



Actual Wellpath Report

Key Unit 2H AWP Proj: 14461'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Key Unit 2H
Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

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	9/29/2023 at 5:49:56 PM
Convergence at slot	0.09° East	Database	WA_MPL_EASTERNUSS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North(ft)	East(ft)	Easting(US ft)	Northing(US ft)	Latitude	Longitude
Slot Location	344.16	110.50	1680791.34	14224714.29	39°10'20.3800"N	80°51'27.2700"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 L)	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	337.39°

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Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbores	Key Unit 2H AWP
Slot	Slot L		

WELLPATH DATA (155 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)
0.00†	0.000	291.400	0.00	0.00	0.00	0.00	1680781.34	14224714.29	39°10'20.3800"N	80°51'27.2700"W	0.00	0.000	0.00	0.00	0.00
30.00	0.000	291.400	30.00	0.00	0.00	0.00	1680781.34	14224714.29	39°10'20.3800"N	80°51'27.2700"W	0.00	0.000	0.00	0.00	0.00
100.00	0.090	291.400	100.00	0.04	0.02	-0.05	1680781.29	14224714.31	39°10'20.3802"N	80°51'27.2707"W	0.05	291.400	0.13	0.13	0.00
200.00	0.060	175.810	200.00	0.04	0.00	-0.12	1680781.22	14224714.29	39°10'20.3799"N	80°51'27.2716"W	0.12	268.335	0.13	-0.03	-1.15
261.00	0.140	84.390	261.00	-0.01	-0.03	-0.04	1680781.30	14224714.26	39°10'20.3797"N	80°51'27.2706"W	0.05	237.454	0.25	0.13	-14.97
413.00	1.590	94.310	412.98	-1.02	-0.17	2.24	1680783.58	14224714.12	39°10'20.3783"N	80°51'27.2416"W	2.25	94.292	0.96	0.95	6.53
503.00	4.170	91.010	502.86	-2.89	-0.32	6.76	1680788.10	14224713.97	39°10'20.3767"N	80°51'27.1842"W	6.77	92.709	2.87	2.87	-3.87
593.00	6.650	88.470	592.45	-6.08	-0.24	15.24	1680796.58	14224714.05	39°10'20.3774"N	80°51'27.0765"W	15.25	90.896	2.77	2.76	-2.82
682.00	8.950	86.470	680.62	-10.20	0.33	27.31	1680808.64	14224714.62	39°10'20.3826"N	80°51'26.9233"W	27.31	89.317	2.60	2.58	-2.25
772.00	11.360	83.450	769.20	-14.94	1.77	43.10	1680824.43	14224716.06	39°10'20.3968"N	80°51'26.7227"W	43.14	87.651	2.74	2.68	-3.36
862.00	14.170	82.360	856.97	-20.24	4.24	62.83	1680844.15	14224718.53	39°10'20.4209"N	80°51'26.4722"W	62.97	86.136	3.13	3.12	-1.21
951.00	16.950	81.300	942.70	-26.17	7.66	86.46	1680867.76	14224721.94	39°10'20.4543"N	80°51'26.1721"W	86.79	84.940	3.14	3.12	-1.19
1041.00	19.760	81.250	1028.11	-32.97	11.95	114.47	1680895.76	14224726.24	39°10'20.4963"N	80°51'25.8164"W	115.09	84.038	3.12	3.12	-0.06
1136.00	22.770	83.060	1116.64	-41.79	16.62	148.60	1680929.88	14224730.90	39°10'20.5419"N	80°51'25.3829"W	149.52	83.618	3.24	3.17	1.91
1230.00	24.960	85.650	1202.60	-52.92	20.32	186.44	1680967.70	14224734.61	39°10'20.5779"N	80°51'24.9024"W	187.54	83.779	2.58	2.33	2.76
1324.00	26.820	88.780	1287.16	-66.87	22.28	227.42	1681008.67	14224736.56	39°10'20.5966"N	80°51'23.3820"W	228.51	84.405	2.45	1.98	3.33
1419.00	29.700	91.660	1370.83	-84.36	22.05	272.38	1681053.61	14224736.33	39°10'20.5937"N	80°51'23.8111"W	273.27	85.371	3.35	3.03	3.03
1513.00	32.780	91.550	1451.20	-104.35	20.69	321.11	1681102.32	14224734.97	39°10'20.5795"N	80°51'22.5419"W	321.77	86.313	3.28	3.28	-0.12
1607.00	33.290	90.000	1530.00	-124.68	20.00	372.34	1681153.53	14224734.28	39°10'20.5719"N	80°51'22.5419"W	372.88	86.925	1.05	0.54	-1.65
1702.00	33.430	89.240	1609.35	-144.45	20.35	424.58	1681205.75	14224734.63	39°10'20.5745"N	80°51'21.8786"W	425.07	87.256	0.46	0.15	-0.80
1796.00	33.490	87.860	1687.77	-163.15	21.66	476.39	1681257.54	14224735.94	39°10'20.5866"N	80°51'21.2207"W	476.88	87.397	0.81	0.06	-1.47
1891.00	33.430	89.010	1767.03	-181.96	23.09	528.75	1681309.87	14224737.37	39°10'20.5999"N	80°51'19.8985"W	529.25	87.499	0.67	-0.06	1.21
1985.00	33.420	90.840	1845.48	-201.80	23.16	580.52	1681361.63	14224737.44	39°10'20.5998"N	80°51'19.8985"W	580.98	87.715	1.07	-0.01	1.95
2080.00	34.000	90.120	1924.51	-222.48	22.72	633.24	1681414.33	14224737.00	39°10'20.5946"N	80°51'18.8659"W	633.65	87.945	0.74	0.61	-0.76
2174.00	34.800	89.160	2002.07	-242.56	23.06	686.34	1681467.41	14224737.34	39°10'20.6099"N	80°51'17.8659"W	686.73	88.076	1.03	0.85	-1.02
2269.00	34.880	87.940	2080.04	-262.17	24.43	740.60	1681521.64	14224738.71	39°10'20.6285"N	80°51'17.1831"W	741.00	88.110	0.74	0.08	-1.28
2363.00	34.960	87.860	2157.12	-281.03	26.40	794.37	1681575.39	14224740.68	39°10'20.6412"N	80°51'16.4924"W	794.81	88.096	0.10	0.09	-0.09
2458.00	34.940	89.250	2234.98	-300.67	27.78	848.77	1681629.77	14224742.06	39°10'20.6400"N	80°51'15.8108"W	849.22	88.126	0.84	-0.02	1.46
2552.00	34.710	90.820	2312.15	-321.34	27.75	902.45	1681683.43	14224742.03	39°10'20.6335"N	80°51'15.1317"W	902.87	88.239	0.98	-0.24	1.67
2646.00	34.660	90.410	2389.45	-342.43	27.17	955.94	1681736.89	14224741.45	39°10'20.6335"N	80°51'15.1317"W	956.32	88.372	0.25	-0.06	-0.44

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Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

WELLPATH DATA (155 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)
2741.00	34.490	89.200	2467.67	-362.99	27.35	1009.84	1681790.78	14224741.63	39°10'20.6345"N	80°51'14.4472"W	1070.21	88.448	0.74	-0.18	-1.27
2835.00	34.200	88.550	2545.28	-382.41	28.39	1062.87	1681843.78	14224742.67	39°10'20.6439"N	80°51'13.7739"W	1063.25	88.470	0.50	-0.31	-0.69
2930.00	33.930	87.690	2623.98	-401.25	30.14	1116.05	1681896.94	14224744.42	39°10'20.6603"N	80°51'13.0986"W	1116.46	88.453	0.58	-0.28	-0.91
3024.00	33.400	86.720	2702.22	-418.92	32.68	1168.09	1681948.97	14224746.95	39°10'20.6845"N	80°51'12.4377"W	1168.55	88.398	0.80	-0.56	-1.03
3092.00	33.140	85.860	2799.07	-431.00	35.09	1205.32	1681996.18	14224749.37	39°10'20.7078"N	80°51'11.9650"W	1205.83	88.332	0.79	-0.38	-1.26
3208.00	33.060	84.020	2856.25	-450.10	40.67	1268.41	1682049.24	14224754.95	39°10'20.7620"N	80°51'11.1638"W	1269.06	88.163	0.87	-0.07	-1.59
3302.00	33.150	81.990	2834.99	-463.92	46.93	1319.36	1682100.18	14224761.20	39°10'20.8230"N	80°51'10.5167"W	1320.20	87.963	1.18	0.10	-2.16
3397.00	31.480	83.510	3015.28	-477.35	53.35	1369.73	1682150.53	14224767.62	39°10'20.8857"N	80°51'9.8770"W	1370.77	87.769	1.95	-1.76	1.60
3491.00	30.510	84.990	3095.85	-491.38	58.21	1417.89	1682198.67	14224772.48	39°10'20.9329"N	80°51'9.2654"W	1419.09	87.649	1.31	-1.03	1.57
3587.00	32.280	85.160	3177.80	-506.58	62.50	1467.72	1682248.47	14224776.77	39°10'20.9745"N	80°51'8.6327"W	1469.05	87.562	1.85	1.84	0.18
3681.00	34.150	85.190	3256.44	-522.30	66.83	1519.02	1682299.76	14224781.09	39°10'21.0165"N	80°51'7.9811"W	1520.49	87.481	1.99	1.99	0.03
3776.00	33.810	82.970	3335.22	-537.55	72.30	1571.83	1682352.54	14224786.56	39°10'21.0697"N	80°51'7.3105"W	1573.49	87.366	1.35	-0.36	-2.34
3870.00	32.460	85.320	3413.93	-552.35	77.56	1622.93	1682403.62	14224791.82	39°10'21.1209"N	80°51'6.6616"W	1624.78	87.264	1.98	-1.44	2.50
3965.00	30.080	88.600	3495.13	-568.81	80.22	1672.15	1682452.82	14224794.48	39°10'21.1464"N	80°51'6.0365"W	1674.07	87.253	3.08	-2.51	3.45
4060.00	31.700	88.050	3576.65	-586.23	81.66	1720.90	1682501.55	14224798.91	39°10'21.1598"N	80°51'5.4175"W	1722.84	87.283	1.73	1.71	-0.98
4154.00	32.830	86.890	3656.14	-603.45	83.88	1771.03	1682551.66	14224802.52	39°10'21.1809"N	80°51'4.7810"W	1773.01	87.288	1.37	-1.20	-1.23
4249.00	32.210	82.990	3736.25	-618.86	88.37	1821.88	1682602.49	14224808.30	39°10'21.2244"N	80°51'4.1352"W	1824.02	87.223	2.30	-0.65	-4.11
4343.00	31.590	83.890	3816.05	-632.59	94.04	1871.22	1682651.81	14224812.45	39°10'21.2798"N	80°51'3.5086"W	1873.59	87.123	0.83	-0.66	0.96
4437.00	30.540	86.320	3896.57	-647.33	98.20	1919.54	1682700.11	14224815.85	39°10'21.3200"N	80°51'2.8950"W	1922.05	87.071	1.74	-1.12	2.59
4531.00	30.600	85.510	3977.51	-662.52	101.60	1967.23	1682747.78	14224815.85	39°10'21.3529"N	80°51'2.2894"W	1969.85	87.043	0.44	0.06	-0.86
4626.00	32.410	87.950	4058.51	-678.98	104.41	2016.78	1682797.31	14224818.66	39°10'21.3798"N	80°51'1.6602"W	2019.48	87.036	2.33	1.91	2.57
4720.00	32.790	87.360	4137.70	-696.52	106.48	2067.38	1682847.89	14224820.73	39°10'21.3995"N	80°51'1.0176"W	2070.12	87.052	0.53	0.40	-0.63
4815.00	34.520	90.140	4216.78	-715.72	107.60	2120.00	1682900.49	14224821.85	39°10'21.4097"N	80°51'0.3494"W	2122.73	87.094	2.44	1.82	2.93
4909.00	32.920	85.860	4294.97	-734.11	109.38	2172.12	1682952.60	14224823.63	39°10'21.4264"N	80°50'59.6876"W	2174.88	87.117	3.05	-1.70	-4.95
5004.00	32.830	86.660	4374.76	-750.79	112.74	2223.58	1683004.03	14224826.99	39°10'21.4568"N	80°50'59.0342"W	2226.44	87.097	0.47	-0.09	0.84
5098.00	34.540	89.330	4452.98	-769.16	114.54	2275.67	1683056.10	14224828.78	39°10'21.4757"N	80°50'58.3727"W	2278.55	87.119	2.41	1.82	2.84
5193.00	33.170	85.110	4531.88	-787.14	117.07	2328.50	1683108.91	14224831.31	39°10'21.4999"N	80°50'57.7018"W	2331.45	87.122	2.86	-1.44	-4.44
5287.00	31.750	84.230	4611.19	-802.13	121.75	2378.74	1683159.12	14224835.99	39°10'21.5453"N	80°50'57.0659"W	2381.85	87.070	1.59	-1.51	-0.94
5382.00	32.100	86.060	4691.82	-817.45	126.00	2428.79	1683209.16	14224840.24	39°10'21.5865"N	80°50'56.4283"W	2432.05	87.030	1.08	0.37	1.93
5476.00	29.430	85.450	4772.59	-832.61	129.55	2476.73	1683257.08	14224843.78	39°10'21.6208"N	80°50'55.8194"W	2480.12	87.006	2.86	-2.84	-0.65

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Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

WELLPATH DATA (155 stations)															
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5571.00	32.110	91.650	4854.23	-850.22	130.67	2525.26	1683305.59	14224844.91	39°10'21.6311"N	80°50'55.2032"W	2528.64	87.038	4.37	2.82	6.33
5665.00	34.310	91.340	4932.87	-871.25	129.33	2576.72	1683357.03	14224843.57	39°10'21.6170"N	80°50'54.5498"W	2579.97	87.127	2.35	2.34	-0.33
5760.00	32.470	87.930	5012.19	-891.07	129.63	2628.98	1683409.27	14224843.86	39°10'21.6190"N	80°50'53.8862"W	2632.18	87.177	2.77	-1.94	-3.99
5855.00	32.410	86.690	5092.37	-908.43	132.02	2679.88	1683460.15	14224846.25	39°10'21.6418"N	80°50'53.2399"W	2683.13	87.180	0.70	-0.06	-1.31
5950.00	30.470	85.990	5173.42	-924.53	135.17	2729.33	1683509.58	14224849.41	39°10'21.6722"N	80°50'52.6119"W	2732.68	87.165	2.08	-2.04	-0.74
6044.00	30.450	84.310	5254.45	-939.06	139.20	2776.81	1683557.04	14224853.43	39°10'21.7112"N	80°50'52.0090"W	2780.30	87.130	0.91	-0.02	-1.79
6139.00	31.320	85.170	5335.97	-955.61	143.67	2825.37	1683605.58	14224857.90	39°10'21.7546"N	80°50'51.3924"W	2829.02	87.089	1.03	0.92	0.91
6233.00	29.400	86.200	5417.08	-968.51	147.25	2872.74	1683652.93	14224861.48	39°10'21.7892"N	80°50'50.7908"W	2876.51	87.066	2.12	-2.04	1.10
6326.00	30.170	90.040	5497.80	-984.87	148.75	2918.89	1683699.06	14224864.98	39°10'21.8032"N	80°50'50.2048"W	2922.68	87.083	2.21	0.83	4.13
6447.00	31.610	86.480	5601.64	-1006.95	150.68	2980.96	1683761.10	14224868.90	39°10'21.8212"N	80°50'49.4167"W	2984.76	87.106	1.92	1.19	-2.94
6542.00	32.690	80.850	5682.09	-1021.07	156.28	3031.15	1683811.27	14224870.51	39°10'21.8759"N	80°50'48.7793"W	3035.17	87.048	3.35	1.14	-5.93
6636.00	32.790	68.490	5761.25	-1021.47	169.67	3079.94	1683860.05	14224873.89	39°10'22.0073"N	80°50'48.1594"W	3084.61	86.847	7.10	0.11	-13.15
6731.00	32.890	53.960	5841.19	-1021.97	194.32	3124.80	1683904.89	14224908.53	39°10'22.2502"N	80°50'47.5892"W	3130.84	86.442	8.28	0.11	-15.29
6825.00	31.990	40.570	5920.63	-1004.78	228.29	3161.68	1683953.41	14224942.49	39°10'22.5854"N	80°50'47.1202"W	3169.91	85.870	7.69	-0.96	-14.24
6920.00	31.730	21.650	6001.52	-975.47	270.73	3187.33	1683967.40	14224984.91	39°10'23.0044"N	80°50'46.7937"W	3198.81	85.145	10.48	-0.27	-19.92
7015.00	36.380	15.150	6080.23	-935.27	321.19	3203.92	1683983.98	14225035.35	39°10'23.5029"N	80°50'46.5819"W	3219.98	84.275	6.21	4.89	-6.84
7110.00	43.070	7.170	6153.30	-884.75	380.67	3215.36	1683995.41	14225094.81	39°10'24.0806"N	80°50'46.4354"W	3237.81	83.248	8.84	7.04	-8.40
7204.00	49.920	2.960	6217.99	-824.36	448.53	3221.23	1684001.28	14225162.64	39°10'24.7612"N	80°50'46.3594"W	3252.31	82.073	7.98	7.29	-4.48
7298.00	60.720	358.290	6271.42	-753.39	525.68	3221.86	1684001.92	14225239.76	39°10'25.5237"N	80°50'46.3497"W	3264.47	80.733	12.19	11.49	-4.97
7393.00	61.640	347.950	6317.31	-673.43	608.14	3221.88	1683991.94	14225322.19	39°10'26.3390"N	80°50'46.4747"W	3268.95	79.278	9.58	0.97	-10.88
7487.00	66.730	341.640	6358.26	-589.58	689.69	3189.61	1683969.68	14225403.70	39°10'27.1453"N	80°50'46.7557"W	3263.33	77.799	8.11	5.41	-6.71
7582.00	72.100	336.950	6391.67	-500.76	772.80	3158.13	1683938.21	14225486.78	39°10'27.9673"N	80°50'47.1536"W	3251.31	76.250	7.30	5.65	-4.94
7629.00	74.800	338.520	6405.06	-455.71	814.49	3141.07	1683921.15	14225528.45	39°10'28.3796"N	80°50'47.3694"W	3244.95	75.463	6.58	5.74	3.34
7676.00	78.570	337.990	6415.88	-409.99	856.96	3124.13	1683904.22	14225570.91	39°10'28.7997"N	80°50'47.5836"W	3239.53	74.661	8.10	8.02	-1.13
7771.00	85.200	338.190	6429.28	-316.00	944.17	3089.05	1683869.16	14225658.08	39°10'29.6223"N	80°50'48.0271"W	3230.12	73.004	6.98	6.98	0.21
7865.00	90.460	336.420	6432.84	-222.11	1030.79	3052.82	1683832.94	14225744.67	39°10'30.5191"N	80°50'48.4853"W	3222.15	71.343	5.90	6.98	-1.88
7959.00	89.380	335.640	6432.97	-129.14	1116.69	3014.64	1683794.77	14225830.53	39°10'31.3686"N	80°50'48.9683"W	3214.81	69.674	1.42	-1.15	-0.83
8054.00	89.850	335.830	6433.61	-33.18	1203.29	2975.60	1683755.74	14225917.10	39°10'32.2253"N	80°50'49.4622"W	3209.68	67.982	0.53	0.49	0.20
8148.00	89.080	337.310	6434.49	60.81	1289.53	2933.22	1683718.39	14226003.31	39°10'33.0783"N	80°50'49.9349"W	3208.74	66.304	1.77	-0.82	1.57
8243.00	92.150	336.780	6433.47	155.79	1376.99	2901.18	1683681.36	14226090.73	39°10'33.9434"N	80°50'50.4034"W	3211.38	64.609	3.28	3.23	-0.56

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Actual Wellpath Report
Key Unit 2H AWP Proj: 14461'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Key Unit 2H
Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

WELLPATH DATA (155 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)
8337.00	89.050	332.240	6432.48	249.63	1461.81	2860.74	1683640.94	14226175.51	39°10'34.7824"N	80°50'50.9151"W	3212.59	62.933	5.85	-3.30	-4.83
8432.00	89.720	337.110	6433.50	344.49	1647.65	2820.12	1683600.33	14226261.32	39°10'35.6314"N	80°50'51.4291"W	3216.87	61.243	5.17	0.71	5.13
8527.00	89.970	336.490	6433.76	439.48	1634.96	2782.70	1683562.92	14226348.60	39°10'36.4851"N	80°50'51.9024"W	3227.46	59.564	0.70	0.26	-0.65
8621.00	90.710	336.270	6433.20	533.46	1721.09	2745.03	1683525.28	14226434.69	39°10'37.3470"N	80°50'52.3788"W	3239.96	57.913	0.82	0.79	-0.23
8716.00	91.360	336.810	6431.49	628.44	1808.22	2707.22	1683487.48	14226521.78	39°10'38.2088"N	80°50'52.8671"W	3255.56	56.260	0.89	0.68	0.57
8810.00	91.570	337.440	6429.08	722.40	1894.80	2670.69	1683450.96	14226608.33	39°10'39.0651"N	80°50'53.3191"W	3274.58	54.645	0.71	0.22	0.67
8905.00	90.250	337.900	6427.57	817.39	1982.66	2634.60	1683414.89	14226696.16	39°10'39.9242"N	80°50'53.7755"W	3297.28	53.037	1.47	-1.39	0.48
8999.00	91.080	336.510	6426.48	911.38	2069.31	2598.19	1683378.49	14226782.77	39°10'40.7912"N	80°50'54.2361"W	3321.54	51.465	1.72	0.88	-1.48
9094.00	89.750	335.500	6425.79	1006.34	2156.09	2559.56	1683339.87	14226869.52	39°10'41.6496"N	80°50'54.7248"W	3346.65	49.890	1.76	-1.40	-1.06
9189.00	91.450	336.860	6424.80	1101.31	2242.99	2521.19	1683301.53	14226956.38	39°10'42.5091"N	80°50'55.2101"W	3374.53	48.342	2.29	1.79	1.43
9283.00	89.290	334.440	6425.19	1195.25	2328.62	2482.44	1683262.79	14227041.97	39°10'43.3561"N	80°50'55.7004"W	3403.67	46.831	3.45	-2.30	-2.57
9378.00	89.510	337.940	6425.19	1290.25	2415.51	2444.10	1683224.46	14227128.84	39°10'44.2156"N	80°50'56.1854"W	3436.32	45.337	3.69	0.23	3.68
9471.00	89.970	338.100	6425.61	1383.21	2501.75	2409.29	1683189.67	14227215.04	39°10'45.0685"N	80°50'56.6256"W	3473.25	43.921	0.52	0.49	0.17
9565.00	90.280	338.080	6425.41	1477.20	2588.96	2374.22	1683154.61	14227302.22	39°10'45.9311"N	80°50'57.0692"W	3512.78	42.522	0.33	0.33	-0.02
9660.00	91.020	339.660	6424.33	1572.16	2677.57	2339.97	1683120.38	14227390.78	39°10'46.8074"N	80°50'57.5022"W	3555.96	41.151	1.84	0.78	1.66
9754.00	89.420	337.910	6423.97	1666.12	2765.19	2305.96	1683086.38	14227478.37	39°10'47.6740"N	80°50'57.9322"W	3600.52	39.826	2.52	-1.70	-1.86
9848.00	89.630	336.730	6424.75	1760.12	2851.91	2269.72	1683050.15	14227565.06	39°10'48.5318"N	80°50'58.3906"W	3644.86	38.515	1.28	0.22	-1.26
9943.00	90.220	337.500	6424.87	1855.12	2939.44	2232.77	1683013.22	14227652.55	39°10'49.3974"N	80°50'58.8679"W	3691.28	37.220	1.02	0.62	0.81
10037.00	89.380	336.530	6425.20	1949.11	3025.97	2196.07	1682976.53	14227739.05	39°10'50.2533"N	80°50'59.3222"W	3738.88	35.970	3.745	-0.89	-1.03
10132.00	91.230	338.330	6424.69	2044.10	3113.69	2159.61	1682940.09	14227826.73	39°10'51.1209"N	80°50'59.7834"W	3789.32	34.745	2.72	1.95	1.89
10226.00	89.720	338.150	6423.91	2138.09	3200.98	2124.76	1682905.25	14227913.99	39°10'51.9843"N	80°51'0.2240"W	3841.99	33.576	1.62	-1.61	-0.19
10321.00	89.480	337.640	6424.58	2233.08	3289.00	2089.02	1682869.52	14228001.97	39°10'52.8548"N	80°51'0.6761"W	3896.34	32.422	0.59	-0.25	-0.54
10416.00	89.290	338.190	6425.60	2328.07	3377.02	2053.30	1682833.82	14228089.96	39°10'53.7254"N	80°51'1.1279"W	3952.25	31.300	0.61	-0.20	0.56
10510.00	89.910	338.320	6426.25	2422.06	3464.33	2018.48	1682799.01	14228177.23	39°10'54.5889"N	80°51'1.5683"W	4009.47	30.227	0.67	0.66	0.14
10605.00	90.180	338.080	6426.18	2517.05	3552.54	1983.20	1682763.74	14228265.40	39°10'55.4613"N	80°51'2.0144"W	4068.61	29.172	0.38	0.28	-0.25
10699.00	90.770	339.670	6425.40	2611.01	3640.21	1949.32	1682729.88	14228353.05	39°10'56.3285"N	80°51'2.4428"W	4129.29	28.169	1.80	0.63	1.69
10794.00	89.630	337.420	6425.07	2705.98	3728.62	1914.58	1682695.15	14228441.42	39°10'57.2029"N	80°51'2.8822"W	4191.45	27.180	2.66	-1.20	-2.37
10888.00	89.820	337.820	6425.60	2799.98	3815.64	1878.79	1682669.37	14228528.30	39°10'58.0625"N	80°51'3.3349"W	4253.02	26.216	0.47	0.20	0.43
10983.00	89.850	338.140	6425.79	2894.97	3903.61	1843.17	1682633.77	14228616.34	39°10'58.9336"N	80°51'3.7853"W	4316.88	25.275	0.34	0.03	0.34
11078.00	89.480	338.030	6426.35	2989.96	3991.74	1807.71	1682598.33	14228704.44	39°10'59.8053"N	80°51'4.2398"W	4381.99	24.364	0.41	-0.39	-0.12

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REFERENCE WELLPATH IDENTIFICATION				Well	Key Unit 2H
Operator	ANTERO RESOURCES CORPORATION			API	47-085-10501-0100
Field	Ritchie			Wellbore	Key Unit 2H AWP
Facility	Cashew Pad				
Slot	Slot L				

WELLPATH DATA (155 stations)															
MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(US ft)	(US ft)			(ft)	(°)	(°/100ft)	(°/100ft)	(°/100ft)
11172.00	89.750	337.710	6426.98	3083.96	4078.82	1772.30	1682552.93	14228791.47	39°11'0.6665"N	80°51'4.6816"W	4447.22	23.486	0.45	0.29	-0.34
11267.00	89.850	338.610	6427.31	3178.95	4167.00	1736.96	1682517.61	14228879.62	39°11'1.5386"N	80°51'5.1286"W	4514.52	22.628	0.95	0.11	0.95
11362.00	89.630	337.340	6427.74	3273.94	4255.06	1701.34	1682482.00	14228967.65	39°11'2.4096"N	80°51'5.5792"W	4582.58	21.793	1.36	-0.23	-1.34
11456.00	90.370	338.480	6427.74	3362.93	4342.16	1665.99	1682446.66	14229054.71	39°11'3.2710"N	80°51'6.0263"W	4650.79	20.991	1.45	0.79	1.21
11551.00	89.820	338.240	6427.58	3462.92	4430.46	1630.95	1682411.64	14229142.98	39°11'4.1444"N	80°51'6.4694"W	4721.12	20.210	0.63	-0.58	-0.25
11645.00	89.880	338.140	6427.83	3556.91	4517.73	1596.03	1682376.73	14229230.22	39°11'5.0075"N	80°51'6.9111"W	4791.37	19.457	0.12	0.06	-0.11
11740.00	89.780	336.980	6428.11	3651.91	4605.54	1559.77	1682340.48	14229317.98	39°11'5.8760"N	80°51'7.3698"W	4862.49	18.710	1.23	-0.11	-1.22
11835.00	89.940	338.440	6428.34	3746.90	4693.44	1523.74	1682304.47	14229405.55	39°11'6.7453"N	80°51'7.8255"W	4934.58	17.986	1.55	0.17	1.54
11930.00	88.770	336.910	6429.41	3841.89	4781.31	1487.65	1682268.40	14229493.68	39°11'7.6144"N	80°51'8.2820"W	5007.39	17.283	2.03	-1.23	-1.61
12024.00	90.090	338.420	6430.35	3935.88	4868.25	1451.94	1682232.69	14229580.59	39°11'8.4743"N	80°51'8.7338"W	5080.15	16.607	2.13	1.40	1.61
12119.00	89.910	338.260	6430.35	4030.87	4956.54	1416.87	1682197.64	14229668.84	39°11'9.3475"N	80°51'9.1773"W	5155.07	15.953	0.25	-0.19	-0.17
12213.00	90.060	338.040	6430.37	4124.86	5043.78	1381.89	1682162.67	14229756.06	39°11'10.2104"N	80°51'9.6197"W	5229.66	15.322	0.28	0.16	-0.23
12308.00	89.880	338.130	6430.42	4219.85	5131.92	1346.43	1682127.23	14229844.16	39°11'11.0821"N	80°51'10.0682"W	5305.61	14.701	0.21	-0.19	0.09
12403.00	89.880	338.090	6430.62	4314.84	5220.07	1311.01	1682091.83	14229932.27	39°11'11.9539"N	80°51'10.5162"W	5382.18	14.098	0.04	0.00	-0.04
12497.00	90.000	338.140	6430.72	4408.84	5307.30	1275.97	1682056.80	14230019.46	39°11'12.8166"N	80°51'10.9694"W	5458.52	13.518	0.14	0.13	0.05
12592.00	89.750	338.220	6430.93	4503.83	5395.49	1240.66	1682021.51	14230107.62	39°11'13.6889"N	80°51'11.4060"W	5536.29	12.950	0.28	-0.26	0.08
12686.00	90.340	338.430	6430.85	4597.81	5482.84	1205.94	1681986.80	14230194.94	39°11'14.5528"N	80°51'11.8452"W	5613.90	12.405	0.67	0.63	0.22
12781.00	90.060	338.960	6430.52	4692.80	5571.06	1170.69	1681951.56	14230283.12	39°11'15.4253"N	80°51'12.2911"W	5692.73	11.867	0.54	-0.29	-0.45
12875.00	91.140	338.960	6429.54	4786.78	5658.50	1136.21	1681917.09	14230370.52	39°11'16.2901"N	80°51'12.7272"W	5771.44	11.354	1.54	1.15	1.02
12970.00	89.260	338.160	6429.21	4881.75	5746.92	1101.49	1681882.39	14230458.91	39°11'17.1646"N	80°51'13.1664"W	5851.52	10.850	2.15	-1.98	-0.84
13065.00	89.260	339.300	6430.43	4976.72	5835.44	1067.03	1681847.94	14230547.39	39°11'18.0400"N	80°51'13.6022"W	5932.19	10.362	1.20	0.00	1.20
13159.00	90.370	337.990	6430.74	5070.69	5922.98	1032.80	1681813.73	14230634.90	39°11'18.9059"N	80°51'14.0351"W	6012.35	9.891	1.83	1.18	-1.39
13254.00	90.000	338.070	6430.74	5165.68	6009.25	992.09	1681778.05	14230810.10	39°11'20.6394"N	80°51'14.4929"W	6173.68	8.965	0.20	-0.20	0.04
13348.00	89.050	338.920	6430.91	5253.66	6098.70	927.63	1681743.05	14230897.52	39°11'21.5043"N	80°51'15.3654"W	6254.87	8.529	1.36	-1.01	0.90
13442.00	90.000	338.190	6431.69	5348.63	6184.12	892.90	1681708.60	14230985.90	39°11'22.3787"N	80°51'15.8047"W	6337.34	8.100	1.26	1.00	-0.77
13537.00	89.170	336.900	6432.37	5442.63	6266.99	857.00	1681673.89	14231072.74	39°11'23.2379"N	80°51'16.2589"W	6418.46	7.673	1.63	-0.88	-1.37
13631.00	89.780	337.230	6433.24	5537.62	6348.48	819.88	1681638.00	14231160.19	39°11'24.1032"N	80°51'16.7272"W	6500.40	7.247	0.73	0.64	0.35
13726.00	89.660	337.870	6433.71	5632.62	6436.28	783.70	1681594.73	14231247.95	39°11'24.9716"N	80°51'17.1862"W	6583.09	6.837	0.69	-0.13	0.67
13821.00	89.690	337.750	6434.24	5727.61	6524.31	748.20	1681559.24	14231334.95	39°11'25.8324"N	80°51'17.6353"W	6665.44	6.445	0.13	0.03	-0.13
13915.00	89.690	337.500	6434.74	5822.61	6611.16	712.04	1681524.10	14231422.76	39°11'26.7012"N	80°51'18.0928"W	6748.82	6.056	0.55	-0.48	-0.26

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Key Unit 2H
Field	Ritche	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

WELLPATH DATA (155 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)
14105.00	90.250	336.830	6435.57	6016.60	6798.71	675.18	1681456.25	14231510.28	39°11'27.567"N	80°5'18.5592"W	6832.15	5.671	1.28	1.07	-0.71
14199.00	88.920	337.640	6436.25	6110.60	6885.38	638.80	1681419.89	14231596.92	39°11'28.4243"N	80°5'19.0194"W	6914.95	5.301	1.66	-1.41	0.86
14293.00	90.310	338.400	6436.88	6204.59	6972.54	603.62	1681384.72	14231684.04	39°11'29.2864"N	80°5'19.4645"W	6998.62	4.948	1.69	1.48	0.81
14388.00	89.720	337.320	6436.86	6299.58	7060.54	567.82	1681348.93	14231772.00	39°11'30.1567"N	80°5'19.9174"W	7083.33	4.598	1.30	-0.62	-1.14
14461.00†	89.720	337.320	6437.21	6372.58	7127.89	539.67	1681320.80	14231839.33	39°11'30.8229"N	80°5'20.2735"W	7148.29	4.330	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Key Unit 2H AWB Ref Wellpath: Key Unit 2H AWP Proj: 14461'														
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	0.03	-0.09					
17.5in Open Hole	130.00	371.00	241.00	130.00	370.99	0.03	-0.09	-0.09	1.23					
13.375in Casing Surface	30.00	360.00	330.00	30.00	359.99	0.00	0.00	-0.08	1.01					
12.25in Open Hole	371.00	3169.00	2798.00	370.99	2823.57	-0.09	1.23	38.57	1247.23					
9.625in Casing Intermediate	30.00	3139.00	3109.00	30.00	2798.43	0.00	0.00	37.11	1230.92					
8.75in Open Hole	3169.00	6405.00	3236.00	2823.57	5565.78	38.57	1247.23	149.56	2959.13					
8.5in Open Hole	6405.00	14461.00	8056.00	5565.78	6437.21	149.56	2959.13	7127.89	539.67					

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Actual Wellpath Report

Key Unit 2H AWP Proj: 14461'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Key Unit 2H
Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

TARGETS									
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	
Key Unit 2H POE Rev-1	6409.00	793.40	3143.24	1683923.32	14225507.37	39°10'28.171"N	80°50'47.3423"W	point	
Key Unit 2H BHL Rev-1	6432.00	14517.76	-2572.05	1678210.32	14239226.24	39°12'43.9104"N	80°51'59.6569"W	point	
Key Unit 2H BHL Rev-2	6432.00	14361.65	-2507.04	1678275.30	14239070.19	39°12'42.3665"N	80°51'58.8339"W	point	
Key Unit 2H LP Rev-1	6432.00	959.61	3074.02	1683854.13	14225673.51	39°10'29.8151"N	80°50'48.2176"W	point	
Key Unit 2H 50' L/R Hard Line Rev-2	7000.00	7577.52	318.10	1681099.31	14232288.78	39°11'35.2704"N	80°51'23.0787"W	rectangle	2D Rectangle 14697.7 x 100.

WELLPATH COMPOSITION - Ref Wellbore: Key Unit 2H AWB Ref Wellpath: Key Unit 2H AWP Proj: 14461'									
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date				
30.00	261.00	Gyrodada 2015 - GC+WIR+DPIPE	01 Gyrodada MS Gyro <17.1/2> (100'-261')	Key Unit 2H AWB	9/17/2023				
261.00	3092.00	BH Navitrak (2019) (Axial Corr+HRGM)	02 APS EM <12.1/4> (261') (413'-3092')	Key Unit 2H AWB	9/17/2023				
3092.00	6326.00	BH Navitrak (2019) (Axial Corr+HRGM)	03 APS EM <8.3/4> (3092') (3208'-6326')	Key Unit 2H AWB	9/17/2023				
6326.00	14461.00	BH AutoTrak Curve/Express (2019) (HRGM, Short spacing)	04 BH AT Curve <8.1/2> (6326') (6447'-14388')	Key Unit 2H AWB	9/17/2023				

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Actual Wellpath Report

Key Unit 2H AWP Proj: 14461'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Key Unit 2H
Field	Ritchie	API	47-085-10501-0100
Facility	Cashew Pad	Wellbore	Key Unit 2H AWB
Slot	Slot L		

COMMENTS

Wellpath general comments
 API: 47-085-10501-0100
 BH Job #: 111949044
 Rig: H&P 519
 Duration: 9/18/2023-9/24/2023
 Gyrodata MS Gyro <17-1/2"> (100'-261')
 APS EM <12-1/4"> (261')(413'-3092')
 APS EM <8-3/4"> (3092')(3208'-6326')
 BH AT Curve <8-1/2"> (6326')(6447'-14388')
 Projected MD at TD: 14461'

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