



ANTERO RESOURCES CORPORATION



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

Slot: Slot H
 Well: Allender Unit 2H
 Wellbore: Allender Unit 2H PWB

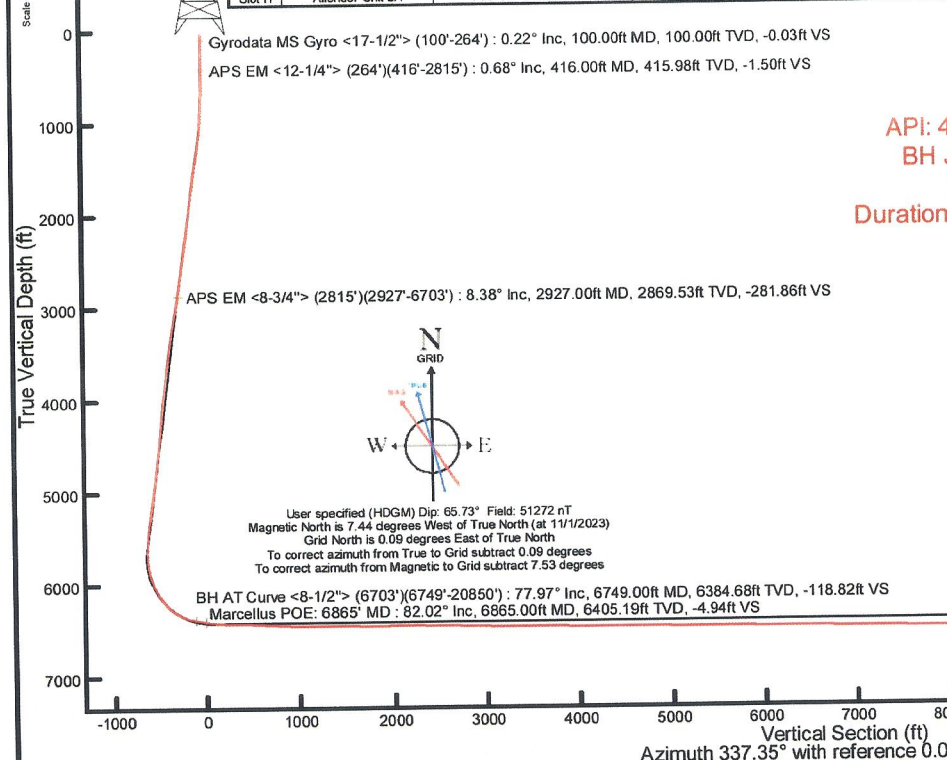
Plot reference wellpath is Allender Unit 2H PWP Rev-B.0	Grid System: NAD27 / UTMZone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1049 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot H): -1019 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edsanyar on 2023-11-21, Database: WA_MPL_EASTERNUS_Datm

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Cashew Pad	1680670.880	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)	Longitude
Slot H	285.45	96.43	1680767.270	14224655.610	39°10'19.8000"N 80°51'27.4499"W

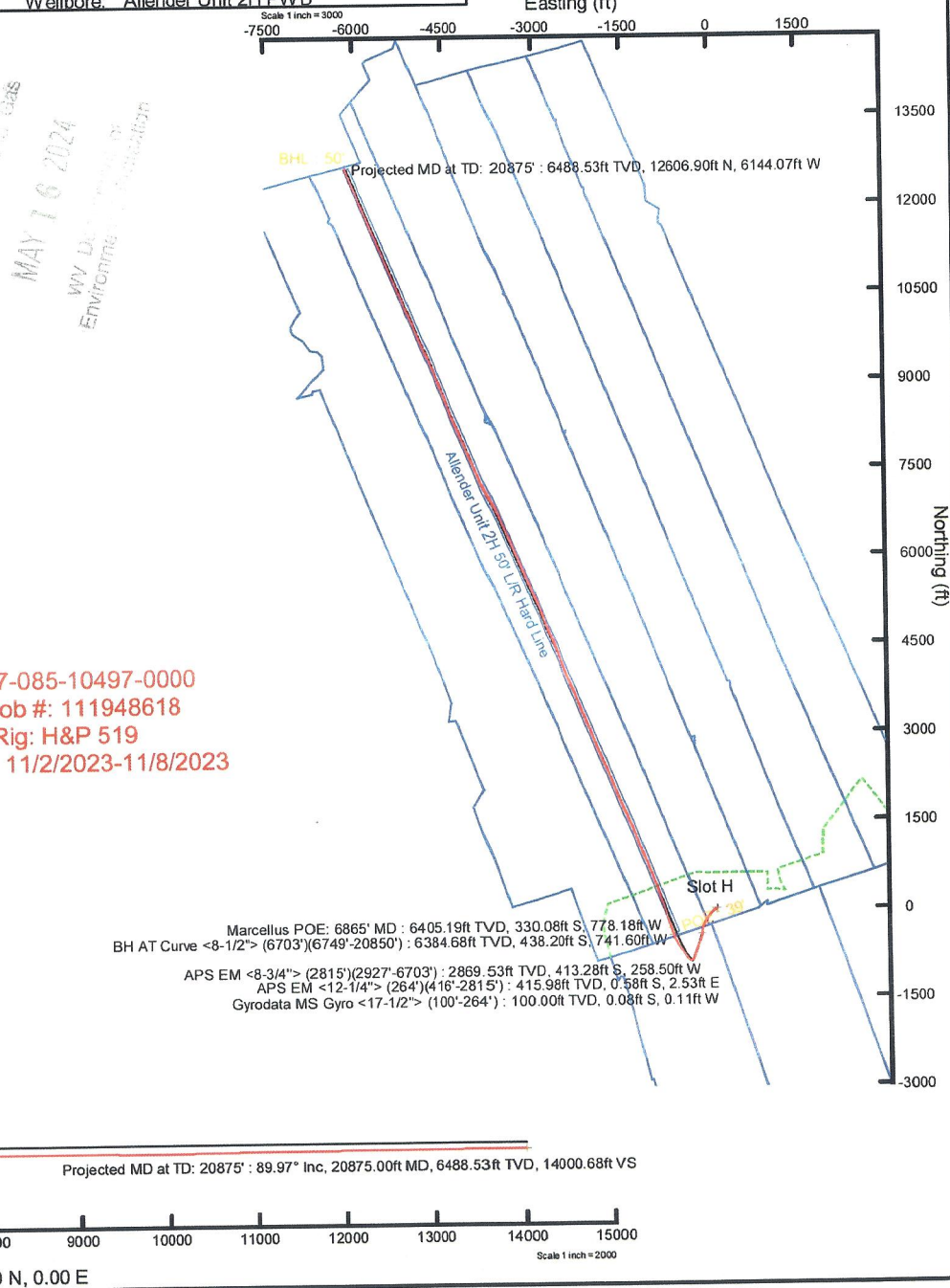
Comment	Allender Unit 2H	30ft
H&P 519 (RKB) to Ground level (At Slot: Slot H)		-1019ft
Mean Sea Level to Ground level (At Slot: Slot H)		1049ft
H&P 519 (RKB) to Mean Sea Level		

Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
Tie On	2815.00	9.480	187.840	2758.88	-395.99	-257.13	0.08	-286.42
Proj. to Bottom	2889.00	9.480	187.840	2931.88	-408.06	-258.79	0.00	-276.93
Drill Out	2969.00	9.480	187.840	2910.79	-421.11	-260.59	0.00	-288.28
Turn	3070.03	10.094	199.188	3010.36	-437.72	-264.63	2.00	-302.05
Curve KOP	5714.95	10.094	199.188	5614.33	-875.54	-416.99	0.00	-647.43
POE	6756.99	75.762	337.350	6399.00	-410.66	-691.77	8.00	-112.59
Landing Pt	6934.97	90.000	337.350	6421.00	-248.10	-759.60	8.00	63.56
BHL	20869.53	90.000	337.350	6421.00	12811.73	-6125.89	0.00	13998.13

Well Data			
Slot	Well	Wellbore	Wellpath
Slot H	Allender Unit 2H	Allender Unit 2H AWB	Allender Unit 2H AWP Proj: 20875'
Slot H	Allender Unit 2H	Allender Unit 2H PWB	Allender Unit 2H PWP Rev-B.0



API: 47-085-10497-0000
 BH Job #: 111948618
 Rig: H&P 519
 Duration: 11/2/2023-11/8/2023



Office of Environmental Affairs
 MAY 16 2024
 WV DEPARTMENT OF ENVIRONMENTAL AFFAIRS



Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

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	11/21/2023 at 2:37:33 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	285.45	96.43	1680767.27	14224655.61	39°10'19.8000"N	80°51'27.4499"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 519 (RKB) to Facility Vertical Datum	1049.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1049.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot H)	30.00ft
MD Reference Pt	H&P 519 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	337.35°

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 MAY 16 2024
 West Virginia Department of
 Environmental Protection



Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWP
Slot	Slot H		

WELLPATH DATA (230 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	233.250	0.00	0.00	0.00	0.00	1680767.27	14224655.61	39°10'19.8000"N	80°51'27.4499"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	233.250	30.00	0.00	0.00	0.00	1680767.27	14224655.61	39°10'19.8000"N	80°51'27.4499"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.220	233.250	100.00	-0.03	-0.08	-0.11	1680767.16	14224655.53	39°10'19.7992"N	80°51'27.4513"W	0.13	233.250	0.31	0.31	0.00	Gyrodata MS Gyro <17-1/2"> (100'-264')
200.00	0.400	85.550	200.00	-0.19	-0.17	0.09	1680767.36	14224655.44	39°10'19.7983"N	80°51'27.4488"W	0.19	152.783	0.60	0.60	0.18	-147.70
264.00	0.720	100.390	264.00	-0.48	-0.22	0.70	1680767.97	14224655.39	39°10'19.7977"N	80°51'27.4410"W	0.74	107.587	0.54	0.50	0.50	23.19
416.00	0.680	101.520	415.98	-1.50	-0.58	2.53	1680769.80	14224655.03	39°10'19.7942"N	80°51'27.4178"W	2.59	102.831	0.03	-0.03	0.74	APS EM <12-1/4"> (264')(416'-2815')
506.00	0.810	237.100	505.98	-1.92	-1.03	2.52	1680769.79	14224654.58	39°10'19.7898"N	80°51'27.4180"W	2.72	112.215	1.53	0.14	150.64	
596.00	4.420	229.700	595.87	-3.08	-3.62	-0.66	1680766.61	14224651.99	39°10'19.7642"N	80°51'27.4584"W	3.68	190.387	4.02	4.01	-8.22	
685.00	7.440	231.380	684.39	-5.71	-9.43	-7.78	1680759.49	14224646.18	39°10'19.7068"N	80°51'27.5489"W	12.23	219.522	3.40	3.39	1.89	
775.00	9.890	234.890	773.35	-8.98	-17.52	-18.66	1680748.62	14224638.10	39°10'19.6271"N	80°51'27.6872"W	25.59	226.809	2.78	2.72	3.90	
865.00	12.280	236.640	861.67	-12.43	-27.23	-32.98	1680734.30	14224628.39	39°10'19.5314"N	80°51'27.8692"W	42.77	230.457	2.68	2.66	1.94	
954.00	14.130	234.930	948.31	-16.52	-38.67	-49.78	1680717.51	14224616.95	39°10'19.4185"N	80°51'28.0827"W	63.03	232.154	2.12	2.08	-1.92	
1044.00	15.730	228.730	1035.28	-22.78	-53.04	-67.94	1680699.36	14224602.60	39°10'19.2768"N	80°51'28.3136"W	86.19	232.023	2.51	1.78	-6.89	
1139.00	17.830	226.060	1126.23	-32.18	-71.62	-88.09	1680679.21	14224584.01	39°10'19.0934"N	80°51'28.5699"W	113.54	230.887	2.35	2.21	-2.81	
1233.00	17.370	219.660	1215.84	-43.92	-92.41	-107.41	1680659.90	14224563.23	39°10'18.8882"N	80°51'28.8156"W	141.70	229.293	2.11	-0.49	-6.81	
1327.00	16.820	215.310	1305.69	-57.66	-114.32	-124.23	1680643.09	14224541.34	39°10'18.6720"N	80°51'29.0296"W	168.82	227.380	1.48	-0.59	-4.63	
1422.00	16.510	214.280	1396.70	-72.32	-136.69	-139.78	1680627.55	14224518.98	39°10'18.4511"N	80°51'29.2274"W	195.50	225.641	0.45	-0.33	-1.08	
1516.00	15.820	212.190	1486.98	-86.98	-158.57	-154.13	1680613.20	14224497.11	39°10'18.2351"N	80°51'29.4101"W	221.13	224.187	0.96	-0.73	-2.22	
1611.00	13.680	214.240	1578.84	-100.58	-178.81	-167.35	1680599.99	14224476.87	39°10'18.0352"N	80°51'29.5783"W	244.91	223.103	2.32	-2.25	2.16	
1705.00	13.240	212.330	1670.26	-112.83	-197.10	-179.36	1680587.98	14224458.59	39°10'17.8546"N	80°51'29.7312"W	266.49	222.302	0.67	-0.47	-2.03	
1799.00	12.830	213.410	1761.84	-124.83	-214.91	-190.86	1680576.48	14224440.79	39°10'17.6788"N	80°51'29.8776"W	287.43	221.609	0.51	-0.44	1.15	
1894.00	12.510	209.280	1854.53	-137.07	-232.69	-201.70	1680565.65	14224423.02	39°10'17.5032"N	80°51'30.0156"W	307.94	220.920	1.01	-0.34	-4.35	
1988.00	12.130	207.040	1946.36	-149.73	-250.36	-211.17	1680556.18	14224405.35	39°10'17.3287"N	80°51'30.1362"W	327.53	220.146	0.65	-0.40	-2.38	
2083.00	11.890	206.500	2039.28	-162.59	-268.01	-220.08	1680547.28	14224387.71	39°10'17.1544"N	80°51'30.2496"W	346.79	219.391	0.28	-0.25	-0.57	
2177.00	11.360	202.490	2131.36	-175.45	-285.23	-227.94	1680539.42	14224370.49	39°10'16.9843"N	80°51'30.3498"W	365.12	218.629	1.03	-0.56	-4.27	
2272.00	11.100	200.350	2224.54	-188.74	-302.45	-234.70	1680532.67	14224353.28	39°10'16.8142"N	80°51'30.4359"W	382.83	217.811	0.52	-0.27	-2.25	
2366.00	10.820	197.860	2316.82	-202.07	-319.33	-240.55	1680526.82	14224336.40	39°10'16.6474"N	80°51'30.5106"W	399.80	216.990	0.59	-0.30	-2.65	
2461.00	10.490	194.890	2410.19	-215.71	-336.18	-245.51	1680521.86	14224319.57	39°10'16.4810"N	80°51'30.5739"W	416.28	216.140	0.67	-0.35	-3.13	
2555.00	10.210	192.940	2502.66	-229.27	-352.57	-249.57	1680517.80	14224303.18	39°10'16.3191"N	80°51'30.6258"W	431.96	215.294	0.48	-0.30	-2.07	
2649.00	9.890	190.480	2595.22	-242.80	-368.62	-252.91	1680514.47	14224287.13	39°10'16.1604"N	80°51'30.6684"W	447.04	214.453	0.57	-0.34	-2.62	

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
2744.00	9.490	188.160	2688.86	-256.36	-384.40	-255.50	1680511.87	14224271.36	39°10'16.0045"N	80°51'30.7017"W	461.57	213.611	0.59	-0.42	-2.44	
2815.00	9.480	187.840	2758.89	-266.42	-395.99	-257.13	1680510.24	14224259.78	39°10'15.8900"N	80°51'30.7226"W	472.14	212.997	0.08	-0.01	-0.45	
2927.00	8.380	180.790	2869.53	-281.86	-413.28	-258.50	1680508.87	14224242.49	39°10'15.7191"N	80°51'30.7404"W	487.47	212.025	1.38	-0.98	-6.29	APS EM <8-3/4"> (2815')(2927'-6703')
3021.00	11.070	182.470	2962.18	-296.32	-429.15	-258.98	1680508.39	14224226.63	39°10'15.5623"N	80°51'30.7468"W	501.24	211.110	2.88	2.86	1.79	
3115.00	12.710	188.440	3054.16	-313.35	-448.40	-260.89	1680506.48	14224207.39	39°10'15.3721"N	80°51'30.8237"W	539.17	209.437	1.45	0.87	5.09	
3210.00	13.540	193.280	3146.68	-331.30	-469.56	-264.98	1680502.40	14224186.24	39°10'15.1630"N	80°51'30.8237"W	581.26	208.430	1.25	-0.95	3.63	
3304.00	13.520	195.530	3238.07	-348.85	-490.86	-270.45	1680496.93	14224164.95	39°10'14.9525"N	80°51'30.8936"W	601.56	208.255	2.02	-0.16	9.28	
3398.00	12.630	198.940	3329.63	-365.17	-511.17	-276.73	1680490.65	14224144.65	39°10'14.7519"N	80°51'30.9737"W	622.35	208.202	0.58	0.36	-2.08	
3492.00	12.480	207.660	3421.40	-379.35	-529.88	-284.78	1680482.61	14224125.94	39°10'14.5670"N	80°51'31.0763"W	641.88	208.050	2.02	-1.65	-5.59	
3587.00	12.820	205.680	3514.09	-392.91	-548.47	-294.11	1680473.28	14224107.36	39°10'14.3834"N	80°51'31.1952"W	673.81	207.715	2.03	1.31	9.40	
3681.00	11.270	200.430	3606.02	-406.55	-566.48	-301.84	1680465.55	14224089.35	39°10'14.2056"N	80°51'31.2936"W	690.81	207.645	0.84	0.38	-4.21	
3776.00	8.920	198.070	3699.54	-418.92	-582.19	-307.36	1680460.03	14224073.66	39°10'14.0504"N	80°51'31.3641"W	707.01	207.467	1.55	-1.02	-6.68	
3870.00	10.150	206.910	3792.25	-429.82	-596.50	-313.37	1680454.02	14224059.35	39°10'13.9090"N	80°51'31.4407"W	721.56	207.349	2.23	-1.39	11.34	
3965.00	10.510	202.910	3885.71	-441.31	-611.95	-320.53	1680446.86	14224043.91	39°10'13.7565"N	80°51'31.5319"W	734.70	207.324	0.59	-0.39	-3.14	
4059.00	9.550	196.630	3978.27	-453.35	-627.32	-326.10	1680441.30	14224028.55	39°10'13.6047"N	80°51'31.6030"W	747.26	207.239	0.70	-0.32	-4.65	
4154.00	8.230	207.400	4072.14	-463.82	-640.90	-331.49	1680435.91	14224014.96	39°10'13.4704"N	80°51'31.7449"W	758.81	207.061	1.50	-0.86	-9.92	
4248.00	7.860	204.450	4165.21	-472.51	-652.73	-337.24	1680430.16	14224003.14	39°10'13.3537"N	80°51'31.8464"W	770.99	206.880	2.27	1.87	9.77	
4342.00	7.560	200.080	4258.36	-481.43	-664.39	-342.03	1680425.38	14223991.49	39°10'13.2385"N	80°51'31.8464"W	784.40	206.728	0.82	-0.60	-3.94	
4437.00	6.740	190.660	4352.63	-490.68	-675.74	-345.20	1680422.20	14223980.14	39°10'13.1264"N	80°51'31.8896"W	799.08	206.576	2.55	2.45	4.62	
4531.00	8.500	199.840	4445.80	-500.41	-687.69	-348.58	1680418.83	14223968.19	39°10'13.0082"N	80°51'31.9432"W	815.57	206.421	0.63	-0.29	-3.15	
4626.00	7.930	196.100	4539.82	-510.70	-700.59	-352.78	1680414.63	14223955.30	39°10'12.8808"N	80°51'32.0033"W	832.81	206.306	1.92	1.46	6.79	
4720.00	10.230	200.440	4632.64	-521.86	-714.65	-357.50	1680409.92	14223941.25	39°10'12.7420"N	80°51'32.0723"W	851.49	206.233	0.35	0.08	-1.74	
4815.00	9.950	197.450	4726.17	-534.30	-730.38	-362.90	1680404.51	14223925.52	39°10'12.5865"N	80°51'32.1508"W	868.86	206.087	1.93	-1.38	-7.27	
4909.00	11.320	203.830	4818.56	-546.86	-746.57	-369.07	1680398.35	14223909.34	39°10'12.4266"N	80°51'32.2440"W	885.29	205.927	0.83	0.19	4.54	
5004.00	11.400	202.180	4911.70	-559.94	-763.79	-376.38	1680391.04	14223892.12	39°10'12.2565"N	80°51'32.3166"W	902.32	205.804	2.04	0.23	-0.31	
5098.00	10.100	195.350	5004.05	-573.03	-780.34	-382.07	1680385.35	14223875.58	39°10'11.9364"N	80°51'32.3804"W	918.06	205.632	2.21	-1.48	-7.99	
5192.00	10.280	199.620	5096.57	-585.73	-796.19	-387.07	1680380.36	14223859.73	39°10'11.7769"N	80°51'32.4532"W	932.84	205.498	1.84	0.16	11.50	
5287.00	10.500	199.330	5190.01	-598.43	-812.35	-392.78	1680374.65	14223843.59	39°10'11.6250"N	80°51'32.5088"W						
5381.00	9.110	191.820	5282.64	-610.94	-827.71	-397.14	1680370.29	14223828.23	39°10'11.4841"N	80°51'32.5654"W						
5475.00	9.260	202.630	5375.44	-622.40	-841.98	-401.57	1680365.86	14223813.97								

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Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

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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
5570.00	10.890	209.470	5468.97	-633.28	-856.85	-408.93	1680358.50	14223799.10	39°10'11.3372"N	80°51'32.6591"W	949.43	205.513	2.13	1.72	7.20	
5664.00	10.050	223.280	5561.42	-642.08	-870.55	-418.92	1680348.51	14223785.41	39°10'11.2020"N	80°51'32.7863"W	966.10	205.698	2.81	-0.89	14.69	
5759.00	8.920	246.010	5655.16	-645.64	-879.59	-431.34	1680336.10	14223776.38	39°10'11.1129"N	80°51'32.9441"W	979.66	206.123	4.09	-1.19	23.93	
5853.00	9.820	273.690	5747.95	-642.25	-882.03	-446.00	1680321.44	14223773.93	39°10'11.0889"N	80°51'33.1304"W	988.38	206.824	4.84	0.96	29.45	
5948.00	14.300	296.450	5840.88	-629.77	-876.28	-464.61	1680302.84	14223779.68	39°10'11.1460"N	80°51'33.3665"W	991.83	207.933	6.79	4.72	23.96	
6042.00	19.990	314.050	5930.72	-606.21	-859.91	-486.59	1680280.88	14223796.04	39°10'11.3081"N	80°51'33.6452"W	988.04	209.504	8.13	6.05	18.72	
6137.00	25.260	327.560	6018.44	-571.27	-831.48	-509.16	1680258.31	14223824.46	39°10'11.5895"N	80°51'33.9313"W	974.99	211.482	7.76	5.55	14.22	
6166.00†	27.285	328.876	6044.44	-558.60	-820.56	-515.92	1680251.56	14223835.37	39°10'11.6975"N	80°51'34.0168"W	969.28	212.159	7.27	6.98	4.54	Sycamore: 6166' MD
6232.00	31.930	331.290	6101.81	-526.26	-792.29	-532.13	1680235.35	14223863.64	39°10'11.9772"N	80°51'34.2221"W	954.40	213.887	7.27	7.04	3.66	
6326.00	38.960	325.580	6178.36	-472.53	-746.04	-560.82	1680206.67	14223909.87	39°10'12.4348"N	80°51'34.5855"W	933.32	216.933	8.26	7.48	-6.07	
6390.00†	45.849	323.387	6225.60	-430.50	-710.97	-585.92	1680181.59	14223944.93	39°10'12.7818"N	80°51'34.9035"W	921.29	219.492	11.01	10.76	-3.43	Middlesex: 6390' MD
6420.00	49.090	322.530	6245.87	-409.09	-693.33	-599.24	1680168.27	14223962.56	39°10'12.9564"N	80°51'35.0722"W	916.40	220.837	11.01	10.80	-2.86	
6514.00	57.390	325.190	6302.09	-335.91	-632.52	-643.53	1680124.00	14224023.35	39°10'13.5581"N	80°51'35.6334"W	902.33	225.494	9.11	8.83	2.83	
6592.00†	66.031	329.503	6339.03	-268.34	-574.71	-680.45	1680087.09	14224081.13	39°10'14.1301"N	80°51'36.1011"W	890.68	229.816	12.10	11.08	5.53	Burkett: 6592' MD
6609.00	67.930	330.360	6345.68	-252.82	-561.17	-688.29	1680079.25	14224094.67	39°10'14.2640"N	80°51'36.2004"W	888.06	230.810	12.10	11.17	5.04	
6703.00	76.410	338.920	6374.48	-163.61	-480.40	-726.40	1680041.16	14224175.40	39°10'15.0629"N	80°51'36.6826"W	870.88	236.522	12.50	9.02	9.11	
6732.00†	77.391	340.519	6381.06	-135.39	-453.91	-736.19	1680031.38	14224201.89	39°10'15.3249"N	80°51'36.8064"W	864.87	238.343	6.35	3.38	5.51	Tully: 6732' MD
6749.00	77.970	341.450	6384.68	-118.82	-438.20	-741.60	1680025.97	14224217.58	39°10'15.4802"N	80°51'36.8748"W	861.39	239.421	6.35	3.41	5.48	BH AT Curve <8-1/2"> (6703')(6749'-20850')
6830.00	80.440	341.190	6399.85	-39.45	-362.83	-767.08	1680000.50	14224292.92	39°10'16.2255"N	80°51'37.1969"W	848.56	244.685	3.07	3.05	-0.32	
6865.00†	82.019	341.362	6405.19	-4.94	-330.08	-778.18	1679989.40	14224325.67	39°10'16.5495"N	80°51'37.3372"W	845.29	247.015	4.54	4.51	0.49	Marcellus POE: 6865' MD
6877.00	82.560	341.420	6406.80	6.92	-318.81	-781.98	1679985.61	14224336.93	39°10'16.6609"N	80°51'37.3852"W	844.47	247.820	4.54	4.51	0.49	
6925.00	82.990	341.090	6412.84	54.43	-273.71	-797.28	1679970.31	14224382.01	39°10'17.1068"N	80°51'37.5786"W	842.96	251.052	1.13	0.90	-0.69	
7019.00	86.120	341.240	6421.76	147.79	-185.16	-827.49	1679940.11	14224470.53	39°10'17.9826"N	80°51'37.9604"W	847.95	257.387	3.33	3.33	0.16	
7114.00	88.280	341.000	6426.40	242.46	-95.38	-858.19	1679909.42	14224560.27	39°10'18.8704"N	80°51'38.3485"W	863.47	263.658	2.29	2.27	-0.25	
7208.00	89.850	341.560	6427.93	336.23	-6.37	-888.35	1679879.27	14224649.24	39°10'19.7506"N	80°51'38.7297"W	888.38	269.589	1.77	1.67	0.60	
7303.00	88.860	340.910	6429.00	431.00	83.57	-918.91	1679848.73	14224739.15	39°10'20.6401"N	80°51'39.1160"W	922.70	275.197	1.25	-1.04	-0.68	
7397.00	87.660	341.130	6431.85	524.76	172.42	-949.47	1679818.18	14224827.96	39°10'21.5187"N	80°51'39.5023"W	965.00	280.293	1.30	-1.28	0.23	
7492.00	86.950	341.250	6436.32	619.44	262.25	-980.06	1679787.60	14224917.75	39°10'22.4070"N	80°51'39.8890"W	1014.54	284.980	0.76	-0.75	0.13	
7586.00	87.260	340.100	6441.07	713.16	350.83	-1011.13	1679756.54	14225006.30	39°10'23.2831"N	80°51'40.2818"W	1070.27	289.135	1.27	0.33	-1.22	
7681.00	86.770	338.180	6446.02	807.98	439.48	-1044.91	1679722.78	14225094.92	39°10'24.1598"N	80°51'40.7090"W	1133.57	292.811	2.08	-0.52	-2.02	

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
7775.00	87.850	337.600	6450.43	901.87	526.47	-1080.25	1679687.45	14225181.87	39°10'25.0201"N	80°51'41.1560"W	1201.72	295.983	1.30	1.15	-0.62	
7870.00	88.210	337.300	6453.69	996.82	614.16	-1116.66	1679651.05	14225269.52	39°10'25.8873"N	80°51'41.6166"W	1274.41	298.811	0.49	0.38	-0.32	
7964.00	90.060	337.200	6455.11	1090.80	700.83	-1153.01	1679614.72	14225356.16	39°10'26.7445"N	80°51'42.0764"W	1349.29	301.292	1.97	1.97	-0.11	
8058.00	89.720	336.850	6455.29	1184.80	787.37	-1189.70	1679578.05	14225442.67	39°10'27.6005"N	80°51'42.5407"W	1426.65	303.498	0.52	-0.36	-0.37	
8153.00	90.280	337.940	6455.29	1279.80	875.07	-1226.21	1679541.55	14225530.33	39°10'28.4678"N	80°51'43.0026"W	1506.44	305.513	1.29	0.59	1.15	
8247.00	88.770	336.120	6456.07	1373.79	961.61	-1262.89	1679504.88	14225616.84	39°10'29.3237"N	80°51'43.4667"W	1587.32	307.287	2.52	-1.61	-1.94	
8342.00	90.060	337.110	6457.04	1468.77	1048.80	-1300.60	1679467.19	14225703.99	39°10'30.1861"N	80°51'43.9438"W	1670.79	308.883	1.71	1.36	1.04	
8437.00	90.000	337.420	6456.99	1563.77	1136.42	-1337.31	1679430.49	14225791.57	39°10'31.0526"N	80°51'44.4083"W	1754.95	310.357	0.33	-0.06	0.33	
8531.00	89.630	337.160	6457.30	1657.77	1223.13	-1373.60	1679394.22	14225878.25	39°10'31.9102"N	80°51'44.8674"W	1839.25	311.684	0.48	-0.39	-0.28	
8626.00	90.280	337.340	6457.37	1752.77	1310.74	-1410.34	1679357.50	14225965.82	39°10'32.7767"N	80°51'45.3322"W	1925.38	312.904	0.71	0.68	0.19	
8721.00	89.970	337.220	6457.16	1847.77	1398.37	-1447.03	1679320.82	14226053.42	39°10'33.6433"N	80°51'45.7964"W	2012.29	314.020	0.35	-0.33	-0.13	
8815.00	90.090	337.370	6457.11	1941.77	1485.08	-1483.31	1679284.55	14226140.10	39°10'34.5010"N	80°51'46.2555"W	2098.97	315.034	0.20	0.13	0.16	
8909.00	90.150	336.960	6456.92	2035.77	1571.71	-1519.79	1679248.09	14226226.70	39°10'35.3578"N	80°51'46.7170"W	2186.33	315.962	0.44	0.06	-0.44	
9004.00	90.060	337.190	6456.74	2130.77	1659.21	-1556.80	1679211.10	14226314.16	39°10'36.2231"N	80°51'47.1852"W	2275.21	316.824	0.26	-0.09	0.24	
9099.00	90.400	336.560	6456.36	2225.76	1746.58	-1594.11	1679173.80	14226401.49	39°10'37.0872"N	80°51'47.6573"W	2364.68	317.613	0.75	0.36	-0.66	
9193.00	88.830	337.150	6456.99	2319.75	1833.01	-1631.05	1679136.87	14226487.88	39°10'37.9420"N	80°51'48.1248"W	2453.62	318.337	1.78	-1.67	0.63	
9288.00	89.350	337.190	6458.50	2414.74	1920.55	-1667.91	1679100.03	14226575.39	39°10'38.8079"N	80°51'48.5911"W	2543.70	319.027	0.55	0.55	0.04	
9383.00	88.890	337.250	6459.96	2509.73	2008.13	-1704.69	1679063.27	14226662.94	39°10'39.6740"N	80°51'49.0565"W	2634.11	319.672	0.49	-0.48	0.06	
9477.00	88.920	337.610	6461.76	2603.71	2094.92	-1740.76	1679027.21	14226749.69	39°10'40.5323"N	80°51'49.5129"W	2723.77	320.275	0.38	0.03	0.38	
9572.00	88.830	337.570	6463.62	2698.69	2182.72	-1776.97	1678991.01	14226837.46	39°10'41.4008"N	80°51'49.9710"W	2814.59	320.851	0.10	-0.09	-0.04	
9667.00	89.020	337.320	6465.40	2793.68	2270.44	-1813.40	1678954.60	14226925.14	39°10'42.2683"N	80°51'50.4320"W	2905.74	321.386	0.33	0.20	-0.26	
9761.00	88.800	337.160	6467.19	2887.66	2357.11	-1849.76	1678918.25	14227011.77	39°10'43.1254"N	80°51'50.8920"W	2996.26	321.877	0.29	-0.23	-0.17	
9856.00	88.580	337.360	6469.36	2982.63	2444.70	-1886.47	1678881.55	14227099.33	39°10'43.9917"N	80°51'51.3566"W	3087.93	322.344	0.31	-0.23	0.21	
9950.00	89.110	337.580	6471.26	3076.61	2531.51	-1922.48	1678845.56	14227186.11	39°10'44.8503"N	80°51'51.8122"W	3178.75	322.786	0.61	0.56	0.23	
10045.00	90.620	337.630	6471.48	3171.61	2619.34	-1958.67	1678809.38	14227273.90	39°10'45.7189"N	80°51'52.2701"W	3270.68	323.212	1.59	1.59	0.05	
10140.00	89.230	337.960	6471.61	3266.60	2707.29	-1994.58	1678773.49	14227361.82	39°10'46.5888"N	80°51'52.7244"W	3362.70	323.619	1.50	-1.46	0.35	
10234.00	89.320	337.060	6472.80	3360.60	2794.14	-2030.53	1678737.55	14227448.63	39°10'47.4476"N	80°51'53.1793"W	3454.02	323.994	0.96	0.10	-0.96	
10329.00	89.170	337.490	6474.05	3455.59	2881.75	-2067.23	1678700.87	14227536.21	39°10'48.3142"N	80°51'53.6436"W	3546.54	324.346	0.48	-0.16	0.45	
10424.00	89.380	338.690	6475.25	3550.57	2969.88	-2102.67	1678665.44	14227624.30	39°10'49.1858"N	80°51'54.0921"W	3638.88	324.702	1.28	0.22	1.26	
10518.00	89.540	337.420	6476.14	3644.56	3057.07	-2137.80	1678630.33	14227711.45	39°10'50.0480"N	80°51'54.5365"W	3730.39	325.035	1.36	0.17	-1.35	

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
10613.00	89.820	337.340	6476.67	3739.55	3144.76	-2174.34	1678593.80	14227799.11	39°10'50.9153"N	80°51'54.9988"W	3823.25	325.339	0.31	0.29	-0.08	
10707.00	89.820	338.700	6476.96	3833.55	3231.92	-2209.52	1678558.64	14227886.24	39°10'51.7773"N	80°51'55.4439"W	3915.01	325.641	1.45	0.00	1.45	
10801.00	89.720	337.460	6477.34	3927.54	3319.12	-2244.61	1678523.56	14227973.41	39°10'52.6397"N	80°51'55.8879"W	4006.85	325.931	1.32	-0.11	-1.32	
10896.00	89.970	337.440	6477.60	4022.53	3406.86	-2281.04	1678487.14	14228061.11	39°10'53.5074"N	80°51'56.3489"W	4099.98	326.196	0.26	0.26	-0.02	
10991.00	89.820	337.640	6477.77	4117.53	3494.65	-2317.33	1678450.86	14228148.87	39°10'54.3757"N	80°51'56.8081"W	4193.17	326.451	0.26	-0.16	0.21	
11085.00	89.540	337.510	6478.30	4211.53	3581.54	-2353.19	1678415.02	14228235.72	39°10'55.2351"N	80°51'57.2619"W	4285.44	326.694	0.33	-0.30	-0.14	
11180.00	89.420	337.460	6479.16	4306.53	3669.30	-2389.57	1678378.66	14228323.44	39°10'56.1029"N	80°51'57.7222"W	4378.79	326.927	0.14	-0.13	-0.05	
11274.00	89.320	337.330	6480.19	4400.52	3756.07	-2425.70	1678342.54	14228410.18	39°10'56.9611"N	80°51'58.1794"W	4471.25	327.145	0.17	-0.11	-0.14	
11369.00	89.720	337.420	6480.99	4495.52	3843.76	-2462.24	1678306.01	14228497.83	39°10'57.8283"N	80°51'58.6418"W	4564.77	327.357	0.43	0.42	0.09	
11463.00	89.480	337.630	6481.64	4589.52	3930.62	-2498.18	1678270.09	14228584.65	39°10'58.6874"N	80°51'59.0965"W	4657.32	327.561	0.34	-0.26	0.22	
11558.00	89.570	337.700	6482.43	4684.51	4018.49	-2534.28	1678234.01	14228672.49	39°10'59.5564"N	80°51'59.5533"W	4750.87	327.762	0.12	0.09	0.07	
11652.00	89.780	337.580	6482.96	4778.51	4105.42	-2570.04	1678198.26	14228759.38	39°11'0.4161"N	80°52'0.0058"W	4843.50	327.953	0.26	0.22	-0.13	
11747.00	89.720	337.570	6483.38	4873.51	4193.23	-2606.28	1678162.04	14228847.16	39°11'1.2846"N	80°52'0.4644"W	4937.19	328.137	0.06	-0.06	-0.01	
11841.00	89.820	337.870	6483.76	4967.50	4280.21	-2641.91	1678126.41	14228934.11	39°11'2.1448"N	80°52'0.9154"W	5029.90	328.316	0.34	0.11	0.32	
11936.00	89.820	338.030	6484.06	5062.50	4368.26	-2677.58	1678090.76	14229022.13	39°11'3.0156"N	80°52'1.3666"W	5123.59	328.493	0.17	0.00	0.17	
12030.00	89.540	338.300	6484.58	5156.49	4455.52	-2712.54	1678055.82	14229109.35	39°11'3.8786"N	80°52'1.8090"W	5216.27	328.667	0.41	-0.30	0.29	
12125.00	89.350	338.360	6485.50	5251.47	4543.80	-2747.62	1678020.75	14229197.59	39°11'4.7516"N	80°52'2.2528"W	5309.95	328.839	0.21	-0.20	0.06	
12220.00	90.650	337.850	6485.50	5346.46	4631.95	-2783.04	1677985.34	14229285.70	39°11'5.6234"N	80°52'2.7011"W	5403.73	329.001	1.47	1.37	-0.54	
12314.00	89.660	338.220	6485.25	5440.45	4719.12	-2818.20	1677950.20	14229372.84	39°11'6.4855"N	80°52'3.1460"W	5496.58	329.155	1.12	-1.05	0.39	
12408.00	88.920	337.950	6486.41	5534.43	4806.32	-2853.28	1677915.13	14229460.01	39°11'7.3479"N	80°52'3.5899"W	5589.45	329.304	0.84	-0.79	-0.29	
12503.00	89.260	338.490	6487.92	5629.41	4894.53	-2888.53	1677879.90	14229548.18	39°11'8.2202"N	80°52'4.0358"W	5683.31	329.453	0.67	0.36	0.57	
12598.00	89.850	338.050	6488.66	5724.39	4982.77	-2923.70	1677844.74	14229636.39	39°11'9.0929"N	80°52'4.4809"W	5777.20	329.597	0.77	0.62	-0.46	
12692.00	89.230	337.850	6489.41	5818.39	5069.90	-2958.99	1677809.47	14229723.48	39°11'9.9546"N	80°52'4.9274"W	5870.22	329.731	0.69	-0.66	-0.21	
12787.00	89.110	337.050	6490.79	5913.37	5157.62	-2995.41	1677773.06	14229811.17	39°11'10.8222"N	80°52'5.3884"W	5964.36	329.853	0.85	-0.13	-0.84	
12881.00	89.940	337.830	6491.57	6007.37	5244.43	-3031.47	1677737.01	14229897.94	39°11'11.6806"N	80°52'5.8448"W	6057.54	329.970	1.21	0.88	0.83	
12976.00	89.540	337.010	6492.00	6102.37	5332.14	-3067.95	1677700.55	14229985.62	39°11'12.5481"N	80°52'6.3064"W	6151.75	330.085	0.96	-0.42	-0.86	
13070.00	89.420	337.190	6492.85	6196.36	5418.73	-3104.53	1677663.99	14230072.17	39°11'13.4045"N	80°52'6.7693"W	6245.06	330.191	0.23	-0.13	0.19	
13164.00	89.420	337.350	6493.80	6290.36	5505.42	-3140.85	1677627.68	14230158.83	39°11'14.2619"N	80°52'7.2290"W	6338.34	330.295	0.17	0.00	0.17	
13259.00	90.400	338.390	6493.95	6385.35	5593.42	-3176.63	1677591.91	14230246.80	39°11'15.1322"N	80°52'7.6818"W	6432.52	330.407	1.50	1.03	1.09	
13353.00	89.290	337.440	6494.21	6479.34	5680.52	-3211.97	1677556.58	14230333.86	39°11'15.9936"N	80°52'8.1291"W	6525.73	330.515	1.55	-1.18	-1.01	

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
13448.00	89.290	337.260	6495.38	6574.34	5768.19	-3248.55	1677520.01	14230421.49	39°11'16.8606"N	80°52'8.5921"W	6620.05	330.612	0.19	0.00	-0.19	
13542.00	89.480	337.300	6496.39	6668.33	5854.89	-3284.86	1677483.73	14230508.16	39°11'17.7180"N	80°52'9.0515"W	6713.42	330.706	0.21	0.20	0.04	
13637.00	89.320	337.510	6497.39	6763.33	5942.59	-3321.36	1677447.24	14230595.83	39°11'18.5854"N	80°52'9.5135"W	6807.78	330.799	0.28	-0.17	0.22	
13731.00	89.380	337.270	6498.45	6857.32	6029.36	-3357.49	1677411.12	14230682.56	39°11'19.4435"N	80°52'9.9708"W	6901.16	330.888	0.26	0.06	-0.26	
13825.00	89.020	337.170	6499.77	6951.31	6116.02	-3393.89	1677374.74	14230769.19	39°11'20.3006"N	80°52'10.4314"W	6994.58	330.973	0.40	-0.38	-0.11	
13920.00	89.660	338.020	6500.86	7046.30	6203.84	-3430.09	1677338.55	14230856.97	39°11'21.1691"N	80°52'10.8897"W	7088.95	331.062	1.12	0.67	0.89	
14014.00	91.480	338.130	6499.93	7140.29	6291.04	-3465.19	1677303.47	14230944.13	39°11'22.0314"N	80°52'11.3338"W	7182.25	331.153	1.94	1.94	0.12	
14109.00	88.950	337.440	6499.57	7235.27	6378.98	-3501.10	1677267.57	14231032.04	39°11'22.9011"N	80°52'11.7883"W	7276.61	331.240	2.76	-2.66	-0.73	
14203.00	89.140	337.400	6501.14	7329.26	6465.76	-3537.19	1677231.49	14231118.78	39°11'23.7594"N	80°52'12.2451"W	7370.06	331.318	0.21	0.20	-0.04	
14298.00	89.350	336.540	6502.39	7424.25	6553.18	-3574.35	1677194.35	14231206.17	39°11'24.6240"N	80°52'12.7155"W	7464.59	331.390	0.93	0.22	-0.91	
14392.00	89.110	335.900	6503.65	7518.22	6639.19	-3612.25	1677156.46	14231292.14	39°11'25.4746"N	80°52'13.1952"W	7558.26	331.450	0.73	-0.26	-0.68	
14487.00	89.050	335.870	6505.18	7613.18	6725.89	-3651.06	1677117.67	14231378.81	39°11'26.3321"N	80°52'13.6866"W	7652.96	331.505	0.07	-0.06	-0.03	
14581.00	89.940	336.070	6506.01	7707.15	6811.74	-3689.34	1677079.41	14231464.62	39°11'27.1811"N	80°52'14.1711"W	7746.68	331.559	0.97	0.95	0.21	
14675.00	89.420	335.700	6506.53	7801.11	6897.53	-3727.74	1677041.02	14231550.38	39°11'28.0297"N	80°52'14.6574"W	7840.41	331.611	0.68	-0.55	-0.39	
14770.00	90.250	336.250	6506.80	7896.09	6984.30	-3766.42	1677002.36	14231637.12	39°11'28.8878"N	80°52'15.1470"W	7935.14	331.663	1.05	0.87	0.58	
14864.00	89.940	336.410	6506.65	7990.07	7070.39	-3804.16	1676964.63	14231723.17	39°11'29.7393"N	80°52'15.6248"W	8028.83	331.718	0.37	-0.33	0.17	
14958.00	90.000	335.880	6506.70	8084.05	7156.36	-3842.17	1676926.63	14231809.11	39°11'30.5895"N	80°52'16.1060"W	8122.55	331.769	0.57	0.06	-0.56	
15052.00	89.170	335.570	6507.38	8178.01	7242.05	-3880.82	1676888.01	14231894.76	39°11'31.4370"N	80°52'16.5953"W	8216.33	331.814	0.94	-0.88	-0.33	
15146.00	89.540	335.900	6508.44	8271.96	7327.74	-3919.44	1676849.39	14231980.42	39°11'32.2845"N	80°52'17.0844"W	8310.10	331.859	0.53	0.39	0.35	
15241.00	89.780	336.270	6509.00	8366.94	7414.58	-3957.95	1676810.90	14232067.22	39°11'33.1433"N	80°52'17.5719"W	8404.84	331.906	0.46	0.25	0.39	
15335.00	89.970	336.000	6509.20	8460.92	7500.54	-3995.98	1676772.88	14232153.15	39°11'33.9935"N	80°52'18.0534"W	8498.59	331.953	0.35	0.20	-0.29	
15430.00	89.910	336.650	6509.30	8555.90	7587.55	-4034.13	1676734.75	14232240.12	39°11'34.8540"N	80°52'18.5363"W	8593.32	332.001	0.69	-0.06	0.68	
15524.00	90.090	336.420	6509.30	8649.89	7673.77	-4071.56	1676697.34	14232326.31	39°11'35.7068"N	80°52'19.0102"W	8687.03	332.050	0.31	0.19	-0.24	
15618.00	89.910	337.610	6509.30	8743.89	7760.31	-4108.27	1676660.65	14232412.81	39°11'36.5626"N	80°52'19.4748"W	8780.68	332.103	1.28	-0.19	1.27	
15713.00	89.600	337.060	6509.71	8838.89	7847.97	-4144.87	1676624.05	14232500.44	39°11'37.4295"N	80°52'19.9382"W	8875.28	332.159	0.66	-0.33	-0.58	
15807.00	90.220	337.280	6509.86	8932.89	7934.61	-4181.35	1676587.60	14232587.04	39°11'38.2863"N	80°52'20.3999"W	8968.93	332.212	0.70	0.66	0.23	
15901.00	90.090	337.530	6509.60	9026.89	8021.39	-4217.46	1676551.50	14232673.79	39°11'39.1446"N	80°52'20.8571"W	9062.54	332.266	0.30	-0.14	0.27	
15995.00	89.780	337.340	6509.71	9120.89	8108.20	-4253.53	1676515.44	14232760.56	39°11'40.0031"N	80°52'21.3137"W	9156.17	332.319	0.39	-0.33	-0.20	
16090.00	89.880	337.150	6509.99	9215.88	8195.80	-4290.28	1676478.71	14232848.13	39°11'40.8695"N	80°52'21.7788"W	9250.82	332.369	0.23	0.11	-0.20	
16184.00	90.000	337.040	6510.09	9309.88	8282.39	-4326.86	1676442.14	14232934.68	39°11'41.7258"N	80°52'22.2419"W	9344.50	332.417	0.17	0.13	-0.12	

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
16279.00	89.630	337.380	6510.40	9404.88	8369.97	-4363.66	1676405.36	14233022.23	39°11'42.5920"N	80°52'22.7078"W	9439.17	332.465	0.53	-0.39	0.36	
16373.00	89.720	337.310	6510.93	9498.88	8456.72	-4399.87	1676369.16	14233108.94	39°11'43.4498"N	80°52'23.1661"W	9532.83	332.513	0.12	0.10	-0.07	
16467.00	89.910	337.230	6511.23	9592.88	8543.42	-4436.19	1676332.86	14233195.61	39°11'44.3073"N	80°52'23.6259"W	9626.51	332.559	0.22	0.20	-0.09	
16561.00	90.120	337.790	6511.21	9686.88	8630.27	-4472.14	1676296.91	14233282.42	39°11'45.1662"N	80°52'24.0811"W	9720.16	332.607	0.64	0.22	0.60	
16655.00	89.720	337.440	6511.34	9780.88	8717.18	-4507.94	1676261.13	14233369.31	39°11'46.0257"N	80°52'24.5342"W	9813.81	332.655	0.57	-0.43	-0.37	
16750.00	89.720	337.230	6511.81	9875.88	8804.85	-4544.55	1676224.54	14233456.93	39°11'46.8927"N	80°52'24.9976"W	9908.49	332.700	0.22	0.00	-0.22	
16844.00	89.850	337.420	6512.16	9969.88	8891.58	-4580.79	1676188.32	14233543.63	39°11'47.7505"N	80°52'25.4564"W	10002.19	332.743	0.24	0.14	0.20	
17033.00	90.250	337.400	6511.99	10158.88	9066.08	-4653.39	1676115.74	14233718.06	39°11'49.4762"N	80°52'26.3754"W	10190.57	332.830	0.21	0.21	-0.01	
17128.00	91.050	336.800	6510.92	10253.87	9153.58	-4690.35	1676078.80	14233805.53	39°11'50.3416"N	80°52'26.8434"W	10285.30	332.869	1.05	0.84	-0.63	
17222.00	91.420	336.660	6508.89	10347.84	9239.92	-4727.48	1676041.68	14233891.83	39°11'51.1954"N	80°52'27.3135"W	10379.07	332.904	0.42	0.39	-0.15	
17316.00	90.150	337.410	6507.60	10441.83	9326.46	-4764.15	1676005.03	14233978.33	39°11'52.0513"N	80°52'27.7777"W	10472.82	332.941	1.57	-1.35	0.80	
17410.00	90.770	336.890	6506.85	10535.82	9413.08	-4800.65	1675968.54	14234064.92	39°11'52.9079"N	80°52'28.2398"W	10566.56	332.979	0.86	0.66	-0.55	
17505.00	90.680	337.510	6505.64	10630.81	9500.65	-4837.46	1675931.74	14234152.45	39°11'53.7739"N	80°52'28.7059"W	10661.30	333.016	0.66	-0.09	0.65	
17599.00	90.680	337.110	6504.53	10724.81	9587.36	-4873.72	1675895.50	14234239.14	39°11'54.6315"N	80°52'29.1649"W	10755.03	333.054	0.43	0.00	-0.43	
17693.00	90.580	337.010	6503.50	10818.80	9673.93	-4910.35	1675858.88	14234325.66	39°11'55.4876"N	80°52'29.6287"W	10848.80	333.088	0.15	-0.11	-0.11	
17788.00	90.680	336.780	6502.45	10913.79	9761.30	-4947.63	1675821.62	14234413.00	39°11'56.3517"N	80°52'30.1007"W	10943.58	333.121	0.26	0.11	-0.24	
17882.00	90.830	336.910	6501.21	11007.78	9847.72	-4984.59	1675784.67	14234499.39	39°11'57.2064"N	80°52'30.5686"W	11037.38	333.153	0.21	0.16	0.14	
17976.00	91.020	337.650	6499.69	11101.77	9934.41	-5020.89	1675748.39	14234586.05	39°11'58.0637"N	80°52'31.0282"W	11131.12	333.188	0.81	0.20	0.79	
18070.00	90.680	337.230	6498.30	11195.76	10021.21	-5056.95	1675712.34	14234672.81	39°11'58.9221"N	80°52'31.4847"W	11224.86	333.223	0.57	-0.36	-0.45	
18165.00	89.510	337.930	6498.14	11290.75	10109.03	-5093.18	1675676.13	14234760.59	39°11'59.7906"N	80°52'31.9434"W	11319.58	333.260	1.44	-1.23	0.74	
18259.00	90.060	337.030	6498.50	11384.75	10195.86	-5129.18	1675640.14	14234847.39	39°12'0.6493"N	80°52'32.3992"W	11413.33	333.295	1.12	0.59	-0.96	
18354.00	90.340	337.090	6498.16	11479.75	10283.34	-5166.21	1675603.13	14234934.84	39°12'1.5145"N	80°52'32.8680"W	11508.12	333.326	0.30	0.29	0.06	
18448.00	89.910	337.100	6497.96	11573.75	10369.93	-5202.80	1675566.55	14235021.39	39°12'2.3708"N	80°52'33.3313"W	11601.92	333.356	0.46	-0.46	0.01	
18542.00	90.150	337.180	6497.91	11667.75	10456.55	-5239.31	1675530.05	14235107.98	39°12'3.2274"N	80°52'33.7936"W	11695.72	333.387	0.27	0.26	0.09	
18637.00	90.000	335.990	6497.79	11762.74	10543.72	-5277.07	1675492.32	14235195.12	39°12'4.0895"N	80°52'34.2716"W	11790.57	333.412	1.26	-0.16	-1.25	
18732.00	90.340	337.140	6497.50	11857.73	10630.89	-5314.85	1675454.55	14235282.24	39°12'4.9515"N	80°52'34.7500"W	11885.43	333.438	1.26	0.36	1.21	
18826.00	90.430	337.350	6496.87	11951.72	10717.57	-5351.20	1675418.21	14235368.89	39°12'5.8088"N	80°52'35.2104"W	11979.22	333.467	0.24	0.10	0.22	
18921.00	89.690	337.340	6496.77	12046.72	10805.24	-5387.80	1675381.63	14235456.52	39°12'6.6758"N	80°52'35.6737"W	12074.00	333.498	0.78	-0.78	-0.01	
19015.00	90.580	337.370	6496.55	12140.72	10891.99	-5423.99	1675345.45	14235543.24	39°12'7.5337"N	80°52'36.1319"W	12167.79	333.528	0.95	0.95	0.03	
19109.00	90.000	336.910	6496.08	12234.72	10978.60	-5460.50	1675308.95	14235629.82	39°12'8.3903"N	80°52'36.5943"W	12261.60	333.555	0.79	-0.62	-0.49	

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH DATA (230 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
19203.00	90.460	337.700	6495.70	12328.72	11065.32	-5496.77	1675272.70	14235716.51	39°12'9.2479"N	80°52'37.0535"W	12355.40	333.584	0.97	0.49	0.84	
19297.00	90.120	337.380	6495.22	12422.71	11152.19	-5532.68	1675236.80	14235803.34	39°12'10.1070"N	80°52'37.5081"W	12449.18	333.614	0.50	-0.36	-0.34	
19391.00	90.460	337.580	6494.75	12516.71	11239.02	-5568.68	1675200.81	14235890.14	39°12'10.9657"N	80°52'37.9640"W	12542.96	333.643	0.42	0.36	0.21	
19485.00	90.000	337.060	6494.37	12610.71	11325.75	-5604.93	1675164.58	14235976.83	39°12'11.8234"N	80°52'38.4229"W	12636.77	333.670	0.74	-0.49	-0.55	
19579.00	90.220	337.420	6494.19	12704.71	11412.43	-5641.29	1675128.23	14236063.48	39°12'12.6806"N	80°52'38.8833"W	12730.59	333.696	0.45	0.23	0.38	
19674.00	90.340	337.290	6493.72	12799.71	11500.11	-5677.87	1675091.67	14236151.12	39°12'13.5477"N	80°52'39.3465"W	12825.39	333.723	0.19	0.13	-0.14	
19768.00	90.030	337.140	6493.42	12893.71	11586.77	-5714.27	1675055.28	14236237.75	39°12'14.4048"N	80°52'39.8074"W	12919.22	333.749	0.37	-0.33	-0.16	
19863.00	90.370	337.110	6493.09	12988.71	11674.30	-5751.20	1675018.37	14236325.24	39°12'15.2704"N	80°52'40.2750"W	13014.06	333.773	0.36	0.36	-0.03	
19957.00	90.370	337.150	6492.48	13082.71	11760.91	-5787.73	1674981.85	14236411.81	39°12'16.1269"N	80°52'40.7376"W	13107.89	333.797	0.04	0.00	0.04	
20052.00	90.280	337.370	6491.94	13177.70	11848.52	-5824.46	1674945.14	14236499.39	39°12'16.9933"N	80°52'41.2026"W	13202.72	333.822	0.25	-0.09	0.23	
20146.00	90.800	337.260	6491.06	13271.70	11935.25	-5860.71	1674908.91	14236586.08	39°12'17.8510"N	80°52'41.6616"W	13296.54	333.847	0.57	0.55	-0.12	
20240.00	90.620	337.020	6489.89	13365.69	12021.86	-5897.22	1674872.41	14236672.66	39°12'18.7075"N	80°52'42.1240"W	13390.38	333.870	0.32	-0.19	-0.26	
20335.00	90.490	336.810	6488.97	13460.68	12109.25	-5934.47	1674835.18	14236760.01	39°12'19.5718"N	80°52'42.5956"W	13485.24	333.892	0.26	-0.14	-0.22	
20429.00	90.120	336.940	6488.47	13554.68	12195.69	-5971.39	1674798.27	14236846.42	39°12'20.4267"N	80°52'43.0631"W	13579.11	333.912	0.42	-0.39	0.14	
20523.00	89.940	337.280	6488.42	13648.68	12282.29	-6007.95	1674761.73	14236932.99	39°12'21.2831"N	80°52'43.5261"W	13672.97	333.934	0.41	-0.19	0.36	
20617.00	89.820	337.080	6488.62	13742.68	12368.93	-6044.40	1674725.28	14237019.59	39°12'22.1399"N	80°52'43.9878"W	13766.82	333.956	0.25	-0.13	-0.21	
20711.00	90.090	337.160	6488.69	13836.68	12455.54	-6080.95	1674688.75	14237106.16	39°12'22.9964"N	80°52'44.4506"W	13860.68	333.978	0.30	0.29	0.09	
20806.00	90.090	337.580	6488.54	13931.68	12543.22	-6117.51	1674652.21	14237193.81	39°12'23.8635"N	80°52'44.9135"W	13955.51	334.001	0.44	0.00	0.44	
20850.00	89.970	337.250	6488.52	13975.68	12583.85	-6134.40	1674635.32	14237234.42	39°12'24.2653"N	80°52'45.1274"W	13999.43	334.012	0.80	-0.27	-0.75	
20875.00	89.970	337.250	6488.53	14000.68	12606.90	-6144.07	1674625.66	14237257.47	39°12'24.4933"N	80°52'45.2499"W	14024.39	334.017	0.00	0.00	0.00	Projected MD at TD: 20875'

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

HOLE & CASING SECTIONS - Ref Wellbore: Allender Unit 2H AWB Ref Wellpath: Allender Unit 2H AWP Proj: 20875'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	30.00	130.00	100.00	30.00	130.00	0.00	0.00	-0.14	-0.15
17.5in Open Hole	130.00	380.00	250.00	130.00	379.99	-0.14	-0.15	-0.49	2.11
13.375in Casing Surface	30.00	360.00	330.00	30.00	359.99	0.00	0.00	-0.44	1.87
12.25in Open Hole	380.00	2889.00	2509.00	379.99	2831.96	-0.49	2.11	-407.63	-258.29
9.625in Casing Intermediate	30.00	2859.00	2829.00	30.00	2802.32	0.00	0.00	-403.01	-257.94
8.75in Open Hole	2889.00	6774.00	3885.00	2831.96	6389.73	-407.63	-258.29	-415.00	-749.40
8.5in Open Hole	6774.00	20875.00	14101.00	6389.73	6488.53	-415.00	-749.40	12606.90	-6144.07
5.5in Casing Production	30.00	20855.00	20825.00	30.00	6488.52	0.00	0.00	12588.46	-6136.34

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Allender Unit 2H POE Rev-3	6399.00	-410.66	-691.77	1680075.78	14224245.11	39°10'15.7516"N	80°51'36.2415"W	point
Allender Unit 2H BHL Rev-3	6421.00	12611.73	-6125.89	1674643.83	14237262.29	39°12'24.5407"N	80°52'45.0188"W	point
Allender Unit 2H LP Rev-3	6421.00	-248.10	-759.60	1680007.97	14224407.61	39°10'17.3594"N	80°51'37.0997"W	point
Allender Unit 2H 50' L/R Hard Line	7000.00	6100.53	-3408.83	1677359.80	14230753.70	39°11'20.1477"N	80°52'10.6215"W	rectangle
2D Rectangle 14110.7 x 100.								

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

WELLPATH COMPOSITION - Ref Wellbore: Allender Unit 2H AWB Ref Wellpath: Allender Unit 2H AWP Proj: 20875'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	264.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-264')	Allender Unit 2H AWB	9/8/2023
264.00	2815.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (264')(416'-2815')	Allender Unit 2H AWB	9/8/2023
2815.00	6703.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (2815')(2927'-6703')	Allender Unit 2H AWB	11/1/2023
6703.00	20875.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (6703')(6749'-20850')	Allender Unit 2H AWB	11/1/2023

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Actual Wellpath Report

Allender Unit 2H AWP Proj: 20875'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Allender Unit 2H
Field	Ritchie	API	47-085-10497-0000
Facility	Cashew Pad	Wellbore	Allender Unit 2H AWB
Slot	Slot H		

COMMENTS

Wellpath general comments

API: 47-085-10497-0000
BH Job #: 111948618
Rig: H&P 519
Duration: 11/2/2023-11/8/2023
Gyrodatta MS Gyro <17-1/2"> (100'-264')
APS EM <12-1/4"> (264')(416'-2815')
APS EM <8-3/4"> (2815')(2927'-6703')
BH AT Curve <8-1/2"> (6703')(6749'-20850')
Sycamore: 6166' MD
Middlesex: 6390' MD
Burkett: 6592' MD
Tully: 6732' MD
Marcellus POE: 6865' MD
Projected MD at TD: 20875'

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