



ANTERO RESOURCES CORPORATION



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

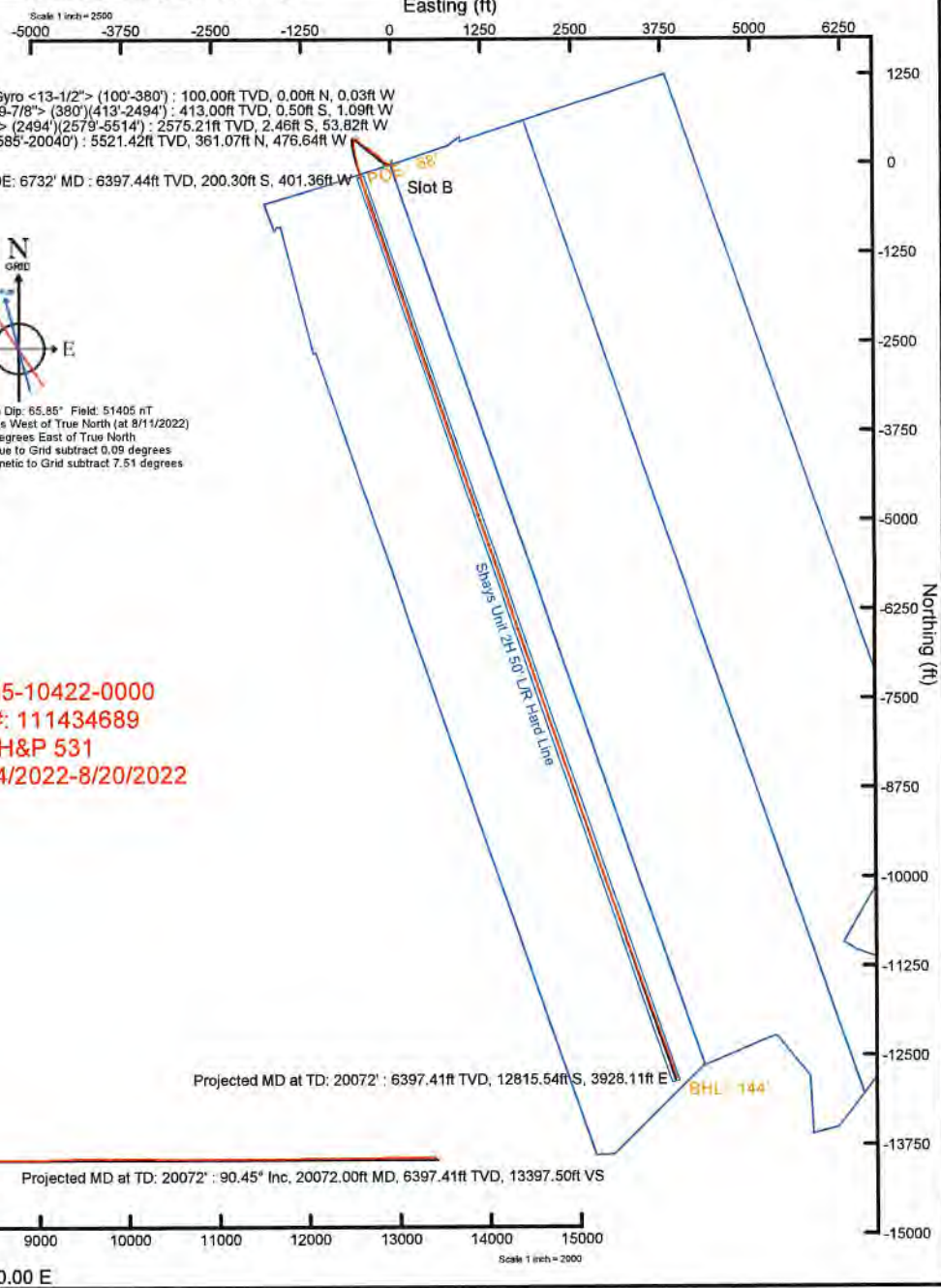
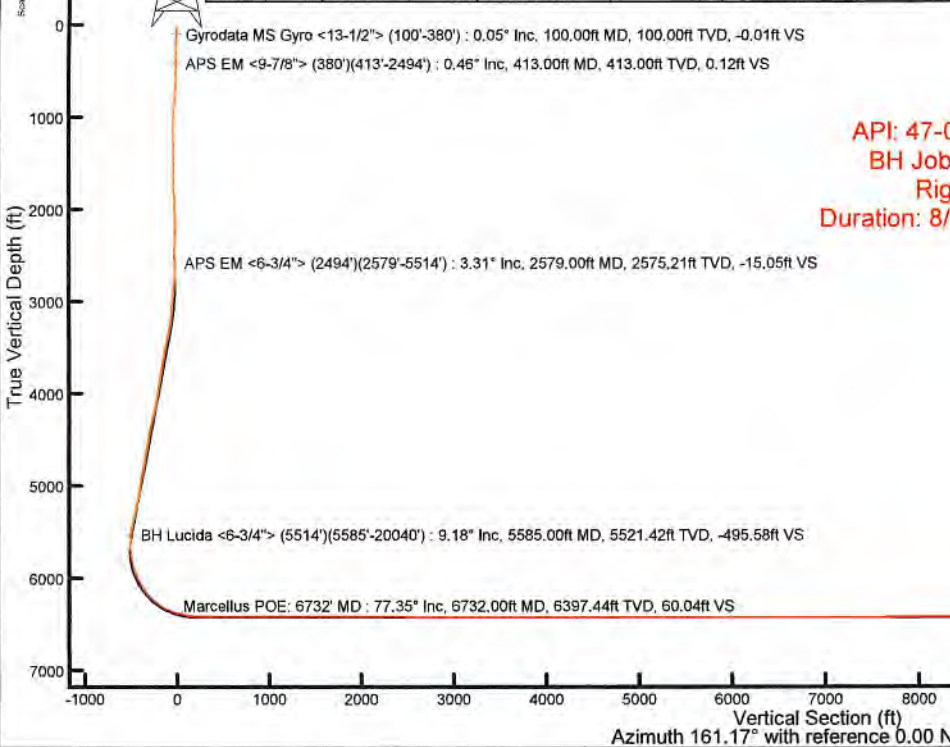
Slot: Slot B
Well: Shays Unit 2H
Wellbore: Shays Unit 2H PWB

Plot reference wellpath is Shays Unit 2H 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 S&K
Mean Sea Level to Ground level (At Slot: Slot B) : -1019ft	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edkanyar on 2022-06-07; Database: WA MPL - EASTERNUS Delb

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Cashew Pad	1880670.880	14224370.270	39°10'16.9800"N	80°51'28.6800"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot B	14.17	6.28	1880677.160	14224384.430	39°10'17.1200"N
Comment	Shays Unit 2H				
H&P 531 (RKB) to Ground level (At Slot: Slot B)					30ft
Mean Sea Level to Ground level (At Slot: Slot B)					-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)	DLS (°/100ft)
Tie On	2494.00	2.040	182.090	2490.30	0.48	-55.77	3.91
Proj. to Bottom	2564.00	2.040	182.090	2560.25	-2.01	-55.86	0.00
KOP 1	2644.00	2.040	182.090	2640.20	-4.86	-55.86	0.00
End of 3D Arc	3345.56	12.703	309.381	3336.44	31.78	-116.34	2.00
Curve KOP	5645.52	12.703	309.381	5580.11	352.66	-507.25	0.00
POE	6724.42	75.440	161.166	6404.00	-166.81	-411.56	8.00
Landing Pt.	6906.42	90.000	161.166	6427.00	-339.21	-353.44	8.00
BHL	20114.00	90.000	161.166	6427.00	-12839.65	3910.27	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot B	Shays Unit 2H	Shays Unit 2H AWB	Shays Unit 2H AWP Proj: 20072'
Slot B	Shays Unit 2H	Shays Unit 2H PWB	Shays Unit 2H PWP Rev-B.0



User specified (HDGM) Dip: 65.85° Field: 51405 nT
Magnetic North is 7.42 degrees West of True North (at 8/11/2022)
Grid North is 0.09 degrees East of True North
To correct azimuth from True to Grid subtract 0.09 degrees
To correct azimuth from Magnetic to Grid subtract 7.51 degrees

API: 47-085-10422-0000
BH Job #: 111434689
Rig: H&P 531
Duration: 8/14/2022-8/20/2022



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

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	9/6/2022 at 11:59:28 PM
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	14.17	6.28	1680677.16	14224384.43	39°10'17.1200"N	80°51'28.5999"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 B)	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	161.17°



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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	267.520	0.00	0.00	0.00	0.00	1680677.16	14224384.43	39°10'17.1200"N	80°51'28.5999"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	267.520	30.00	0.00	0.00	0.00	1680677.16	14224384.43	39°10'17.1200"N	80°51'28.5999"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.050	267.520	100.00	-0.01	0.00	-0.03	1680677.13	14224384.43	39°10'17.1199"N	80°51'28.6003"W	0.03	267.520	0.07	0.07	0.00	Gyrodata MS Gyro <13-1/2"> (100'-380')
200.00	0.160	257.490	200.00	-0.04	-0.03	-0.21	1680676.95	14224384.40	39°10'17.1196"N	80°51'28.6026"W	0.21	260.966	0.11	0.11	-10.03	
300.00	0.250	228.770	300.00	0.03	-0.21	-0.51	1680676.65	14224384.22	39°10'17.1179"N	80°51'28.6064"W	0.55	247.893	0.13	0.09	-28.72	
380.00	0.360	248.580	380.00	0.11	-0.41	-0.88	1680676.28	14224384.02	39°10'17.1159"N	80°51'28.6111"W	0.97	244.689	0.19	0.14	24.76	
413.00	0.460	247.460	413.00	0.12	-0.50	-1.09	1680676.07	14224383.93	39°10'17.1150"N	80°51'28.6138"W	1.20	245.328	0.30	0.30	-3.39	APS EM <9-7/8"> (380')(413'-2494')
503.00	1.640	273.040	502.98	-0.33	-0.57	-2.71	1680674.45	14224383.86	39°10'17.1143"N	80°51'28.6344"W	2.77	258.079	1.38	1.31	28.42	
593.00	3.960	293.490	592.87	-2.91	0.73	-6.85	1680670.31	14224385.16	39°10'17.1273"N	80°51'28.6869"W	6.89	276.115	2.77	2.58	22.72	
683.00	5.290	298.530	682.57	-8.05	3.95	-13.35	1680663.82	14224388.38	39°10'17.1593"N	80°51'28.7693"W	13.92	286.504	1.54	1.48	5.60	
773.00	6.360	294.240	772.11	-14.51	7.98	-21.54	1680655.63	14224392.41	39°10'17.1992"N	80°51'28.8732"W	22.97	290.337	1.28	1.19	-4.77	
864.00	6.390	293.580	862.55	-21.36	12.08	-30.77	1680646.40	14224396.50	39°10'17.2398"N	80°51'28.9905"W	33.06	291.428	0.09	0.03	-0.73	
953.00	5.940	293.840	951.03	-27.83	15.92	-39.53	1680637.65	14224400.34	39°10'17.2779"N	80°51'29.1015"W	42.61	291.939	0.51	-0.51	0.29	
1048.00	2.960	279.410	1045.74	-32.32	18.31	-46.44	1680630.73	14224402.73	39°10'17.3016"N	80°51'29.1893"W	49.92	291.515	3.33	-3.14	-15.19	
1142.00	1.080	158.130	1139.70	-32.58	17.88	-48.51	1680628.67	14224402.31	39°10'17.2975"N	80°51'29.2155"W	51.70	290.237	3.87	-2.00	-129.02	
1237.00	3.330	122.090	1234.62	-29.55	15.59	-45.84	1680631.34	14224400.01	39°10'17.2747"N	80°51'29.1816"W	48.42	288.780	2.67	2.37	-37.94	
1331.00	2.870	103.400	1328.49	-26.17	13.59	-41.24	1680635.94	14224398.02	39°10'17.2549"N	80°51'29.1232"W	43.42	288.242	1.17	-0.49	-19.88	
1426.00	0.380	45.170	1423.45	-25.04	13.26	-38.70	1680638.48	14224397.69	39°10'17.2516"N	80°51'29.0910"W	40.91	288.916	2.83	-2.62	-61.29	
1520.00	1.500	284.760	1517.44	-25.86	13.79	-39.67	1680637.51	14224398.22	39°10'17.2569"N	80°51'29.1033"W	42.00	289.176	1.83	1.19	-128.10	
1615.00	2.350	251.090	1612.38	-26.54	13.48	-42.71	1680634.47	14224397.90	39°10'17.2539"N	80°51'29.1420"W	44.79	287.516	1.45	0.89	-35.44	
1710.00	2.320	232.700	1707.31	-25.93	11.68	-46.08	1680631.09	14224396.11	39°10'17.2362"N	80°51'29.1848"W	47.54	284.227	0.79	-0.03	-19.36	
1805.00	1.350	213.870	1802.26	-24.65	9.59	-48.24	1680628.94	14224394.02	39°10'17.2155"N	80°51'29.2122"W	49.18	281.244	1.19	-1.02	-19.82	
1899.00	2.070	159.030	1896.22	-22.28	7.08	-48.25	1680628.93	14224391.51	39°10'17.1907"N	80°51'29.2124"W	48.76	278.354	1.81	0.77	-58.34	
1994.00	3.830	143.050	1991.09	-17.55	2.95	-45.73	1680631.45	14224387.38	39°10'17.1498"N	80°51'29.1805"W	45.82	273.687	2.03	1.85	-16.82	
2089.00	3.190	133.380	2085.91	-12.19	-1.40	-41.90	1680635.28	14224383.03	39°10'17.1067"N	80°51'29.1319"W	41.92	268.080	0.92	-0.67	-10.18	
2184.00	0.370	245.740	2180.87	-9.83	-3.35	-40.25	1680636.92	14224381.08	39°10'17.0875"N	80°51'29.1111"W	40.39	265.247	3.52	-2.97	118.27	
2279.00	4.440	296.730	2275.77	-12.42	-1.82	-43.82	1680633.36	14224382.61	39°10'17.1027"N	80°51'29.1564"W	43.86	267.624	4.44	4.28	53.67	
2373.00	4.980	288.180	2369.45	-17.48	1.09	-50.95	1680626.23	14224385.52	39°10'17.1315"N	80°51'29.2468"W	50.96	271.227	0.94	0.57	-9.10	
2468.00	1.600	211.520	2464.31	-19.11	1.25	-55.56	1680621.62	14224385.68	39°10'17.1332"N	80°51'29.3054"W	55.57	271.286	5.12	-3.56	-80.69	
2494.00	2.040	182.090	2490.30	-18.45	0.48	-55.77	1680621.42	14224384.91	39°10'17.1255"N	80°51'29.3080"W	55.77	270.489	3.91	1.89	-113.19	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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	
2579.00	3.310	125.350	2575.21	-15.05	-2.46	-53.82	1680623.36	14224381.97	39°10'17.0965"N	80°51'29.2833"W	53.88	267.387	3.27	1.49	-66.75	APS EM <6-3/4"> (2494')(2579'-5514')	
2674.00	1.180	346.590	2670.17	-13.80	-3.09	-51.81	1680625.37	14224381.34	39°10'17.0902"N	80°51'29.2578"W	51.90	266.584	4.49	-2.24	-146.06		
2769.00	4.420	326.960	2765.05	-18.32	0.93	-54.03	1680623.15	14224385.36	39°10'17.1300"N	80°51'29.2860"W	54.04	270.985	3.51	3.41	-20.66		
2863.00	6.690	322.450	2858.60	-27.02	8.31	-59.35	1680617.84	14224392.73	39°10'17.2030"N	80°51'29.3533"W	59.92	277.969	2.46	2.41	-4.80		
2957.00	6.680	306.160	2951.97	-36.68	15.88	-67.10	1680610.09	14224400.30	39°10'17.2779"N	80°51'29.4516"W	68.95	283.311	2.01	-0.01	-17.33		
3052.00	5.410	297.830	3046.44	-44.46	21.23	-75.52	1680601.67	14224405.65	39°10'17.3309"N	80°51'29.5584"W	78.45	285.699	1.62	-1.34	-8.77		
3152.00	6.820	311.240	3145.87	-53.04	27.34	-84.15	1680593.04	14224411.76	39°10'17.3915"N	80°51'29.6679"W	88.48	287.999	2.00	1.41	13.41		
3246.00	8.710	327.100	3239.02	-64.78	37.00	-92.22	1680584.98	14224421.41	39°10'17.4871"N	80°51'29.7701"W	99.36	291.861	3.02	2.01	16.87		
3341.00	12.380	328.810	3332.40	-81.71	51.76	-101.40	1680575.80	14224436.16	39°10'17.6331"N	80°51'29.8864"W	113.85	297.040	3.88	3.86	1.80		
3435.00	11.900	323.890	3424.30	-100.81	68.21	-112.33	1680564.87	14224452.61	39°10'17.7958"N	80°51'30.0249"W	131.42	301.265	1.21	-0.51	-5.23		
3530.00	13.110	319.740	3517.04	-120.19	84.34	-125.07	1680552.14	14224468.74	39°10'17.9555"N	80°51'30.1863"W	150.85	303.994	1.59	1.27	-4.37		
3624.00	11.260	310.590	3608.93	-138.02	98.45	-138.93	1680538.29	14224482.84	39°10'18.0952"N	80°51'30.3620"W	170.28	305.323	2.84	-1.97	-9.73		
3719.00	11.970	313.510	3701.99	-154.73	111.27	-153.12	1680524.10	14224495.65	39°10'18.2221"N	80°51'30.5419"W	189.28	306.005	0.97	0.75	3.07		
3813.00	10.380	307.420	3794.20	-170.41	123.13	-166.91	1680510.31	14224507.51	39°10'18.3395"N	80°51'30.7168"W	207.41	306.415	2.10	-1.69	-6.48		
3907.00	11.330	310.150	3886.52	-185.36	134.23	-180.70	1680496.53	14224518.60	39°10'18.4494"N	80°51'30.8916"W	225.10	306.606	1.15	1.01	2.90		
4002.00	11.000	303.490	3979.73	-200.54	145.24	-195.39	1680481.85	14224529.62	39°10'18.5586"N	80°51'31.0780"W	243.46	306.626	1.40	-0.35	-7.01		
4096.00	11.260	313.030	4071.97	-215.73	156.46	-209.58	1680467.66	14224540.82	39°10'18.6696"N	80°51'31.2579"W	261.54	306.742	1.98	0.28	10.15		
4191.00	14.240	311.700	4164.61	-234.08	170.56	-225.09	1680452.16	14224554.92	39°10'18.8093"N	80°51'31.4545"W	282.41	307.153	3.15	3.14	-1.40		
4285.00	14.940	310.430	4255.58	-254.56	186.11	-242.94	1680434.31	14224570.47	39°10'18.9632"N	80°51'31.6809"W	306.04	307.455	0.82	0.74	-1.35		
4379.00	15.400	307.640	4346.31	-275.38	201.59	-262.05	1680415.22	14224585.94	39°10'19.1165"N	80°51'31.9232"W	330.62	307.571	0.92	0.49	-2.97		
4473.00	14.150	299.980	4437.21	-294.43	214.96	-281.89	1680395.39	14224599.30	39°10'19.2489"N	80°51'32.1749"W	354.50	307.328	2.46	-1.33	-8.15		
4568.00	14.760	300.090	4529.20	-312.30	226.83	-302.42	1680374.86	14224611.17	39°10'19.3666"N	80°51'32.4353"W	378.03	306.872	0.64	0.64	0.12		
4662.00	12.880	291.770	4620.48	-328.14	236.72	-322.51	1680354.78	14224621.05	39°10'19.4646"N	80°51'32.6902"W	400.06	306.278	2.91	-2.00	-8.85		
4757.00	11.740	301.680	4713.31	-342.49	245.72	-340.57	1680336.72	14224630.05	39°10'19.5539"N	80°51'32.9194"W	419.96	305.810	2.52	-1.20	10.43		
4852.00	12.410	311.810	4806.22	-358.85	257.60	-356.41	1680320.90	14224641.93	39°10'19.6716"N	80°51'33.1202"W	439.76	305.859	2.34	0.71	10.66		
4946.00	13.590	307.030	4897.81	-376.80	270.99	-372.75	1680304.56	14224655.31	39°10'19.8041"N	80°51'33.3275"W	460.85	306.017	1.70	1.26	-5.09		
5040.00	10.940	294.620	4989.67	-392.08	281.36	-389.68	1680287.63	14224665.68	39°10'19.9069"N	80°51'33.5423"W	480.64	305.830	3.96	-2.82	-13.20		
5135.00	12.240	305.880	5082.74	-406.50	291.02	-406.04	1680271.28	14224675.33	39°10'20.0026"N	80°51'33.7498"W	499.56	305.630	2.74	1.37	11.85		
5229.00	12.920	309.670	5174.49	-423.59	303.57	-422.20	1680255.12	14224687.88	39°10'20.1269"N	80°51'33.9548"W	520.01	305.716	1.14	0.72	4.03		
5324.00	13.760	317.160	5266.93	-442.97	318.63	-438.06	1680239.27	14224702.94	39°10'20.2761"N	80°51'34.1558"W	541.69	306.031	2.02	0.88	7.88		



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
5419.00	14.170	322.660	5359.13	-464.32	336.16	-452.80	1680224.54	14224720.46	39°10'20.4495"N	80°51'34.3426"W	563.94	306.591	1.46	0.43	5.79	
5514.00	12.100	316.190	5451.64	-484.37	352.60	-466.75	1680210.60	14224736.89	39°10'20.6122"N	80°51'34.5194"W	584.96	307.069	2.67	-2.18	-6.81	
5585.00	9.180	303.150	5521.42	-495.58	361.07	-476.64	1680200.71	14224745.35	39°10'20.6960"N	80°51'34.6449"W	597.96	307.145	5.31	-4.11	-18.37	BH Lucida <6-3/4"> (5514')(5585'-20040)
5680.00	7.740	267.420	5615.45	-503.35	364.93	-489.39	1680187.97	14224749.21	39°10'20.7344"N	80°51'34.8066"W	610.47	306.711	5.63	-1.52	-37.61	
5774.00	9.050	227.170	5708.52	-502.11	359.61	-501.14	1680176.22	14224743.90	39°10'20.6820"N	80°51'34.9560"W	616.82	305.662	6.26	1.39	-42.82	
5869.00	14.120	193.710	5801.65	-489.28	343.24	-509.38	1680167.98	14224727.54	39°10'20.5204"N	80°51'35.0609"W	614.24	303.974	8.65	5.34	-35.22	
5964.00	19.690	178.980	5892.55	-464.25	315.95	-511.85	1680165.52	14224700.25	39°10'20.2507"N	80°51'35.0928"W	601.51	301.686	7.35	5.86	-15.51	
6058.00	23.430	169.800	5979.98	-430.67	281.70	-508.25	1680169.11	14224666.02	39°10'19.9121"N	80°51'35.0478"W	581.10	298.998	5.35	3.98	-9.77	
6135.00†	28.049	168.521	6049.33	-397.56	248.88	-501.94	1680175.42	14224633.21	39°10'19.5876"N	80°51'34.9682"W	560.25	296.374	6.04	6.00	-1.66	Sycamore: 6135' MD
6152.00	29.070	168.290	6064.26	-389.50	240.92	-500.30	1680177.06	14224625.25	39°10'19.5088"N	80°51'34.9476"W	555.29	295.713	6.04	6.01	-1.36	
6247.00	36.920	170.940	6143.88	-338.40	190.06	-491.11	1680186.24	14224574.41	39°10'19.0060"N	80°51'34.8319"W	526.60	291.156	8.40	8.26	2.79	
6341.00	44.700	168.800	6214.97	-277.71	129.65	-480.23	1680197.12	14224514.03	39°10'18.4088"N	80°51'34.6949"W	497.42	285.108	8.41	8.28	-2.28	
6358.00†	46.163	168.631	6226.90	-265.70	117.77	-477.86	1680199.49	14224502.16	39°10'18.2914"N	80°51'34.6651"W	492.16	283.845	8.64	8.61	-0.99	Middlesex: 6358' MD
6436.00	52.880	167.950	6277.51	-206.86	59.72	-465.81	1680211.54	14224444.12	39°10'17.7174"N	80°51'34.5132"W	469.62	277.305	8.64	8.61	-0.87	
6530.00	61.570	168.080	6328.35	-128.47	-17.52	-449.41	1680227.93	14224366.91	39°10'16.9537"N	80°51'34.3066"W	449.76	267.767	9.25	9.24	0.14	
6549.00†	63.127	167.577	6337.16	-111.75	-33.97	-445.87	1680231.47	14224350.47	39°10'16.7910"N	80°51'34.2618"W	447.16	265.642	8.52	8.19	-2.65	Burkett: 6549' MD
6625.00	69.370	165.690	6367.76	-42.54	-101.61	-429.77	1680247.57	14224282.86	39°10'16.1223"N	80°51'34.0587"W	441.61	256.698	8.52	8.21	-2.48	
6648.00†	71.570	164.778	6375.45	-20.92	-122.57	-424.24	1680253.09	14224261.91	39°10'15.9150"N	80°51'33.9890"W	441.59	253.885	10.27	9.56	-3.97	Tully: 6648' MD
6672.00	73.870	163.850	6382.58	1.96	-144.63	-418.04	1680259.28	14224239.86	39°10'15.6969"N	80°51'33.9108"W	442.36	250.916	10.27	9.58	-3.86	
6719.00	76.690	162.990	6394.52	47.38	-188.19	-405.07	1680272.25	14224196.31	39°10'15.2661"N	80°51'33.7469"W	446.65	245.081	6.26	6.00	-1.83	
6732.00†	77.354	162.971	6397.44	60.04	-200.30	-401.36	1680275.96	14224184.21	39°10'15.1464"N	80°51'33.7001"W	448.57	243.478	5.11	5.11	-0.15	Marcellus POE: 6732' MD
6766.00	79.090	162.920	6404.38	93.31	-232.12	-391.60	1680285.71	14224152.40	39°10'14.8317"N	80°51'33.5767"W	455.23	239.343	5.11	5.11	-0.15	
6814.00	83.130	162.830	6411.80	140.70	-277.44	-377.64	1680299.67	14224107.11	39°10'14.3836"N	80°51'33.4004"W	468.60	233.697	8.42	8.42	-0.19	
6908.00	90.050	162.370	6417.38	234.45	-366.92	-349.60	1680327.70	14224017.66	39°10'13.4987"N	80°51'33.0461"W	506.80	223.615	7.38	7.36	-0.49	
7002.00	91.030	164.350	6416.50	328.37	-456.97	-322.68	1680354.61	14223927.64	39°10'12.6082"N	80°51'32.7061"W	559.42	215.227	2.35	1.04	2.11	
7097.00	89.220	161.590	6416.29	423.31	-547.80	-294.86	1680382.42	14223836.85	39°10'11.7101"N	80°51'32.3547"W	622.11	208.292	3.47	-1.91	-2.91	
7191.00	89.680	161.250	6417.19	517.30	-636.89	-264.91	1680412.35	14223747.79	39°10'10.8291"N	80°51'31.9762"W	689.79	202.585	0.61	0.49	-0.36	
7285.00	89.650	161.230	6417.74	611.30	-725.90	-234.68	1680442.57	14223658.82	39°10'9.9489"N	80°51'31.5941"W	762.89	197.916	0.04	-0.03	-0.02	
7380.00	89.770	161.540	6418.22	706.30	-815.93	-204.36	1680472.88	14223568.83	39°10'9.0586"N	80°51'31.2109"W	841.13	194.061	0.35	0.13	0.33	
7474.00	89.980	161.080	6418.43	800.30	-904.97	-174.24	1680502.99	14223479.82	39°10'8.1780"N	80°51'30.8302"W	921.59	190.898	0.54	0.22	-0.49	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
7569.00	90.170	161.130	6418.30	895.30	-994.85	-143.47	1680533.74	14223389.98	39°10'7.2892"N	80°51'30.4413"W	1005.14	188.206	0.21	0.20	0.05	
7663.00	90.020	160.780	6418.15	989.30	-1083.70	-112.80	1680564.41	14223301.16	39°10'6.4105"N	80°51'30.0537"W	1089.56	185.942	0.41	-0.16	-0.37	
7757.00	90.080	160.850	6418.07	1083.29	-1172.48	-81.91	1680595.28	14223212.42	39°10'5.5325"N	80°51'29.6632"W	1175.34	183.996	0.10	0.06	0.07	
7852.00	90.110	161.410	6417.91	1178.29	-1262.38	-51.18	1680626.00	14223122.56	39°10'4.6435"N	80°51'29.2749"W	1263.41	182.322	0.59	0.03	0.59	
7946.00	89.980	161.320	6417.83	1272.29	-1351.45	-21.15	1680656.02	14223033.52	39°10'3.7627"N	80°51'28.8953"W	1351.61	180.896	0.17	-0.14	-0.10	
8041.00	90.110	160.520	6417.76	1367.29	-1441.23	9.91	1680687.06	14222943.78	39°10'2.8748"N	80°51'28.5028"W	1441.26	179.606	0.85	0.14	-0.84	
8135.00	90.050	161.110	6417.63	1461.29	-1530.01	40.80	1680717.94	14222855.04	39°10'1.9969"N	80°51'28.1124"W	1530.55	178.473	0.63	-0.06	0.63	
8229.00	90.080	161.350	6417.52	1555.29	-1619.01	71.04	1680748.17	14222766.07	39°10'1.1167"N	80°51'27.7301"W	1620.57	177.487	0.26	0.03	0.26	
8324.00	90.170	160.880	6417.31	1650.29	-1708.89	101.79	1680778.91	14222676.22	39°10'0.2278"N	80°51'27.3415"W	1711.92	176.591	0.50	0.09	-0.49	
8418.00	90.200	161.180	6417.01	1744.29	-1797.79	132.35	1680809.46	14222587.36	39°09'59.3487"N	80°51'26.9554"W	1802.65	175.790	0.32	0.03	0.32	
8513.00	89.650	161.030	6417.14	1839.29	-1887.67	163.11	1680840.21	14222497.52	39°09'58.4599"N	80°51'26.5666"W	1894.70	175.061	0.60	-0.58	-0.16	
8607.00	89.920	161.140	6417.49	1933.29	-1976.59	193.58	1680870.67	14222408.63	39°09'57.5805"N	80°51'26.1815"W	1986.05	174.406	0.31	0.29	0.12	
8701.00	89.770	161.250	6417.74	2027.29	-2065.57	223.88	1680900.95	14222319.68	39°09'56.7005"N	80°51'25.7985"W	2077.67	173.814	0.20	-0.16	0.12	
8796.00	89.490	160.790	6418.36	2122.28	-2155.41	254.78	1680931.84	14222229.89	39°09'55.8121"N	80°51'25.4081"W	2170.41	173.259	0.57	-0.29	-0.48	
8890.00	89.520	161.090	6419.17	2216.28	-2244.25	285.48	1680962.52	14222141.08	39°09'54.9335"N	80°51'25.0201"W	2262.33	172.751	0.32	0.03	0.32	
8985.00	89.580	161.050	6419.91	2311.28	-2334.11	316.29	1680993.33	14222051.26	39°09'54.0449"N	80°51'24.6307"W	2355.44	172.283	0.08	0.06	-0.04	
9080.00	89.460	161.120	6420.71	2406.27	-2423.98	347.09	1681024.11	14221961.42	39°09'53.1562"N	80°51'24.2415"W	2448.70	171.851	0.15	-0.13	0.07	
9174.00	89.430	161.120	6421.62	2500.27	-2512.91	377.50	1681054.51	14221872.52	39°09'52.2767"N	80°51'23.8571"W	2541.11	171.457	0.03	-0.03	0.00	
9269.00	89.460	161.360	6422.54	2595.26	-2602.86	408.06	1681085.05	14221782.61	39°09'51.3871"N	80°51'23.4711"W	2634.65	171.090	0.25	0.03	0.25	
9363.00	89.680	161.510	6423.25	2689.26	-2691.97	437.98	1681114.97	14221693.54	39°09'50.5059"N	80°51'23.0929"W	2727.37	170.759	0.28	0.23	0.16	
9457.00	89.490	160.770	6423.93	2783.26	-2780.92	468.37	1681145.34	14221604.82	39°09'49.6263"N	80°51'22.7089"W	2820.08	170.440	0.81	-0.20	-0.79	
9551.00	89.490	160.970	6424.76	2877.25	-2869.72	499.17	1681176.13	14221515.85	39°09'48.7481"N	80°51'22.3196"W	2912.81	170.132	0.21	0.00	0.21	
9646.00	89.490	161.040	6425.61	2972.25	-2959.55	530.09	1681207.04	14221426.07	39°09'47.8598"N	80°51'21.9289"W	3006.65	169.845	0.07	0.00	0.07	
9740.00	89.430	161.360	6426.50	3066.24	-3048.53	560.38	1681237.32	14221337.12	39°09'46.9798"N	80°51'21.5461"W	3099.61	169.584	0.35	-0.06	0.34	
9835.00	90.140	161.060	6426.85	3161.24	-3138.46	590.98	1681267.91	14221247.22	39°09'46.0904"N	80°51'21.1595"W	3193.62	169.336	0.81	0.75	-0.32	
9929.00	90.050	160.900	6426.70	3255.24	-3227.33	621.62	1681298.53	14221158.39	39°09'45.2116"N	80°51'20.7723"W	3286.65	169.098	0.20	-0.10	-0.17	
10024.00	89.830	160.690	6426.80	3350.24	-3317.05	652.87	1681329.77	14221068.71	39°09'44.3244"N	80°51'20.3774"W	3380.68	168.865	0.32	-0.23	-0.22	
10118.00	89.980	161.000	6426.95	3444.24	-3405.84	683.71	1681360.60	14220979.95	39°09'43.4462"N	80°51'19.9876"W	3473.79	168.649	0.37	0.16	0.33	
10213.00	90.050	160.860	6426.93	3539.24	-3495.63	714.75	1681391.62	14220890.20	39°09'42.5583"N	80°51'19.5954"W	3567.95	168.444	0.16	0.07	-0.15	
10307.00	90.020	160.870	6426.87	3633.23	-3584.43	745.56	1681422.42	14220801.43	39°09'41.6801"N	80°51'19.2060"W	3661.15	168.250	0.03	-0.03	0.01	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
10401.00	90.050	161.350	6426.81	3727.23	-3673.37	775.99	1681452.84	14220712.53	39°09'40.8005"N	80°51'18.8214"W	3754.44	168.072	0.51	0.03	0.51	
10496.00	89.980	161.240	6426.79	3822.23	-3763.35	806.46	1681483.30	14220622.58	39°09'39.9107"N	80°51'18.4365"W	3848.79	167.905	0.14	-0.07	-0.12	
10590.00	90.020	160.910	6426.79	3916.23	-3852.27	836.95	1681513.77	14220533.70	39°09'39.0313"N	80°51'18.0513"W	3942.14	167.742	0.35	0.04	-0.35	
10685.00	90.020	161.220	6426.75	4011.23	-3942.13	867.77	1681544.59	14220443.88	39°09'38.1427"N	80°51'17.6617"W	4036.51	167.586	0.33	0.00	0.33	
10780.00	90.050	160.960	6426.70	4106.23	-4032.00	898.56	1681575.36	14220354.04	39°09'37.2539"N	80°51'17.2727"W	4130.92	167.437	0.28	0.03	-0.27	
10874.00	90.080	161.260	6426.59	4200.23	-4120.94	928.99	1681605.78	14220265.14	39°09'36.3744"N	80°51'16.8882"W	4224.36	167.296	0.32	0.03	0.32	
10969.00	89.950	161.370	6426.56	4295.23	-4210.93	959.43	1681636.21	14220175.18	39°09'35.4844"N	80°51'16.5036"W	4318.85	167.165	0.18	-0.14	0.12	
11063.00	89.890	160.900	6426.70	4389.23	-4299.88	989.82	1681666.59	14220086.27	39°09'34.6047"N	80°51'16.1196"W	4412.34	167.036	0.50	-0.06	-0.50	
11158.00	89.980	161.110	6426.80	4484.23	-4389.71	1020.74	1681697.50	14219996.48	39°09'33.7164"N	80°51'15.7289"W	4506.83	166.910	0.24	0.09	0.22	
11252.00	89.980	160.930	6426.84	4578.23	-4478.60	1051.32	1681728.06	14219907.62	39°09'32.8373"N	80°51'15.3426"W	4600.34	166.789	0.19	0.00	-0.19	
11347.00	90.110	160.960	6426.76	4673.23	-4568.39	1082.33	1681759.06	14219817.86	39°09'31.9493"N	80°51'14.9506"W	4694.86	166.671	0.14	0.14	0.03	
11442.00	90.110	161.290	6426.58	4768.23	-4658.29	1113.06	1681789.78	14219728.01	39°09'31.0604"N	80°51'14.5623"W	4789.42	166.562	0.35	0.00	0.35	
11536.00	89.980	161.110	6426.50	4862.23	-4747.27	1143.36	1681820.06	14219639.06	39°09'30.1804"N	80°51'14.1796"W	4883.02	166.458	0.24	-0.14	-0.19	
11631.00	89.890	160.880	6426.61	4957.23	-4837.09	1174.29	1681850.98	14219549.27	39°09'29.2921"N	80°51'13.7887"W	4977.59	166.354	0.26	-0.09	-0.24	
11725.00	90.080	160.980	6426.64	5051.23	-4925.93	1205.01	1681881.68	14219460.47	39°09'28.4135"N	80°51'13.4006"W	5071.18	166.254	0.23	0.20	0.11	
11820.00	90.020	160.990	6426.55	5146.23	-5015.75	1235.96	1681912.62	14219370.69	39°09'27.5253"N	80°51'13.0095"W	5165.78	166.157	0.06	-0.06	0.01	
11914.00	89.980	161.370	6426.55	5240.23	-5104.72	1266.28	1681942.94	14219281.75	39°09'26.6454"N	80°51'12.6264"W	5259.44	166.068	0.41	-0.04	0.40	
12009.00	90.050	161.310	6426.53	5335.23	-5194.73	1296.68	1681973.32	14219191.78	39°09'25.7553"N	80°51'12.2424"W	5354.12	165.985	0.10	0.07	-0.06	
12103.00	90.110	161.060	6426.40	5429.23	-5283.71	1326.99	1682003.62	14219102.84	39°09'24.8753"N	80°51'11.8594"W	5447.79	165.902	0.27	0.06	-0.27	
12198.00	89.920	161.430	6426.37	5524.23	-5373.66	1357.54	1682034.16	14219012.92	39°09'23.9857"N	80°51'11.4735"W	5542.49	165.822	0.44	-0.20	0.39	
12292.00	90.110	161.090	6426.35	5618.23	-5462.68	1387.74	1682064.34	14218923.94	39°09'23.1054"N	80°51'11.0919"W	5636.19	165.746	0.41	0.20	-0.36	
12387.00	90.110	161.510	6426.17	5713.23	-5552.66	1418.20	1682094.79	14218833.99	39°09'22.2155"N	80°51'10.7071"W	5730.91	165.672	0.44	0.00	0.44	
12482.00	89.980	160.650	6426.09	5808.22	-5642.53	1449.00	1682125.58	14218744.16	39°09'21.3268"N	80°51'10.3179"W	5825.61	165.598	0.92	-0.14	-0.91	
12576.00	90.080	161.130	6426.04	5902.22	-5731.35	1479.77	1682156.34	14218655.37	39°09'20.4484"N	80°51'9.9291"W	5919.30	165.523	0.52	0.11	0.51	
12671.00	90.290	161.300	6425.74	5997.22	-5821.29	1510.37	1682186.92	14218565.47	39°09'19.5590"N	80°51'9.5426"W	6014.03	165.455	0.28	0.22	0.18	
12766.00	90.290	161.370	6425.25	6092.22	-5911.29	1540.77	1682217.31	14218475.50	39°09'18.6689"N	80°51'9.1585"W	6108.79	165.391	0.07	0.00	0.07	
12860.00	90.320	161.180	6424.75	6186.22	-6000.31	1570.94	1682247.48	14218386.52	39°09'17.7885"N	80°51'8.7773"W	6202.55	165.329	0.20	0.03	-0.20	
12954.00	90.200	161.070	6424.33	6280.22	-6089.26	1601.35	1682277.87	14218297.61	39°09'16.9089"N	80°51'8.3931"W	6296.30	165.266	0.17	-0.13	-0.12	
13049.00	90.140	161.140	6424.05	6375.22	-6179.14	1632.12	1682308.62	14218207.76	39°09'16.0200"N	80°51'8.0045"W	6391.05	165.204	0.10	-0.06	0.07	
13143.00	90.290	160.990	6423.69	6469.22	-6268.05	1662.62	1682339.11	14218118.89	39°09'15.1407"N	80°51'7.6191"W	6484.81	165.144	0.23	0.16	-0.16	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
13238.00	90.200	161.060	6423.29	6564.22	-6357.89	1693.51	1682369.99	14218029.09	39°09'14.2523"N	80°51'7.2289"W	6579.57	165.085	0.12	-0.09	0.07	
13333.00	90.230	161.080	6422.93	6659.22	-6447.75	1724.33	1682400.80	14217939.26	39°09'13.3636"N	80°51'6.8395"W	6674.34	165.028	0.04	0.03	0.02	
13427.00	90.260	160.940	6422.53	6753.21	-6536.63	1754.92	1682431.37	14217850.41	39°09'12.4846"N	80°51'6.4531"W	6768.11	164.972	0.15	0.03	-0.15	
13522.00	89.980	160.900	6422.33	6848.21	-6626.41	1785.97	1682462.42	14217760.67	39°09'11.5967"N	80°51'6.0607"W	6862.87	164.916	0.30	-0.29	-0.04	
13616.00	90.020	160.730	6422.33	6942.21	-6715.19	1816.86	1682493.29	14217671.92	39°09'10.7187"N	80°51'5.6705"W	6956.64	164.861	0.19	0.04	-0.18	
13711.00	89.860	160.760	6422.43	7037.21	-6804.88	1848.19	1682524.61	14217582.27	39°09'9.8318"N	80°51'5.2746"W	7051.40	164.805	0.17	-0.17	0.03	
13806.00	90.110	161.310	6422.45	7132.21	-6894.72	1879.06	1682555.47	14217492.47	39°09'8.9433"N	80°51'4.8846"W	7146.19	164.755	0.64	0.26	0.58	
13900.00	90.080	161.260	6422.30	7226.21	-6983.75	1909.22	1682585.62	14217403.47	39°09'8.0628"N	80°51'4.5036"W	7240.02	164.710	0.06	-0.03	-0.05	
13995.00	90.080	160.830	6422.17	7321.21	-7073.60	1940.08	1682616.47	14217313.66	39°09'7.1743"N	80°51'4.1138"W	7334.83	164.663	0.45	0.00	-0.45	
14089.00	90.050	160.700	6422.06	7415.20	-7162.35	1971.05	1682647.42	14217224.94	39°09'6.2965"N	80°51'3.7225"W	7428.82	164.613	0.14	-0.03	-0.14	
14184.00	90.110	161.210	6421.93	7510.20	-7252.15	2002.05	1682678.41	14217135.18	39°09'5.4085"N	80°51'3.3309"W	7523.42	164.567	0.54	0.06	0.54	
14278.00	90.140	161.160	6421.72	7604.20	-7341.13	2032.37	1682708.71	14217046.24	39°09'4.5285"N	80°51'2.9479"W	7617.26	164.525	0.06	0.03	-0.05	
14373.00	90.080	160.990	6421.54	7699.20	-7430.99	2063.18	1682739.51	14216956.41	39°09'3.6398"N	80°51'2.5587"W	7712.09	164.483	0.19	-0.06	-0.18	
14467.00	90.110	161.260	6421.38	7793.20	-7519.94	2093.59	1682769.91	14216867.50	39°09'2.7602"N	80°51'2.1746"W	7805.93	164.443	0.29	0.03	0.29	
14562.00	89.980	160.990	6421.31	7888.20	-7609.83	2124.32	1682800.63	14216777.65	39°09'1.8712"N	80°51'1.7863"W	7900.77	164.403	0.32	-0.14	-0.28	
14656.00	90.110	161.240	6421.23	7982.20	-7698.77	2154.74	1682831.04	14216688.74	39°09'0.9916"N	80°51'1.4020"W	7994.62	164.364	0.30	0.14	0.27	
14751.00	90.200	160.990	6420.98	8077.20	-7788.65	2185.49	1682861.78	14216598.89	39°09'0.1027"N	80°51'1.0136"W	8089.47	164.326	0.28	0.09	-0.26	
14845.00	90.230	161.340	6420.82	8171.20	-7877.62	2215.84	1682892.11	14216509.96	39°08'59.2229"N	80°51'0.6302"W	8183.33	164.290	0.37	0.03	0.37	
14939.00	90.230	161.150	6420.25	8265.20	-7966.63	2246.06	1682922.32	14216420.99	39°08'58.3426"N	80°51'0.2485"W	8277.20	164.255	0.20	0.00	-0.20	
15033.00	90.320	160.840	6419.80	8359.20	-8055.50	2276.67	1682952.92	14216332.15	39°08'57.4637"N	80°50'59.8618"W	8371.04	164.218	0.34	0.10	-0.33	
15128.00	90.140	160.850	6419.42	8454.20	-8145.24	2307.84	1682984.08	14216242.45	39°08'56.5762"N	80°50'59.4680"W	8465.88	164.181	0.19	-0.19	0.01	
15223.00	90.260	161.200	6419.08	8549.19	-8235.08	2338.73	1683014.96	14216152.65	39°08'55.6878"N	80°50'59.0778"W	8560.74	164.146	0.39	0.13	0.37	
15317.00	90.260	160.740	6418.66	8643.19	-8323.94	2369.38	1683045.60	14216063.82	39°08'54.8089"N	80°50'58.6907"W	8654.59	164.111	0.49	0.00	-0.49	
15412.00	90.140	160.390	6418.33	8738.19	-8413.53	2400.99	1683077.19	14215974.27	39°08'53.9230"N	80°50'58.2913"W	8749.41	164.073	0.39	-0.13	-0.37	
15507.00	90.230	160.560	6418.02	8833.18	-8503.06	2432.74	1683108.93	14215884.77	39°08'53.0375"N	80°50'57.8902"W	8844.23	164.034	0.20	0.09	0.18	
15601.00	90.720	160.970	6417.24	8927.17	-8591.81	2463.71	1683139.88	14215796.05	39°08'52.1598"N	80°50'57.4990"W	8938.07	164.000	0.68	0.52	0.44	
15695.00	90.660	160.690	6416.11	9021.16	-8680.59	2494.58	1683170.74	14215707.31	39°08'51.2818"N	80°50'57.1091"W	9031.92	163.967	0.30	-0.06	-0.30	
15790.00	90.480	159.880	6415.16	9116.15	-8770.02	2526.62	1683202.77	14215617.92	39°08'50.3973"N	80°50'56.7043"W	9126.72	163.928	0.87	-0.19	-0.85	
15884.00	93.400	163.640	6411.98	9210.06	-8859.22	2556.02	1683232.16	14215528.76	39°08'49.5152"N	80°50'56.3330"W	9220.58	163.906	5.06	3.11	4.00	
15979.00	90.540	160.080	6408.71	9304.97	-8949.42	2585.57	1683261.70	14215438.59	39°08'48.6232"N	80°50'55.9598"W	9315.43	163.885	4.80	-3.01	-3.75	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
16073.00	90.570	160.500	6407.80	9398.96	-9037.91	2617.28	1683293.39	14215350.14	39°08'47.7481"N	80°50'55.5593"W	9409.25	163.850	0.45	0.03	0.45	
16167.00	90.600	160.900	6406.84	9492.95	-9126.62	2648.34	1683324.44	14215261.46	39°08'46.8707"N	80°50'55.1668"W	9503.10	163.818	0.43	0.03	0.43	
16282.00	89.490	160.850	6406.77	9587.95	-9216.38	2679.47	1683355.55	14215171.74	39°08'45.9831"N	80°50'54.7737"W	9597.98	163.789	1.17	-1.17	-0.05	
16356.00	89.550	160.920	6407.56	9681.94	-9305.19	2710.25	1683386.32	14215082.96	39°08'45.1047"N	80°50'54.3849"W	9691.85	163.761	0.10	0.06	0.07	
16450.00	89.610	161.000	6408.24	9775.94	-9394.04	2740.91	1683416.97	14214994.14	39°08'44.2260"N	80°50'53.9975"W	9785.74	163.734	0.11	0.06	0.09	
16545.00	91.590	163.310	6407.25	9870.91	-9484.46	2770.02	1683446.07	14214903.77	39°08'43.3319"N	80°50'53.6300"W	9880.69	163.719	3.20	2.08	2.43	
16639.00	89.580	161.100	6406.29	9964.88	-9573.95	2798.74	1683474.78	14214814.31	39°08'42.4469"N	80°50'53.2673"W	9974.64	163.705	3.18	-2.14	-2.35	
16734.00	89.490	160.740	6407.06	10059.87	-9663.72	2829.80	1683505.82	14214724.57	39°08'41.5590"N	80°50'52.8751"W	10069.52	163.679	0.39	-0.09	-0.38	
16829.00	89.740	164.340	6407.70	10154.83	-9754.33	2858.29	1683534.31	14214634.00	39°08'40.6630"N	80°50'52.5153"W	10164.49	163.668	3.80	0.26	3.79	
16923.00	89.860	161.630	6408.03	10248.77	-9844.21	2885.80	1683561.80	14214544.16	39°08'39.7742"N	80°50'52.1681"W	10258.47	163.662	2.89	0.13	-2.88	
17018.00	89.340	160.020	6408.69	10343.77	-9933.93	2917.00	1683592.99	14214454.47	39°08'38.8869"N	80°50'51.7740"W	10353.35	163.636	1.78	-0.55	-1.69	
17112.00	89.620	161.150	6409.54	10437.75	-10022.58	2948.24	1683624.22	14214365.86	39°08'38.0101"N	80°50'51.3794"W	10447.21	163.608	1.24	0.30	1.20	
17207.00	89.550	160.550	6410.23	10532.75	-10112.32	2979.91	1683655.37	14214276.16	39°08'37.1226"N	80°50'50.9858"W	10542.10	163.583	0.64	-0.07	-0.63	
17301.00	89.580	160.960	6410.95	10626.74	-10201.06	3010.39	1683686.34	14214187.45	39°08'36.2450"N	80°50'50.5944"W	10635.98	163.558	0.44	0.03	0.44	
17396.00	89.460	160.840	6411.74	10721.74	-10290.83	3041.47	1683717.42	14214097.72	39°08'35.3572"N	80°50'50.2018"W	10730.88	163.535	0.18	-0.13	-0.13	
17490.00	90.080	160.750	6412.12	10815.74	-10379.60	3072.39	1683748.32	14214008.98	39°08'34.4793"N	80°50'49.8113"W	10824.77	163.511	0.67	0.66	-0.10	
17585.00	89.920	160.720	6412.12	10910.73	-10469.28	3103.74	1683779.66	14213919.34	39°08'33.5924"N	80°50'49.4154"W	10919.66	163.487	0.17	-0.17	-0.03	
17679.00	90.020	160.950	6412.17	11004.73	-10558.07	3134.60	1683810.50	14213830.58	39°08'32.7143"N	80°50'49.0256"W	11013.56	163.464	0.27	0.11	0.24	
17774.00	90.170	160.920	6412.01	11099.73	-10647.86	3165.63	1683841.52	14213740.83	39°08'31.8263"N	80°50'48.6337"W	11108.47	163.443	0.16	0.16	-0.03	
17869.00	89.860	160.430	6411.99	11194.73	-10737.51	3197.07	1683872.95	14213651.22	39°08'30.9397"N	80°50'48.2366"W	11203.36	163.419	0.61	-0.33	-0.52	
17963.00	90.110	160.580	6412.01	11288.72	-10826.12	3228.44	1683904.30	14213562.65	39°08'30.0634"N	80°50'47.8403"W	11297.24	163.395	0.31	0.27	0.16	
18058.00	90.170	161.230	6411.78	11383.72	-10915.89	3259.51	1683935.37	14213472.91	39°08'29.1755"N	80°50'47.4478"W	11392.15	163.374	0.69	0.06	0.68	
18152.00	90.540	161.060	6411.20	11477.72	-11004.84	3289.89	1683965.73	14213383.99	39°08'28.2958"N	80°50'47.0642"W	11486.08	163.356	0.43	0.39	-0.18	
18247.00	90.320	159.860	6410.48	11572.71	-11094.37	3321.66	1683997.49	14213294.50	39°08'27.4104"N	80°50'46.6629"W	11580.95	163.332	1.28	-0.23	-1.26	
18341.00	90.320	160.390	6409.96	11666.69	-11182.77	3353.62	1684029.44	14213206.14	39°08'26.5361"N	80°50'46.2592"W	11674.80	163.306	0.56	0.00	0.56	
18435.00	90.420	160.790	6409.35	11760.68	-11271.42	3384.86	1684060.66	14213117.52	39°08'25.6594"N	80°50'45.8646"W	11768.70	163.285	0.44	0.11	0.43	
18529.00	90.450	160.740	6408.64	11854.68	-11360.17	3415.82	1684091.62	14213028.80	39°08'24.7816"N	80°50'45.4735"W	11862.60	163.265	0.06	0.03	-0.05	
18624.00	90.480	160.730	6407.87	11949.67	-11449.85	3447.17	1684122.95	14212939.16	39°08'23.8947"N	80°50'45.0777"W	11957.51	163.245	0.03	0.03	-0.01	
18718.00	90.510	160.830	6407.05	12043.66	-11538.61	3478.11	1684153.88	14212850.44	39°08'23.0169"N	80°50'44.6866"W	12051.42	163.225	0.11	0.03	0.11	
18813.00	90.540	160.860	6406.18	12138.66	-11628.34	3509.28	1684185.04	14212760.74	39°08'22.1295"N	80°50'44.2932"W	12146.33	163.207	0.04	0.03	0.03	



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

WELLPATH DATA (224 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
18908.00	90.420	160.680	6405.39	12233.65	-11718.04	3540.57	1684216.31	14212671.08	39°08'21.2424"N	80°50'43.8981"W	12241.25	163.188	0.23	-0.13	-0.19	
19002.00	90.420	160.760	6404.70	12327.65	-11806.77	3571.61	1684247.34	14212582.39	39°08'20.3649"N	80°50'43.5061"W	12335.16	163.169	0.09	0.00	0.09	
19096.00	89.860	159.230	6404.47	12421.62	-11895.09	3603.76	1684279.48	14212494.10	39°08'19.4914"N	80°50'43.0999"W	12429.01	163.145	1.73	-0.60	-1.63	
19191.00	90.350	159.290	6404.29	12516.57	-11983.93	3637.40	1684313.11	14212405.29	39°08'18.6127"N	80°50'42.6748"W	12523.79	163.116	0.52	0.52	0.06	
19285.00	90.600	160.850	6403.52	12610.55	-12072.30	3669.44	1684345.14	14212316.96	39°08'17.7387"N	80°50'42.2701"W	12617.65	163.093	1.68	0.27	1.66	
19380.00	90.600	161.380	6402.52	12705.54	-12162.18	3700.19	1684375.87	14212227.12	39°08'16.8498"N	80°50'41.8819"W	12712.59	163.078	0.56	0.00	0.56	
19474.00	90.420	160.890	6401.68	12799.54	-12251.13	3730.58	1684406.25	14212138.21	39°08'15.9702"N	80°50'41.4981"W	12806.53	163.064	0.56	-0.19	-0.52	
19568.00	90.380	160.520	6401.03	12893.53	-12339.84	3761.64	1684437.30	14212049.52	39°08'15.0928"N	80°50'41.1058"W	12900.45	163.047	0.40	-0.04	-0.39	
19663.00	90.380	160.790	6400.40	12988.53	-12429.48	3793.11	1684468.75	14211959.93	39°08'14.2063"N	80°50'40.7084"W	12995.37	163.029	0.28	0.00	0.28	
19757.00	90.450	160.780	6399.72	13082.52	-12518.23	3824.06	1684499.69	14211871.21	39°08'13.3285"N	80°50'40.3175"W	13089.29	163.013	0.08	0.07	-0.03	
19851.00	90.450	160.440	6398.98	13176.51	-12606.89	3855.29	1684530.90	14211782.58	39°08'12.4517"N	80°50'39.9232"W	13183.21	162.996	0.34	0.00	-0.34	
19945.00	90.350	160.640	6398.32	13270.51	-12695.52	3886.60	1684562.21	14211693.99	39°08'11.5752"N	80°50'39.5277"W	13277.12	162.979	0.24	-0.11	0.21	
20040.00	90.450	161.090	6397.66	13365.50	-12785.27	3917.74	1684593.33	14211604.28	39°08'10.6875"N	80°50'39.1345"W	13372.05	162.964	0.49	0.11	0.47	
20072.00‡	90.450	161.090	6397.41	13397.50	-12815.54	3928.11	1684603.70	14211574.02	39°08'10.3882"N	80°50'39.0035"W	13404.04	162.959	0.00	0.00	0.00	Projected MD at TD: 20072'

HOLE & CASING SECTIONS - Ref Wellbore: Shays Unit 2H AWB Ref Wellpath: Shays Unit 2H AWP Proj: 20072'

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	-0.01	-0.07
13.5in Open Hole	130.00	370.00	240.00	130.00	370.00	-0.01	-0.07	-0.39	-0.82
10.75in Casing Surface	30.00	350.00	320.00	30.00	350.00	0.00	0.00	-0.34	-0.72
9.875in Open Hole	370.00	2564.00	2194.00	370.00	2560.24	-0.39	-0.82	-1.95	-54.46
7.625in Casing Intermediate	30.00	2545.00	2515.00	30.00	2541.26	0.00	0.00	-1.31	-55.09
6.75in Open Hole	2564.00	20072.00	17508.00	2560.24	6397.41	-1.95	-54.46	-12815.54	3928.11
5in Casing Production	30.00	20052.00	20022.00	30.00	6397.56	0.00	0.00	-12796.62	3921.63



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Shays Unit 2H POE Rev-3	6404.00	-168.81	-411.56	1680265.76	14224215.69	39°10'15.4578"N	80°51'33.8290"W	point
Shays Unit 2H BHL Rev-3	6427.00	-12863.74	3918.49	1684594.08	14211525.84	39°08'9.9120"N	80°50'39.1267"W	point
Shays Unit 2H BHL Rev-4	6427.00	-12839.65	3910.27	1684585.87	14211549.92	39°08'10.1502"N	80°50'39.2304"W	point
Shays Unit 2H LP Rev-3	6427.00	-339.21	-353.44	1680323.86	14224045.35	39°10'13.7727"N	80°51'33.0943"W	point
Shays Unit 2H 50' L/R Hard Line	7000.00	-6516.27	1753.46	1682429.92	14217870.76	39°09'12.6859"N	80°51'6.4711"W	rectangle
2D Rectangle 13413.1 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Shays Unit 2H AWB Ref Wellpath: Shays Unit 2H AWP Proj: 20072'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	380.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <13-1/2"> (100'-380')	Shays Unit 2H AWB	7/25/2022
380.00	2494.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <9-7/8"> (380')(413'-2494')	Shays Unit 2H AWB	7/25/2022
2494.00	5514.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <6-3/4"> (2494')(2579'-5514')	Shays Unit 2H AWB	8/9/2022
5514.00	20072.00	BH OnTrak (2019) (HRGM, Short spacing)	04 BH Lucida <6-3/4"> (5514')(5585'-20040')	Shays Unit 2H AWB	8/9/2022



Actual Wellpath Report

Shays Unit 2H AWP Proj: 20072'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Shays Unit 2H
Field	Ritchie	API	47-085-10422-0000
Facility	Cashew Pad	Wellbore	Shays Unit 2H AWB
Slot	Slot B		

COMMENTS
<p>Wellpath general comments API: 47-085-10422-0000 BH Job #: 111434689 Rig: H&P 531 Duration: 8/14/2022-8/20/2022 Gyrodatta MS Gyro <13-1/2"> (100'-380') APS EM <9-7/8"> (380')(413'-2494') APS EM <6-3/4"> (2494')(2579'-5514') BH Lucida <6-3/4"> (5514')(5585'-20040') Sycamore: 6135' MD Middlesex: 6358' MD Burkett: 6549' MD Tully: 6648' MD Marcellus POE: 6732' MD Projected MD at TD: 20072'</p>

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Office of Oil and Gas
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WV Department of
Environmental Protection