637.13	14323956.07	39°26'41.839"N	80°54'38.393"W	7400.71	345.330	0.95	0.00	0.95	
14163.00	90.400	344.790	6553.37	7465.77	7250.60	-1900.98	1665610.39	14324046.18	39°26'42.740"N	80°54'38.733"W	7495.66	345.309	2.42	0.09	2.42	
14258.00	90.400	342.810	6552.71	7560.57	7341.83	-1927.48	1665583.89	14324138.37	39°26'43.642"N	80°54'39.070"W	7590.62	345.290	2.08	0.00	-2.08	
14353.00	90.400	339.610	6552.04	7655.55	7431.75	-1958.07	1665553.31	14324228.25	39°26'44.531"N	80°54'39.458"W	7685.37	345.239	3.37	0.00	-3.37	
14449.00	90.400	340.790	6551.37	7751.54	7522.07	-1990.59	1665520.81	14324318.54	39°26'45.424"N	80°54'39.872"W	7781.00	345.177	1.23	0.00	1.23	
14544.00	90.430	340.970	6550.69	7846.53	7611.83	-2021.71	1665489.70	14324408.26	39°26'46.312"N	80°54'40.267"W	7875.73	345.126	0.19	0.03	0.19	

RECEIVED  
Office of Oil and Gas  
FEB 13 2019  
WV Department of  
Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'

Page 8 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	San Juan Unit 1H
Field	Tyler	Wellbore	San Juan Unit 1H AWB
Facility	Vera Pad		

WELLPATH DATA (188 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	
14639.00	90.340	339.770	6550.05	7941.53	7701.30	-2053.62	1665457.80	14324497.70	39°26'47.196"N	80°54'40.673"W	7970.41	345.069	1.27	-0.09	-1.26		
14734.00	90.370	338.020	6549.46	8036.50	7789.92	-2087.83	1665423.61	14324586.29	39°26'48.073"N	80°54'41.108"W	8064.86	344.996	1.84	0.03	-1.84		
14829.00	90.220	337.150	6548.97	8131.40	7877.74	-2124.05	1665387.40	14324674.07	39°26'48.941"N	80°54'41.569"W	8159.07	344.910	0.93	-0.16	-0.92		
14924.00	90.280	336.470	6548.56	8226.23	7965.07	-2161.46	1665350.01	14324761.36	39°26'49.804"N	80°54'42.044"W	8253.13	344.817	0.72	0.06	-0.72		
15019.00	90.460	336.690	6547.94	8321.04	8052.24	-2199.22	1665312.27	14324848.50	39°26'50.666"N	80°54'42.525"W	8347.16	344.724	0.30	0.19	0.23		
15113.00	90.220	337.840	6547.38	8414.91	8138.93	-2235.54	1665275.95	14324935.15	39°26'51.523"N	80°54'42.987"W	8440.37	344.641	1.25	-0.26	1.22		
15208.00	90.430	338.720	6546.85	8509.86	8227.19	-2270.70	1665240.81	14325023.37	39°26'52.396"N	80°54'43.434"W	8534.79	344.571	0.95	0.22	0.93		
15278.00	90.430	338.720	6546.32	8579.83	8292.41	-2296.10	1665215.42	14325088.57	39°26'53.041"N	80°54'43.757"W	8604.43	344.523	0.00	0.00	0.00	Projected MD at TD: 15278'	

HOLE & CASING SECTIONS - Ref Wellbore: San Juan Unit 1H AWB Ref Wellpath: San Juan Unit 1H AWP Proj: 15278'									
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	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.08	-0.12
17.5in Open Hole	104.50	747.50	643.00	104.50	747.49	-0.08	-0.12	-2.92	-1.22
13.375in Casing Surface	24.50	747.50	723.00	24.50	747.49	0.00	0.00	-2.92	-1.22
12.25in Open Hole	747.50	2594.50	1847.00	747.49	2594.27	-2.92	-1.22	-5.01	6.35
9.625in Casing Intermediate	24.50	2594.50	2570.00	24.50	2594.27	0.00	0.00	-5.01	6.35
8.75in Open Hole	2594.50	6540.50	3946.00	2594.27	6417.08	-5.01	6.35	135.03	655.19
8.5in Open Hole	6540.50	15208.00	8667.50	6417.08	6546.85	135.03	655.19	8227.19	-2270.70
5.5in Casing Production	24.50	15208.00	15183.50	24.50	6546.85	0.00	0.00	8227.19	-2270.70

RECEIVED  
 Office of Oil and Gas  
 FEB 13 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'

Page 9 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	San Juan Unit 1H
Field	Tyler	Wellbore	San Juan Unit 1H AWB
Facility	Vera Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
San Juan Unit 1H POE - Rev-2	6560.00	346.03	588.43	1668098.79	14317145.38	39°25'34.474"N	80°54'07.097"W	point
San Juan Unit 1H BHL - Rev-1	6586.00	8301.70	-2277.41	1665234.10	14325097.86	39°26'53.133"N	80°54'43.518"W	point
San Juan Unit 1H LP - Rev-1	6586.00	506.57	530.60	1668040.98	14317305.85	39°25'36.061"N	80°54'07.832"W	point

WELLPATH COMPOSITION - Ref Wellbore: San Juan Unit 1H AWB					Ref Wellpath: San Juan Unit 1H AWP Proj: 15278'	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore		
24.50	739.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-730')	San Juan Unit 1H AWB		
739.50	1092.50	Gyrodata standard - Drop gyro or Multi-shot	02 Gyrodata MS Gyro <12-1/4">(730')(795'-1083')	San Juan Unit 1H AWB		
1092.50	2511.50	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <12-1/4">(1083')(1166'-2502')	San Juan Unit 1H AWB		
2511.50	6479.50	ISCWSA MWD, Rev. 4 (Standard)	04 WFT EM <8-3/4">(2502')(2625'-6470')	San Juan Unit 1H AWB		
6479.50	15208.00	BHI AutoTrak Curve (Short)	05 BHI AT Curve <8-1/2">(6479.5')(6520'-15208')	San Juan Unit 1H AWB		
15208.00	15278.00	Blind Drilling (std)	Projection to bit	San Juan Unit 1H AWB		

RECEIVED  
 Office of Oil and Gas  
 FEB 13 2019  
 WV Department of  
 Environmental Protection





# Actual Wellpath Report

San Juan Unit 1H AWP Proj: 15278'

Page 10 of 10



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Tyler County, WV	Well	San Juan Unit 1H
Field	Tyler	Wellbore	San Juan Unit 1H AWB
Facility	Vera Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-095-02380-0000 BHI Job #: 8752021 Rig: Frontier 22 Duration: 09/05/2017-09/06/2017 Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-730') Gyrodata MS Gyro &lt;12-1/4"&gt; (730')(795'-1083') WFT EM &lt;12-1/4"&gt; (1083')(1166'-2502') WFT EM &lt;8-3/4"&gt; (2502')(2625'-6470') BHI AT Curve &lt;8-1/2"&gt; (6479.5')(6520'-15208') Middlesex: 6529' MD Burkett: 6669' MD Tully: 6718' MD Marcellus POE: 6795' MD Projected MD at TD: 15278'</p>

RECEIVED  
Office of Oil and Gas  
FEB 13 2019  
WV Department of  
Environmental Protection