



# ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV  
Field: Ritchie  
Facility: Cashew Pad

Slot: Slot E  
Well: Smelt Unit 1H  
Wellbore: Smelt Unit 1H PWB

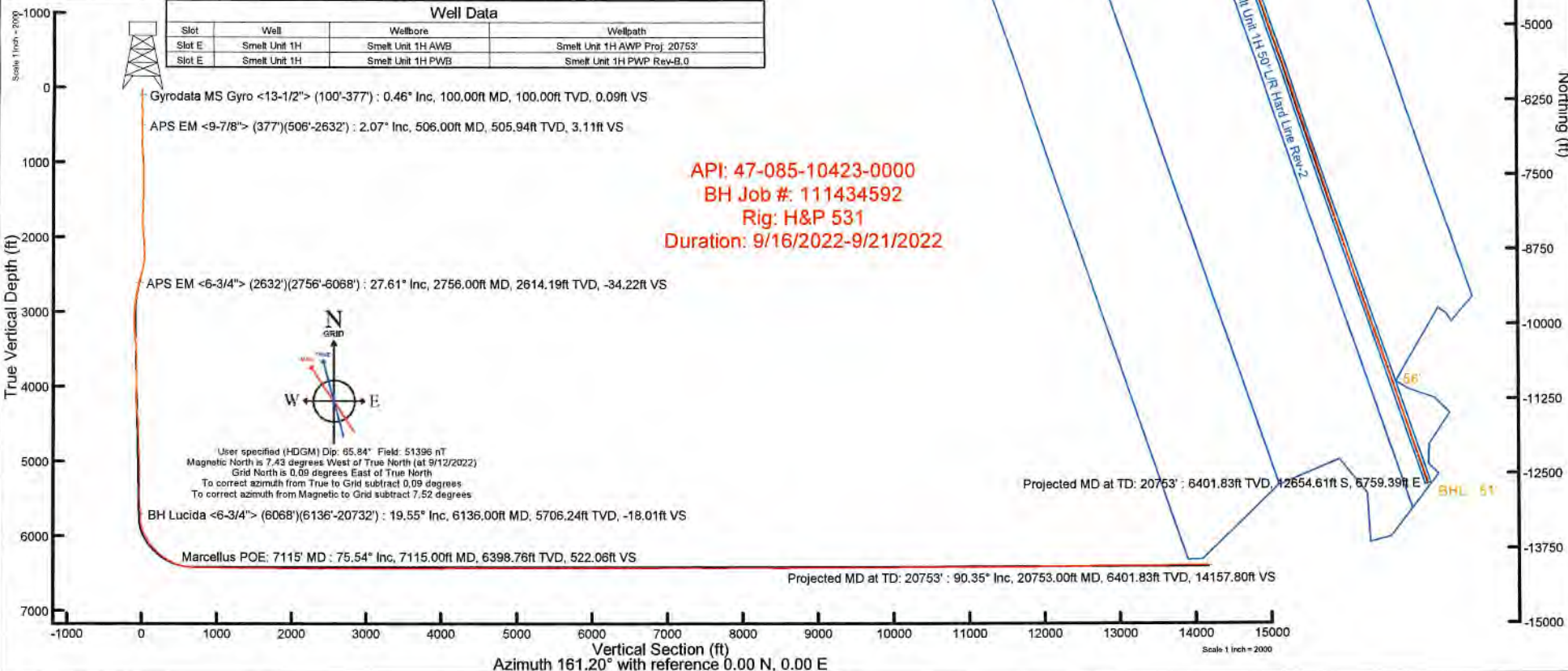


Plot reference wellpath is Smelt Unit 1H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 531 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 531 (RKB)	Scale: True distance
H&P 531 (RKB) to Mean Sea Level: 1049 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot E) -1019 feet	Depths are in feet
Offset wellpath MDs are referenced to each well's default MD datum	Created by: edstaryar on 2022-10-02; Database: WA_MPL_EASTERN.MD.Dats

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Cashew Pad	1880670.888	14224370.270	39°10'16.9600"N	80°51'28.6800"W	
Slot	Local E (ft)	Local N (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot E	54.57	25.90	1880696.770	14224424.920	39°10'17.5200"N
Comment: Smelt Unit 1H					
H&P 531 (RKB) to Ground level (At Slot: Slot E)	30ft				
Mean Sea Level to Ground level (At Slot: Slot E)	-1019ft				
H&P 531 (RKB) to Mean Sea Level	1049ft				

Well Profile Data							
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	2632.00	27.229	40.990	2504.07	220.83	642.65	3.71
Proj. to Bottom	2692.00	27.220	40.990	2557.43	241.55	690.65	0.00
Drill out	2772.00	27.220	40.990	2628.57	269.17	684.65	0.00
Turn	3246.73	23.479	73.527	3059.68	378.50	847.40	3.00
Curve KOP	6172.48	23.479	73.527	5743.10	709.03	1965.21	0.00
POE	7119.30	75.440	161.201	6394.00	261.60	2351.74	8.00
Landing Pt.	7301.29	90.000	161.201	6417.00	91.16	2409.76	8.00
BHL	20780.82	90.000	161.201	6417.00	-12669.28	6753.57	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot E	Smelt Unit 1H	Smelt Unit 1H AWP	Smelt Unit 1H AWP Proj: 20753'
Slot E	Smelt Unit 1H	Smelt Unit 1H PWB	Smelt Unit 1H PWP Rev-B.0





# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999602	Report Generated	10/2/2022 at 2:45:58 AM
Convergence at slot	0.09° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	54.67	25.90	1680696.77	14224424.92	39°10'17.5200"N	80°51'28.3500"W
Facility Reference Pt			1680670.88	14224370.27	39°10'16.9800"N	80°51'28.6800"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM			
Calculation method	Minimum curvature	H&P 531 (RKB) to Facility Vertical Datum	1049.00ft
Horizontal Reference Pt	Slot	H&P 531 (RKB) to Mean Sea Level	1049.00ft
Vertical Reference Pt	H&P 531 (RKB)	H&P 531 (RKB) to Ground Level at Slot (Slot E)	30.00ft
MD Reference Pt	H&P 531 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.20°



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWP
Slot	Slot E		

WELLPATH DATA (225 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	89.250	0.00	0.00	0.00	0.00	1680696.77	14224424.92	39°10'17.5200"N	80°51'28.3500"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	89.250	30.00	0.00	0.00	0.00	1680696.77	14224424.92	39°10'17.5200"N	80°51'28.3500"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.460	89.250	100.00	0.09	0.00	0.28	1680697.05	14224424.92	39°10'17.5200"N	80°51'28.3465"W	0.28	89.250	0.66	0.66	0.00	Gyrodata MS Gyro <13-1/2"> (100'-377')
200.00	0.670	94.800	199.99	0.45	-0.04	1.26	1680698.03	14224424.88	39°10'17.5196"N	80°51'28.3340"W	1.27	91.811	0.22	0.21	5.55	
300.00	0.680	94.440	299.99	0.91	-0.13	2.44	1680699.21	14224424.79	39°10'17.5186"N	80°51'28.3191"W	2.44	93.164	0.01	0.01	-0.36	
377.00	0.870	127.940	376.98	1.58	-0.53	3.36	1680700.12	14224424.39	39°10'17.5147"N	80°51'28.3074"W	3.40	98.969	0.63	0.25	43.51	
506.00	2.070	88.940	505.94	3.11	-1.09	6.46	1680703.23	14224423.83	39°10'17.5092"N	80°51'28.2681"W	6.55	99.570	1.16	0.93	-30.23	APS EM <9-7/8"> (377')(506'-2632')
595.00	5.210	71.140	594.75	3.60	0.25	11.89	1680708.66	14224425.17	39°10'17.5223"N	80°51'28.1991"W	11.89	88.807	3.71	3.53	-20.00	
685.00	8.430	74.920	684.10	4.02	3.29	22.13	1680718.89	14224428.20	39°10'17.5522"N	80°51'28.0690"W	22.37	81.555	3.61	3.58	4.20	
775.00	11.160	80.750	772.79	5.89	6.40	37.09	1680733.85	14224431.32	39°10'17.5827"N	80°51'27.8790"W	37.64	80.208	3.21	3.02	6.48	
865.00	13.510	87.050	860.71	10.21	8.34	56.18	1680752.93	14224433.26	39°10'17.6016"N	80°51'27.6365"W	56.80	81.555	3.01	2.62	7.00	
955.00	14.910	88.250	947.95	16.48	9.24	78.26	1680774.99	14224434.15	39°10'17.6101"N	80°51'27.3562"W	78.80	83.269	1.59	1.56	1.33	
1050.00	13.220	80.860	1040.11	21.88	11.34	101.20	1680797.93	14224436.25	39°10'17.6305"N	80°51'27.0649"W	101.83	83.609	2.59	-1.78	-7.78	
1146.00	14.820	75.540	1133.25	24.65	16.15	123.93	1680820.65	14224441.06	39°10'17.6777"N	80°51'26.7762"W	124.98	82.577	2.14	1.67	-5.54	
1240.00	17.140	71.750	1223.61	25.70	23.49	148.73	1680845.44	14224448.40	39°10'17.7498"N	80°51'26.4611"W	150.57	81.026	2.70	2.47	-4.03	
1334.00	18.990	67.540	1312.98	24.85	33.67	176.02	1680872.72	14224458.57	39°10'17.8501"N	80°51'26.1144"W	179.21	79.172	2.41	1.97	-4.48	
1429.00	22.690	67.860	1401.75	22.80	46.48	207.29	1680903.97	14224471.38	39°10'17.9762"N	80°51'25.7171"W	212.44	77.361	3.90	3.89	0.34	
1524.00	24.300	67.670	1488.87	20.53	60.82	242.34	1680939.02	14224485.71	39°10'18.1174"N	80°51'25.2718"W	249.86	75.913	1.70	1.69	-0.20	
1618.00	24.950	66.230	1574.32	17.62	76.16	278.38	1680975.04	14224501.05	39°10'18.2684"N	80°51'24.8139"W	288.61	74.700	0.94	0.69	-1.53	
1713.00	24.990	67.550	1660.44	14.61	91.90	315.26	1681011.91	14224516.78	39°10'18.4234"N	80°51'24.3453"W	328.38	73.749	0.59	0.04	1.39	
1808.00	22.860	70.220	1747.28	13.01	105.80	351.18	1681047.81	14224530.68	39°10'18.5603"N	80°51'23.8890"W	366.77	73.233	2.51	-2.24	2.81	
1903.00	22.730	75.440	1834.87	14.05	116.66	386.31	1681082.92	14224541.54	39°10'18.6671"N	80°51'23.4427"W	403.54	73.196	2.13	-0.14	5.49	
1997.00	25.280	81.280	1920.74	18.91	124.28	423.74	1681120.34	14224549.15	39°10'18.7417"N	80°51'22.9673"W	441.58	73.654	3.70	2.71	6.21	
2092.00	28.500	80.680	2005.46	26.20	131.02	466.16	1681162.75	14224555.89	39°10'18.8078"N	80°51'22.4284"W	484.23	74.301	3.40	3.39	-0.63	
2186.00	23.530	80.920	2089.91	33.06	137.62	506.85	1681203.42	14224562.49	39°10'18.8723"N	80°51'21.9117"W	525.20	74.809	5.29	-5.28	0.26	
2281.00	17.860	77.440	2178.75	37.85	143.79	539.82	1681236.38	14224568.65	39°10'18.9328"N	80°51'21.4929"W	568.64	75.085	6.10	-5.97	-3.66	
2376.00	19.090	60.980	2268.91	36.68	154.50	567.65	1681264.19	14224579.36	39°10'19.0382"N	80°51'21.1394"W	588.30	74.774	5.62	1.29	-17.33	
2471.00	22.160	50.530	2357.84	27.59	173.43	595.07	1681291.60	14224598.28	39°10'19.2249"N	80°51'20.7908"W	619.83	73.752	5.03	3.22	-11.00	
2566.00	25.190	44.090	2444.86	12.05	199.35	622.97	1681319.49	14224624.19	39°10'19.4806"N	80°51'20.4360"W	654.09	72.256	4.20	3.20	-6.78	
2632.00	27.220	40.990	2504.07	-1.94	220.83	642.65	1681339.16	14224645.66	39°10'19.6927"N	80°51'20.1857"W	679.53	71.036	3.71	3.08	-4.70	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (225 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
2756.00	27.610	32.420	2614.19	-34.22	266.51	676.67	1681373.17	14224691.32	39°10'20.1436"N	80°51'19.7528"W	727.26	68.503	3.20	0.31	-6.91	APS EM <6-3/4"> (2632')(2756'-6068')
2850.00	24.180	47.350	2698.83	-55.68	297.98	702.54	1681399.03	14224722.78	39°10'20.4543"N	80°51'19.4237"W	763.13	67.016	7.81	-3.65	15.88	
2945.00	22.560	47.070	2786.03	-71.00	323.58	730.20	1681426.68	14224748.37	39°10'20.7068"N	80°51'19.0720"W	798.68	66.100	1.71	-1.71	-0.29	
3039.00	21.850	54.690	2873.08	-83.34	345.98	757.68	1681454.15	14224770.76	39°10'20.9278"N	80°51'18.7226"W	832.94	65.457	3.15	-0.76	8.11	
3134.00	22.420	61.660	2961.09	-91.37	364.80	788.06	1681484.51	14224789.57	39°10'21.1133"N	80°51'18.3365"W	868.40	65.160	2.83	0.60	7.34	
3233.00	21.060	69.520	3053.07	-95.02	379.99	821.35	1681517.79	14224804.76	39°10'21.2629"N	80°51'17.9135"W	904.99	65.173	3.24	-1.37	7.94	
3328.00	19.770	69.670	3142.10	-95.95	391.54	852.40	1681548.83	14224816.31	39°10'21.3766"N	80°51'17.5190"W	938.03	65.329	1.36	-1.36	0.16	
3422.00	20.620	75.190	3230.33	-95.22	401.30	883.32	1681579.73	14224826.06	39°10'21.4726"N	80°51'17.1263"W	970.20	65.567	2.22	0.90	5.87	
3517.00	24.250	85.100	3318.15	-89.37	407.24	918.95	1681615.35	14224832.00	39°10'21.5308"N	80°51'16.6737"W	1005.15	66.099	5.51	3.82	10.43	
3611.00	26.690	83.810	3403.01	-80.12	411.17	959.18	1681655.56	14224835.92	39°10'21.5689"N	80°51'16.1628"W	1043.59	66.797	2.66	2.60	-1.37	
3706.00	24.610	76.600	3488.67	-73.60	418.06	999.65	1681696.02	14224842.81	39°10'21.6364"N	80°51'15.6488"W	1083.54	67.305	3.94	-2.19	-7.59	
3800.00	24.670	77.630	3574.11	-69.56	426.79	1037.85	1681734.20	14224851.54	39°10'21.7221"N	80°51'15.1636"W	1122.18	67.646	0.46	0.06	1.10	
3894.00	24.220	71.360	3659.70	-67.31	437.16	1075.29	1681771.63	14224861.91	39°10'21.8240"N	80°51'14.6880"W	1160.75	67.876	2.80	-0.48	-6.67	
3989.00	25.340	73.890	3745.95	-66.30	449.03	1113.28	1681809.61	14224873.77	39°10'21.9407"N	80°51'14.2053"W	1200.43	68.034	1.62	1.18	2.66	
4083.00	24.410	68.010	3831.24	-66.44	461.89	1150.63	1681846.94	14224886.62	39°10'22.0672"N	80°51'13.7309"W	1239.87	68.128	2.81	-0.99	-6.26	
4178.00	22.970	69.000	3918.24	-68.24	475.88	1186.14	1681882.43	14224900.61	39°10'22.2050"N	80°51'13.2797"W	1278.04	68.139	1.57	-1.52	1.04	
4272.00	21.480	65.550	4005.25	-70.64	489.58	1218.93	1681915.21	14224914.30	39°10'22.3398"N	80°51'12.8630"W	1313.58	68.117	2.11	-1.59	-3.67	
4366.00	20.150	65.770	4093.12	-73.87	503.35	1249.36	1681945.63	14224928.07	39°10'22.4754"N	80°51'12.4763"W	1346.95	68.056	1.42	-1.41	0.23	
4461.00	22.630	76.080	4181.60	-73.86	514.47	1282.04	1681978.30	14224939.18	39°10'22.5848"N	80°51'12.0612"W	1381.41	68.135	4.73	2.61	10.85	
4556.00	26.530	79.400	4267.98	-69.28	522.77	1320.65	1682016.89	14224947.48	39°10'22.6662"N	80°51'11.5707"W	1420.36	68.404	4.35	4.11	3.49	
4650.00	28.720	86.850	4351.28	-60.19	527.88	1363.86	1682060.08	14224952.58	39°10'22.7160"N	80°51'11.0221"W	1462.45	68.841	4.35	2.33	7.93	
4744.00	27.270	79.940	4434.30	-50.82	532.88	1407.63	1682103.83	14224957.59	39°10'22.7648"N	80°51'10.4662"W	1505.11	69.265	3.78	-1.54	-7.35	
4839.00	25.100	71.980	4519.57	-47.24	542.92	1448.23	1682144.42	14224967.62	39°10'22.8633"N	80°51'9.9504"W	1546.65	69.450	4.34	-2.28	-8.38	
4933.00	21.810	72.260	4605.79	-46.64	554.41	1483.83	1682180.01	14224979.11	39°10'22.9764"N	80°51'9.4981"W	1584.02	69.513	3.50	-3.50	0.30	
5027.00	23.070	80.410	4692.70	-43.37	562.80	1518.63	1682214.80	14224987.50	39°10'23.0587"N	80°51'9.0560"W	1619.57	69.665	3.57	1.34	8.67	
5122.00	25.460	82.000	4779.30	-36.57	568.75	1557.21	1682253.36	14224993.44	39°10'23.1169"N	80°51'8.5661"W	1657.83	69.936	2.61	2.52	1.67	
5216.00	25.030	76.620	4864.33	-30.90	576.16	1596.57	1682292.70	14225000.85	39°10'23.1895"N	80°51'8.0661"W	1697.35	70.157	2.48	-0.46	-5.72	
5311.00	22.520	69.060	4951.28	-29.68	587.32	1633.13	1682329.25	14225012.00	39°10'23.2992"N	80°51'7.6017"W	1735.53	70.220	4.15	-2.64	-7.96	
5405.00	23.710	69.840	5037.73	-30.80	600.26	1667.69	1682363.79	14225024.94	39°10'23.4266"N	80°51'7.1627"W	1772.43	70.204	1.31	1.27	0.83	
5500.00	26.520	73.000	5123.75	-30.59	613.05	1705.91	1682401.99	14225037.73	39°10'23.5524"N	80°51'6.6771"W	1812.72	70.233	3.28	2.96	3.33	



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REFERENCE WELLPATH IDENTIFICATION			
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Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (225 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)	
5595.00	24.320	69.320	5209.55	-30.56	626.16	1744.50	1682440.57	14225050.83	39°10'23.6814"N	80°51'6.1868"W	1853.47	70.255	2.85	-2.32	-3.87	
5689.00	24.850	72.840	5295.03	-30.63	638.83	1781.48	1682477.54	14225063.49	39°10'23.8059"N	80°51'5.7170"W	1892.56	70.273	1.66	0.56	3.74	
5784.00	23.970	72.020	5381.54	-29.79	650.67	1818.91	1682514.95	14225075.33	39°10'23.9224"N	80°51'5.2415"W	1931.79	70.317	0.99	-0.93	-0.86	
5879.00	22.640	76.630	5468.80	-27.78	660.86	1855.06	1682551.09	14225085.51	39°10'24.0225"N	80°51'4.7823"W	1969.26	70.392	2.38	-1.40	4.85	
5973.00	24.380	80.200	5554.99	-23.03	668.35	1891.78	1682587.80	14225093.00	39°10'24.0959"N	80°51'4.3158"W	2006.37	70.542	2.39	1.85	3.80	
6068.00	21.350	74.140	5642.53	-19.08	676.41	1927.75	1682623.75	14225101.06	39°10'24.1750"N	80°51'3.8589"W	2042.98	70.665	4.04	-3.19	-6.38	
6136.00	19.550	73.360	5706.24	-18.01	683.05	1950.56	1682646.55	14225107.70	39°10'24.2403"N	80°51'3.5691"W	2066.70	70.701	2.68	-2.65	-1.15	BH Lucida <6-3/4"> (6068')(6136'-20732')
6230.00	23.910	88.780	5793.61	-11.66	687.97	1984.72	1682680.70	14225112.61	39°10'24.2884"N	80°51'3.1353"W	2100.58	70.882	7.61	4.64	16.40	
6325.00	25.220	102.680	5880.09	4.74	683.93	2023.75	1682719.71	14225108.58	39°10'24.2478"N	80°51'2.6398"W	2136.19	71.327	6.22	1.38	14.63	
6419.00	29.590	121.710	5963.88	33.18	667.30	2063.13	1682759.07	14225091.95	39°10'24.0828"N	80°51'2.1402"W	2168.36	72.077	10.36	4.65	20.24	
6507.00†	35.386	132.180	6037.93	72.29	638.72	2100.55	1682796.48	14225063.39	39°10'23.7997"N	80°51'1.6656"W	2195.51	73.087	9.16	6.59	11.90	Sycamore: 6507' MD
6514.00	35.880	132.880	6043.62	75.87	635.97	2103.56	1682799.49	14225060.63	39°10'23.7724"N	80°51'1.6275"W	2197.59	73.178	9.16	7.06	10.00	
6608.00	40.750	132.660	6117.36	127.10	596.41	2146.33	1682842.24	14225021.09	39°10'23.3807"N	80°51'1.0852"W	2227.65	74.471	5.18	5.18	-0.23	
6702.00	45.250	132.140	6186.09	183.26	553.20	2193.67	1682889.56	14224977.90	39°10'22.9529"N	80°51'0.4851"W	2262.34	75.846	4.80	4.79	-0.55	
6750.00†	48.267	136.399	6218.97	214.43	528.78	2218.67	1682914.55	14224953.49	39°10'22.7112"N	80°51'0.1681"W	2280.81	76.595	9.01	6.29	8.87	Middlesex: 6750' MD
6797.00	51.360	140.190	6249.30	247.50	501.97	2242.52	1682938.40	14224926.69	39°10'22.4458"N	80°50'59.8658"W	2298.02	77.383	9.01	6.58	8.07	
6891.00	57.380	149.550	6304.12	320.71	439.50	2286.19	1682982.05	14224864.24	39°10'21.8275"N	80°50'59.3126"W	2328.06	79.118	10.31	6.40	9.96	
6939.00†	60.077	154.253	6329.04	361.18	403.31	2305.49	1683001.33	14224828.07	39°10'21.4696"N	80°50'59.0684"W	2340.50	80.077	10.08	5.62	9.80	Burkett: 6939' MD
6985.00	62.810	158.520	6351.04	401.43	366.30	2321.65	1683017.49	14224791.07	39°10'21.1035"N	80°50'58.8640"W	2350.37	81.034	10.08	5.94	9.28	
7040.00†	67.319	160.228	6374.22	451.26	319.63	2339.20	1683035.03	14224744.42	39°10'20.6420"N	80°50'58.6421"W	2360.93	82.219	8.67	8.20	3.11	Tully: 7040' MD
7080.00	70.610	161.400	6388.58	488.59	284.38	2351.46	1683047.29	14224709.18	39°10'20.2933"N	80°50'58.4871"W	2368.59	83.104	8.67	8.23	2.93	
7115.00†	75.536	161.721	6398.76	522.06	252.62	2362.05	1683057.87	14224677.44	39°10'19.9793"N	80°50'58.3534"W	2375.52	83.895	14.10	14.08	0.92	Marcellus POE: 7115' MD
7133.00	78.070	161.880	6402.87	539.59	235.97	2367.52	1683063.34	14224660.80	39°10'19.8146"N	80°50'58.2843"W	2379.25	84.308	14.10	14.08	0.88	
7174.00	82.140	160.350	6409.92	579.97	197.77	2380.59	1683076.41	14224622.61	39°10'19.4368"N	80°50'58.1191"W	2388.79	85.251	10.59	9.93	-3.73	
7269.00	87.490	161.330	6418.50	674.54	108.43	2411.63	1683107.43	14224533.31	39°10'18.5533"N	80°50'57.7269"W	2414.07	87.426	5.72	5.63	1.03	
7363.00	89.680	160.790	6420.82	768.50	19.55	2442.13	1683137.92	14224444.47	39°10'17.6743"N	80°50'57.3415"W	2442.21	89.541	2.40	2.33	-0.57	
7457.00	89.280	161.370	6421.67	862.50	-69.36	2472.61	1683168.39	14224355.58	39°10'16.7950"N	80°50'56.9564"W	2473.58	91.607	0.75	-0.43	0.62	
7552.00	89.250	161.000	6422.89	957.49	-159.28	2503.24	1683199.01	14224265.70	39°10'15.9057"N	80°50'56.5693"W	2508.31	93.641	0.39	-0.03	-0.39	
7646.00	89.250	161.420	6424.12	1051.48	-248.26	2533.52	1683229.27	14224176.76	39°10'15.0257"N	80°50'56.1868"W	2545.65	95.597	0.45	0.00	0.45	
7741.00	89.220	161.010	6425.39	1146.47	-338.19	2564.11	1683259.85	14224086.86	39°10'14.1364"N	80°50'55.8003"W	2586.31	97.514	0.43	-0.03	-0.43	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (225 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
7835.00	89.460	161.660	6426.47	1240.47	-427.24	2594.19	1683289.92	14223997.85	39°10'13.2557"N	80°50'55.4202"W	2629.13	99.352	0.74	0.26	0.69	
7929.00	89.220	161.240	6427.56	1334.46	-516.35	2624.09	1683319.81	14223908.77	39°10'12.3745"N	80°50'55.0424"W	2674.41	101.132	0.51	-0.26	-0.45	
8024.00	90.230	163.070	6428.01	1429.44	-606.78	2653.20	1683348.91	14223818.39	39°10'11.4802"N	80°50'54.6748"W	2721.70	102.882	2.20	1.06	1.93	
8118.00	90.290	163.070	6427.59	1523.39	-696.70	2680.57	1683376.27	14223728.50	39°10'10.5910"N	80°50'54.3291"W	2769.63	104.569	0.06	0.06	0.00	
8213.00	89.250	161.480	6427.97	1618.37	-787.19	2709.49	1683405.18	14223638.05	39°10'9.6962"N	80°50'53.9638"W	2821.53	106.200	2.00	-1.09	-1.67	
8307.00	89.250	161.330	6429.20	1712.36	-876.27	2739.47	1683435.14	14223549.00	39°10'8.8151"N	80°50'53.5852"W	2876.20	107.738	0.16	0.00	-0.16	
8401.00	89.120	160.870	6430.54	1806.35	-965.20	2769.91	1683465.57	14223460.11	39°10'7.9357"N	80°50'53.2005"W	2933.26	109.211	0.51	-0.14	-0.49	
8496.00	90.110	161.320	6431.17	1901.35	-1055.07	2800.69	1683496.34	14223370.27	39°10'7.0469"N	80°50'52.8116"W	2992.83	110.642	1.14	1.04	0.47	
8590.00	89.920	161.630	6431.15	1995.34	-1144.20	2830.56	1683526.19	14223281.18	39°10'6.1655"N	80°50'52.4343"W	3053.07	112.010	0.39	-0.20	0.33	
8685.00	89.610	161.180	6431.54	2090.34	-1234.24	2860.85	1683556.47	14223191.18	39°10'5.2751"N	80°50'52.0516"W	3115.73	113.336	0.58	-0.33	-0.47	
8779.00	89.860	160.930	6431.97	2184.34	-1323.14	2891.37	1683586.98	14223102.31	39°10'4.3958"N	80°50'51.6661"W	3179.73	114.590	0.38	0.27	-0.27	
8874.00	89.620	160.750	6432.40	2279.34	-1412.88	2922.55	1683618.15	14223012.61	39°10'3.5083"N	80°50'51.2721"W	3246.15	115.801	0.32	-0.25	-0.19	
8969.00	88.850	162.020	6433.67	2374.33	-1502.90	2952.87	1683648.45	14222922.62	39°10'2.6181"N	80°50'50.8891"W	3313.33	116.974	1.56	-0.81	1.34	
9063.00	89.890	160.290	6434.71	2468.32	-1591.85	2983.23	1683678.80	14222833.71	39°10'1.7384"N	80°50'50.5055"W	3381.36	118.084	2.15	1.11	-1.84	
9157.00	89.920	161.030	6434.86	2562.31	-1680.55	3014.36	1683709.92	14222745.05	39°10'0.8612"N	80°50'50.1122"W	3451.17	119.140	0.79	0.03	0.79	
9252.00	90.200	161.380	6434.76	2657.31	-1770.48	3044.96	1683740.51	14222655.15	39°09'59.9718"N	80°50'49.7255"W	3522.27	120.176	0.47	0.29	0.37	
9346.00	89.980	160.650	6434.62	2751.31	-1859.37	3075.54	1683771.08	14222566.30	39°09'59.0928"N	80°50'49.3391"W	3593.91	121.156	0.81	-0.23	-0.78	
9441.00	89.950	161.210	6434.67	2846.31	-1949.15	3106.58	1683802.11	14222476.55	39°09'58.2048"N	80°50'48.9470"W	3667.43	122.105	0.59	-0.03	0.59	
9535.00	90.080	160.800	6434.65	2940.31	-2038.03	3137.18	1683832.69	14222387.70	39°09'57.3258"N	80°50'48.5604"W	3741.05	123.009	0.46	0.14	-0.44	
9630.00	90.260	161.110	6434.37	3035.31	-2127.83	3168.16	1683863.68	14222297.94	39°09'56.4377"N	80°50'48.1688"W	3816.41	123.886	0.38	0.19	0.33	
9724.00	90.170	161.390	6434.01	3129.30	-2216.84	3198.39	1683893.88	14222208.96	39°09'55.5574"N	80°50'47.7871"W	3891.54	124.726	0.31	-0.10	0.30	
9819.00	90.140	160.300	6433.76	3224.30	-2306.58	3229.56	1683925.04	14222119.26	39°09'54.6699"N	80°50'47.3933"W	3968.68	125.535	1.15	-0.03	-1.15	
9913.00	90.080	160.880	6433.58	3318.30	-2395.24	3260.80	1683956.27	14222030.64	39°09'53.7931"N	80°50'46.9986"W	4045.99	126.299	0.62	-0.06	0.62	
10008.00	90.350	160.620	6433.22	3413.29	-2484.93	3292.12	1683987.57	14221940.99	39°09'52.9062"N	80°50'46.6029"W	4124.67	127.046	0.39	0.28	-0.27	
10102.00	90.050	161.370	6432.89	3507.29	-2573.80	3322.73	1684018.17	14221852.15	39°09'52.0272"N	80°50'46.2161"W	4202.98	127.761	0.86	-0.32	0.80	
10196.00	90.350	160.940	6432.56	3601.29	-2662.76	3353.10	1684048.52	14221763.22	39°09'51.1474"N	80°50'45.8326"W	4281.77	128.454	0.56	0.32	-0.46	
10291.00	90.510	161.210	6431.85	3696.29	-2752.62	3383.91	1684079.32	14221673.40	39°09'50.2587"N	80°50'45.4433"W	4362.08	129.126	0.33	0.17	0.28	
10480.00	89.740	161.220	6431.44	3885.28	-2931.55	3444.77	1684140.16	14221494.54	39°09'48.4892"N	80°50'44.6745"W	4523.32	130.398	0.41	-0.41	0.01	
10574.00	90.350	160.920	6431.37	3979.28	-3020.47	3475.26	1684170.64	14221405.66	39°09'47.6098"N	80°50'44.2893"W	4604.42	130.995	0.72	0.65	-0.32	
10763.00	90.450	160.870	6430.05	4168.28	-3199.06	3537.12	1684232.47	14221227.14	39°09'45.8436"N	80°50'43.5078"W	4769.18	132.127	0.06	0.05	-0.03	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

## WELLPATH DATA (225 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
10858.00	90.260	161.470	6429.46	4263.27	-3288.97	3567.78	1684263.12	14221137.27	39°09'44.9544"N	80°50'43.1205"W	4852.46	132.672	0.66	-0.20	0.63	
10952.00	90.600	161.910	6428.75	4357.27	-3378.21	3597.31	1684292.64	14221048.06	39°09'44.0719"N	80°50'42.7475"W	4934.87	133.201	0.59	0.36	0.47	
11047.00	89.800	160.680	6428.42	4452.26	-3468.19	3627.78	1684323.09	14220958.12	39°09'43.1820"N	80°50'42.3627"W	5018.87	133.712	1.54	-0.84	-1.29	
11141.00	89.980	161.210	6428.60	4546.26	-3557.04	3658.46	1684353.77	14220869.31	39°09'42.3034"N	80°50'41.9750"W	5102.63	134.195	0.60	0.19	0.56	
11236.00	90.110	160.890	6428.53	4641.26	-3646.89	3689.31	1684384.61	14220779.49	39°09'41.4147"N	80°50'41.5853"W	5187.56	134.669	0.36	0.14	-0.34	
11330.00	89.890	160.880	6428.53	4735.26	-3735.70	3720.10	1684415.38	14220690.71	39°09'40.5364"N	80°50'41.1965"W	5272.06	135.120	0.23	-0.23	-0.01	
11425.00	90.230	160.760	6428.43	4830.26	-3825.43	3751.31	1684446.58	14220601.02	39°09'39.6490"N	80°50'40.8022"W	5357.82	135.560	0.38	0.36	-0.13	
11519.00	89.800	161.680	6428.40	4924.26	-3914.42	3781.57	1684476.83	14220512.06	39°09'38.7688"N	80°50'40.4200"W	5442.70	135.989	1.08	-0.46	0.98	
11614.00	90.020	161.650	6428.55	5019.25	-4004.60	3811.45	1684506.70	14220421.92	39°09'37.8771"N	80°50'40.0425"W	5528.47	136.416	0.23	0.23	-0.03	
11708.00	90.110	161.150	6428.44	5113.25	-4093.69	3841.44	1684536.67	14220332.87	39°09'36.9960"N	80°50'39.6638"W	5613.82	136.821	0.54	0.10	-0.53	
11803.00	89.770	161.430	6428.54	5208.25	-4183.67	3871.91	1684567.13	14220242.92	39°09'36.1061"N	80°50'39.2789"W	5700.42	137.216	0.46	-0.36	0.29	
11898.00	90.390	161.000	6428.41	5303.25	-4273.61	3902.50	1684597.71	14220153.02	39°09'35.2167"N	80°50'38.8925"W	5787.34	137.599	0.79	0.65	-0.45	
11992.00	90.080	160.850	6428.03	5397.25	-4362.45	3933.22	1684628.42	14220064.22	39°09'34.3381"N	80°50'38.5045"W	5873.77	137.962	0.37	-0.33	-0.16	
12087.00	90.020	160.770	6427.94	5492.25	-4452.17	3964.45	1684659.63	14219974.53	39°09'33.4507"N	80°50'38.1100"W	5961.43	138.316	0.11	-0.06	-0.08	
12181.00	89.830	160.770	6428.07	5586.24	-4540.92	3995.41	1684690.58	14219885.81	39°09'32.5730"N	80°50'37.7189"W	6048.41	138.657	0.20	-0.20	0.00	
12276.00	89.920	160.980	6428.27	5681.24	-4630.68	4026.53	1684721.69	14219796.09	39°09'31.6853"N	80°50'37.3258"W	6136.46	138.992	0.24	0.09	0.22	
12370.00	89.430	160.920	6428.81	5775.24	-4719.53	4057.21	1684752.36	14219707.28	39°09'30.8066"N	80°50'36.9382"W	6223.74	139.316	0.53	-0.52	-0.06	
12465.00	90.020	161.230	6429.26	5870.24	-4809.39	4088.02	1684783.16	14219617.45	39°09'29.9178"N	80°50'36.5491"W	6312.07	139.635	0.70	0.62	0.33	
12559.00	89.770	160.860	6429.43	5964.24	-4898.30	4118.56	1684813.68	14219528.58	39°09'29.0386"N	80°50'36.1634"W	6399.67	139.942	0.48	-0.27	-0.39	
12654.00	89.980	161.040	6429.64	6059.24	-4988.09	4149.56	1684844.67	14219438.82	39°09'28.1505"N	80°50'35.7717"W	6488.45	140.243	0.29	0.22	0.19	
12749.00	90.320	160.800	6429.39	6154.23	-5077.87	4180.62	1684875.71	14219349.08	39°09'27.2626"N	80°50'35.3795"W	6577.41	140.535	0.44	0.36	-0.25	
12844.00	89.830	161.310	6429.27	6249.23	-5167.73	4211.46	1684906.54	14219259.26	39°09'26.3740"N	80°50'34.9899"W	6666.47	140.822	0.74	-0.52	0.54	
12938.00	89.860	161.160	6429.52	6343.23	-5256.73	4241.70	1684936.77	14219170.29	39°09'25.4938"N	80°50'34.6080"W	6754.64	141.100	0.16	0.03	-0.16	
13033.00	89.800	161.430	6429.80	6438.23	-5346.71	4272.16	1684967.22	14219080.35	39°09'24.6039"N	80°50'34.2232"W	6843.88	141.374	0.29	-0.06	0.28	
13127.00	90.050	160.760	6429.93	6532.23	-5435.64	4302.62	1684997.67	14218991.46	39°09'23.7244"N	80°50'33.8386"W	6932.44	141.636	0.76	0.27	-0.71	
13222.00	90.260	160.860	6429.67	6627.23	-5525.36	4333.85	1685028.88	14218901.77	39°09'22.8371"N	80°50'33.4441"W	7022.24	141.891	0.24	0.22	0.11	
13317.00	89.920	161.480	6429.52	6722.23	-5615.28	4364.51	1685059.53	14218811.89	39°09'21.9478"N	80°50'33.0569"W	7111.98	142.144	0.74	-0.36	0.65	
13411.00	89.800	160.570	6429.75	6816.23	-5704.17	4395.07	1685090.08	14218723.04	39°09'21.0687"N	80°50'32.6708"W	7200.98	142.386	0.98	-0.13	-0.97	
13506.00	89.400	161.420	6430.41	6911.22	-5793.98	4426.01	1685121.01	14218633.25	39°09'20.1804"N	80°50'32.2801"W	7291.08	142.624	0.99	-0.42	0.89	
13601.00	90.080	160.760	6430.85	7006.22	-5883.86	4456.80	1685151.78	14218543.42	39°09'19.2916"N	80°50'31.8913"W	7381.25	142.857	1.00	0.72	-0.69	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	ANTERO RESOURCES CORPORATION		Well	Smelt Unit 1H
Field	Ritchie		API	47-085-10423-0000
Facility	Cashew Pad		Wellbore	Smelt Unit 1H AWB
Slot	Slot E			

WELLPATH DATA (225 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
13695.00	90.080	160.640	6430.71	7100.22	-5972.57	4487.86	1685182.84	14218454.74	39°09'18.4142"N	80°50'31.4988"W	7470.78	143.078	0.13	0.00	-0.13	
13790.00	89.800	160.330	6430.81	7195.21	-6062.12	4519.60	1685214.56	14218365.23	39°09'17.5286"N	80°50'31.0980"W	7561.48	143.294	0.44	-0.29	-0.33	
13884.00	90.260	160.750	6430.76	7289.20	-6150.74	4550.92	1685245.86	14218276.64	39°09'16.6521"N	80°50'30.7024"W	7651.31	143.502	0.66	0.49	0.45	
13979.00	90.050	161.500	6430.51	7384.20	-6240.64	4581.65	1685276.58	14218186.78	39°09'15.7631"N	80°50'30.3143"W	7741.90	143.715	0.82	-0.22	0.79	
14074.00	89.460	161.150	6430.91	7479.20	-6330.63	4612.07	1685306.99	14218096.82	39°09'14.8730"N	80°50'29.9301"W	7832.50	143.925	0.72	-0.62	-0.37	
14168.00	89.980	160.290	6431.37	7573.19	-6419.36	4643.10	1685338.01	14218008.13	39°09'13.9955"N	80°50'29.5381"W	7922.54	144.122	1.07	0.55	-0.91	
14263.00	89.980	160.420	6431.41	7668.18	-6508.83	4675.04	1685369.94	14217918.70	39°09'13.1107"N	80°50'29.1347"W	8013.79	144.312	0.14	0.00	0.14	
14357.00	90.380	160.880	6431.11	7762.18	-6597.52	4706.19	1685401.07	14217830.04	39°09'12.2335"N	80°50'28.7413"W	8104.04	144.499	0.65	0.43	0.49	
14452.00	90.230	161.480	6430.81	7857.18	-6687.44	4736.83	1685431.71	14217740.16	39°09'11.3442"N	80°50'28.3543"W	8195.08	144.689	0.65	-0.16	0.63	
14546.00	89.950	160.740	6430.46	7951.18	-6776.37	4767.26	1685462.13	14217651.26	39°09'10.4647"N	80°50'27.9699"W	8285.29	144.873	0.84	-0.30	-0.79	
14641.00	90.020	161.440	6430.48	8046.17	-6866.25	4798.05	1685492.90	14217561.42	39°09'9.5758"N	80°50'27.5811"W	8376.55	145.055	0.74	0.07	0.74	
14735.00	89.920	160.940	6430.53	8140.17	-6955.23	4828.36	1685523.20	14217472.48	39°09'8.6959"N	80°50'27.1984"W	8466.89	145.231	0.54	-0.11	-0.53	
14829.00	90.170	161.070	6430.46	8234.17	-7044.11	4858.96	1685553.78	14217383.63	39°09'7.8168"N	80°50'26.8120"W	8557.39	145.402	0.30	0.27	0.14	
14924.00	89.860	161.980	6430.43	8329.17	-7134.21	4889.06	1685583.87	14217293.57	39°09'6.9257"N	80°50'26.4319"W	8648.69	145.577	1.01	-0.33	0.96	
15018.00	89.460	161.960	6430.99	8423.16	-7223.59	4918.15	1685612.96	14217204.22	39°09'6.0418"N	80°50'26.0645"W	8738.91	145.751	0.43	-0.43	-0.02	
15113.00	90.140	161.320	6431.32	8518.16	-7313.75	4948.08	1685642.87	14217114.09	39°09'5.1501"N	80°50'25.6867"W	8830.32	145.920	0.98	0.72	-0.67	
15207.00	90.410	162.200	6430.87	8612.15	-7403.03	4977.50	1685672.28	14217024.85	39°09'4.2672"N	80°50'25.3153"W	8920.78	146.085	0.98	0.29	0.94	
15302.00	90.260	161.980	6430.32	8707.14	-7493.42	5006.71	1685701.48	14216934.49	39°09'3.3732"N	80°50'24.9464"W	9012.14	146.251	0.28	-0.16	-0.23	
15397.00	89.860	161.310	6430.22	8802.13	-7583.59	5036.63	1685731.38	14216844.36	39°09'2.4815"N	80°50'24.5687"W	9103.76	146.410	0.82	-0.42	-0.71	
15491.00	90.290	161.480	6430.09	8896.13	-7672.68	5066.62	1685761.36	14216755.31	39°09'1.6005"N	80°50'24.1900"W	9194.60	146.561	0.49	0.46	0.18	
15586.00	90.450	161.380	6429.48	8991.13	-7762.73	5096.87	1685791.60	14216665.30	39°09'0.7099"N	80°50'23.8080"W	9286.45	146.712	0.20	0.17	-0.11	
15680.00	90.350	162.240	6428.82	9085.12	-7852.03	5126.21	1685820.93	14216576.03	39°08'59.8267"N	80°50'23.4376"W	9377.23	146.861	0.92	-0.11	0.91	
15774.00	90.260	161.290	6428.32	9179.11	-7941.31	5155.63	1685850.34	14216486.79	39°08'58.9438"N	80°50'23.0662"W	9468.10	147.008	1.02	-0.10	-1.01	
15869.00	89.550	161.940	6428.48	9274.11	-8031.46	5185.59	1685880.29	14216396.68	39°08'58.0522"N	80°50'22.6879"W	9560.05	147.151	1.01	-0.75	0.68	
15963.00	90.790	162.060	6428.20	9368.10	-8120.85	5214.64	1685909.32	14216307.32	39°08'57.1681"N	80°50'22.3212"W	9650.94	147.294	1.33	1.32	0.13	
16057.00	89.400	162.130	6428.05	9462.08	-8210.30	5243.54	1685938.21	14216217.91	39°08'56.2836"N	80°50'21.9564"W	9741.85	147.436	1.48	-1.48	0.07	
16151.00	90.660	162.030	6428.00	9556.07	-8299.74	5272.46	1685967.12	14216128.51	39°08'55.3991"N	80°50'21.5913"W	9832.82	147.574	1.34	1.34	-0.11	
16246.00	90.630	161.540	6426.93	9651.06	-8389.97	5302.15	1685996.80	14216038.31	39°08'54.5067"N	80°50'21.2165"W	9924.94	147.709	0.52	-0.03	-0.52	
16340.00	89.800	161.430	6426.57	9745.06	-8479.10	5332.00	1686026.64	14215949.21	39°08'53.6252"N	80°50'20.8396"W	10016.26	147.837	0.89	-0.88	-0.12	
16434.00	90.480	161.220	6426.35	9839.06	-8568.15	5362.10	1686056.72	14215860.20	39°08'52.7445"N	80°50'20.4596"W	10107.69	147.961	0.76	0.72	-0.22	





# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWP
Slot	Slot E		

WELLPATH DATA (225 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
16529.00	90.510	161.870	6425.52	9934.05	-8658.26	5392.17	1686086.78	14215770.12	39°08'51.8533"N	80°50'20.0799"W	10200.05	148.086	0.68	0.03	0.68	
16623.00	90.540	161.700	6424.66	10028.04	-8747.55	5421.55	1686116.15	14215680.87	39°08'50.9703"N	80°50'19.7090"W	10291.40	148.210	0.18	0.03	-0.18	
16718.00	90.510	161.680	6423.79	10123.03	-8837.74	5451.40	1686145.99	14215590.72	39°08'50.0784"N	80°50'19.3322"W	10383.80	148.332	0.04	-0.03	-0.02	
16813.00	90.660	161.890	6422.82	10218.02	-8927.97	5481.09	1686175.67	14215500.52	39°08'49.1860"N	80°50'18.9573"W	10476.21	148.453	0.27	0.16	0.22	
16907.00	90.540	161.460	6421.84	10312.02	-9017.20	5510.64	1686205.21	14215411.33	39°08'48.3035"N	80°50'18.5842"W	10567.74	148.570	0.47	-0.13	-0.46	
17002.00	90.260	162.270	6421.18	10407.01	-9107.48	5540.21	1686234.77	14215321.09	39°08'47.4107"N	80°50'18.2110"W	10660.21	148.687	0.90	-0.29	0.85	
17096.00	90.290	161.340	6420.72	10501.00	-9196.77	5569.56	1686264.10	14215231.83	39°08'46.5276"N	80°50'17.8405"W	10751.78	148.801	0.99	0.03	-0.99	
17191.00	89.950	162.390	6420.52	10595.99	-9287.05	5599.13	1686293.66	14215141.58	39°08'45.6347"N	80°50'17.4672"W	10844.34	148.914	1.16	-0.36	1.11	
17285.00	89.980	161.810	6420.58	10689.98	-9376.50	5628.02	1686322.54	14215052.17	39°08'44.7501"N	80°50'17.1025"W	10935.88	149.027	0.62	0.03	-0.62	
17380.00	89.800	161.470	6420.76	10784.98	-9466.67	5657.95	1686352.45	14214962.04	39°08'43.8584"N	80°50'16.7247"W	11028.61	149.134	0.40	-0.19	-0.36	
17474.00	89.680	161.380	6421.19	10878.97	-9555.77	5687.89	1686382.38	14214872.97	39°08'42.9772"N	80°50'16.3467"W	11120.47	149.238	0.16	-0.13	-0.10	
17569.00	89.980	161.450	6421.47	10973.97	-9645.81	5718.17	1686412.65	14214782.97	39°08'42.0866"N	80°50'15.9645"W	11213.35	149.340	0.32	0.32	0.07	
17663.00	89.490	161.160	6421.91	11067.97	-9734.85	5748.30	1686442.77	14214693.96	39°08'41.2061"N	80°50'15.5841"W	11305.32	149.439	0.61	-0.52	-0.31	
17758.00	89.800	161.480	6422.50	11162.97	-9824.85	5778.72	1686473.18	14214604.00	39°08'40.3160"N	80°50'15.1999"W	11398.30	149.537	0.47	0.33	0.34	
17852.00	89.980	161.610	6422.68	11256.97	-9914.01	5808.48	1686502.93	14214514.87	39°08'39.4342"N	80°50'14.8243"W	11490.26	149.635	0.24	0.19	0.14	
17947.00	90.320	160.460	6422.43	11351.96	-10003.85	5839.35	1686533.79	14214425.07	39°08'38.5457"N	80°50'14.4345"W	11583.40	149.727	1.26	0.36	-1.21	
18041.00	90.510	161.180	6421.75	11445.96	-10092.63	5870.23	1686564.66	14214336.33	39°08'37.6676"N	80°50'14.0445"W	11675.65	149.816	0.79	0.20	0.77	
18136.00	90.690	161.670	6420.75	11540.95	-10182.68	5900.49	1686594.90	14214246.32	39°08'36.7771"N	80°50'13.6625"W	11768.72	149.909	0.55	0.19	0.52	
18230.00	90.350	160.650	6419.90	11634.95	-10271.64	5930.85	1686625.24	14214157.39	39°08'35.8973"N	80°50'13.2793"W	11860.92	149.998	1.14	-0.36	-1.09	
18325.00	90.570	161.380	6419.14	11729.94	-10361.47	5961.75	1686656.14	14214067.60	39°08'35.0089"N	80°50'12.8891"W	11954.18	150.085	0.80	0.23	0.77	
18419.00	90.260	160.690	6418.46	11823.94	-10450.36	5992.30	1686686.67	14213978.74	39°08'34.1297"N	80°50'12.5034"W	12046.48	150.170	0.80	-0.33	-0.73	
18513.00	90.660	160.720	6417.70	11917.93	-10539.08	6023.36	1686717.72	14213890.06	39°08'33.2523"N	80°50'12.1112"W	12138.91	150.251	0.43	0.43	0.03	
18608.00	90.410	161.200	6416.81	12012.93	-10628.88	6054.35	1686748.70	14213800.30	39°08'32.3641"N	80°50'11.7200"W	12232.26	150.334	0.57	-0.26	0.51	
18702.00	90.750	160.890	6415.86	12106.92	-10717.77	6084.88	1686779.22	14213711.43	39°08'31.4849"N	80°50'11.3345"W	12324.63	150.415	0.49	0.36	-0.33	
18794.00	90.510	161.320	6414.85	12198.92	-10804.81	6114.67	1686809.00	14213624.43	39°08'30.6241"N	80°50'10.9584"W	12415.04	150.494	0.54	-0.26	0.47	
18888.00	90.600	160.690	6413.94	12292.91	-10893.69	6145.27	1686839.58	14213535.59	39°08'29.7451"N	80°50'10.5721"W	12507.47	150.572	0.68	0.10	-0.67	
18983.00	90.350	160.750	6413.15	12387.90	-10983.36	6176.63	1686870.93	14213445.96	39°08'28.8583"N	80°50'10.1761"W	12600.99	150.648	0.27	-0.26	0.06	
19077.00	90.690	161.390	6412.30	12481.90	-11072.27	6207.13	1686901.41	14213357.08	39°08'27.9790"N	80°50'9.7911"W	12693.45	150.725	0.77	0.36	0.68	
19171.00	90.600	160.960	6411.24	12575.89	-11161.24	6237.46	1686931.73	14213268.15	39°08'27.0991"N	80°50'9.4082"W	12785.89	150.801	0.47	-0.10	-0.46	
19266.00	90.420	160.350	6410.40	12670.88	-11250.87	6268.92	1686963.19	14213178.55	39°08'26.2126"N	80°50'9.0109"W	12879.50	150.874	0.67	-0.19	-0.64	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (225 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
19360.00	90.480	160.470	6409.66	12764.87	-11339.42	6300.44	1686994.69	14213090.03	39°08'25.3367"N	80°50'8.6129"W	12972.20	150.942	0.14	0.06	0.13	
19454.00	90.540	161.180	6408.82	12858.87	-11428.20	6331.31	1687025.55	14213001.29	39°08'24.4587"N	80°50'8.2231"W	13064.81	151.013	0.76	0.06	0.76	
19549.00	90.600	161.000	6407.88	12953.86	-11518.07	6362.10	1687056.32	14212911.46	39°08'23.5699"N	80°50'7.8345"W	13158.36	151.086	0.20	0.06	-0.19	
19643.00	90.480	160.740	6406.99	13047.86	-11606.88	6392.90	1687087.12	14212822.69	39°08'22.6916"N	80°50'7.4456"W	13250.99	151.155	0.30	-0.13	-0.28	
19738.00	90.290	160.550	6406.35	13142.85	-11696.51	6424.39	1687118.59	14212733.09	39°08'21.8051"N	80°50'7.0481"W	13344.70	151.222	0.28	-0.20	-0.20	
19832.00	90.260	160.840	6405.90	13236.84	-11785.22	6455.46	1687149.65	14212644.42	39°08'20.9277"N	80°50'6.6557"W	13437.43	151.288	0.31	-0.03	0.31	
19926.00	90.200	161.020	6405.52	13330.84	-11874.06	6486.18	1687180.35	14212555.61	39°08'20.0491"N	80°50'6.2680"W	13530.11	151.355	0.20	-0.06	0.19	
20115.00	90.260	160.630	6404.76	13519.84	-12052.57	6548.25	1687242.40	14212377.17	39°08'18.2836"N	80°50'5.4843"W	13716.56	151.484	0.21	0.03	-0.21	
20210.00	90.290	160.560	6404.31	13614.83	-12142.18	6579.82	1687273.95	14212287.60	39°08'17.3974"N	80°50'5.0858"W	13810.37	151.547	0.08	0.03	-0.07	
20305.00	90.140	160.600	6403.95	13709.82	-12231.77	6611.40	1687305.53	14212198.04	39°08'16.5112"N	80°50'4.6870"W	13904.20	151.608	0.16	-0.16	0.04	
20399.00	90.350	161.110	6403.55	13803.82	-12320.57	6642.23	1687336.34	14212109.28	39°08'15.6330"N	80°50'4.2978"W	13996.99	151.670	0.59	0.22	0.54	
20588.00	90.170	160.280	6402.69	13992.81	-12498.94	6704.71	1687398.80	14211930.98	39°08'13.8689"N	80°50'3.5090"W	14183.67	151.790	0.45	-0.10	-0.44	
20683.00	90.350	160.900	6402.26	14087.80	-12588.54	6736.28	1687430.36	14211841.42	39°08'12.9827"N	80°50'3.1104"W	14277.56	151.848	0.68	0.19	0.65	
20732.00	90.350	160.630	6401.96	14136.80	-12634.80	6752.42	1687446.49	14211795.17	39°08'12.5251"N	80°50'2.9066"W	14325.97	151.879	0.55	0.00	-0.55	
20753.00‡	90.350	160.630	6401.83	14157.80	-12654.61	6759.39	1687453.45	14211775.37	39°08'12.3292"N	80°50'2.8187"W	14346.73	151.891	0.00	0.00	0.00	Projected MD at TD: 20753'

HOLE & CASING SECTIONS - Ref Wellbore: Smelt Unit 1H AWB Ref Wellpath: Smelt Unit 1H AWP Proj: 20753'										
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]	
16in Conductor	30.00	130.00	100.00	30.00	130.00	0.00	0.00	0.00	0.54	
13.5in Open Hole	130.00	352.00	222.00	130.00	351.98	0.00	0.54	-0.33	3.06	
10.75in Casing Surface	30.00	332.00	302.00	30.00	331.99	0.00	0.00	-0.22	2.82	
9.875in Open Hole	352.00	2692.00	2340.00	351.98	2557.40	-0.33	3.06	242.22	659.91	
7.625in Casing Intermediate	30.00	2672.00	2642.00	30.00	2539.63	0.00	0.00	234.94	654.32	
6.75in Open Hole	2692.00	20753.00	18061.00	2557.40	6401.83	242.22	659.91	-12654.61	6759.39	
5in Casing Production	30.00	20733.00	20703.00	30.00	6401.96	0.00	0.00	-12635.75	6752.76	



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Smelt Unit 1H POE Rev-3	6394.00	261.60	2351.74	1683047.57	14224686.42	39°10'20.0682"N	80°50'58.4841"W	point
Smelt Unit 1H BHL Rev-3	6417.00	-12669.28	6753.57	1687447.64	14211760.71	39°08'12.1844"N	80°50'2.8928"W	point
Smelt Unit 1H LP Rev-3	6417.00	91.16	2409.76	1683105.57	14224516.05	39°10'18.3827"N	80°50'57.7510"W	point
Smelt Unit 1H 50' L/R Hard Line Rev-2	7000.00	-6203.84	4552.66	1685247.61	14218223.57	39°09'16.1273"N	80°50'30.6815"W	rectangle
2D Rectangle 13659.6 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Smelt Unit 1H AWB Ref Wellpath: Smelt Unit 1H AWP Proj: 20753'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	377.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <13-1/2"> (100'-377')	Smelt Unit 1H AWB	7/17/2022
377.00	2632.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <9-7/8"> (377')(506'-2632')	Smelt Unit 1H AWB	7/17/2022
2632.00	6068.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <6-3/4"> (2632')(2756'-6068')	Smelt Unit 1H AWB	9/13/2022
6068.00	20753.00	BH OnTrak (2019) (HRGM, Short spacing)	04 BH Lucida <6-3/4"> (6068')(6136'-20732')	Smelt Unit 1H AWB	9/13/2022



# Actual Wellpath Report

Smelt Unit 1H AWP Proj: 20753'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Smelt Unit 1H
Field	Ritchie	API	47-085-10423-0000
Facility	Cashew Pad	Wellbore	Smelt Unit 1H AWB
Slot	Slot E		

## COMMENTS

### Wellpath general comments

API: 47-085-10423-0000

BH Job #: 111434592

Rig: H&P 531

Duration: 9/16/2022-9/21/2022

Gyrodatta MS Gyro <13-1/2"> (100'-377')

APS EM <9-7/8"> (377')(506'-2632')

APS EM <6-3/4"> (2632')(2756'-6068')

BH Lucida <6-3/4"> (6068')(6136'-20732')

Sycamore: 6507' MD

Middlesex: 6750' MD

Burkett: 6939' MD

Tully: 7040' MD

Marcellus POE: 7115' MD

Projected MD at TD: 20753'

RECEIVED  
Office of Oil and Gas  
APR 07 2023  
WV Department of  
Environmental Protection