

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Rush Fork Pad

Slot: Slot #13
 Well: Robert Lee Unit 2H
 Wellbore: Robert Lee Unit 2H PWB



Pad reference wellbore is Robert Lee Unit 2H PWB Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 32 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 32 (RKB)	Scale: True distance
Frontier 32 (RKB) to Mean Sea Level: 1018 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #13): -986 feet	Created by: mccomb on 2018-06-01
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERLUS_Defn

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude
Rush Fork Pad	1649000.870	14313796.070	39.29101492°N
Slot	Local N (ft)	Local E (ft)	Longitude
Slot #13	-118.58	-17.38	80°58'10.800"W
Frontier 32 (RKB) to Ground level (At Slot: Slot #13)	32ft		
Mean Sea Level to Ground level (At Slot: Slot #13)			-986ft
Frontier 32 (RKB) to Mean Sea Level			1018ft

Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)
The On	5439.00	7.630	214.580	5410.79	-426.16	-300.67
Proj. To Bottom	5509.00	7.700	217.000	5480.17	-433.73	-306.13
End of 9D Arc	6191.29	51.405	329.000	6076.94	-225.09	-494.70
POE	6478.63	72.189	329.000	6212.00	-9.81	-614.41
Landing Pt.	6725.09	90.000	329.000	6250.00	188.08	-739.31
On Azimuth	7098.11	90.000	340.191	6250.00	534.17	-899.08
BHL	18180.11	90.000	340.191	6250.00	1094.18	-4647.82

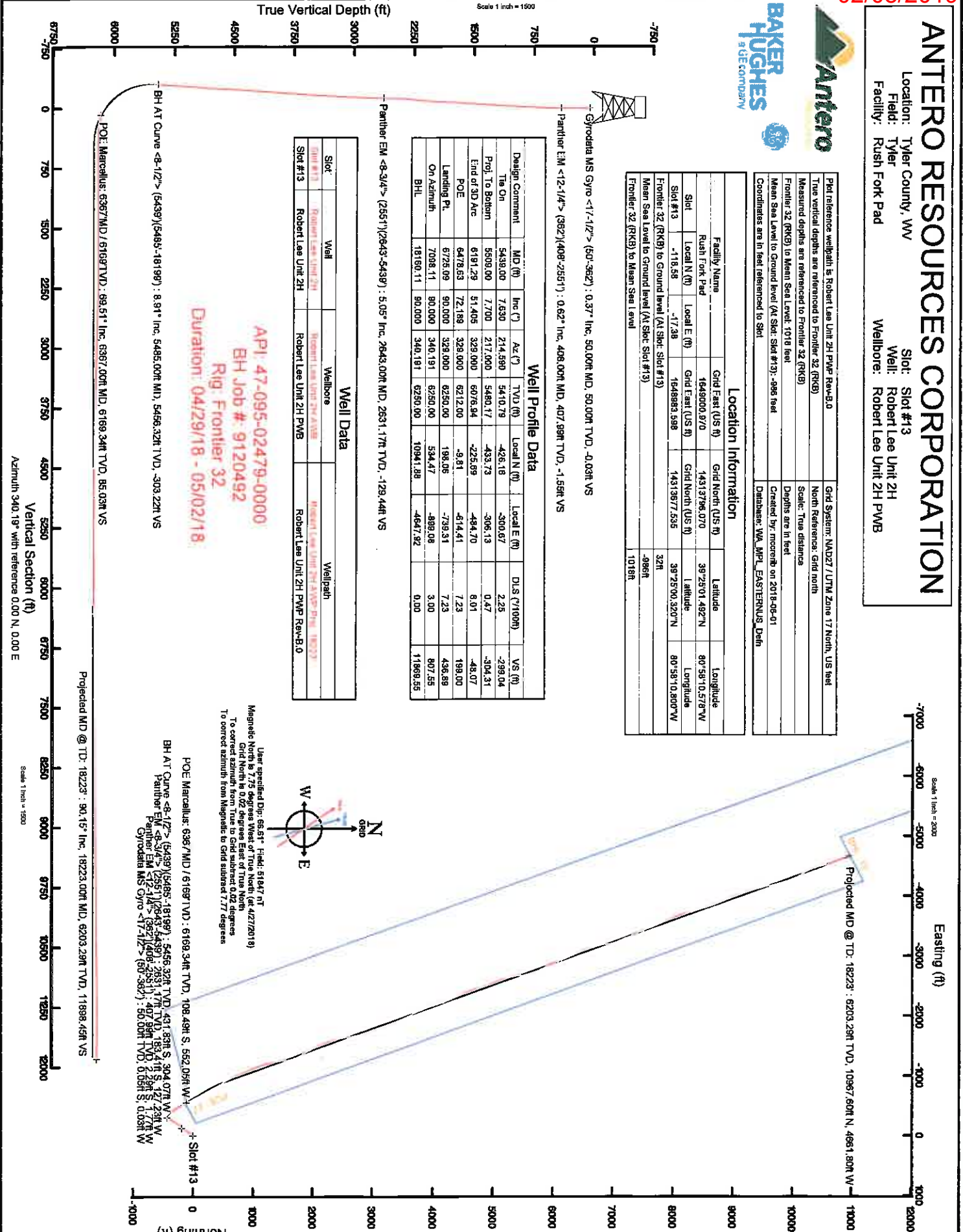
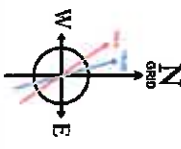
Well Data			
Slot	Well	Wellbore	Wellpath
Slot #13	Robert Lee Unit 2H	Robert Lee Unit 2H PWB	Robert Lee Unit 2H PWB Rev-B.0

API: 47-095-02479-0000
 EH Job #: 9120492
 Rig: Frontier 32
 Duration: 04/29/18 - 05/02/18

BH AT Curve <-1/2"> (5439)(5485-18199) : 8.91° Inc. 5485.00ft MD. 5456.32ft TVD. -303.22ft VS
 POE Marcellus: 6367/MD / 6169/TVD : 69.51° Inc. 6367.00ft MD. 6169.34ft TVD. 85.03ft VS

User specified Dir: 66.61° Field: 61847 AT
 Magnetic North is 7.75 degrees West of True North (at 4/27/2018)
 Grid North is 0.62 Degrees East of True North
 To correct azimuth from True to Grid subtract 0.62 degrees
 To correct azimuth from Magnetic to Grid subtract 7.77 degrees

POE Marcellus: 6367/MD / 6169/TVD : 6169.34ft TVD. 108.49ft S. 552.05ft W
 BH AT Curve <-1/2"> (5439)(5485-18199) : 5456.32ft TVD. 431.83ft S. 304.07ft W
 Panther EM <-3/4"> (2551)(2643-5439) : 2631.17ft TVD. 183.41ft S. 127.23ft W
 Panther EM <-1/2-1/4"> (362)(408-2551) : 407.98ft TVD. 2.29ft S. 1.77ft W
 Gyrodeta MS Gyro <-1/2-1/4"> (50-382) : 50.00ft TVD. 0.05ft S. 0.05ft W



Projected MD @ TD: 18223 : 90.15° Inc. 18223.00ft MD. 6203.29ft TVD. 11898.45ft VS

Scale 1 inch = 1500

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Actual Wellpath Report

Robert Lee Unit 2H AWP Proj: 18223'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #13
Area	Tyler County, WV	Well	Robert Lee Unit 2H
Field	Tyler	Wellbore	Robert Lee Unit 2H AWB
Facility	Rush Fork Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect@ 5.1
North Reference	Grid	User	McCreth
Scale	0.999600	Report Generated	5/23/2018 at 11:13:41 AM
Convergence at slot	0.02° East	Database/Source file	WA_MPL_EASTERNUS_Defn/Robert_Lee_Unit_2H_AWP_Proj_18223.xml

WELLPATH LOCATION							
	Local coordinates			Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude	
Slot Location	-118.58	-17.38	1648983.60	14313677.54	39°25'00.320"N	80°58'10.800"W	
Facility Reference Pt			1649000.97	14313796.07	39°25'01.492"N	80°58'10.578"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 (RKB) to Facility Vertical Datum	1018.00ft
Horizontal Reference Pt	Slot	Frontier 32 (RKB) to Mean Sea Level	1018.00ft
Vertical Reference Pt	Frontier 32 (RKB)	Frontier 32 (RKB) to Ground Level at Slot (Slot #13)	32.00ft
MD Reference Pt	Frontier 32 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	340.19°

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Robert Lee Unit 2H AWP Proj: 18223'
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REFERENCE WELLPATH IDENTIFICATION		Operator	ANTERO RESOURCES CORPORATION	Area	Tyler County, WV	Field	Tyler	Slot	Slot #13
		Facility	Rush Fork Pad	Well	Wellbore	Wellbore	Robert Lee Unit 2H AWP	Robert Lee Unit 2H	Robert Lee Unit 2H

WELLPATH DATA (221 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	ft	ft	°	°	ft	°	ft/100ft	°/100ft	ft/100ft	
0.00†	0.009	215.340	0.00	0.00	0.00	0.00	1648983.60	14313677.54	39°25'00.320"N	80°58'10.800"W	0.00	0.000	0.00	0.00	0.00	
32.00	0.009	215.340	32.00	0.00	0.00	0.00	1648983.60	14313677.54	39°25'00.320"N	80°58'10.800"W	0.00	0.000	0.00	0.00	0.00	
50.00	0.370	215.340	50.00	-0.03	-0.05	-0.03	1648983.56	14313677.49	39°25'00.320"N	80°58'10.800"W	0.06	215.340	2.06	2.06	-803.67	Gyrodata MIS Gyro <17.412"> (50'-362')
75.00	0.500	225.200	75.00	-0.13	-0.19	-0.16	1648983.44	14313677.35	39°25'00.318"N	80°58'10.802"W	0.25	219.677	0.60	0.52	39.44	
100.00	0.570	220.800	100.00	-0.23	-0.38	-0.32	1648983.28	14313677.17	39°25'00.316"N	80°58'10.804"W	0.48	221.221	0.32	0.28	-17.60	
125.00	0.690	220.010	125.00	-0.37	-0.57	-0.49	1648983.10	14313676.96	39°25'00.314"N	80°58'10.806"W	0.75	220.910	0.48	0.48	-3.16	
150.00	0.270	225.860	150.00	-0.47	-0.73	-0.63	1648982.97	14313676.81	39°25'00.313"N	80°58'10.808"W	0.96	221.072	1.69	-1.68	23.40	
175.00	0.280	211.490	175.00	-0.53	-0.82	-0.71	1648982.89	14313676.72	39°25'00.312"N	80°58'10.809"W	1.08	220.784	0.28	0.04	-57.48	
200.00	0.330	238.990	199.99	-0.58	-0.91	-0.80	1648982.80	14313676.63	39°25'00.311"N	80°58'10.810"W	1.21	221.380	0.61	0.20	110.00	
225.00	0.370	202.520	224.99	-0.66	-1.02	-0.89	1648982.70	14313676.51	39°25'00.310"N	80°58'10.811"W	1.36	221.207	0.89	0.16	-145.88	
250.00	0.290	211.530	249.99	-0.76	-1.15	-0.96	1648982.64	14313676.39	39°25'00.309"N	80°58'10.812"W	1.50	219.809	0.38	-0.32	36.04	
275.00	0.310	223.520	274.99	-0.83	-1.25	-1.04	1648982.56	14313676.28	39°25'00.308"N	80°58'10.813"W	1.63	219.642	0.26	0.08	47.96	
300.00	0.450	227.900	299.99	-0.89	-1.37	-1.16	1648982.44	14313676.17	39°25'00.306"N	80°58'10.815"W	1.79	220.240	0.57	0.58	17.52	
325.00	0.520	210.750	324.99	-1.00	-1.53	-1.29	1648982.31	14313676.01	39°25'00.305"N	80°58'10.816"W	2.00	220.079	0.64	0.28	-68.80	
350.00	0.620	210.310	349.99	-1.16	-1.74	-1.41	1648982.18	14313675.79	39°25'00.303"N	80°58'10.818"W	2.25	219.024	0.40	0.40	-1.76	
382.00	0.660	210.000	361.99	-1.25	-1.86	-1.48	1648982.12	14313675.68	39°25'00.302"N	80°58'10.819"W	2.38	218.528	0.33	0.33	-2.58	
408.00	0.620	218.430	407.99	-1.55	-2.29	-1.77	1648981.83	14313675.25	39°25'00.297"N	80°58'10.823"W	2.89	217.739	0.22	-0.06	18.33	Parthier EM <12-114"> (362')(408'-2551')
497.00	2.520	219.310	496.95	-2.81	-4.18	-3.31	1648980.29	14313673.36	39°25'00.279"N	80°58'10.842"W	5.33	218.378	2.13	2.13	0.99	
589.00	5.080	223.940	588.74	-5.65	-8.67	-7.42	1648976.19	14313668.66	39°25'00.234"N	80°58'10.895"W	11.41	220.526	2.80	2.76	5.03	
679.00	6.190	222.130	678.30	-9.69	-15.14	-13.44	1648970.17	14313662.40	39°25'00.170"N	80°58'10.971"W	20.24	221.882	1.25	1.23	-2.01	
770.00	6.580	217.410	768.74	-14.82	-22.92	-19.89	1648963.71	14313654.52	39°25'00.094"N	80°58'11.054"W	30.35	220.955	0.72	0.43	-5.19	
865.00	5.790	216.530	863.19	-20.43	-31.10	-26.05	1648957.56	14313645.45	39°25'00.013"N	80°58'11.132"W	40.57	219.957	0.84	-0.83	-0.93	
960.00	5.300	214.550	957.74	-25.64	-38.56	-33.39	1648952.22	14313638.99	39°24'59.839"N	80°58'11.200"W	49.72	219.151	0.55	-0.52	-2.08	
1055.00	4.910	210.540	1052.36	-30.79	-45.88	-35.95	1648947.66	14313632.58	39°24'59.859"N	80°58'11.258"W	58.13	218.204	0.56	-0.41	-4.22	
1149.00	5.920	215.120	1145.94	-36.14	-53.11	-40.78	1648942.83	14313624.45	39°24'59.795"N	80°58'11.320"W	66.96	217.521	1.17	1.07	4.87	
1245.00	6.100	219.930	1241.42	-41.56	-61.07	-46.90	1648938.71	14313616.49	39°24'59.717"N	80°58'11.398"W	77.00	217.527	0.66	0.18	6.01	
1340.00	7.110	219.560	1335.79	-47.08	-69.46	-53.90	1648929.72	14313608.10	39°24'59.634"N	80°58'11.467"W	87.92	217.813	1.06	1.06	-0.19	
1434.00	5.920	212.130	1428.28	-53.02	-76.04	-60.20	1648923.42	14313599.53	39°24'59.549"N	80°58'11.567"W	98.56	217.648	1.56	-1.27	-8.11	
1529.00	5.700	205.740	1523.69	-59.34	-86.44	-64.36	1648918.77	14313591.13	39°24'59.466"N	80°58'11.627"W	108.06	216.882	0.72	-0.23	-6.73	
1625.00	5.920	200.930	1619.20	-60.43	-95.35	-68.09	1648914.93	14313582.22	39°24'59.378"N	80°58'11.676"W	117.52	215.770	0.56	0.23	-5.01	

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Robert Lee Unit 2H AWP Proj: 18223'
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REFERENCE WELLPATH IDENTIFICATION		Slot
Operator	ANTERO RESOURCES CORPORATION	Slot #13
Area	Tyler County, WV	Well
Field	Tyler	Wellbore
Facility	Rush Fork Pad	Robert Lee Unit 2H
		Robert Lee Unit 2H AWB

WELLPATH DATA (221 stations)																
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	ft	ft	ft	ft	ft	ft	ft/100ft	ft/100ft	°/100ft	
1720.00	5.080	201.240	1713.76	-73.31	-103.85	-71.97	1648911.66	14313578.73	39°24'58.294"N	80°58'11.717"W	126.35	214.722	0.88	-0.88	0.33	
1815.00	4.422	212.210	1808.44	-78.74	-110.87	-75.44	1648908.18	14313568.71	39°24'58.224"N	80°58'11.762"W	134.10	214.235	1.18	-0.68	11.55	
1910.00	6.410	226.320	1903.01	-83.14	-117.63	-81.23	1648902.40	14313559.95	39°24'58.156"N	80°58'11.836"W	142.95	214.628	2.51	2.09	14.85	
2005.00	8.090	228.830	1997.25	-87.72	-125.89	-90.10	1648893.54	14313551.89	39°24'58.078"N	80°58'11.949"W	154.65	215.634	1.80	1.77	2.64	
2099.00	7.690	216.530	2090.37	-93.61	-135.10	-98.82	1648884.82	14313542.49	39°24'58.985"N	80°58'12.060"W	167.39	216.184	1.84	-0.43	-13.09	
2195.00	8.090	199.430	2185.47	-102.41	-146.63	-104.89	1648878.75	14313530.96	39°24'58.871"N	80°58'12.137"W	180.29	215.578	2.47	0.42	-17.81	
2289.00	6.890	191.550	2278.67	-112.35	-158.40	-108.22	1648875.42	14313519.20	39°24'58.755"N	80°58'12.180"W	191.84	214.343	1.68	-1.28	-8.38	
2384.00	5.300	207.230	2373.13	-120.20	-167.88	-111.37	1648872.27	14313509.72	39°24'58.661"N	80°58'12.220"W	201.46	213.560	2.41	-1.67	16.51	
2479.00	4.810	228.740	2467.77	-124.68	-174.46	-116.44	1648867.21	14313499.24	39°24'58.598"N	80°58'12.284"W	208.75	213.719	2.04	-0.41	22.64	
2551.00	4.820	231.740	2539.51	-126.76	-178.37	-121.13	1648862.52	14313489.24	39°24'58.557"N	80°58'12.344"W	215.61	214.180	2.37	-0.12	4.17	
2645.00	5.050	229.230	2631.17	-129.44	-183.41	-121.23	1648856.42	14313484.20	39°24'58.508"N	80°58'12.422"W	223.22	214.749	0.34	0.25	-2.79	another EM -8.3/4" (2551)(2643-5439)
2738.00	5.180	227.010	2725.79	-132.62	-189.06	-133.53	1648850.12	14313478.55	39°24'58.452"N	80°58'12.502"W	231.46	215.233	0.25	0.14	-2.34	
2834.00	5.100	224.740	2821.40	-136.16	-195.05	-138.71	1648843.95	14313462.57	39°24'58.393"N	80°58'12.581"W	238.92	215.613	0.23	-0.08	-2.36	
2929.00	5.360	225.400	2916.01	-139.82	-201.15	-145.82	1648837.84	14313446.47	39°24'58.332"N	80°58'12.659"W	248.44	215.940	0.25	0.24	0.89	
3029.00	5.360	225.260	3015.57	-143.74	-207.69	-152.44	1648831.22	14313439.92	39°24'58.268"N	80°58'12.743"W	257.64	216.278	0.03	0.03	-0.14	
3124.00	5.990	224.460	3110.11	-147.78	-214.36	-159.07	1648824.59	14313433.27	39°24'58.202"N	80°58'12.828"W	266.93	216.578	0.67	0.68	-0.84	
3219.00	5.820	217.620	3204.60	-152.51	-221.77	-165.48	1648818.18	14313425.92	39°24'58.129"N	80°58'12.909"W	276.66	216.737	0.78	-0.18	-7.20	
3315.00	5.340	211.800	3300.15	-157.90	-229.36	-170.81	1648812.86	14313418.27	39°24'58.054"N	80°58'13.077"W	285.97	216.675	0.77	-0.50	-6.06	
3410.00	6.520	217.290	3394.72	-163.13	-236.75	-175.90	1648807.77	14313410.88	39°24'57.981"N	80°58'13.042"W	294.95	216.612	0.58	0.19	5.78	
3505.00	6.240	219.600	3489.22	-168.24	-244.37	-181.96	1648801.71	14313403.27	39°24'57.905"N	80°58'13.120"W	304.67	216.672	0.80	0.76	2.43	
3600.00	6.400	211.160	3583.65	-174.20	-252.88	-187.99	1648795.68	14313394.76	39°24'57.821"N	80°58'13.198"W	315.10	216.628	0.99	0.17	-8.88	
3695.00	6.460	207.370	3678.05	-181.17	-262.15	-193.19	1648790.49	14313385.49	39°24'57.730"N	80°58'13.263"W	325.65	216.388	0.45	0.05	-3.99	
3790.00	6.790	210.250	3772.42	-188.40	-271.75	-198.48	1648785.20	14313376.89	39°24'57.635"N	80°58'13.330"W	336.51	216.143	0.49	-0.35	3.03	
3885.00	6.710	206.870	3866.76	-195.82	-281.55	-203.81	1648779.87	14313368.10	39°24'57.538"N	80°58'13.398"W	347.58	215.901	0.43	-0.08	-3.56	
3980.00	6.620	214.950	3961.12	-202.78	-290.99	-209.46	1648774.22	14313359.66	39°24'57.445"N	80°58'13.470"W	358.54	215.747	0.99	-0.09	8.51	
4075.00	6.610	206.320	4055.49	-209.73	-300.38	-215.02	1648768.66	14313351.28	39°24'57.352"N	80°58'13.541"W	369.41	215.586	1.05	-0.01	-9.08	
4170.00	6.260	218.700	4149.90	-216.23	-309.32	-220.68	1648763.07	14313342.74	39°24'57.264"N	80°58'13.613"W	379.98	215.505	1.50	-0.37	13.03	
4266.00	6.500	214.290	4245.30	-222.12	-317.90	-227.02	1648756.07	14313336.76	39°24'57.179"N	80°58'13.684"W	390.64	215.531	0.57	0.25	-4.59	
4361.00	7.000	214.740	4339.64	-228.66	-327.10	-233.35	1648750.35	14313330.57	39°24'57.088"N	80°58'13.775"W	401.80	215.503	0.53	0.53	0.47	
4456.00	5.760	204.600	4434.06	-235.42	-336.19	-238.63	1648745.07	14313324.48	39°24'56.998"N	80°58'13.842"W	412.27	215.367	1.76	-1.31	-10.67	

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Robert Lee Unit 2H AWP Proj: 18223'
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REFERENCE WELLPATH IDENTIFICATION		Slot
Operator	ANTERO RESOURCES CORPORATION	Robert Lee Unit 2H
Area	Tyler County, WV	Well
Field	Tyler	Wellbore
Facility	Rush Fork Pad	Robert Lee Unit 2H AWP

WELLPATH DATA (221 stations) † = interpolated/extrapolated station																
MD	Inclination	Azimuth	TVD	Vert Secl	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	°	ft/100ft	ft/100ft	°/100ft	
4551.00	4.970	217.300	4528.64	-241.06	-343.80	243.11	1648740.59	14313333.87	39°24'56.923"N	80°58'13.869"W	421.07	215.285	1.50	-0.83	13.37	
4646.00	4.970	211.630	4623.29	-245.86	-350.58	-247.76	1648730.12	14313327.10	39°24'56.856"N	80°58'13.958"W	429.29	215.280	0.52	0.00	-5.97	
4741.00	6.560	222.280	4717.80	-250.98	-358.11	-253.58	1648730.12	14313319.57	39°24'56.781"N	80°58'14.032"W	438.80	215.303	2.03	1.69	11.21	
4836.00	6.530	219.230	4812.18	-256.30	-366.32	-260.66	1648723.05	14313311.36	39°24'56.700"N	80°58'14.123"W	449.59	215.434	0.37	-0.06	-3.21	
4931.00	6.940	213.010	4908.30	-263.59	-376.76	-268.14	1648715.56	14313300.92	39°24'56.597"N	80°58'14.218"W	462.44	215.439	2.78	2.64	-6.55	
5027.00	5.990	213.770	5095.76	-278.84	-397.40	-280.43	1648703.28	14313289.30	39°24'56.511"N	80°58'14.375"W	486.38	215.209	1.21	-1.00	6.05	
5122.00	6.130	213.940	5190.23	-284.78	-405.73	-286.02	1648697.70	14313277.97	39°24'56.511"N	80°58'14.446"W	486.41	215.182	0.15	0.15	0.18	
5217.00	6.210	218.990	5284.68	-290.45	-413.93	-292.08	1648691.84	14313263.77	39°24'56.423"N	80°58'14.575"W	506.60	215.208	0.58	0.08	5.32	
5312.00	6.980	212.600	5380.05	-296.69	-422.88	-298.49	1648685.23	14313254.83	39°24'56.393"N	80°58'14.605"W	521.55	215.205	2.25	2.10	6.42	
5408.00	7.630	214.590	5410.79	-299.04	-426.16	-300.67	1648683.05	14313251.55	39°24'56.109"N	80°58'14.633"W	521.55	215.205	2.25	2.10	6.42	
5495.00	8.910	207.770	5456.32	-303.22	-431.83	-304.07	1648679.65	14313245.88	39°24'55.948"N	80°58'14.676"W	537.99	215.151	3.50	2.78	-14.83	BH AT Curve <-8-1/2"> (5439)(5485-18199)
5584.00	7.740	226.590	5524.60	-308.59	-439.75	-309.92	1648673.79	14313237.96	39°24'55.975"N	80°58'14.717"W	543.44	215.176	4.27	-1.70	27.28	
5601.00	9.250	257.440	5571.18	-309.55	-442.50	-322.10	1648668.41	14313235.10	39°24'55.946"N	80°58'14.819"W	543.44	215.466	8.73	-0.02	65.84	
5645.00	11.900	299.100	5683.90	-301.49	-439.34	-330.04	1648653.69	14313238.37	39°24'55.979"N	80°58'15.007"W	549.50	216.914	8.68	5.70	36.00	
5744.00	14.900	307.680	5711.56	-292.36	-423.03	-349.45	1648644.26	14313244.68	39°24'56.041"N	80°58'15.127"W	550.22	218.093	7.28	6.06	17.51	
5791.00	18.770	315.030	5756.54	-280.41	-423.98	-349.59	1648634.15	14313253.73	39°24'56.131"N	80°58'15.266"W	549.52	219.507	9.38	8.23	15.64	
5839.00	22.340	319.040	5801.48	-284.91	-411.62	-361.03	1648622.72	14313266.08	39°24'56.253"N	80°58'15.402"W	547.52	221.254	7.99	7.44	8.35	
5896.00	26.020	323.150	5844.35	-246.71	-396.62	-373.07	1648610.68	14313281.08	39°24'58.401"N	80°58'15.555"W	544.51	223.248	8.61	7.83	8.74	
5933.00	29.730	326.140	5885.89	-225.54	-378.69	-385.75	1648598.00	14313299.00	39°24'58.579"N	80°58'15.717"W	540.56	225.530	8.43	7.89	8.36	
5980.00	33.220	327.240	5925.97	-201.68	-358.17	-399.22	1648584.54	14313319.50	39°24'58.781"N	80°58'15.888"W	536.34	228.102	7.53	7.43	2.34	
6028.00	36.780	327.820	5965.29	-174.82	-334.95	-413.99	1648569.76	14313342.72	39°24'57.011"N	80°58'16.076"W	532.52	231.025	7.45	7.42	1.21	
6075.00	40.800	327.650	6001.91	-146.08	-310.06	-429.71	1648554.07	14313367.60	39°24'57.257"N	80°58'16.276"W	528.89	234.187	8.56	8.56	-0.36	
6124.00	45.150	327.120	6037.76	-113.52	-281.93	-447.71	1648536.07	14313395.72	39°24'57.535"N	80°58'16.506"W	529.08	237.801	8.91	8.88	-1.08	
6155.00†	48.731	327.405	6058.92	-91.44	-262.88	-469.96	1648523.83	14313414.76	39°24'57.723"N	80°58'16.662"W	529.78	240.250	11.57	11.55	0.92	Middlesex: 6155MD / 6058TVD
6171.00	50.580	327.540	6069.28	-79.55	-252.60	-466.50	1648517.27	14313425.94	39°24'57.825"N	80°58'16.745"W	530.51	241.566	11.57	11.55	0.84	
6213.00	54.930	328.960	6098.32	-42.17	-220.31	-465.61	1648497.19	14313457.51	39°24'58.146"N	80°58'17.001"W	534.07	245.661	9.06	2.96	1.66	
6266.00	58.420	329.740	6124.14	-3.61	-186.33	-506.61	1648477.19	14313491.28	39°24'58.480"N	80°58'17.256"W	539.79	249.807	7.55	7.43	1.66	
6314.00	62.390	329.710	6147.84	37.43	-150.29	-527.65	1648456.16	14313527.31	39°24'58.836"N	80°58'17.524"W	548.54	254.102	8.27	8.27	-0.06	Burket: 6314MD / 6148TVD

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REFERENCE WELLPATH IDENTIFICATION		Slot
Operator	ANTERO RESOURCES CORPORATION	Well
Area	Tyler County, WV	Wellbore
Field	Tyler	
Facility	Rush Fork Pad	

WELLPATH DATA (221 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
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments		
6361.00	68.890	329.730	6167.21	79.51	-113.33	-549.23	1648434.59	14313564.25	39°24'59.202"N	80°58'17.789"W	580.80	258.341	13.83	13.83	0.04			
6367.00†	69.509	329.917	6169.34	85.03	-108.49	-552.05	1648431.77	14313569.09	39°24'59.250"N	80°58'17.834"W	562.61	258.882	10.73	10.32	3.12	POE Marcellus: 6367MD / 6169TTVD		
6409.00	73.850	331.190	6182.54	124.32	-73.77	-571.64	1648412.19	14313603.79	39°24'59.593"N	80°58'18.084"W	576.38	262.648	10.73	10.33	3.03			
6456.00	79.140	331.480	6193.52	169.46	-33.69	-593.53	1648390.29	14313643.86	39°24'59.989"N	80°58'18.363"W	594.51	266.752	11.27	11.28	0.62			
6504.00	84.760	331.530	6200.23	216.43	8.07	-616.22	1648367.63	14313685.80	39°25'00.402"N	80°58'18.652"W	616.27	270.750	11.71	11.71	0.10			
6551.00	89.140	331.950	6202.73	262.84	49.40	-638.43	1648345.42	14313726.91	39°25'00.810"N	80°58'18.934"W	640.34	274.424	9.36	9.32	0.89			
6599.00	88.950	331.960	6203.53	310.34	91.75	-661.00	1648322.87	14313769.25	39°25'01.229"N	80°58'19.222"W	667.34	277.903	0.40	-0.40	0.02			
6694.00	89.970	331.060	6206.01	498.00	258.30	-752.41	1648231.50	14313835.73	39°25'02.054"N	80°58'19.800"W	727.78	283.930	1.05	0.11	-1.04			
6799.00	89.000	331.920	6206.03	591.91	341.78	-797.75	1648188.17	14314019.17	39°25'03.706"N	80°58'20.386"W	795.51	288.947	0.97	0.97	0.09			
6884.00	90.000	330.670	6205.96	685.77	425.10	-843.38	1648140.56	14314102.46	39°25'04.524"N	80°58'21.544"W	844.45	296.750	1.32	1.32	-1.32			
7074.00	90.340	331.900	6205.60	779.62	505.41	-889.02	1648094.94	14314185.75	39°25'05.348"N	80°58'22.126"W	902.43	299.764	1.32	0.26	1.29			
7169.00	90.890	332.380	6204.58	873.68	592.40	-933.41	1648050.56	14314269.69	39°25'06.178"N	80°58'22.691"W	1105.53	302.402	0.77	0.58	0.51			
7284.00	90.250	334.070	6203.63	967.97	677.20	-976.20	1648007.79	14314354.47	39°25'07.016"N	80°58'23.236"W	1188.10	304.750	1.90	-0.67	1.78			
7359.00	90.370	340.850	6203.12	1062.80	764.83	-1012.78	1647971.25	14314442.06	39°25'07.882"N	80°58'23.701"W	1269.11	307.060	6.93	0.13	6.93			
7454.00	90.370	337.480	6202.51	1157.76	853.55	-1046.68	1647937.34	14314530.74	39°25'08.759"N	80°58'24.133"W	1350.59	309.197	3.33	0.00	-3.33			
7550.00	90.150	334.760	6202.07	1253.51	941.33	-1085.53	1647898.50	14314618.49	39°25'09.627"N	80°58'24.628"W	1436.83	310.930	2.85	-0.23	-2.84			
7644.00	90.400	336.640	6201.62	1347.22	1027.00	-1124.21	1647859.84	14314704.12	39°25'10.474"N	80°58'25.120"W	1522.68	312.412	2.02	0.27	2.00			
7739.00	90.310	340.070	6201.03	1442.15	1115.28	-1159.25	1647824.81	14314792.37	39°25'11.346"N	80°58'25.567"W	1608.64	313.893	3.61	-0.09	3.61			
7834.00	90.310	348.300	6200.67	1536.98	1206.17	-1186.72	1647797.36	14314883.23	39°25'12.245"N	80°58'25.916"W	1692.09	315.466	6.56	-0.20	6.56			
7929.00	90.120	347.410	6200.47	1631.33	1298.68	-1208.32	1647775.76	14314975.70	39°25'13.159"N	80°58'26.191"W	1773.87	317.064	1.17	0.00	1.17			
8024.00	90.180	347.580	6200.23	1726.56	1397.43	-1228.89	1647755.20	14315068.41	39°25'14.076"N	80°58'26.453"W	1858.41	318.549	0.19	0.06	0.18			
8119.00	90.220	350.290	6199.89	1819.45	1484.65	-1247.12	1647736.98	14315161.59	39°25'14.997"N	80°58'26.685"W	1938.95	319.969	2.85	0.04	2.85			
8214.00	90.520	348.260	6199.28	1913.25	1577.99	-1264.81	1647719.30	14315254.89	39°25'15.920"N	80°58'26.910"W	2022.32	321.267	2.17	0.32	-2.15			
8309.00	90.550	341.040	6198.39	2007.90	1669.53	-1289.95	1647694.17	14315346.40	39°25'16.825"N	80°58'27.230"W	2109.81	322.309	7.59	0.03	-7.59			
8404.00	90.090	333.940	6197.86	2102.73	1757.24	-1326.29	1647667.84	14315434.06	39°25'17.692"N	80°58'27.693"W	2201.57	322.956	7.49	-0.48	-7.47			
8499.00	89.890	334.390	6197.89	2197.84	1847.74	-1367.69	1647616.46	14315519.53	39°25'18.537"N	80°58'28.220"W	2294.84	323.417	0.52	-0.22	0.47			
8595.00	89.660	336.120	6198.25	2292.84	1926.92	-1407.87	1647576.09	14315606.68	39°25'19.399"N	80°58'28.732"W	2388.67	323.889	1.81	-0.20	1.80			
8690.00	87.040	331.030	6200.96	2387.13	2014.93	-1450.11	1647534.07	14315691.65	39°25'20.239"N	80°58'29.270"W	2482.49	324.256	6.04	-2.79	-5.36			
8785.00	89.200	336.480	6204.08	2481.44	2100.05	-1492.08	1647492.12	14315776.74	39°25'21.080"N	80°58'29.804"W	2576.14	324.806	6.17	2.27	5.74			

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	ANTERO RESOURCES CORPORATION	Well	Robert Lee Unit 2H
Area	Tyler County, WV	Wellbore	Robert Lee Unit 2H AWP
Field	Tyler		
Facility	Rush Fork Pad		

WELLPATH DATA (221 stations)																			
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	ft	ft	ft	ft	ft	ft	ft/100ft	ft/100ft	ft/100ft				
8880.00	88.650	338.710	6205.86	2576.52	2187.86	-1528.28	1647455.93	14315864.51	39°25'21.948"N	80°58'30.285"W	2668.78	325.065	2.42	-0.58	2.35				
8975.00	88.650	340.270	6208.10	2671.29	2276.81	-1561.56	1647422.67	14315853.43	39°25'22.828"N	80°58'30.689"W	2760.85	325.556	1.94	0.00	1.64				
9071.00	88.800	344.260	6210.23	2767.18	2368.21	-1590.78	1647393.45	14316044.78	39°25'23.731"N	80°58'31.061"W	2852.89	326.110	4.16	0.16	4.16				
9165.00	88.680	348.060	6212.30	2860.63	2459.44	-1613.28	1647370.98	14316135.98	39°25'24.633"N	80°58'31.347"W	2941.34	326.737	4.04	-0.13	4.04				
9260.00	88.650	346.730	6214.52	2954.85	2552.12	-1633.99	1647350.27	14316228.63	39°25'25.562"N	80°58'31.611"W	3030.39	327.371	1.40	-0.03	-1.40				
9355.00	88.580	346.520	6216.81	3049.23	2644.52	-1655.96	1647328.31	14316320.99	39°25'26.462"N	80°58'31.880"W	3120.20	327.946	0.23	-0.07	-0.22				
9450.00	88.680	347.180	6219.08	3143.56	2737.00	-1677.56	1647306.71	14316413.43	39°25'27.378"N	80°58'32.165"W	3210.20	328.495	0.70	0.11	0.69				
9545.00	88.480	343.770	6221.46	3238.11	2828.92	-1701.38	1647282.90	14316505.92	39°25'28.285"N	80°58'32.469"W	3301.13	328.978	3.60	-0.23	-3.59				
9641.00	88.650	341.380	6223.88	3333.99	2920.48	-1730.12	1647254.18	14316596.84	39°25'29.190"N	80°58'32.834"W	3394.48	329.357	2.50	0.20	-2.49				
9736.00	88.650	339.550	6226.11	3428.98	3008.98	-1761.67	1647222.43	14316686.91	39°25'30.074"N	80°58'33.239"W	3487.72	329.658	1.93	0.00	-1.93				
9831.00	88.490	338.660	6228.49	3523.91	3098.71	-1795.74	1647188.58	14316775.00	39°25'30.951"N	80°58'33.670"W	3581.43	329.907	0.95	-0.17	-0.94				
9826.00	88.180	340.350	6231.25	3618.86	3187.65	-1828.99	1647155.34	14316863.81	39°25'31.831"N	80°58'34.085"W	3676.10	330.154	1.81	-0.33	1.78				
10021.00	88.370	340.840	6234.71	3713.81	3277.21	-1860.54	1647123.81	14316953.43	39°25'32.716"N	80°58'34.485"W	3768.52	330.416	0.55	0.20	0.52				
10116.00	88.430	338.170	6236.76	3808.76	3366.16	-1893.78	1647090.57	14317042.34	39°25'33.595"N	80°58'34.819"W	3862.31	330.638	2.81	0.06	-2.81				
10211.00	88.680	335.930	6239.15	3903.58	3453.61	-1930.81	1647053.56	14317129.78	39°25'34.469"N	80°58'35.390"W	3956.69	330.792	2.97	0.28	-2.36				
10306.00	89.350	335.970	6240.79	3998.31	3540.34	-1969.52	1647014.87	14317216.46	39°25'35.317"N	80°58'35.883"W	4051.30	330.912	0.71	0.71	0.04				
10402.00	89.320	335.020	6241.90	4093.98	3627.69	-2009.34	1646975.07	14317303.77	39°25'36.180"N	80°58'36.380"W	4147.00	331.018	0.99	-0.03	-0.99				
10497.00	89.200	336.320	6243.13	4188.67	3714.24	-2048.47	1646935.95	14317390.29	39°25'37.036"N	80°58'36.899"W	4241.68	331.122	1.37	-0.13	-1.37				
10592.00	89.320	338.520	6244.36	4283.55	3801.95	-2084.95	1646899.49	14317477.98	39°25'37.903"N	80°58'37.363"W	4336.11	331.260	2.92	0.13	2.32				
10687.00	89.350	338.900	6245.46	4378.51	3890.46	-2119.44	1646865.01	14317566.43	39°25'38.778"N	80°58'37.792"W	4430.32	331.419	0.40	0.03	0.40				
10782.00	89.320	341.720	6246.56	4473.49	3979.89	-2151.44	1646833.02	14317655.83	39°25'39.661"N	80°58'38.200"W	4524.18	331.605	2.97	-0.03	2.97				
10877.00	89.290	342.840	6247.71	4568.42	4070.38	-2180.35	1646804.12	14317746.27	39°25'40.556"N	80°58'38.588"W	4617.56	331.824	1.18	-0.03	1.18				
10972.00	89.350	340.410	6248.84	4663.38	4160.52	-2210.30	1646774.19	14317836.38	39°25'41.447"N	80°58'38.949"W	4711.19	332.020	2.56	0.06	-2.56				
11067.00	89.170	336.940	6250.07	4758.32	4248.99	-2244.83	1646739.67	14317924.82	39°25'42.321"N	80°58'39.389"W	4805.54	332.152	3.66	-0.18	-3.65				
11162.00	89.420	334.930	6251.24	4853.05	4335.76	-2283.57	1646700.95	14318011.52	39°25'43.179"N	80°58'39.883"W	4900.33	332.225	2.13	0.26	-2.12				
11257.00	90.310	336.230	6251.46	4947.74	4422.22	-2322.84	1646661.69	14318097.98	39°25'44.034"N	80°58'40.383"W	4995.16	332.289	1.66	0.94	1.37				
11353.00	89.750	334.500	6251.41	5043.33	4509.48	-2362.06	1646621.69	14318185.20	39°25'44.896"N	80°58'40.899"W	5091.02	332.347	1.89	-0.58	-1.80				
11447.00	90.650	337.970	6251.08	5137.16	4585.42	-2400.73	1646583.83	14318271.18	39°25'45.746"N	80°58'41.375"W	5184.79	332.417	3.81	0.96	3.68				
11542.00	90.200	344.810	6250.31	5232.08	4685.50	-2431.19	1646553.39	14318361.07	39°25'46.635"N	80°58'41.763"W	5278.62	332.576	7.00	-0.39	6.99				
11637.00	90.220	343.600	6249.90	5326.86	4776.79	-2457.20	1646527.38	14318452.40	39°25'47.538"N	80°58'42.094"W	5371.74	332.778	1.07	-0.05	-1.05				

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REFERENCE WELLPATH IDENTIFICATION									
Operator	ANTERO RESOURCES CORPORATION								
Area	Tyler County, WV								
Field	Tyler								
Facility	Rush Fork Pad								
Slot	Slot #13								
Well	Robert Lee Unit 2H								
Wellbore	Robert Lee Unit 2H AWB								

WELLPATH DATA (221 stations)																
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	°	Ft/100ft	Ft/100ft	Ft/100ft	
11782.00	90.030	338.910	6249.69	5421.81	4866.72	-2487.72	1646496.87	14318542.50	39°25'48.42"N	80°58'42.483"W	5465.69	332.825	4.94	-0.20	-4.94	
88.380	337.480	6250.18	5516.75	4954.92	-2523.01	1646461.60	14318630.47	39°25'49.289"N	80°58'42.952"W	5560.29	333.015	1.65	-0.68	-1.51		
11822.00	89.980	339.370	6251.54	5611.69	5043.25	-2557.94	1646426.69	14318718.76	39°25'50.172"N	80°58'43.377"W	5654.88	333.106	2.03	-0.42	-1.99	
12018.00	90.430	342.510	6252.03	5707.67	5133.98	-2589.28	1646395.38	14318809.45	39°25'51.069"N	80°58'43.776"W	5749.96	333.236	3.60	1.51	3.27	
12113.00	89.720	343.580	6251.91	5802.55	5224.84	-2616.98	1646367.66	14318900.28	39°25'51.967"N	80°58'44.129"W	5845.60	333.385	1.35	-0.75	-1.13	
12208.00	89.850	346.280	6252.26	5897.21	5316.57	-2641.88	1646342.98	14318991.97	39°25'52.874"N	80°58'44.443"W	5936.70	333.578	2.85	0.14	2.84	
12303.00	90.620	348.620	6251.88	5991.44	5409.29	-2662.32	1646322.34	14319084.65	39°25'53.790"N	80°58'44.706"W	6028.96	333.795	2.59	0.81	2.46	
12398.00	91.080	349.360	6250.47	6085.32	5502.53	-2680.47	1646304.21	14319177.85	39°25'54.712"N	80°58'44.937"W	6120.68	334.028	0.92	0.48	0.78	
12493.00	92.310	344.390	6247.65	6179.60	5594.98	-2702.02	1646282.66	14319270.26	39°25'55.625"N	80°58'45.212"W	6213.27	334.222	5.39	1.29	-5.23	
12588.00	90.620	340.250	6245.22	6274.48	5685.44	-2730.66	1646253.84	14319360.69	39°25'55.520"N	80°58'45.579"W	6307.28	334.344	4.71	-1.78	-4.36	
12684.00	90.370	334.380	6244.39	6370.31	5773.97	-2767.86	1646216.85	14319449.18	39°25'57.395"N	80°58'46.050"W	6403.11	334.388	6.12	-0.26	-6.11	
12779.00	90.520	333.270	6243.66	6464.72	5859.22	-2809.77	1646174.98	14319534.40	39°25'58.237"N	80°58'46.584"W	6498.10	334.380	1.18	0.16	-1.17	
12873.00	90.220	336.380	6243.05	6558.29	5944.28	-2849.75	1646135.00	14319619.43	39°25'59.078"N	80°58'47.093"W	6592.08	334.385	3.32	-0.32	-3.31	
12968.00	90.460	342.240	6242.49	6653.24	6033.11	-2883.30	1646101.46	14319708.23	39°25'59.956"N	80°58'47.521"W	6686.89	334.456	6.17	0.25	6.17	
13063.00	90.490	339.910	6241.70	6748.22	6122.97	-2914.10	1646070.67	14319798.04	39°26'00.844"N	80°58'47.913"W	6781.08	334.549	2.45	0.03	-2.45	
13158.00	90.460	336.810	6240.91	6843.16	6211.26	-2949.13	1646035.65	14319888.30	39°26'01.717"N	80°58'48.359"W	6875.84	334.601	3.26	-0.03	-3.26	
13253.00	89.910	336.750	6240.60	6937.99	6298.56	-2986.69	1645998.21	14319973.67	39°26'02.580"N	80°58'48.836"W	6970.77	334.631	0.58	-0.58	-0.06	
13348.00	89.970	336.150	6240.70	7032.78	6385.65	-3024.54	1645960.27	14320060.82	39°26'03.441"N	80°58'49.320"W	7065.72	334.656	0.63	0.06	-0.63	
13443.00	89.850	335.540	6240.85	7127.51	6472.33	-3063.42	1645921.41	14320147.27	39°26'04.298"N	80°58'49.815"W	7160.70	334.671	0.65	-0.13	-0.64	
13538.00	89.690	341.820	6241.23	7222.43	6560.79	-3097.94	1645886.90	14320232.65	39°26'05.172"N	80°58'50.255"W	7255.42	334.724	6.61	-0.17	6.61	
13633.00	90.770	344.880	6240.85	7317.27	6651.79	-3125.16	1645859.70	14320326.65	39°26'06.077"N	80°58'50.801"W	7349.35	334.835	3.42	1.14	3.22	
13728.00	90.520	341.850	6239.78	7412.11	6742.80	-3152.35	1645832.52	14320417.82	39°26'06.977"N	80°58'50.948"W	7443.29	334.943	3.20	-0.26	-3.19	
13823.00	90.280	346.970	6239.13	7505.82	6833.31	-3177.60	1645807.27	14320508.10	39°26'07.866"N	80°58'51.269"W	7536.00	335.061	5.45	-0.26	5.45	
13918.00	90.650	349.900	6238.35	7600.81	6927.35	-3196.84	1645788.04	14320602.10	39°26'08.795"N	80°58'51.812"W	7629.41	335.228	3.08	0.39	3.05	
14012.00	91.050	341.300	6236.95	7694.30	7018.30	-3220.20	1645764.70	14320698.01	39°26'09.694"N	80°58'51.812"W	7721.80	335.353	9.16	0.43	-9.15	
14107.00	90.280	335.880	6235.85	7789.22	7106.70	-3254.86	1645730.05	14320781.38	39°26'10.568"N	80°58'52.253"W	7816.60	335.392	5.76	-0.81	-5.71	
14202.00	90.220	339.090	6235.03	7884.43	7194.45	-3291.23	1645695.69	14320869.09	39°26'11.435"N	80°58'52.716"W	7911.53	335.417	3.38	-0.06	3.38	
14298.00	90.220	338.280	6235.06	7980.06	7283.88	-3326.20	1645658.81	14320958.48	39°26'12.319"N	80°58'53.161"W	8007.37	335.457	0.84	0.84	-0.84	
14393.00	90.370	338.170	6234.57	8075.01	7372.10	-3361.37	1645623.58	14321046.67	39°26'13.191"N	80°58'53.610"W	8102.26	335.489	0.20	0.16	-0.12	
14488.00	90.490	339.000	6233.86	8169.97	7460.54	-3396.05	1645588.91	14321135.07	39°26'14.065"N	80°58'54.052"W	8197.12	335.525	0.98	0.13	0.87	

02/08/2019



Actual Wellpath Report
 Robert Lee Unit 2H AWP Proj: 18223
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #13
Operator	ANTERO RESOURCES CORPORATION	Well	Robert Lee Unit 2H
Area	Tyler County, WV	Wellbore	Robert Lee Unit 2H AWP
Field	Tyler		
Facility	Rush Fork Pad		

WELLPATH DATA (221 stations)																			
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate	Comments			
MI	°	°	MD	MI	MI	MI	US MI	US MI			MI	°	F/100ft	F/100ft	F/100ft				
14583.00	90.491	338.170	6233.05	8264.92	7548.98	-3430.74	1645554.24	14321223.48	39°26'14.93"N	80°56'54.49"W	8291.98	335.560	0.87	0.00	-0.87				
14677.00	90.346	339.080	6232.37	8358.88	7636.51	-3466.00	1645618.99	14321310.97	39°26'15.804"N	80°56'54.930"W	8385.85	335.594	0.98	-0.16	0.97				
14773.00	90.550	338.970	6231.62	8454.81	7725.52	-3500.92	1645484.09	14321399.95	39°26'16.684"N	80°56'55.388"W	8481.75	335.622	2.21	0.22	-2.20				
14867.00	90.400	335.820	6230.84	8548.80	7811.65	-3538.56	1645446.46	14321486.05	39°26'17.536"N	80°56'55.867"W	8575.74	335.630	1.23	-0.16	-1.22				
14961.00	90.430	338.120	6230.16	8642.34	7897.50	-3576.83	1645408.20	14321571.87	39°26'18.384"N	80°56'56.355"W	8669.74	335.634	0.32	0.03	0.32				
15056.00	91.540	336.870	6228.53	8737.13	7946.61	-3614.72	1645370.34	14321658.93	39°26'19.245"N	80°56'56.837"W	8764.71	335.643	1.41	-1.17	0.79				
15151.00	90.120	337.830	6227.15	8832.00	8072.27	-3651.28	1645333.77	14321746.56	39°26'20.112"N	80°56'57.303"W	8859.65	335.662	1.80	-1.49	1.01				
15246.00	89.170	344.430	6227.74	8926.93	8162.11	-3682.00	1645303.08	14321836.36	39°26'21.000"N	80°56'57.695"W	8954.17	335.719	7.02	-1.00	6.95				
15341.00	90.860	341.580	6227.72	9021.42	8254.27	-3704.97	1645280.11	14321928.49	39°26'21.911"N	80°56'57.987"W	9047.64	335.827	3.76	1.78	3.32				
15436.00	91.260	341.180	6225.96	9116.10	8345.70	-3730.53	1645254.56	14322019.88	39°26'22.814"N	80°56'58.313"W	9141.53	335.915	6.75	0.42	-6.74				
15532.00	90.580	341.420	6224.42	9212.07	8436.62	-3761.31	1645228.80	14322110.77	39°26'23.713"N	80°56'58.705"W	9237.10	335.971	2.75	-0.71	0.25				
15627.00	91.140	344.000	6222.99	9306.96	8527.31	-3789.54	1645195.58	14322201.42	39°26'24.609"N	80°56'59.064"W	9331.43	336.040	2.78	0.59	-2.72				
15721.00	90.990	340.550	6221.24	9400.87	8616.82	-3818.15	1645168.99	14322290.89	39°26'25.494"N	80°56'59.428"W	9424.85	336.102	3.67	-0.16	-3.67				
15816.00	90.580	338.010	6219.32	9495.84	8705.66	-3851.75	1645133.39	14322379.70	39°26'26.372"N	80°56'59.857"W	9519.69	336.133	2.71	-0.43	-2.67				
15911.00	90.650	337.590	6218.32	9590.75	8793.61	-3887.65	1645097.52	14322467.61	39°26'27.242"N	80°56'59.314"W	9614.65	336.150	0.45	0.07	-0.44				
16007.00	90.580	338.000	6217.89	9686.66	8882.49	-3923.92	1645061.25	14322556.45	39°26'28.120"N	80°56'59.776"W	9710.60	336.166	0.43	-0.07	0.43				
16102.00	90.680	336.670	6216.55	9781.61	8970.77	-3956.59	1645026.20	14322644.70	39°26'28.993"N	80°56'59.1223"W	9805.53	336.187	0.71	0.11	0.71				
16197.00	90.650	340.250	6215.74	9876.59	9059.72	-3992.32	1644992.88	14322733.52	39°26'29.872"N	80°56'57.948"W	9900.36	336.218	1.66	-0.03	1.66				
16292.00	90.030	340.360	6215.18	9971.59	9149.16	-4024.34	1644960.88	14322823.02	39°26'30.745"N	80°56'59.056"W	9995.12	336.257	0.68	-0.55	0.12				
16387.00	89.940	340.360	6215.20	10066.59	9238.64	-4056.27	1644928.98	14322912.46	39°26'31.640"N	80°56'59.02462"W	10089.88	336.296	0.09	-0.09	0.00				
16482.00	90.220	342.740	6214.07	10161.55	9328.75	-4088.33	1644898.91	14323002.53	39°26'32.531"N	80°56'59.02845"W	10184.48	336.345	2.52	0.28	2.51				
16577.00	90.770	344.800	6214.25	10256.36	9419.95	-4112.88	1644872.37	14323093.70	39°26'33.432"N	80°56'59.03184"W	10278.68	336.413	2.24	0.58	2.17				
16672.00	90.430	343.270	6213.26	10351.14	9511.28	-4139.01	1644846.25	14323184.99	39°26'34.335"N	80°56'59.03516"W	10372.84	336.483	1.65	-0.36	-1.61				
16767.00	90.520	343.380	6212.47	10445.99	9602.02	-4166.27	1644819.01	14323275.96	39°26'35.234"N	80°56'59.04208"W	10467.17	336.545	0.13	0.09	0.12				
16862.00	90.980	343.590	6211.22	10540.83	9693.35	-4193.27	1644792.01	14323366.89	39°26'36.135"N	80°56'59.04518"W	10561.47	336.607	0.53	0.48	0.22				
16957.00	91.200	346.710	6209.42	10635.44	9785.15	-4217.61	1644767.68	14323456.76	39°26'37.042"N	80°56'59.04518"W	10655.40	336.683	3.29	0.23	3.28				
17052.00	91.540	343.610	6207.49	10730.05	9876.98	-4242.34	1644743.29	14323546.01	39°26'37.949"N	80°56'59.04828"W	10749.34	336.757	6.33	0.36	-3.37				
17147.00	90.960	337.690	6205.49	10824.99	9968.48	-4273.55	1644711.77	14323636.00	39°26'38.834"N	80°56'59.05230"W	10844.07	336.791	6.23	-1.14	-6.13				
17242.00	90.920	335.140	6204.34	10919.77	10053.53	-4311.55	1644673.76	14323727.02	39°26'39.695"N	80°56'59.05714"W	10939.05	336.787	2.73	0.48	-2.68				
17337.00	90.740	333.490	6202.97	11014.26	10139.13	-4352.72	1644632.63	14323812.59	39°26'40.541"N	80°56'59.06239"W	11033.95	336.766	1.75	-0.18	-1.74				