

ANTERO RESOURCES CORPORATION

Location: Tyler County, WV
 Field: Tyler
 Facility: Neat Pad
 Slot: Slot #12
 Well: Jameson Unit 1H ST01
 Wellbore: Jameson Unit 1H ST01 PWB

API: 47-095-02469-0000
 BHI Job #: 109479779
 Rig: Frontier 22
 Duration: 11/02/2018-11/05/2018

Plot reference wellbore to Jameson Unit 1H ST01 PWB Rev A.0		Grid System NAD27 / UTM Zone 17 North, US Feet	
True vertical depths are referenced to Frontier 22 (RWB)		North (Reference) Grid north:	
Measured depths are referenced to Frontier 22 (RWB)		Scale: True distance	
Frontier 22 (RWB) to Mean Sea Level: 1029.5 feet		Depth is in feet	
Mean Sea Level to Ground level (At Slot, Slot #12): -1005 feet		Created by: dekkart on 2015-11-15	
Coordinates are in feet referenced to Slot		Database: WA_MPL_EasternUS_Dein	

Gyrodatta MS Gyro <17.12> (25.354) : 0.33° Inc, 34.50ft MD, -0.02ft VS
 Directional ONE MWD <12.14> (354) (410*25580) : 0.60° Inc, 419.50ft MD, 419.50ft TVD, 0.8ft VS

Location Information			
Facility Name	Grid East (US Ft)	Grid North (US Ft)	Latitude
Neat Pad	1659012.200	14315414.665	39°25'17.450"N
Slot	Local N (ft)	Local E (ft)	Longitude
Slot #12	-49.60	-33.71	80°56'16.130"W
Comment	Jameson Unit 1H		
Frontier 22 (RWB) to Ground level (At Slot, Slot #12)			24.5ft
Mean Sea Level to Ground level (At Slot, Slot #12)			-1005ft
Frontier 22 (RWB) to Mean Sea Level			1029.5ft

Directional ONE MWD <8.34> (2580) (2637-7121) : 15.70° Inc, 2646.50ft MD, 2565.11ft TVD, -68.97ft VS

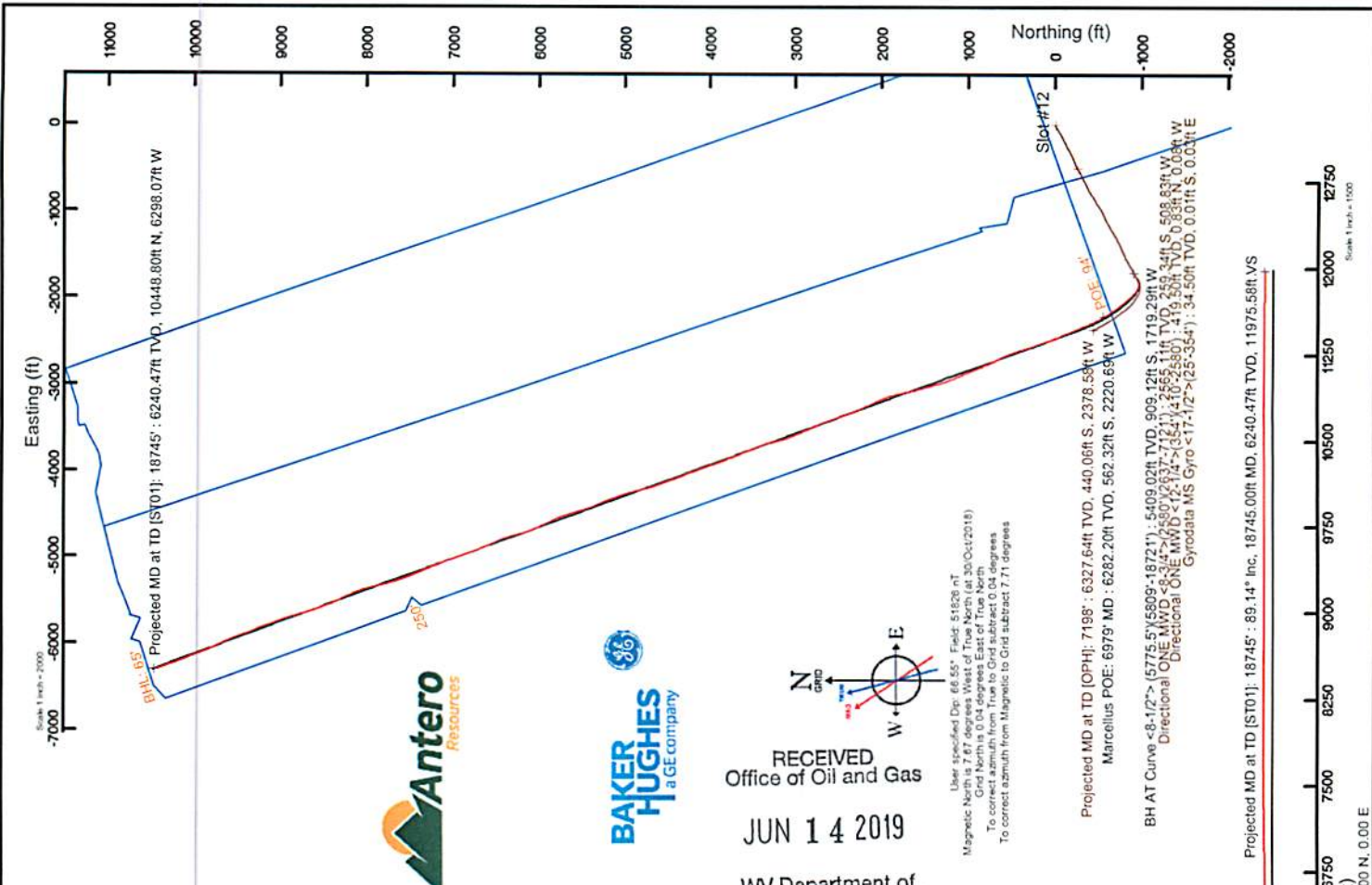
Well Profile Data						
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)
The On	5775.50	26.290	241.120	5378.43	-902.54	-1707.36
Est. Top of Cement	5945.50	25.068	236.807	5441.52	-918.15	-1733.35
ST KOP	5945.50	23.895	234.301	5532.53	-941.57	-1767.53
End of 3D Acc	6019.42	20.000	240.000	5601.08	-956.63	-1790.64
POE	6081.59	74.905	329.500	6284.00	-985.05	-2233.51
Landing PL	7201.63	90.000	337.558	6314.00	-990.53	-2329.86
On Azimuth	7356.89	90.000	339.925	6314.00	-945.93	-2386.20
BHL	18759.36	90.000	339.925	6314.00	10463.88	-4630.09
					0.00	11990.44

Well Data	
Well	Wellbore
Slot #12	Jameson Unit 1H AXB
Slot #12	Jameson Unit 1H ST01 AXB
Slot #12	Jameson Unit 1H ST01 PWB
Slot #12	Jameson Unit 1H ST01 PWB Rev A.0

BH AT Curve <8.12> (5775.5) (5809-18721) : 21.70° Inc, 5809.00ft MD, 5409.02ft TVD, -263.91ft VS

Marcellus POE: 6979° MD : 73.81° Inc, 6979.00ft MD, 6282.20ft TVD, 233.90ft VS

Projected MD at TD (OPH): 7198° : 92.02° Inc, 7207.50ft MD, 6327.64ft TVD, 402.91ft VS



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User specified Dip: 66.55° Field: 51626 mT
 Magnetic North: 67.00° True North: 66.55° (on Oct 2018)
 Grid North is 0.04 degrees East of True North
 To correct azimuth from True to Grid subtract 0.04 degrees
 To correct azimuth from Magnetic to Grid subtract 7.71 degrees

Projected MD at TD (OPH): 7198° : 6327.64ft TVD, 440.06ft W, 2378.58ft VS
 Marcellus POE: 6979° MD : 6282.20ft TVD, 562.32ft S, 2220.69ft W

BH AT Curve <8.12> (5775.5) (5809-18721) : 5409.02ft TVD, 909.12ft S, 1719.29ft W
 Directional ONE MWD <8.34> (2580) (2637-7121) : 2565.11ft TVD, 259.34ft S, 598.83ft W, 0.08ft VS
 Directional ONE MWD <12.14> (354) (410*25580) : 419.50ft TVD, 0.83ft N, 0.08ft W
 Gyrodatta MS Gyro <17.12> (25-354) : 34.50ft TVD, 0.0ft S, 0.03ft E

Projected MD at TD (ST01): 18745° : 89.14° Inc, 18745.00ft MD, 6240.47ft TVD, 11975.58ft VS



Azimuth 339.93° with reference 0.00 N, 0.00 E

REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot #12	
Area	Tyler County, WV	Well	Jameson Unit 1H ST01
Field	Tyler	Wellbore	Jameson Unit 1H ST01 AWB
Facility	Neat Pad	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999600	Report Generated	15/Nov/2018 at 10:10
Convergence at slot	0.04° East	Database/Source file	WA_MPL_EasternUS_Defn\Jameson_Unit_1H_ST01_AWP_Proj_18745_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-49.60	-33.71	1657978.50	14315365.08	39°25'16.960"N	80°56'16.130"W
Facility Reference Pt			1658012.20	14315414.67	39°25'17.450"N	80°56'15.700"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	1029.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1029.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Ground Level at Slot (Slot #12)	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	339.93°

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #12
Area	Tyler County, WV	Well	Jameson Unit 1H ST01
Field	Tyler	Wellbore	Jameson Unit 1H ST01 AWB
Facility	Neat Pad	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD

WELLPATH DATA (227 stations) † = interpolated/extrapolated station																
MD (ft)	Inclination (°)	Azimuth (°)	TVD (ft)	VertSect (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
0.00	0.000	106.580	0.00	0.00	0.00	0.00	1657978.50	14315365.08	39°25'16.960"N	80°56'16.130"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	106.580	24.50	0.00	0.00	0.00	1657978.50	14315365.08	39°25'16.960"N	80°56'16.130"W	0.00	0.000	0.00	0.00	0.00	
34.50	0.330	106.580	34.50	-0.02	-0.01	0.03	1657978.53	14315365.08	39°25'16.960"N	80°56'16.130"W	0.03	106.580	3.30	3.30	1065.80	Gyrodata MS Gyro <17-1/2">{(25'-354')}
59.50	0.260	101.850	59.50	-0.09	-0.04	0.15	1657978.65	14315365.04	39°25'16.960"N	80°56'16.128"W	0.16	104.877	0.30	-0.28	-18.92	
84.50	0.290	78.430	84.50	-0.13	-0.04	0.27	1657978.77	14315365.05	39°25'16.960"N	80°56'16.127"W	0.27	98.308	0.46	0.12	-93.68	
99.50	0.300	81.860	99.50	-0.14	-0.03	0.35	1657978.85	14315365.06	39°25'16.960"N	80°56'16.126"W	0.35	94.333	0.14	0.07	22.87	
109.50	0.110	113.680	109.50	-0.16	-0.03	0.38	1657978.88	14315365.06	39°25'16.960"N	80°56'16.125"W	0.38	93.962	2.15	-1.90	318.20	
209.50	0.130	0.400	209.50	-0.12	0.05	0.47	1657978.97	14315365.13	39°25'16.960"N	80°56'16.124"W	0.47	84.091	0.20	0.02	-113.28	
309.50	0.250	343.620	309.50	0.21	0.37	0.41	1657978.91	14315365.46	39°25'16.964"N	80°56'16.125"W	0.55	47.721	0.13	0.12	-16.78	
383.50	0.290	310.300	383.50	0.44	0.57	0.27	1657978.77	14315365.66	39°25'16.966"N	80°56'16.127"W	0.63	25.315	0.30	0.07	-61.70	
419.50	0.600	305.460	419.50	0.81	0.83	-0.08	1657978.43	14315365.92	39°25'16.968"N	80°56'16.131"W	0.84	354.796	0.56	0.55	-8.64	Directional ONE MWD <12-1/4">{(354'){(410'-2580')}
509.50	4.120	246.230	509.41	0.99	-0.20	-3.42	1657975.08	14315364.89	39°25'16.958"N	80°56'16.174"W	3.43	266.726	4.28	3.91	-65.81	
599.50	7.680	244.280	598.92	0.19	-4.11	-11.80	1657966.71	14315360.98	39°25'16.919"N	80°56'16.280"W	12.49	250.796	3.96	3.96	-2.17	
688.50	9.760	240.410	686.89	-1.64	-10.42	-23.72	1657954.79	14315354.67	39°25'16.857"N	80°56'16.432"W	25.90	246.290	2.43	2.34	-4.35	
778.50	9.910	237.500	775.57	-4.57	-18.34	-36.88	1657941.63	14315346.75	39°25'16.779"N	80°56'16.600"W	41.19	243.556	0.58	0.17	-3.23	
884.50	11.020	236.630	879.80	-8.87	-28.82	-53.04	1657925.49	14315336.28	39°25'16.676"N	80°56'16.806"W	60.36	241.482	1.06	1.05	-0.82	
972.50	12.840	237.510	965.90	-12.91	-38.70	-68.31	1657910.22	14315326.40	39°25'16.578"N	80°56'17.001"W	78.51	240.469	2.08	2.07	1.00	
1061.50	13.720	237.840	1052.52	-17.24	-49.63	-85.59	1657892.95	14315315.48	39°25'16.470"N	80°56'17.221"W	98.94	239.893	0.99	0.99	0.37	
1149.50	16.990	243.610	1137.37	-20.85	-60.90	-105.95	1657872.60	14315304.21	39°25'16.359"N	80°56'17.481"W	122.20	240.108	4.10	3.72	6.56	
1237.50	18.550	244.200	1221.17	-23.66	-72.71	-130.07	1657848.49	14315292.40	39°25'16.242"N	80°56'17.788"W	149.01	240.794	1.78	1.77	0.67	
1326.50	18.590	243.250	1305.53	-26.72	-85.26	-155.48	1657823.08	14315279.86	39°25'16.118"N	80°56'18.112"W	177.32	241.263	0.34	0.04	-1.07	
1414.50	18.690	243.350	1388.92	-29.97	-97.89	-180.61	1657797.51	14315267.23	39°25'15.994"N	80°56'18.432"W	205.43	241.541	0.12	0.11	0.11	
1502.50	18.900	244.500	1472.22	-32.93	-110.35	-206.07	1657772.51	14315254.78	39°25'15.871"N	80°56'18.757"W	233.76	241.831	0.48	0.24	1.31	
1591.50	17.760	241.800	1556.71	-36.22	-122.97	-231.05	1657747.55	14315242.16	39°25'15.746"N	80°56'19.075"W	261.74	241.976	1.60	-1.28	-3.03	
1679.50	18.020	240.240	1640.45	-40.41	-136.07	-254.63	1657723.91	14315229.07	39°25'15.617"N	80°56'19.377"W	288.76	241.886	0.62	0.30	-1.77	
1767.50	18.040	240.340	1724.13	-44.97	-149.57	-278.35	1657700.26	14315215.57	39°25'15.484"N	80°56'19.678"W	315.99	241.749	0.04	0.02	0.11	
1855.50	17.340	242.760	1807.97	-48.87	-162.32	-301.85	1657676.77	14315202.83	39°25'15.358"N	80°56'19.978"W	342.73	241.731	1.15	-0.80	2.75	
1944.50	17.370	242.540	1892.92	-52.24	-174.51	-325.43	1657653.20	14315190.64	39°25'15.237"N	80°56'20.278"W	369.27	241.797	0.08	0.03	-0.25	
2032.50	17.300	245.790	1976.93	-54.87	-185.94	-349.02	1657629.62	14315179.22	39°25'15.125"N	80°56'20.579"W	395.46	241.954	1.10	-0.08	3.69	
2120.50	17.010	245.600	2061.01	-56.79	-196.62	-372.68	1657605.97	14315168.54	39°25'15.019"N	80°56'20.860"W	421.36	242.184	0.34	-0.33	-0.22	

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #12
Operator	ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01
Area	Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB
Field	Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD
Facility	Neat Pad		

WELLPATH DATA (227 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)	(°)	("/100ft)	("/100ft)	("/100ft)	
2208.50	15.990	248.340	2145.39	-58.10	-206.41	-395.66	1657583.00	14315158.76	39°25'14.923"N	80°56'21.173"W	446.27	242.450	1.46	-1.16	3.11	
2296.50	16.250	244.800	2229.93	-59.54	-216.13	-418.07	1657560.60	14315149.04	39°25'14.827"N	80°56'21.459"W	470.63	242.663	1.16	0.30	-4.02	
2385.50	16.790	247.090	2315.26	-61.29	-226.43	-441.18	1657537.50	14315138.74	39°25'14.725"N	80°56'21.754"W	495.89	242.831	0.95	0.61	2.57	
2473.50	17.500	249.370	2399.35	-62.04	-236.04	-465.27	1657513.42	14315129.14	39°25'14.630"N	80°56'22.061"W	521.72	243.100	1.11	0.81	2.59	
2561.50	16.740	239.040	2483.47	-64.57	-247.23	-488.53	1657490.17	14315117.96	39°25'14.520"N	80°56'22.357"W	547.52	243.157	3.56	-0.86	-11.74	
2599.50	16.260	238.160	2510.31	-66.13	-251.37	-495.31	1657483.39	14315113.81	39°25'14.479"N	80°56'22.444"W	555.45	243.092	1.93	-1.71	-3.14	
2646.50	15.700	240.860	2565.11	-68.97	-259.34	-508.83	1657469.88	14315105.85	39°25'14.400"N	80°56'22.616"W	571.11	242.993	1.63	-0.98	4.74	
2742.50	18.180	240.110	2656.94	-73.58	-273.13	-533.16	1657445.55	14315092.07	39°25'14.264"N	80°56'22.925"W	599.05	242.875	2.59	2.58	-0.78	
2837.50	20.350	241.370	2746.61	-78.56	-288.43	-560.51	1657418.21	14315076.77	39°25'14.113"N	80°56'23.275"W	630.37	242.771	2.33	2.28	1.33	
2932.50	21.880	242.740	2835.24	-83.24	-304.45	-590.74	1657388.00	14315060.76	39°25'13.965"N	80°56'23.660"W	664.57	242.735	1.67	1.59	1.44	
3027.50	23.480	241.910	2922.90	-88.09	-321.46	-623.16	1657355.60	14315043.76	39°25'13.787"N	80°56'24.073"W	701.18	242.713	1.74	1.71	-0.87	
3122.50	24.850	244.040	3009.57	-92.78	-339.11	-657.80	1657320.96	14315026.11	39°25'13.613"N	80°56'24.515"W	740.07	242.728	1.71	1.44	2.24	
3218.50	27.340	245.640	3095.78	-96.50	-357.03	-696.03	1657287.75	14315008.19	39°25'13.436"N	80°56'25.002"W	782.26	242.844	2.70	2.59	1.67	
3312.50	28.170	243.440	3178.97	-100.62	-375.86	-735.54	1657243.26	14314989.38	39°25'13.250"N	80°56'25.506"W	826.01	242.933	1.40	0.88	-2.34	
3407.50	27.240	239.890	3263.08	-106.97	-396.82	-774.40	1657204.42	14314968.43	39°25'13.043"N	80°56'26.001"W	870.15	242.869	2.02	-0.98	-3.80	
3502.50	26.390	235.970	3347.87	-115.88	-419.56	-810.69	1657168.13	14314945.69	39°25'12.819"N	80°56'26.464"W	912.83	242.637	2.04	-0.89	-4.06	
3597.50	26.440	239.100	3432.96	-124.94	-442.24	-846.34	1657132.50	14314923.03	39°25'12.595"N	80°56'26.918"W	954.92	242.412	1.47	0.05	3.29	
3692.50	26.850	240.500	3517.87	-132.43	-463.66	-883.16	1657095.70	14314901.61	39°25'12.383"N	80°56'27.377"W	997.48	242.300	0.79	0.43	1.47	
3786.50	25.900	235.690	3602.09	-140.96	-485.69	-918.60	1657060.27	14314879.59	39°25'12.166"N	80°56'27.839"W	1039.10	242.133	2.49	-1.01	-5.12	
3880.50	24.900	236.190	3687.00	-150.71	-508.27	-952.00	1657026.88	14314857.01	39°25'11.943"N	80°56'28.265"W	1079.19	241.902	1.09	-1.06	0.53	
3974.50	24.750	240.570	3772.33	-158.61	-528.96	-985.58	1656993.31	14314836.34	39°25'11.739"N	80°56'28.693"W	1118.56	241.778	1.96	-0.16	4.66	
4069.50	25.810	245.990	3858.24	-163.27	-547.15	-1021.80	1656957.11	14314818.16	39°25'11.559"N	80°56'29.155"W	1159.07	241.832	2.67	1.12	5.69	
4164.50	28.150	246.370	3942.89	-166.09	-564.55	-1061.23	1656917.70	14314800.76	39°25'11.387"N	80°56'29.657"W	1202.05	241.988	2.47	2.46	0.41	
4258.50	29.120	244.590	4025.25	-169.60	-583.25	-1102.20	1656876.74	14314782.06	39°25'11.203"N	80°56'30.179"W	1247.01	242.113	1.37	1.03	-1.89	
4353.50	28.100	241.720	4108.80	-174.94	-603.77	-1142.79	1656836.17	14314761.55	39°25'11.000"N	80°56'30.697"W	1292.48	242.151	1.80	-1.07	-3.02	
4448.50	27.010	239.120	4193.03	-182.18	-625.45	-1181.01	1656797.97	14314739.89	39°25'10.786"N	80°56'31.184"W	1336.40	242.095	1.71	-1.15	-2.74	
4544.50	26.070	236.200	4278.91	-191.28	-648.37	-1217.25	1656761.74	14314716.97	39°25'10.560"N	80°56'31.646"W	1379.16	241.958	1.67	-0.98	-3.04	
4639.50	25.150	237.930	4364.58	-200.43	-670.70	-1251.70	1656727.30	14314694.65	39°25'10.339"N	80°56'32.085"W	1420.07	241.816	1.25	-0.97	1.82	
4733.50	25.600	242.620	4449.52	-207.17	-690.65	-1286.66	1656692.36	14314674.71	39°25'10.142"N	80°56'32.531"W	1460.31	241.774	2.19	0.48	4.99	
4826.50	24.740	241.450	4533.69	-212.60	-709.19	-1321.60	1656657.43	14314656.18	39°25'09.959"N	80°56'32.976"W	1498.86	241.781	1.07	-0.92	-1.26	

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'
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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #12
Operator	ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01
Area	Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB
Field	Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD
Facility	Neat Pad		

WELLPATH DATA (227 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 (°/100ft)	Comments
4921.50	24.710	240.730	4619.98	-218.70	-728.40	-1356.38	1656622.66	14314636.98	39°25'09.770"N	80°56'33.419"W	1539.59	241.763	0.32	-0.03	-0.76	
5016.50	26.410	245.990	4705.69	-223.33	-746.71	-1393.01	1656586.05	14314618.67	39°25'09.589"N	80°56'33.886"W	1580.52	241.807	2.98	1.79	5.54	
5109.50	27.960	248.650	4788.42	-225.24	-763.06	-1432.21	1656546.88	14314602.33	39°25'09.428"N	80°56'34.386"W	1622.81	241.952	2.12	1.67	2.86	
5204.50	27.120	246.360	4872.65	-227.08	-779.86	-1472.79	1656506.30	14314585.54	39°25'09.262"N	80°56'34.903"W	1666.52	242.098	1.42	-0.88	-2.41	
5300.50	29.300	245.340	4957.25	-230.33	-798.43	-1514.19	1656464.92	14314566.97	39°25'09.079"N	80°56'35.431"W	1711.80	242.197	2.33	2.27	-1.06	
5394.50	28.040	241.450	5039.73	-235.43	-818.59	-1554.51	1656424.62	14314546.82	39°25'08.880"N	80°56'35.945"W	1756.87	242.229	2.39	-1.34	-4.14	
5489.50	26.730	237.860	5124.09	-243.19	-840.63	-1592.22	1656386.93	14314524.79	39°25'08.662"N	80°56'36.425"W	1800.50	242.168	2.22	-1.38	-3.78	
5585.50	28.030	244.290	5209.35	-249.92	-861.91	-1630.83	1656348.33	14314503.52	39°25'08.556"N	80°56'36.918"W	1844.59	242.143	3.36	1.35	6.70	
5679.50	27.130	241.330	5292.67	-255.30	-881.77	-1669.54	1656309.63	14314483.66	39°25'08.252"N	80°56'37.411"W	1888.09	242.159	1.74	-0.96	-3.15	
5775.50	26.290	241.120	5378.43	-261.82	-902.54	-1707.36	1656271.83	14314462.90	39°25'08.051"N	80°56'37.893"W	1931.23	242.138	0.88	-0.88	-0.22	
5809.00	21.700	241.170	5409.02	-263.91	-909.12	-1719.29	1656259.90	14314447.78	39°25'07.901"N	80°56'38.045"W	1944.85	242.131	13.70	-13.70	0.15	BH AT Curve <-8-1/2"> (5775.5)\(5809-18721)
5856.00	22.010	240.320	5452.84	-266.70	-917.67	-1734.55	1656244.65	14314447.78	39°25'07.901"N	80°56'38.240"W	1962.34	242.119	0.94	0.66	-1.81	
5904.00	22.330	240.560	5497.10	-269.69	-926.60	-1750.31	1656228.90	14314438.85	39°25'07.813"N	80°56'38.440"W	1980.45	242.103	0.69	0.67	0.50	
5951.00	22.230	240.450	5540.59	-272.60	-935.38	-1765.82	1656213.39	14314430.08	39°25'07.727"N	80°56'38.638"W	1998.26	242.089	0.23	-0.21	-0.23	
5998.00	22.300	240.520	5584.08	-275.53	-944.15	-1781.31	1656197.90	14314421.31	39°25'07.640"N	80°56'38.836"W	2016.06	242.075	0.16	0.15	0.15	
6045.00	22.450	244.010	5627.55	-277.91	-952.47	-1797.14	1656182.08	14314413.00	39°25'07.558"N	80°56'39.037"W	2033.94	242.077	2.84	0.32	7.43	
6092.00	22.410	253.190	5671.00	-278.33	-959.00	-1813.79	1656165.44	14314406.47	39°25'07.493"N	80°56'39.250"W	2051.71	242.133	7.45	-0.09	19.53	
6139.00	22.620	263.150	5714.44	-275.75	-962.67	-1831.35	1656147.89	14314402.80	39°25'07.457"N	80°56'39.473"W	2068.95	242.271	8.12	0.45	21.19	
6187.00	23.400	275.980	5758.65	-269.45	-962.78	-1850.01	1656129.24	14314402.70	39°25'07.456"N	80°56'39.711"W	2085.54	242.507	10.55	1.62	26.73	
6234.00	25.040	286.110	5801.53	-259.47	-969.04	-1868.85	1656110.40	14314406.43	39°25'07.493"N	80°56'39.951"W	2100.56	242.834	9.49	3.49	21.55	
6281.00	27.420	294.780	5843.70	-245.96	-951.74	-1888.24	1656091.02	14314413.73	39°25'07.566"N	80°56'40.198"W	2114.54	243.250	9.59	5.06	18.45	
6328.00	29.690	301.070	5884.99	-229.26	-941.19	-1908.05	1656071.22	14314424.27	39°25'07.670"N	80°56'40.450"W	2127.56	243.744	8.01	4.83	13.38	
6376.00	32.610	306.350	5926.07	-209.22	-927.39	-1928.65	1656050.62	14314438.07	39°25'07.807"N	80°56'40.713"W	2140.04	244.320	8.32	6.08	11.00	
6423.00	35.100	310.020	5965.10	-186.95	-911.19	-1949.21	1656030.08	14314454.26	39°25'07.967"N	80°56'40.975"W	2151.67	244.946	6.85	5.30	7.81	
6470.00	38.500	313.780	6002.74	-162.09	-892.37	-1970.13	1656009.17	14314473.07	39°25'08.153"N	80°56'41.241"W	2162.81	245.632	8.67	7.23	8.00	
6517.00	41.160	316.320	6038.83	-134.78	-871.06	-1991.38	1655987.92	14314494.38	39°25'08.364"N	80°56'41.512"W	2173.55	246.375	6.63	5.66	5.40	
6564.00	45.110	318.740	6073.12	-105.07	-847.34	-2013.05	1655966.26	14314518.08	39°25'08.598"N	80°56'41.788"W	2184.11	247.173	9.11	8.40	5.15	
6611.00	47.500	320.490	6105.59	-73.21	-821.46	-2035.06	1655944.26	14314543.96	39°25'08.854"N	80°56'42.068"W	2194.59	248.018	5.75	5.09	3.72	
6658.00	50.670	321.850	6136.37	-39.58	-793.79	-2057.31	1655922.01	14314571.62	39°25'09.128"N	80°56'42.351"W	2205.14	248.902	7.09	6.74	2.89	
6702.00†	54.031	322.442	6163.24	-6.41	-766.28	-2078.69	1655900.65	14314599.11	39°25'09.400"N	80°56'42.623"W	2215.43	249.784	7.71	7.64	1.34	Middlesex: 6702' MD

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #12
Area	Tyler County, WV	Well	Jameson Unit 1H ST01
Field	Tyler	Wellbore	Jameson Unit 1H ST01 AWB
Facility	Neat Pad	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD

WELLPATH DATA (227 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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	Comments
6705.00	54.260	322.480	6185.00	-4.09	-764.35	-2080.17	1655899.17	14314601.04	39°25'09.419"N	80°56'42.642"W	2216.15	249.824	7.71	7.64	1.28	
6752.00	57.970	323.060	6191.20	33.19	-733.29	-2103.76	1655875.59	14314632.09	39°25'09.726"N	80°56'42.943"W	2227.89	250.783	7.96	7.89	1.28	
6799.00	61.600	324.180	6214.85	72.16	-700.58	-2127.83	1655851.52	14314664.78	39°25'10.049"N	80°56'43.249"W	2240.20	251.776	7.98	7.72	2.34	
6846.00	65.720	324.670	6235.70	112.74	-666.33	-2152.33	1655827.04	14314699.02	39°25'10.388"N	80°56'43.561"W	2253.11	252.798	8.82	8.77	1.04	
6886.00†	67.744	326.189	6251.50	148.32	-636.07	-2173.18	1655806.20	14314729.27	39°25'10.687"N	80°56'43.826"W	2264.35	253.686	6.15	5.06	3.80	Burkett: 6886' MD
6893.00	68.100	326.450	6254.13	154.62	-630.68	-2176.77	1655802.60	14314734.66	39°25'10.741"N	80°56'43.872"W	2266.30	253.842	6.15	5.08	3.73	
6940.00	71.200	327.280	6270.47	197.54	-593.78	-2200.85	1655778.53	14314771.54	39°25'11.105"N	80°56'44.179"W	2279.55	254.901	6.80	6.60	1.77	Jully: 6940' MD
6979.00†	73.813	328.245	6282.20	233.90	-562.32	-2220.69	1655758.70	14314802.99	39°25'11.416"N	80°56'44.431"W	2290.78	255.970	7.10	6.70	2.48	Marcellus POE: 6979' MD
6987.00	74.550	328.440	6284.39	241.44	-555.77	-2224.73	1655754.67	14314809.54	39°25'11.481"N	80°56'44.483"W	2293.10	255.974	7.10	6.71	2.43	
7034.00	78.200	330.250	6295.54	286.31	-516.50	-2248.00	1655731.41	14314848.79	39°25'11.870"N	80°56'44.779"W	2306.57	257.080	9.01	8.19	3.85	
7081.00	81.290	332.880	6303.91	332.05	-475.84	-2270.01	1655709.40	14314889.44	39°25'12.272"N	80°56'45.059"W	2319.35	258.161	8.58	6.57	5.60	
7128.00	84.790	335.020	6309.60	378.45	-433.93	-2290.49	1655688.93	14314931.33	39°25'12.686"N	80°56'45.320"W	2331.23	259.273	8.71	7.45	4.55	
7175.00	87.780	336.400	6312.65	425.21	-391.19	-2309.78	1655669.65	14314974.06	39°25'13.108"N	80°56'45.565"W	2342.67	260.388	7.00	6.36	2.94	
7223.00	90.460	337.330	6313.38	473.13	-347.05	-2328.64	1655650.80	14315018.17	39°25'13.545"N	80°56'45.805"W	2354.36	261.523	5.91	5.58	1.94	
7317.00	90.150	337.480	6312.88	567.04	-260.27	-2364.75	1655614.70	14315104.92	39°25'14.403"N	80°56'46.265"W	2379.03	263.719	0.37	-0.33	0.16	
7411.00	90.280	337.060	6312.53	660.94	-173.57	-2401.07	1655578.39	14315191.58	39°25'15.260"N	80°56'46.727"W	2407.34	265.865	0.47	0.14	-0.45	
7506.00	90.310	336.590	6312.04	755.80	-86.24	-2438.46	1655541.02	14315278.88	39°25'16.123"N	80°56'47.202"W	2439.98	267.974	0.50	0.03	-0.49	
7600.00	90.280	337.910	6311.56	849.69	0.44	-2474.81	1655504.69	14315365.53	39°25'16.980"N	80°56'47.665"W	2474.81	270.010	1.40	-0.03	1.40	
7694.00	90.180	340.980	6311.18	943.68	88.45	-2507.81	1655471.70	14315453.50	39°25'17.850"N	80°56'48.085"W	2509.37	272.020	3.27	-0.11	3.27	
7789.00	90.370	341.780	6310.72	1038.64	178.47	-2538.14	1655441.38	14315543.49	39°25'18.740"N	80°56'48.471"W	2544.41	274.022	0.87	0.20	0.84	
7883.00	90.400	341.350	6310.09	1132.60	267.65	-2567.86	1655411.67	14315632.62	39°25'19.622"N	80°56'48.849"W	2581.78	275.950	0.46	0.03	-0.46	
7978.00	90.620	342.330	6309.25	1227.55	357.91	-2597.47	1655382.07	14315722.85	39°25'20.514"N	80°56'49.225"W	2622.01	277.846	1.06	0.23	1.03	
8073.00	90.460	341.660	6308.35	1322.48	448.25	-2626.84	1655352.72	14315813.16	39°25'21.407"N	80°56'49.599"W	2664.81	279.684	0.73	-0.17	-0.71	
8263.00	90.370	334.370	6306.29	1512.24	624.37	-2697.75	1655281.84	14315909.21	39°25'22.289"N	80°56'50.014"W	2713.25	281.425	3.75	0.39	-3.73	
8357.00	90.370	333.990	6305.68	1605.76	708.99	-2738.69	1655240.91	14315989.21	39°25'23.148"N	80°56'50.501"W	2769.06	283.031	3.98	-0.48	-3.95	
8452.00	90.740	336.590	6304.76	1700.44	795.28	-2778.40	1655201.22	14316073.79	39°25'23.984"N	80°56'51.022"W	2828.97	284.514	0.40	0.00	-0.40	
8548.00	90.770	336.970	6303.49	1796.29	883.49	-2816.24	1655163.39	14316160.04	39°25'24.838"N	80°56'51.528"W	2889.98	285.973	2.76	0.39	2.74	
8643.00	90.740	337.370	6302.24	1891.17	971.03	-2853.14	1655126.51	14316248.22	39°25'25.710"N	80°56'52.009"W	2951.57	287.417	0.40	0.03	0.40	
8738.00	90.550	336.450	6301.17	1986.02	1058.39	-2889.43	1655089.23	14316335.72	39°25'26.575"N	80°56'52.479"W	3013.85	288.795	0.37	-0.03	0.37	
								14316423.05	39°25'27.439"N	80°56'52.953"W	3078.11	290.111	0.94	-0.20	-0.92	

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #12
Area	Tyler County, WV	Well	Jameson Unit 1H ST01
Field	Tyler	Wellbore	Jameson Unit 1H ST01 AWB
Facility	Neat Pad	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD

WELLPATH DATA (227 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 [°/100ft]	Comments
8833.00	90.580	337.420	6300.24	2080.89	1145.79	-2927.65	1655052.03	14316510.42	39°25'28.303"N	80°56'53.427"W	3143.88	291.374	1.02	0.03	1.02	
8928.00	90.580	340.480	6299.27	2175.86	1234.44	-2961.76	1655017.93	14316599.03	39°25'29.179"N	80°56'53.861"W	3208.72	292.626	3.22	0.00	3.22	
9023.00	90.680	342.430	6298.23	2270.82	1324.50	-2991.98	1654987.73	14316689.05	39°25'30.069"N	80°56'54.245"W	3272.03	293.878	2.06	0.11	2.05	
9118.00	90.710	344.020	6297.08	2365.65	1415.44	-3019.39	1654960.32	14316779.96	39°25'30.968"N	80°56'54.594"W	3334.70	295.116	1.67	0.03	1.67	
9212.00	90.770	345.350	6295.86	2459.31	1506.10	-3044.22	1654935.51	14316870.58	39°25'31.864"N	80°56'54.910"W	3396.41	296.323	1.42	0.06	1.41	
9307.00	90.770	345.050	6294.59	2553.90	1597.94	-3068.48	1654911.25	14316962.38	39°25'32.772"N	80°56'55.218"W	3459.62	297.509	0.32	0.00	-0.32	
9402.00	90.650	346.560	6293.41	2648.40	1690.03	-3091.77	1654887.97	14317054.43	39°25'33.683"N	80°56'55.514"W	3523.53	298.682	1.59	-0.13	1.59	
9496.00	90.740	348.730	6292.27	2741.53	1781.84	-3111.88	1654866.87	14317146.21	39°25'34.590"N	80°56'55.770"W	3585.91	299.795	2.31	0.10	2.31	
9590.00	90.710	344.920	6291.08	2834.83	1873.34	-3133.30	1654846.46	14317237.67	39°25'35.495"N	80°56'56.042"W	3650.92	300.874	4.05	-0.03	-4.05	
9684.00	90.770	338.130	6289.86	2928.73	1962.43	-3163.07	1654816.70	14317328.73	39°25'36.375"N	80°56'56.421"W	3722.39	301.816	7.22	0.06	-7.22	
9779.00	90.520	334.920	6288.79	3023.54	2049.55	-3200.91	1654778.88	14317413.82	39°25'37.237"N	80°56'56.903"W	3800.85	302.632	3.39	-0.26	-3.38	
9874.00	90.460	333.560	6287.98	3118.07	2135.11	-3242.19	1654737.61	14317499.34	39°25'38.082"N	80°56'57.428"W	3882.07	303.366	1.43	-0.06	-1.43	
9968.00	90.460	334.980	6287.23	3211.60	2219.78	-3283.00	1654696.82	14317583.98	39°25'38.919"N	80°56'57.947"W	3963.02	304.064	1.51	0.00	1.51	
10063.00	90.340	339.590	6286.56	3306.48	2307.39	-3319.67	1654660.16	14317671.55	39°25'39.766"N	80°56'58.414"W	4042.80	304.802	4.85	-0.13	4.85	
10157.00	90.740	341.710	6285.68	3400.46	2396.07	-3350.81	1654629.03	14317760.19	39°25'40.662"N	80°56'58.810"W	4119.36	305.567	2.30	0.43	2.26	
10252.00	90.740	341.700	6284.45	3495.41	2486.26	-3380.63	1654599.23	14317850.35	39°25'41.564"N	80°56'59.190"W	4196.45	306.332	0.01	0.00	-0.01	
10346.00	90.710	339.200	6283.26	3589.39	2574.83	-3412.08	1654567.79	14317938.88	39°25'42.429"N	80°56'59.590"W	4274.58	307.039	2.66	-0.03	-2.66	
10442.00	90.550	338.230	6282.21	3685.36	2664.27	-3446.93	1654532.96	14318028.29	39°25'43.313"N	80°57'00.033"W	4356.57	307.702	1.02	-0.17	-1.01	
10536.00	90.710	336.630	6281.17	3779.26	2751.07	-3483.00	1654496.90	14318115.04	39°25'44.171"N	80°57'00.492"W	4438.43	308.304	1.71	0.17	-1.70	
10630.00	90.650	335.240	6280.06	3873.08	2837.22	-3520.58	1654459.33	14318201.16	39°25'45.023"N	80°57'00.971"W	4521.54	308.865	0.42	-0.06	-0.41	
10724.00	90.710	336.660	6278.94	3966.90	2923.38	-3558.14	1654421.79	14318287.29	39°25'45.875"N	80°57'01.449"W	4605.05	309.407	0.45	0.06	0.45	
10819.00	90.830	336.940	6277.66	4061.75	3010.69	-3595.56	1654384.39	14318374.57	39°25'46.738"N	80°57'01.925"W	4689.60	309.941	0.32	0.13	0.29	
10913.00	90.650	340.670	6276.45	4155.70	3098.31	-3629.53	1654350.43	14318462.15	39°25'47.604"N	80°57'02.357"W	4772.11	310.485	3.97	-0.19	3.97	
11007.00	90.680	347.450	6275.36	4249.40	3188.64	-3665.53	1654324.64	14318552.44	39°25'48.497"N	80°57'02.866"W	4850.66	311.099	7.21	0.03	7.21	
11101.00	90.710	345.660	6274.22	4342.76	3280.05	-3677.19	1654302.79	14318643.82	39°25'49.401"N	80°57'02.963"W	4927.52	311.733	1.90	0.03	-1.90	
11196.00	90.950	339.940	6272.84	4437.59	3370.76	-3705.26	1654274.73	14318734.49	39°25'50.297"N	80°57'03.321"W	5009.09	312.293	6.03	0.25	-6.02	
11291.00	90.650	338.140	6271.51	4532.57	3459.46	-3739.24	1654240.76	14318823.15	39°25'51.174"N	80°57'03.753"W	5094.09	312.774	1.92	-0.32	-1.89	
11385.00	90.650	339.100	6270.45	4628.54	3546.98	-3773.51	1654206.51	14318910.64	39°25'52.040"N	80°57'04.189"W	5178.85	313.228	1.02	0.00	1.02	
11480.00	90.770	337.200	6269.27	4721.48	3635.15	-3808.86	1654171.17	14318998.77	39°25'52.911"N	80°57'04.639"W	5265.14	313.663	2.00	0.13	-2.00	
11575.00	90.650	338.240	6268.08	4816.40	3723.05	-3844.87	1654135.17	14319086.64	39°25'53.780"N	80°57'05.097"W	5352.02	314.078	1.10	-0.13	1.09	

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Jameson Unit 1H ST01 AWP Proj: 18745'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #12
ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01
Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB
Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD
Neat Pad		

WELLPATH DATA (227 stations)

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
11669.00	90.710	339.320	6266.98	4910.37	3810.67	-3878.89	1654101.17	14319174.22	39°25'54.646"N	80°57'05.530"W	5437.55	314.492	1.15	0.06	1.15	
11764.00	90.680	340.420	6265.82	5005.36	3899.86	-3911.59	1654068.49	14319263.37	39°25'55.528"N	80°57'05.946"W	5523.53	314.914	1.16	-0.03	1.16	
11858.00	90.620	340.080	6264.76	5099.36	3988.32	-3943.35	1654036.74	14319351.80	39°25'56.402"N	80°57'06.351"W	5608.63	315.325	0.37	-0.06	-0.38	
11953.00	90.620	340.230	6263.73	5194.35	4077.67	-3975.60	1654004.50	14319441.12	39°25'57.286"N	80°57'06.751"W	5694.98	315.726	0.16	0.00	0.16	
12048.00	90.650	339.150	6262.68	5289.34	4166.76	-4008.57	1653971.54	14319530.17	39°25'58.166"N	80°57'07.181"W	5781.91	316.109	1.14	0.03	-1.14	
12143.00	90.740	339.560	6261.52	5384.33	4255.65	-4042.06	1653938.06	14319619.03	39°25'59.045"N	80°57'07.607"W	5869.31	316.475	0.44	0.09	0.43	
12237.00	90.490	338.670	6260.52	5478.31	4343.47	-4075.57	1653904.57	14319706.81	39°25'59.913"N	80°57'08.033"W	5956.17	316.823	0.98	-0.27	-0.95	
12332.00	90.620	339.400	6259.60	5573.30	4432.18	-4109.56	1653870.59	14319795.48	39°26'00.790"N	80°57'08.466"W	6044.23	317.163	0.78	0.14	0.77	
12426.00	90.650	340.410	6258.55	5667.29	4520.45	-4141.85	1653838.31	14319883.72	39°26'01.663"N	80°57'08.877"W	6131.02	317.503	1.07	0.03	1.07	
12521.00	90.220	340.690	6257.83	5762.28	4610.02	-4173.48	1653806.69	14319973.28	39°26'02.548"N	80°57'09.279"W	6218.54	317.845	0.54	-0.46	0.29	
12615.00	90.150	343.650	6257.53	5856.20	4699.50	-4202.26	1653777.93	14320062.70	39°26'03.433"N	80°57'09.646"W	6304.31	318.197	3.15	-0.07	3.15	
12709.00	91.480	348.720	6256.19	5949.60	4790.74	-4224.70	1653755.50	14320153.90	39°26'04.335"N	80°57'09.931"W	6387.43	318.593	5.58	1.41	5.39	
12804.00	90.620	345.290	6254.45	6043.84	4883.27	-4246.06	1653734.15	14320246.40	39°26'05.249"N	80°57'10.202"W	6471.12	318.993	3.72	-0.91	-3.61	
12899.00	90.950	341.720	6253.15	6138.63	4974.34	-4273.02	1653707.20	14320337.43	39°26'06.149"N	80°57'10.545"W	6557.65	319.337	3.77	0.35	-3.76	
12993.00	90.800	341.230	6251.71	6232.59	5063.46	-4302.88	1653677.35	14320426.51	39°26'07.030"N	80°57'10.925"W	6644.81	319.642	0.55	-0.16	-0.52	
13088.00	90.770	340.860	6250.41	6327.56	5153.30	-4333.74	1653646.50	14320516.31	39°26'07.918"N	80°57'11.318"W	6733.33	319.937	0.39	-0.03	-0.39	
13183.00	91.290	336.800	6248.70	6422.51	5241.86	-4368.03	1653612.22	14320604.83	39°26'08.794"N	80°57'11.755"W	6823.25	320.196	4.31	0.55	-4.27	
13277.00	90.860	336.230	6246.94	6516.32	5328.05	-4405.49	1653574.78	14320691.00	39°26'09.646"N	80°57'12.231"W	6913.50	320.414	0.76	-0.46	-0.61	
13372.00	90.650	340.810	6245.69	6611.26	5416.42	-4440.26	1653540.02	14320779.33	39°26'10.520"N	80°57'12.674"W	7003.83	320.656	4.83	-0.22	4.82	
13466.00	90.620	342.780	6244.64	6705.20	5505.71	-4469.63	1653510.67	14320868.58	39°26'11.402"N	80°57'13.048"W	7091.57	320.930	2.10	-0.03	2.10	
13560.00	90.710	345.190	6243.55	6798.95	5596.05	-4495.66	1653484.75	14320958.88	39°26'12.295"N	80°57'13.378"W	7178.15	321.224	2.57	0.10	2.56	
13655.00	91.260	342.840	6241.92	6893.69	5687.35	-4521.71	1653458.61	14321050.15	39°26'13.198"N	80°57'13.710"W	7265.80	321.514	2.54	0.58	-2.47	
13749.00	90.710	335.420	6240.30	6987.60	5775.11	-4555.17	1653425.16	14321137.88	39°26'14.065"N	80°57'14.136"W	7355.37	321.735	7.91	-0.59	-7.89	
13843.00	90.710	333.330	6239.14	7081.15	5859.86	-4595.92	1653384.53	14321222.59	39°26'14.903"N	80°57'14.654"W	7447.11	321.893	2.22	0.00	-2.22	
13938.00	90.710	335.240	6237.96	7175.68	5945.44	-4637.03	1653343.33	14321308.13	39°26'15.749"N	80°57'15.179"W	7539.91	322.048	2.01	0.00	2.01	
14032.00	90.740	336.560	6236.77	7269.43	6031.23	-4675.41	1653304.97	14321393.90	39°26'16.597"N	80°57'15.667"W	7631.20	322.217	1.40	0.03	1.40	
14127.00	90.740	338.690	6235.54	7364.34	6119.07	-4711.57	1653268.82	14321481.70	39°26'17.466"N	80°57'16.127"W	7722.82	322.404	2.24	0.00	2.24	
14221.00	90.890	345.870	6234.20	7458.19	6208.54	-4740.16	1653240.25	14321571.13	39°26'18.350"N	80°57'16.491"W	7811.22	322.639	7.64	0.16	7.64	
14316.00	91.020	345.360	6232.62	7552.71	6300.55	-4763.74	1653216.67	14321663.11	39°26'19.259"N	80°57'16.791"W	7898.75	322.908	0.53	0.14	-0.52	
14411.00	91.170	339.320	6230.80	7647.56	6391.02	-4792.53	1653187.90	14321753.54	39°26'20.154"N	80°57'17.157"W	7988.34	323.134	6.38	0.16	-6.38	

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Jameson Unit 1H ST01 AWP Proj: 18745'
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REFERENCE WELLPATH IDENTIFICATION

Operator	Slot	Slot #12
ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01
Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB
Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD
Neat Pad		

WELLPATH DATA (227 stations)

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
14505.00	89.950	335.560	6229.06	7741.44	6477.80	-4828.58	1653151.86	14321840.28	39°26'21.012"N	80°57'17.616"W	8079.42	323.299	4.01	-0.23	-4.00	
14500.00	90.770	336.390	6227.64	7836.21	6564.56	-4867.25	1653113.21	14321927.01	39°26'21.869"N	80°57'18.109"W	8172.12	323.445	0.89	-0.19	0.87	
14895.00	90.340	338.090	6226.72	7931.09	6652.16	-4904.00	1653076.47	14322014.57	39°26'22.735"N	80°57'18.577"W	8264.40	323.602	1.85	-0.45	1.79	
14790.00	89.820	339.820	6226.59	8026.07	6740.81	-4938.11	1653042.37	14322103.19	39°26'23.612"N	80°57'19.011"W	8356.05	323.775	1.90	-0.55	1.82	
14884.00	89.850	340.190	6226.86	8120.07	6829.15	-4970.26	1653010.24	14322191.49	39°26'24.485"N	80°57'19.420"W	8446.34	323.953	0.39	0.03	-0.39	
14979.00	89.820	340.010	6227.13	8215.07	6918.48	-5002.59	1652977.92	14322280.78	39°26'25.368"N	80°57'19.832"W	8537.64	324.130	0.19	-0.03	-0.19	
15074.00	89.450	339.620	6227.73	8310.07	7007.64	-5035.37	1652945.15	14322369.91	39°26'26.249"N	80°57'20.249"W	8629.13	324.301	0.57	-0.39	-0.41	
15167.00	89.480	338.810	6228.60	8403.06	7094.58	-5068.37	1652912.17	14322456.82	39°26'27.109"N	80°57'20.669"W	8719.03	324.458	0.87	0.03	-0.87	
15262.00	89.510	338.290	6229.44	8498.03	7183.00	-5103.11	1652877.44	14322545.20	39°26'27.983"N	80°57'21.111"W	8811.20	324.608	0.55	0.03	-0.55	
15356.00	89.510	336.120	6230.24	8591.91	7269.65	-5139.53	1652841.04	14322631.81	39°26'28.839"N	80°57'21.575"W	8902.95	324.740	2.31	0.00	-2.31	
15450.00	89.320	335.740	6231.20	8685.68	7355.47	-5177.86	1652802.72	14322717.60	39°26'29.688"N	80°57'22.063"W	8995.18	324.856	0.45	-0.20	-0.40	
15544.00	89.910	338.220	6231.84	8779.54	7441.97	-5214.62	1652765.98	14322804.07	39°26'30.543"N	80°57'22.531"W	9087.09	324.981	2.71	0.63	2.64	
15638.00	89.880	339.260	6232.01	8873.52	7529.58	-5248.70	1652731.91	14322891.64	39°26'31.409"N	80°57'22.965"W	9178.42	325.121	1.11	-0.03	1.11	
15733.00	89.910	341.750	6232.18	8968.51	7619.12	-5280.40	1652700.22	14322981.15	39°26'32.294"N	80°57'23.368"W	9270.04	325.276	2.62	0.03	2.62	
15827.00	89.910	344.420	6232.33	9062.36	7709.05	-5307.75	1652672.89	14323071.04	39°26'33.183"N	80°57'23.716"W	9359.57	325.452	2.84	0.00	2.84	
15921.00	89.910	346.680	6232.48	9155.90	7800.07	-5331.20	1652649.44	14323162.02	39°26'34.083"N	80°57'24.015"W	9447.90	325.648	2.40	0.00	2.40	
16016.00	90.220	347.000	6232.37	9250.21	7892.57	-5352.83	1652627.82	14323254.49	39°26'34.987"N	80°57'24.290"W	9536.54	325.854	0.47	0.33	0.34	
16110.00	89.880	344.690	6232.29	9343.70	7983.71	-5375.82	1652604.84	14323345.59	39°26'35.898"N	80°57'24.582"W	9624.92	326.046	2.48	-0.36	-2.46	
16203.00	89.820	341.020	6232.53	9436.57	8072.56	-5403.23	1652577.44	14323434.41	39°26'36.776"N	80°57'24.931"W	9713.97	326.204	3.95	-0.06	-3.95	
16298.00	89.820	334.980	6232.83	9531.47	8160.61	-5438.80	1652541.89	14323522.41	39°26'37.646"N	80°57'25.384"W	9806.94	326.318	6.36	0.00	-6.36	
16392.00	89.850	334.070	6233.10	9625.05	8245.47	-5479.23	1652501.47	14323607.24	39°26'38.485"N	80°57'25.899"W	9899.98	326.395	0.97	0.03	-0.97	
16486.00	89.970	336.330	6233.25	9718.72	8330.79	-5518.66	1652462.06	14323692.53	39°26'39.329"N	80°57'26.401"W	9992.88	326.478	2.41	0.13	2.40	
16581.00	90.150	338.280	6233.15	9813.62	8418.43	-5555.31	1652425.43	14323780.13	39°26'40.195"N	80°57'26.867"W	10086.20	326.579	2.06	0.19	2.05	
16676.00	90.060	339.990	6232.97	9908.60	8507.20	-5589.14	1652391.60	14323868.86	39°26'41.073"N	80°57'27.298"W	10178.94	326.695	1.80	-0.09	1.80	
16770.00	90.220	340.120	6232.75	10002.60	8595.56	-5621.21	1652359.55	14323957.19	39°26'41.946"N	80°57'27.705"W	10270.42	326.817	0.22	0.17	0.14	
16864.00	90.030	344.020	6232.54	10096.52	8684.98	-5650.14	1652330.63	14324046.57	39°26'42.830"N	80°57'28.075"W	10361.12	326.953	4.15	-0.20	4.15	
16959.00	89.910	344.880	6232.59	10191.22	8776.50	-5675.61	1652305.17	14324138.06	39°26'43.735"N	80°57'28.399"W	10451.77	327.110	0.91	-0.13	0.91	
17055.00	89.970	343.530	6232.89	10286.95	8868.87	-5701.74	1652279.06	14324230.39	39°26'44.648"N	80°57'28.731"W	10543.56	327.263	1.41	0.06	-1.41	
17150.00	90.000	340.900	6232.72	10381.87	8959.32	-5730.75	1652250.05	14324320.81	39°26'45.542"N	80°57'29.101"W	10635.36	327.395	2.77	0.03	-2.77	
17245.00	89.970	341.080	6232.74	10478.85	9049.14	-5761.70	1652219.12	14324410.59	39°26'46.430"N	80°57'29.494"W	10727.73	327.515	0.19	-0.03	0.19	

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'

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REFERENCE WELLPATH IDENTIFICATION		Slot	Slot #12
Operator	ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01
Area	Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB
Field	Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD
Facility	Neat Pad		

WELLPATH DATA (227 stations)																
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 [1/100ft]	Build Rate [1/100ft]	Turn Rate [1/100ft]	Comments
17340.00	89.940	340.760	6232.81	10571.84	9138.92	-5792.75	1652188.08	14324500.34	39°26'47.317"N	80°57'29.890"W	10820.16	327.631	0.34	-0.03	-0.34	
17434.00	89.820	336.940	6233.01	10665.80	9226.57	-5826.66	1652154.18	14324587.95	39°26'48.184"N	80°57'30.321"W	10912.36	327.727	4.07	-0.13	-4.06	
17530.00	89.850	338.190	6233.29	10761.72	9315.31	-5869.30	1652117.56	14324676.65	39°26'49.061"N	80°57'30.788"W	11006.96	327.813	1.30	0.03	1.30	
17625.00	90.310	340.290	6233.16	10856.71	9404.13	-5899.97	1652083.90	14324765.44	39°26'49.839"N	80°57'31.217"W	11100.09	327.910	2.26	0.48	2.21	
17720.00	90.340	339.980	6232.62	10951.71	9493.48	-5929.25	1652051.63	14324854.75	39°26'50.822"N	80°57'31.628"W	11192.95	328.013	0.33	0.03	-0.33	
17815.00	90.250	337.290	6232.13	11046.67	9581.94	-5963.85	1652017.04	14324943.18	39°26'51.697"N	80°57'32.066"W	11286.33	328.102	2.83	-0.09	-2.83	
17910.00	90.180	333.890	6231.77	11141.38	9668.44	-6003.11	1651977.80	14325029.64	39°26'52.552"N	80°57'32.566"W	11380.51	328.164	3.58	-0.07	-3.58	
18004.00	89.630	335.760	6231.93	11235.01	9753.50	-6043.09	1651937.84	14325114.67	39°26'53.393"N	80°57'33.077"W	11473.87	328.218	2.07	-0.59	1.99	
18098.00	89.570	338.420	6232.58	11328.88	9840.08	-6079.68	1651901.26	14325201.21	39°26'54.248"N	80°57'33.543"W	11566.75	328.290	2.83	-0.06	2.83	
18192.00	89.630	339.890	6233.24	11422.87	9927.92	-6113.13	1651867.83	14325289.02	39°26'55.117"N	80°57'33.969"W	11659.07	328.377	1.57	0.06	1.56	
18286.00	89.630	338.740	6234.05	11516.86	10015.90	-6146.21	1651834.76	14325376.96	39°26'55.986"N	80°57'34.390"W	11751.35	328.465	1.09	-0.27	-1.05	
18380.00	89.630	338.900	6234.86	11610.84	10103.55	-6180.17	1651800.82	14325464.58	39°26'56.863"N	80°57'34.823"W	11843.83	328.547	0.32	0.27	-0.17	
18475.00	88.950	340.170	6236.04	11705.82	10192.50	-6213.50	1651767.49	14325553.49	39°26'57.732"N	80°57'35.247"W	11937.11	328.633	1.67	-0.72	1.51	
18570.00	89.010	340.710	6237.73	11800.80	10282.00	-6245.30	1651735.71	14325642.96	39°26'58.617"N	80°57'35.652"W	12030.10	328.725	0.57	0.06	0.57	
18665.00	89.140	342.420	6239.27	11895.75	10372.11	-6275.34	1651705.68	14325733.03	39°26'59.508"N	80°57'36.034"W	12122.73	328.825	1.80	0.14	1.80	
18721.00	89.140	344.070	6240.11	11951.65	10425.73	-6291.48	1651689.55	14325822.62	39°27'00.038"N	80°57'36.240"W	12176.97	328.891	2.95	0.00	2.95	
18745.00	89.140	344.070	6240.47	11975.58	10448.80	-6298.07	1651682.96	14325809.69	39°27'00.266"N	80°57'36.324"W	12200.13	328.920	0.00	0.00	0.00	Projected MD at TD [ST01]: 18745'

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Actual Wellpath Report

Jameson Unit 1H ST01 AWP Proj: 18745'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	Slot	Slot #12	
ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01	
Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB	
Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198'	at 5775.50 MD
Meat Pad			

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Jameson Unit 1H ST01 POE Rev-1	6284.00	-585.05	-2233.51	1655745.89	14314780.27	39°25'11.192"N	80°56'44.595"W	point
Jameson Unit 1H ST01 BHL Rev-1	6314.00	10463.88	-6300.09	1651680.94	14325824.76	39°27'00.415"N	80°57'36.349"W	point
Jameson Unit 1H ST01 LP Rev-1	6314.00	-390.53	-2329.96	1655649.48	14314974.71	39°25'13.115"N	80°56'45.822"W	point

WELLPATH COMPOSITION - Ref Wellbore: Jameson Unit 1H ST01 AWB				Ref Wellpath: Jameson Unit 1H ST01 AWP Proj: 18745'			
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment				
24.50	363.50	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <-17-1/2'> (25'-354')				Jameson Unit 1H AWB
363.50	2589.50	ISCWSA MWD, Rev. 4 (Standard)	02 Directional ONE MWD <-12-1/4'> (354') (410'-2580')				Jameson Unit 1H AWB
2589.50	5775.50	ISCWSA MWD, Rev. 4 (Standard)	04 Directional ONE MWD <-8-3/4'> (2580') (2637'-7121')				Jameson Unit 1H AWB
5775.50	18721.00	BHI AutoTrak Curve (Short)	05 BH AT Curve <-8-1/2'> (5775.5) (5809'-18721')				Jameson Unit 1H ST01 AWB
18721.00	18745.00	Blind Drilling (std)	Projection to bit				Jameson Unit 1H ST01 AWB

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REFERENCE WELLPATH IDENTIFICATION			
Operator	Slot	Slot #12	
ANTERO RESOURCES CORPORATION	Well	Jameson Unit 1H ST01	
Area Tyler County, WV	Wellbore	Jameson Unit 1H ST01 AWB	
Field Tyler	Sidetrack from	Jameson Unit 1H AWP Proj: 7198' at 5775.50 MD	
Facility Neat Pad			

COMMENTS
<p>Wellpath general comments</p> <p>API: 47-095-02469-0000</p> <p>BHI Job #: 109479779</p> <p>Rtg: Frontier 22</p> <p>Duration: 11/02/2018-11/05/2018</p> <p>Gyrodota MS Gyro <17-1/2">(25'-354')</p> <p>Directional ONE MWD <12-1/4">(354')(410'-2580')</p> <p>Directional ONE MWD <8-3/4">(2580')(2637'-7121')</p> <p>BH AT Curve <8-1/2"> (5775.5')(5809'-18721')</p> <p>Middlesex: 6702' MD</p> <p>Burkett: 6886' MD</p> <p>Tully: 6940' MD</p> <p>Marcellus POE: 6979' MD</p> <p>Projected MD at TD [ST01]: 18745'</p>