



ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
Field: Ritchie
Facility: Jackson Pad
Slot: Slot D
Well: Hazelbaker Unit 3H
Wellbore: Hazelbaker Unit 3H PWB



Performance wellpath is Hazelbaker Unit 3H PWP Rev-B.0
True vertical depths are referenced to H&P 519 (RKB)
Reference wellpath measured depths are referenced to H&P 519 (RKB)
H&P 519 (RKB) to Mean Sea Level: 1065 feet
Mean Sea Level to Ground level (At Slot Slot D): -1035 feet
Other wellpath MDs are referenced to each well's default MD origin
Created by: calculated on 2023-08-04; Database: IVA_MPL_EASTERNUS_Dbn

Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Jackson Pad	1645046.400	14267246.330	39°17'21.2374"N	80°59'1.0934"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot D	0.00	0.00	14267246.330	39°17'21.2374"N
Comment	Hazelbaker Unit 3H			
H&P 519 (RKB) to Ground level (At Slot Slot D)	30ft			
Mean Sea Level to Ground level (At Slot Slot D)	-1035ft			
H&P 519 (RKB) to Mean Sea Level	1065ft			

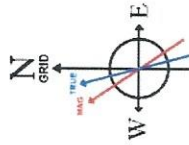
Well Data

Slot	Well	Wellbore	Wellpath
Slot D	Hazelbaker Unit 3H	Hazelbaker Unit 3H AWB	Hazelbaker Unit 3H AWP Proj. 16826
Slot D	Hazelbaker Unit 3H	Hazelbaker Unit 3H PWB	Hazelbaker Unit 3H PWP Rev-B.0

Gyrodatta MS Gyro <17°-1/2'> (100°-258') : 0.19° Inc, 100.00ft MD, 100.00ft TVD, -0.08ft VS

APS EM <12°-1/4'> (258°)(414°-3221') : 0.19° Inc, 414.00ft MD, 414.00ft TVD, -0.43ft VS

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User specified (HDGM) Dip: 65.86° Field: 51199 nT
Magnetic North is 7.67 degrees West of True North (at 7/28/2023)
Grid North is 0.01 degrees East of True North
To correct azimuth from True to Grid subtract 0.01 degrees
To correct azimuth from Magnetic to Grid subtract 7.68 degrees

APS EM <8°-3/4'> (3221°)(3311°-5481') : 13.29° Inc, 3311.00ft MD, 3215.33ft TVD, -601.95ft VS

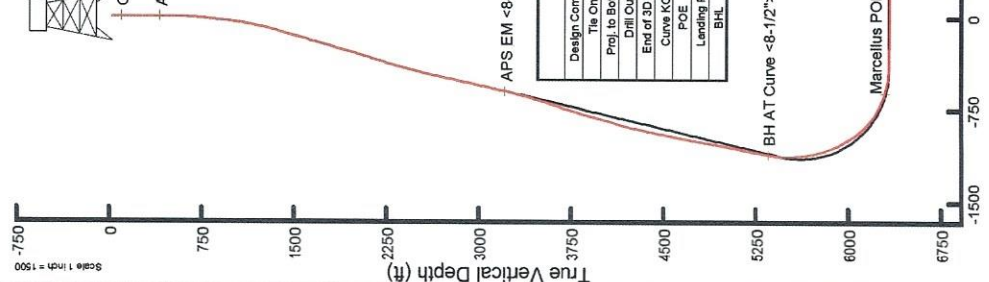
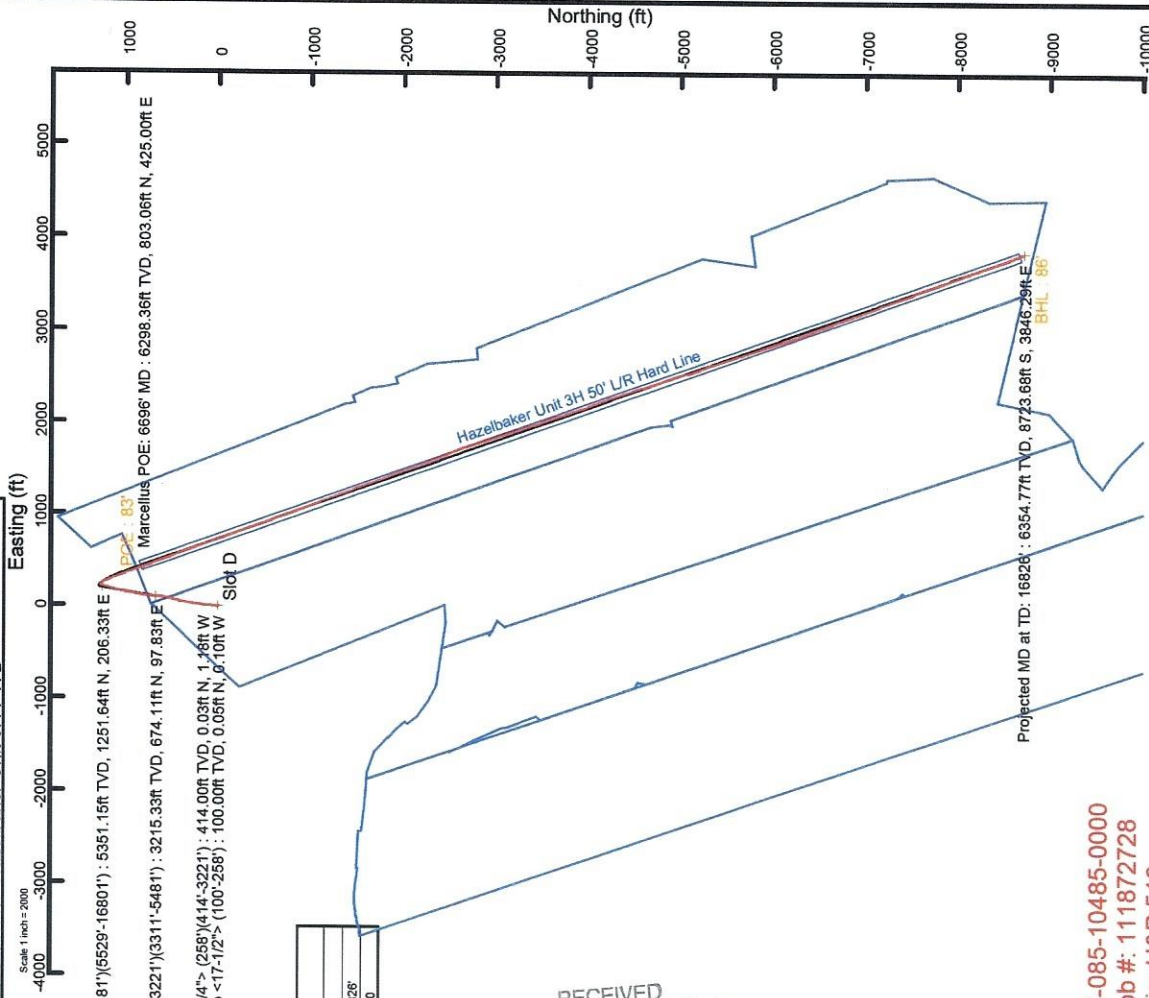
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
The Ch	3221.00	13.29	4.120	3127.82	663.12	97.14	0.60	-662.42
Proj. to Bottom	3291.00	13.720	4.120	3195.82	669.68	99.33	0.00	-597.61
Drill Out	3371.00	13.720	4.120	3273.54	686.60	99.70	0.00	-614.97
End of 3D Arc	3428.01	14.905	9.115	3328.78	702.89	101.35	3.00	-627.59
Curve KCP	5630.79	14.905	9.115	5457.44	1262.02	191.11	0.00	-1124.26
POE	6695.60	72.014	160.351	6297.00	839.47	428.81	8.00	-446.48
Landing PL	6920.42	90.000	160.351	6532.00	631.19	502.88	8.00	-425.33
BHL	16796.44	90.000	160.351	6532.00	-8693.72	3623.62	0.00	9450.69

BH AT Curve <8°-1/2'> (5481°)(5529°-16801') : 12.27° Inc, 5529.00ft MD, 5351.15ft TVD, -1109.37ft VS

API: 47-085-10485-0000
BH Job #: 111872728
Rig: H&P 519
Duration: 7/30/2023-8/1/2023

Marcellus POE: 6696° MD : 72.71° Inc, 6696.00ft MD, 6298.36ft TVD, -613.37ft VS

Projected MD at TD: 16826° : 90.09° Inc, 16826.00ft MD, 6354.77ft TVD, 9509.06ft VS



06/14/2024

REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Ritchie
Facility	Jackson Pad
Slot	Slot D
Well	Hazelbaker Unit 3H
API	47-085-10485-0000
Wellbore	Hazelbaker Unit 3H AWB

REPORT SETUP INFORMATION	
Projection System	NAD27 / UTM Zone 17 North, US feet
North Reference	Grid
Scale	0.999600
Convergence at slot	0.01° East
Software System	WellArchitect® 6.0
User	Edsaryar
Report Generated	8/4/2023 at 3:40:46 PM
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	0.00	0.00	1645046.40	14267246.33	39°17'21.2374"N	80°59'1.0934"W
Facility Reference Pt			1645046.40	14267246.33	39°17'21.2374"N	80°59'1.0934"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM	
Calculation method	Minimum curvature
Horizontal Reference Pt	Slot
Vertical Reference Pt	H&P 519 (RKB)
MD Reference Pt	H&P 519 (RKB)
Field Vertical Reference	Mean Sea Level
	H&P 519 (RKB) to Facility Vertical Datum
	H&P 519 (RKB) to Mean Sea Level
	H&P 519 (RKB) to Ground Level at Slot (Slot D)
	Section Origin
	Section Azimuth
	1065.00ft
	1065.00ft
	30.00ft
	N 0.00, E 0.00 ft
	160.35°

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Actual Wellpath Report

Hazelbaker Unit 3H AWP Proj: 16826'
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Wellbore	Hazelbaker Unit 3H AWB

WELLPATH DATA (186 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
0.00H	0.000	296.630	0.00	0.00	0.00	0.00	1645046.40	14267246.33	39°17'21.2374"N	80°59'1.0934"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	296.630	30.00	0.00	0.00	0.00	1645046.40	14267246.33	39°17'21.2374"N	80°59'1.0934"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.190	296.630	100.00	-0.08	0.05	-0.10	1645046.30	14267246.38	39°17'21.2379"N	80°59'1.0947"W	0.12	296.630	0.27	0.27	0.00	Gyrodatta MS Gyro <17-1/2"> (100'-258')
200.00	0.200	283.470	200.00	-0.30	0.17	-0.42	1645045.98	14267246.50	39°17'21.2391"N	80°59'1.0988"W	0.45	291.604	0.05	0.01	-13.16	
258.00	0.240	268.500	258.00	-0.39	0.19	-0.64	1645045.76	14267246.52	39°17'21.2393"N	80°59'1.1016"W	0.67	286.282	0.12	0.07	-25.81	
414.00	0.190	236.060	414.00	-0.43	0.03	-1.18	1645045.22	14267246.36	39°17'21.2378"N	80°59'1.1085"W	1.18	271.667	0.08	-0.03	-20.79	APS EM <12-1/4"> (258')(414'-3221')
504.00	0.300	214.980	504.00	-0.26	-0.24	-1.44	1645044.96	14267246.09	39°17'21.2350"N	80°59'1.1117"W	1.46	260.473	0.16	0.12	-23.42	
663.00	3.510	352.390	662.89	-5.35	4.81	-2.44	1645043.96	14267251.14	39°17'21.2849"N	80°59'1.1244"W	5.39	333.123	2.09	1.79	76.77	
773.00	6.450	355.920	772.54	-12.91	12.58	-3.16	1645043.24	14267258.91	39°17'21.3618"N	80°59'1.1336"W	12.97	345.897	3.28	3.27	3.92	
862.00	7.330	9.370	860.90	-22.69	23.17	-2.59	1645043.81	14267269.49	39°17'21.4865"N	80°59'1.1263"W	23.32	353.617	2.06	0.99	15.11	
951.00	7.490	13.750	949.16	-32.50	34.41	-0.29	1645046.11	14267280.72	39°17'21.5775"N	80°59'1.0970"W	34.41	359.519	1.66	0.18	4.92	
1042.00	9.190	9.640	1039.20	-43.79	47.33	2.34	1645048.74	14267293.64	39°17'21.7053"N	80°59'1.0636"W	47.39	2.827	1.98	1.87	-4.52	
1136.00	11.760	3.850	1131.62	-59.13	64.29	4.24	1645050.64	14267310.60	39°17'21.8729"N	80°59'1.0394"W	64.43	3.771	2.95	2.73	-6.16	
1230.00	13.890	1.730	1223.28	-78.42	85.13	5.22	1645051.62	14267331.43	39°17'22.0788"N	80°59'1.0268"W	85.29	3.510	2.32	2.27	-2.26	
1325.00	16.250	3.240	1315.00	-101.29	109.80	6.32	1645062.72	14267356.09	39°17'22.3227"N	80°59'1.0128"W	109.99	3.293	2.52	2.48	1.59	
1419.00	17.570	3.360	1404.94	-126.46	137.10	7.89	1645054.29	14267383.37	39°17'22.5925"N	80°59'0.9927"W	137.33	3.295	1.40	1.40	0.13	
1514.00	17.360	7.670	1495.56	-152.25	165.46	10.62	1645057.02	14267411.72	39°17'22.8728"N	80°59'0.9579"W	165.80	3.674	1.38	-0.22	4.54	
1608.00	17.550	9.290	1585.23	-177.11	193.35	14.78	1645061.18	14267439.60	39°17'23.1484"N	80°59'0.9049"W	193.91	4.373	0.56	0.20	1.72	
1702.00	17.690	6.740	1674.82	-202.31	221.52	18.75	1645065.14	14267467.76	39°17'23.4268"N	80°59'0.8544"W	222.31	4.838	0.83	0.15	-2.71	
1796.00	17.640	4.340	1764.39	-228.12	249.90	21.50	1645067.89	14267496.13	39°17'23.7073"N	80°59'0.8194"W	250.82	4.918	0.78	-0.05	-2.55	
1891.00	17.910	8.480	1854.86	-254.15	278.70	24.75	1645071.14	14267524.92	39°17'23.9920"N	80°59'0.7780"W	279.80	5.074	1.36	0.28	4.36	
1986.00	18.390	11.680	1945.14	-279.83	307.83	29.93	1645076.32	14267554.03	39°17'24.2799"N	80°59'0.7120"W	309.28	5.554	1.16	0.51	3.37	
2081.00	19.210	9.760	2035.07	-306.25	337.91	35.62	1645082.00	14267584.10	39°17'24.5771"N	80°59'0.6396"W	339.78	6.017	1.08	0.86	-2.02	
2176.00	20.160	8.340	2124.52	-334.32	369.51	40.64	1645087.03	14267615.69	39°17'24.8895"N	80°59'0.5757"W	371.73	6.277	1.12	1.00	-1.49	
2270.00	19.500	11.900	2212.94	-362.00	400.89	46.23	1645092.61	14267647.06	39°17'25.1996"N	80°59'0.5046"W	403.54	6.578	1.46	-0.70	3.78	
2364.00	19.360	13.080	2301.59	-388.47	431.41	52.99	1645099.37	14267677.57	39°17'25.5013"N	80°59'0.4185"W	434.66	7.002	0.44	-0.15	1.26	
2459.00	17.650	13.480	2391.68	-413.78	460.76	59.91	1645106.28	14267706.90	39°17'25.7914"N	80°59'0.3304"W	464.64	7.408	1.80	-1.80	0.42	
2553.00	17.200	13.050	2481.36	-437.41	488.16	66.37	1645112.74	14267734.29	39°17'26.0621"N	80°59'0.2482"W	492.65	7.742	0.50	-0.48	-0.46	
2648.00	15.170	13.760	2572.59	-459.61	513.92	72.50	1645118.87	14267760.04	39°17'26.3167"N	80°59'0.1702"W	519.01	8.030	2.15	-2.14	0.75	
2742.00	14.470	13.440	2663.46	-479.72	537.29	78.15	1645124.52	14267783.40	39°17'26.5477"N	80°59'0.0982"W	542.94	8.276	0.75	-0.74	-0.34	

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Actual Wellpath Report

Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

WELLPATH DATA (186 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
2837.00	14.300	12.800	2755.49	-499.56	560.27	83.51	1645129.88	14267806.38	39°17'26.7748"N	80°59'0.0300"W	586.46	8.478	0.25	-0.18	-0.67	
2931.00	14.460	10.370	2846.54	-519.52	583.14	88.20	1645134.56	14267829.23	39°17'27.0008"N	80°58'59.9703"W	589.77	8.600	0.66	0.17	-2.59	
3026.00	14.160	8.350	2938.59	-540.05	606.30	92.02	1645138.38	14267852.39	39°17'27.2298"N	80°58'59.9217"W	613.24	8.630	0.61	-0.32	-2.13	
3120.00	14.030	6.300	3029.77	-560.45	629.00	94.94	1645141.30	14267875.08	39°17'27.4541"N	80°58'59.8845"W	636.13	8.583	0.55	-0.14	-2.18	
3221.00	13.720	4.120	3127.82	-582.42	653.12	97.14	1645143.50	14267899.18	39°17'27.6925"N	80°58'59.8564"W	660.30	8.460	0.60	-0.31	-2.16	
3311.00	13.290	3.590	3215.33	-601.95	674.11	97.83	1645144.19	14267920.17	39°17'27.8999"N	80°58'59.8476"W	681.17	8.257	1.28	-0.48	-5.09	APS EM <8-3/4"> (3221')(3311'-5481')
3406.00	15.310	1.220	3307.38	-623.99	697.57	98.01	1645144.37	14267943.62	39°17'28.1318"N	80°58'59.8453"W	704.42	7.997	2.17	2.13	1.77	
3500.00	18.830	3.040	3397.54	-648.66	724.13	99.02	1645145.38	14267970.17	39°17'28.3944"N	80°58'59.8323"W	730.87	7.787	2.44	2.38	1.94	
3595.00	18.830	7.630	3487.80	-675.51	753.63	101.82	1645148.18	14267999.66	39°17'28.6859"N	80°58'59.7967"W	760.48	7.694	2.02	1.35	4.83	
3689.00	19.600	10.070	3576.56	-702.68	784.19	106.59	1645152.94	14268030.21	39°17'28.9800"N	80°58'59.7359"W	791.40	7.740	1.18	0.82	2.60	
3784.00	19.440	6.320	3666.10	-730.73	815.59	111.11	1645157.47	14268061.60	39°17'29.2983"N	80°58'59.6783"W	823.13	7.758	1.33	-0.17	-3.95	
3878.00	18.980	11.210	3754.88	-757.92	846.14	115.81	1645162.16	14268092.13	39°17'29.6002"N	80°58'59.6185"W	854.03	7.793	1.78	-0.49	5.20	
3972.00	18.510	14.550	3843.89	-783.38	875.58	122.53	1645168.88	14268121.55	39°17'29.8912"N	80°58'59.5330"W	884.11	7.966	1.25	-0.50	3.55	
4067.00	18.160	11.660	3934.07	-808.50	904.67	129.31	1645175.66	14268150.64	39°17'30.1787"N	80°58'59.4467"W	913.87	8.134	1.03	-0.37	-3.04	
4162.00	17.780	8.900	4024.44	-833.89	933.50	134.55	1645180.89	14268179.46	39°17'30.4637"N	80°58'59.3800"W	943.15	8.202	0.98	-0.40	-2.91	
4256.00	17.610	6.660	4113.99	-859.25	961.80	138.41	1645184.76	14268207.75	39°17'30.7434"N	80°58'59.3307"W	971.71	8.189	0.75	-0.18	-2.38	
4351.00	16.530	11.940	4204.81	-883.64	989.30	142.88	1645189.22	14268235.24	39°17'31.0152"N	80°58'59.2739"W	999.57	8.218	1.99	-1.14	5.56	
4445.00	15.020	17.850	4295.27	-904.70	1013.98	149.38	1645195.72	14268259.91	39°17'31.2591"N	80°58'59.1911"W	1024.93	8.380	2.34	-1.61	6.29	
4540.00	14.230	13.820	4387.20	-924.21	1037.04	155.94	1645202.28	14268282.95	39°17'31.4870"N	80°58'59.1076"W	1048.70	8.552	1.36	-0.83	-4.24	
4634.00	13.130	9.300	4478.53	-943.19	1058.80	160.43	1645206.76	14268304.70	39°17'31.7020"N	80°58'59.0505"W	1070.88	8.616	1.63	-1.17	-4.81	
4729.00	12.360	4.660	4571.19	-961.90	1079.58	163.00	1645209.33	14268325.48	39°17'31.9074"N	80°58'59.0178"W	1091.81	8.586	1.35	-0.81	-4.88	
4823.00	12.760	11.900	4662.95	-979.91	1099.77	165.96	1645212.29	14268345.65	39°17'32.1069"N	80°58'58.9801"W	1112.22	8.581	1.73	0.43	7.70	
4917.00	12.620	17.600	4754.66	-996.93	1119.71	171.20	1645217.53	14268365.59	39°17'32.3040"N	80°58'58.9133"W	1132.72	8.693	1.34	-0.15	6.06	
5012.00	11.500	13.740	4847.56	-1013.10	1138.80	176.59	1645222.92	14268384.68	39°17'32.4927"N	80°58'58.8448"W	1152.41	8.814	1.45	-1.18	-4.06	
5107.00	12.720	15.620	4940.44	-1029.55	1158.08	181.65	1645227.98	14268403.94	39°17'32.6832"N	80°58'58.7803"W	1172.24	8.915	1.35	1.28	1.98	
5201.00	14.350	19.120	5031.83	-1047.08	1179.05	188.26	1645234.58	14268424.91	39°17'32.8905"N	80°58'58.6963"W	1193.99	9.072	1.94	1.73	3.72	
5295.00	13.640	15.440	5123.04	-1065.23	1200.74	195.02	1645241.34	14268445.59	39°17'33.1049"N	80°58'58.6101"W	1216.48	9.225	1.21	-0.76	-3.91	
5390.00	12.890	13.360	5215.51	-1083.29	1221.85	200.45	1645246.77	14268467.99	39°17'33.3135"N	80°58'58.5410"W	1238.18	9.317	0.94	-0.79	-2.19	
5481.00	12.570	10.300	5304.27	-1100.38	1241.47	204.57	1645250.89	14268487.30	39°17'33.5074"N	80°58'58.4866"W	1258.21	9.357	0.82	-0.35	-3.36	
5529.00	12.270	9.310	5351.15	-1109.37	1251.64	206.33	1645252.65	14268497.47	39°17'33.6079"N	80°58'58.4662"W	1288.53	9.361	0.77	-0.63	-2.06	BH AT Curve <8-1/2"> (5481')(5529'-16801')

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Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWP
Slot	Slot D		

WELLPATH DATA (186 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
5604.00	9.070	24.620	5424.86	-1120.58	1264.88	210.08	1645256.40	14268510.71	39°17'33.7388"N	80°58'58.4185"W	1282.21	9.430	5.66	-4.27	20.41	
5698.00	5.420	93.310	5518.24	-1124.16	1271.38	217.62	1645263.93	14268817.19	39°17'33.8030"N	80°58'58.3226"W	1289.87	9.713	9.26	-3.88	73.07	
5793.00	8.050	121.350	5612.60	-1117.24	1267.65	227.78	1645274.09	14268813.47	39°17'33.7662"N	80°58'58.1934"W	1287.96	10.187	4.36	2.77	29.52	
5888.00	11.720	139.090	5706.19	-1103.07	1256.90	239.79	1645286.09	14268502.72	39°17'33.6598"N	80°58'58.0407"W	1279.56	10.801	4.98	3.86	18.67	
5983.00	17.890	152.710	5798.02	-1079.58	1236.61	252.81	1645299.11	14268482.44	39°17'33.4593"N	80°58'57.8751"W	1262.19	11.554	7.41	6.49	14.34	
6077.00	23.460	155.740	5885.94	-1046.59	1206.70	267.13	1645313.42	14268452.54	39°17'33.1636"N	80°58'57.6930"W	1235.91	12.482	6.03	5.93	3.22	
6172.00	29.120	159.120	5971.08	-1004.60	1167.83	283.15	1645329.44	14268413.69	39°17'32.7794"N	80°58'57.4893"W	1201.66	13.629	6.16	5.96	3.56	
6266.00	34.940	159.100	6050.74	-954.78	1121.27	300.92	1645347.20	14268367.15	39°17'32.3192"N	80°58'57.2634"W	1160.95	15.023	6.19	6.19	-0.02	
6276.00†	35.766	159.055	6058.89	-948.99	1115.86	302.99	1645349.27	14268361.75	39°17'32.2658"N	80°58'57.2371"W	1156.27	15.191	8.27	8.26	-0.45	Sycamore: 6276' MD
6361.00	42.790	158.730	6124.65	-893.43	1036.06	333.94	1645380.21	14268311.60	39°17'31.7699"N	80°58'56.9908"W	1113.39	16.830	8.27	8.26	-0.38	
6455.00	47.242	158.606	6156.45	-863.43	1036.06	333.94	1645380.21	14268281.97	39°17'31.4769"N	80°58'56.8436"W	1088.55	17.865	9.90	9.89	-0.28	Middlesex: 6406' MD
6455.00	52.090	158.490	6188.16	-826.10	1001.30	347.60	1645393.86	14268247.23	39°17'31.1334"N	80°58'56.6700"W	1059.92	19.144	9.90	9.89	-0.24	
6550.00	60.410	158.630	6240.89	-747.22	927.84	376.44	1645422.69	14268173.80	39°17'30.4073"N	80°58'56.3033"W	1001.30	22.083	8.76	8.76	0.15	
6585.00†	63.515	158.642	6257.34	-716.35	899.08	387.70	1645433.94	14268145.05	39°17'30.1229"N	80°58'56.1603"W	979.11	23.326	8.87	8.87	0.03	Burkett: 6585' MD
6644.00	68.750	158.660	6281.20	-662.43	848.84	407.33	1645453.60	14268089.62	39°17'29.6264"N	80°58'55.9107"W	941.52	25.635	8.87	8.87	0.03	
6650.00†	69.207	158.715	6283.36	-656.84	843.62	409.37	1645455.60	14268089.62	39°17'29.5748"N	80°58'55.8848"W	937.70	25.885	7.66	7.61	0.91	Jully: 6650' MD
6696.00†	72.707	159.123	6298.36	-613.37	803.06	425.00	1645471.23	14268049.07	39°17'29.1738"N	80°58'55.6860"W	906.59	27.889	7.66	7.61	0.89	Marcellus POE: 6696' MD
6739.00	75.980	159.490	6309.97	-571.98	764.33	439.63	1645485.85	14268010.35	39°17'28.7910"N	80°58'55.5001"W	881.75	29.907	7.66	7.61	0.85	
6834.00	84.020	159.540	6326.45	-478.51	676.76	472.35	1645518.56	14267922.82	39°17'27.9255"N	80°58'55.0842"W	825.30	34.913	8.46	8.46	0.05	
6928.00	89.600	159.190	6331.68	-384.71	588.96	505.41	1645551.61	14267835.06	39°17'27.0576"N	80°58'54.6639"W	776.09	40.634	5.95	5.94	-0.37	
7022.00	89.260	159.120	6332.61	-290.73	501.12	538.86	1645585.04	14267747.25	39°17'26.1893"N	80°58'54.2387"W	735.86	47.078	0.37	-0.36	-0.07	
7117.00	89.540	157.080	6333.61	-195.82	412.99	574.29	1645620.46	14267659.15	39°17'25.3182"N	80°58'53.3505"W	707.36	54.279	2.17	0.29	-2.15	
7212.00	88.980	160.400	6334.84	-100.88	324.47	608.73	1645664.88	14267570.67	39°17'24.4433"N	80°58'53.3505"W	689.80	61.941	3.54	-0.59	3.49	
7306.00	90.030	160.050	6335.65	-6.88	236.02	640.53	1645686.67	14267482.25	39°17'23.5690"N	80°58'52.9463"W	682.63	69.772	1.18	1.12	-0.37	
7400.00	90.220	160.480	6335.44	87.12	147.54	672.27	1645718.40	14267393.81	39°17'22.6944"N	80°58'52.5428"W	688.27	77.622	0.50	0.20	0.46	
7495.00	89.970	160.350	6335.28	182.12	58.04	704.11	1645750.23	14267304.34	39°17'21.8097"N	80°58'52.1381"W	706.50	85.288	0.30	-0.26	-0.14	
7589.00	89.600	159.880	6335.64	276.12	-30.36	736.08	1645782.19	14267215.98	39°17'20.9360"N	80°58'51.7317"W	736.71	92.362	0.64	-0.39	-0.50	
7683.00	89.820	159.980	6336.11	370.11	-118.65	768.34	1645814.43	14267127.73	39°17'20.0633"N	80°58'51.3216"W	777.45	98.778	0.26	0.23	0.11	
7777.00	88.950	159.980	6337.12	464.10	-206.96	800.52	1645846.60	14267039.45	39°17'19.1903"N	80°58'50.9126"W	826.84	104.496	0.93	-0.93	0.00	
7872.00	89.820	160.710	6338.14	559.10	-296.42	832.47	1645878.54	14266950.03	39°17'18.3061"N	80°58'50.5065"W	883.67	109.599	1.20	0.92	0.77	

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Actual Wellpath Report

Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

WELLPATH DATA (186 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
7966.00	90.460	160.070	6337.91	653.09	-384.97	864.02	1645910.07	14266861.52	39°17'17.4308"N	80°58'50.1055"W	945.90	114.016	0.96	0.68	-0.68	
8061.00	90.920	159.570	6336.77	748.08	-474.13	896.79	1645942.83	14266772.39	39°17'16.5495"N	80°58'49.6890"W	1014.41	117.865	0.72	0.48	-0.53	
8155.00	91.380	159.980	6334.88	842.06	-562.31	929.28	1645975.30	14266684.24	39°17'15.6778"N	80°58'49.2760"W	1086.17	121.178	0.66	0.49	-0.44	
8250.00	91.200	159.920	6332.74	937.03	-651.53	961.84	1646007.85	14266595.06	39°17'14.7960"N	80°58'48.8621"W	1161.74	124.113	0.20	-0.19	-0.06	
8344.00	90.980	160.220	6330.95	1031.01	-739.89	993.88	1646039.88	14266506.74	39°17'13.9226"N	80°58'48.4549"W	1239.04	126.666	0.40	-0.23	0.32	
8439.00	89.260	159.130	6330.76	1126.00	-828.97	1026.87	1646072.86	14266417.69	39°17'13.0421"N	80°58'48.0355"W	1319.72	128.913	2.14	-1.81	-1.15	
8533.00	89.780	158.950	6331.54	1219.97	-916.74	1060.50	1646106.47	14266329.95	39°17'12.1745"N	80°58'47.6082"W	1401.81	130.842	0.59	0.55	-0.19	
8628.00	89.660	160.120	6332.01	1314.96	-1005.75	1093.71	1646139.67	14266240.99	39°17'11.2947"N	80°58'47.1860"W	1485.84	132.601	1.24	-1.23	1.23	
8723.00	89.850	158.730	6332.41	1409.95	-1094.68	1127.10	1646173.04	14266152.09	39°17'10.4156"N	80°58'46.7617"W	1571.20	134.164	1.48	0.20	-1.46	
8817.00	90.220	160.920	6332.36	1503.94	-1182.91	1159.51	1646205.45	14266063.89	39°17'9.5435"N	80°58'46.3496"W	1656.43	135.572	2.36	0.39	-2.33	
8912.00	89.630	158.140	6332.48	1598.92	-1271.90	1192.73	1646238.65	14265974.94	39°17'8.6639"N	80°58'45.9274"W	1743.66	136.840	2.99	-0.62	-2.93	
9006.00	89.970	159.510	6332.81	1692.88	-1359.55	1226.69	1646272.59	14265887.32	39°17'7.7975"N	80°58'45.4959"W	1831.16	137.941	1.50	0.36	1.46	
9101.00	90.280	159.960	6332.60	1787.87	-1448.67	1259.59	1646305.48	14265798.24	39°17'6.9166"N	80°58'45.0776"W	1919.69	138.994	0.58	0.33	0.47	
9195.00	89.910	158.880	6332.45	1881.86	-1536.67	1292.63	1646338.51	14265710.28	39°17'6.0468"N	80°58'44.6577"W	2006.05	139.930	1.21	-0.39	-1.15	
9289.00	90.310	160.510	6332.27	1975.85	-1624.83	1325.25	1646371.12	14265622.16	39°17'5.1754"N	80°58'44.2431"W	2096.75	140.798	1.79	0.43	1.73	
9384.00	89.750	158.830	6332.22	2070.84	-1713.91	1358.25	1646404.11	14265533.11	39°17'4.2949"N	80°58'43.8237"W	2186.85	141.603	1.86	-0.59	-1.77	
9478.00	89.750	160.160	6332.63	2164.83	-1801.95	1391.18	1646437.02	14265445.11	39°17'3.4246"N	80°58'43.4052"W	2276.49	142.330	1.41	0.00	1.41	
9573.00	89.600	158.660	6333.16	2259.81	-1890.87	1424.59	1646470.42	14265356.22	39°17'2.5456"N	80°58'42.9806"W	2367.46	143.006	1.59	-0.16	-1.58	
9667.00	89.720	159.280	6333.72	2353.78	-1978.61	1458.32	1646504.13	14265268.51	39°17'1.6784"N	80°58'42.5519"W	2457.97	143.608	0.67	0.13	0.66	
9762.00	90.220	159.770	6333.77	2448.77	-2067.61	1491.55	1646537.35	14265179.55	39°17'0.7986"N	80°58'42.1295"W	2549.46	144.194	0.74	0.53	0.52	
9856.00	90.280	160.530	6333.36	2542.77	-2156.02	1523.47	1646569.26	14265091.17	39°16'59.9247"N	80°58'41.7239"W	2639.96	144.755	0.81	0.06	0.81	
9951.00	89.970	160.070	6333.15	2637.77	-2245.46	1555.49	1646601.27	14265001.77	39°16'59.0406"N	80°58'41.3169"W	2731.60	145.289	0.58	-0.33	-0.48	
10045.00	90.860	159.160	6332.47	2731.76	-2333.57	1588.23	1646634.00	14264913.70	39°16'58.1697"N	80°58'40.9008"W	2822.77	146.116	1.35	0.95	-0.97	
10140.00	89.820	154.320	6331.91	2826.54	-2420.82	1625.74	1646671.48	14264826.48	39°16'57.3073"N	80°58'40.4241"W	2916.06	146.116	5.21	-1.09	-5.09	
10235.00	89.050	155.860	6332.85	2921.13	-2506.98	1665.75	1646711.48	14264740.36	39°16'56.4557"N	80°58'39.9156"W	3009.92	146.398	1.81	-0.81	1.62	
10329.00	88.770	158.890	6334.64	3014.97	-2593.72	1701.90	1646747.61	14264653.66	39°16'55.5982"N	80°58'39.4561"W	3102.23	146.729	3.24	-0.30	3.22	
10423.00	89.660	162.790	6335.92	3108.94	-2682.48	1732.74	1646778.44	14264564.93	39°16'54.7208"N	80°58'39.0642"W	3193.45	147.140	4.26	0.95	4.15	
10518.00	91.660	162.060	6334.83	3203.87	-2773.04	1761.42	1646807.11	14264474.41	39°16'53.8257"N	80°58'38.6997"W	3285.17	147.576	2.24	2.11	-0.77	
10612.00	89.570	161.380	6333.82	3297.83	-2862.28	1790.90	1646836.58	14264385.20	39°16'52.9436"N	80°58'38.3251"W	3376.39	147.966	2.34	-2.22	-0.72	
10707.00	90.740	161.800	6333.56	3392.80	-2952.42	1820.91	1646866.57	14264295.10	39°16'52.0526"N	80°58'37.9438"W	3468.79	148.336	1.31	1.23	0.44	

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Actual Wellpath Report

Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION	
Operator	ANTERO RESOURCES CORPORATION
Field	Ritchie
Facility	Jackson Pad
Slot	Slot D
Well	Hazelbaker Unit 3H
API	47-085-10485-0000
Wellbore	Hazelbaker Unit 3H AWB

WELLPATH DATA (186 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
10801.00	90.430	161.890	6332.60	3486.77	-304.173	1850.19	1646895.85	14264205.82	39°16'51.1698"N	80°58'37.5717"W	3560.25	148.689	0.34	-0.33	0.10	
10895.00	91.230	162.710	6331.24	3580.70	-3131.27	1878.77	1646924.41	14264116.32	39°16'50.2847"N	80°58'37.2086"W	3651.66	149.036	1.22	0.85	0.87	
10990.00	89.820	160.590	6330.37	3675.67	-3221.43	1908.67	1646954.31	14264026.19	39°16'49.3936"N	80°58'36.8286"W	3744.42	149.354	2.68	-1.48	-2.23	
11084.00	90.310	163.620	6330.26	3769.61	-3310.87	1937.55	1646983.17	14263936.79	39°16'48.5095"N	80°58'36.4616"W	3836.14	149.663	3.27	0.52	3.22	
11178.00	91.790	162.650	6328.54	3863.48	-3400.81	1964.82	1647010.43	14263846.89	39°16'47.6205"N	80°58'36.1152"W	3927.60	149.983	1.88	1.57	-1.03	
11273.00	90.580	159.180	6326.58	3958.44	-3490.55	1995.87	1647041.47	14263757.18	39°16'46.7334"N	80°58'35.7206"W	4020.88	150.239	3.87	-1.27	-3.65	
11367.00	89.600	160.330	6326.43	4052.43	-3578.75	2028.40	1647073.98	14263669.02	39°16'45.8617"N	80°58'35.3073"W	4113.61	150.456	1.61	-1.04	1.22	
11461.00	89.290	161.970	6327.34	4146.41	-3667.70	2058.76	1647104.34	14263580.11	39°16'44.9824"N	80°58'34.9214"W	4206.01	150.693	1.78	-0.33	1.74	
11556.00	89.050	161.620	6328.72	4241.37	-3757.93	2088.44	1647134.00	14263490.59	39°16'44.0905"N	80°58'34.5443"W	4299.26	150.937	0.45	-0.25	-0.37	
11650.00	89.320	162.740	6330.05	4335.31	-3847.41	2117.20	1647162.75	14263400.47	39°16'43.2060"N	80°58'34.1788"W	4391.48	151.176	1.23	0.29	1.19	
11745.00	89.630	161.790	6330.92	4430.26	-3937.89	2146.14	1647191.68	14263310.02	39°16'42.3116"N	80°58'33.8111"W	4484.74	151.410	1.05	0.33	-1.00	
11839.00	88.120	157.150	6332.77	4524.20	-4025.88	2179.09	1647224.61	14263222.07	39°16'41.4419"N	80°58'33.3925"W	4577.79	151.575	5.19	-1.61	-4.94	
11934.00	88.460	158.880	6335.61	4619.07	-4113.93	2214.64	1647260.15	14263134.06	39°16'40.5716"N	80°58'32.9407"W	4672.15	151.705	1.86	0.36	1.82	
12029.00	88.770	160.450	6337.90	4714.04	-4202.98	2247.64	1647293.13	14263045.04	39°16'39.6913"N	80°58'32.5213"W	4766.22	151.863	1.68	0.33	1.65	
12123.00	89.480	161.360	6339.34	4808.02	-4291.79	2278.39	1647323.87	14262956.26	39°16'38.8134"N	80°58'32.1307"W	4859.07	152.038	1.23	0.76	0.97	
12218.00	89.570	161.850	6340.12	4902.99	-4381.94	2308.36	1647353.83	14262866.16	39°16'37.9224"N	80°58'31.7498"W	4952.77	152.220	0.52	0.09	0.52	
12312.00	89.050	161.850	6341.26	4996.95	-4471.25	2337.64	1647383.10	14262776.88	39°16'37.0395"N	80°58'31.3778"W	5045.46	152.399	0.55	-0.55	0.00	
12407.00	89.350	161.590	6342.58	5091.92	-4561.45	2367.44	1647412.89	14262686.71	39°16'36.1480"N	80°58'30.9992"W	5139.22	152.570	0.42	0.32	-0.27	
12501.00	89.080	161.750	6343.87	5185.88	-4650.67	2397.00	1647442.43	14262597.53	39°16'35.2660"N	80°58'30.6236"W	5232.05	152.733	0.33	-0.29	0.17	
12595.00	88.710	161.140	6345.68	5279.85	-4739.77	2426.90	1647472.33	14262508.47	39°16'34.3854"N	80°58'30.2436"W	5324.97	152.886	0.76	-0.39	-0.65	
12689.00	89.690	160.560	6347.00	5373.83	-4828.56	2457.73	1647503.15	14262419.72	39°16'33.5077"N	80°58'29.8519"W	5418.06	153.024	1.21	1.04	-0.62	
12784.00	90.830	166.780	6348.27	5468.82	-4918.25	2489.02	1647534.42	14262330.06	39°16'32.6212"N	80°58'29.4544"W	5512.20	153.157	1.06	-0.97	0.44	
12973.00	91.450	163.080	6346.71	5557.26	-5008.51	2515.11	1647560.50	14262240.84	39°16'31.7290"N	80°58'29.1230"W	5604.54	153.336	6.55	2.19	6.17	
13068.00	89.140	158.590	6346.22	5752.22	-5189.91	2570.97	1647616.34	14262058.51	39°16'30.8226"N	80°58'28.8094"W	5697.60	153.528	3.95	0.65	-3.89	
13162.00	88.150	159.400	6348.44	5846.17	-5277.64	2604.66	1647650.01	14261970.82	39°16'29.0687"N	80°58'28.4132"W	5791.81	153.647	5.31	-2.43	-4.73	
13256.00	87.940	161.760	6351.65	5940.11	-5366.23	2635.89	1647681.23	14261882.26	39°16'28.1930"N	80°58'27.9852"W	5885.38	153.732	1.36	-1.05	0.86	
13350.00	92.460	163.480	6351.32	6034.00	-5455.91	2663.96	1647709.29	14261792.61	39°16'27.3065"N	80°58'27.5884"W	5978.66	153.840	2.52	-0.22	2.51	
13445.00	90.520	160.920	6348.85	6128.91	-5546.32	2692.99	1647738.31	14261702.24	39°16'26.4128"N	80°58'26.8630"W	6071.55	153.975	5.14	4.81	1.83	
13539.00	89.170	161.200	6349.11	6222.90	-5635.23	2723.50	1647768.81	14261613.37	39°16'25.5340"N	80°58'26.4754"W	6165.54	154.101	3.38	-2.04	-2.89	
13633.00	87.710	160.450	6349.11	6316.81	-5724.16	2754.01	1647799.31	14261524.50	39°16'24.6552"N	80°58'26.0878"W	6258.86	154.206	1.47	-1.44	0.30	

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Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

WELLPATH DATA (186 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
13634.00	89.720	161.700	6350.03	6317.88	-5725.29	2753.72	1647799.01	14261523.34	39°16'24.6438"N	80°58'26.0914"W	6353.10	154.314	0.78	0.58	0.53	
13728.00	89.570	162.000	6350.61	6411.84	-5814.61	2783.00	1647828.28	14261434.06	39°16'23.7609"N	80°58'25.7194"W	6446.30	154.423	0.36	-0.16	0.32	
13823.00	91.420	161.330	6349.79	6506.81	-5904.78	2812.88	1647858.15	14261343.92	39°16'22.8696"N	80°58'25.3398"W	6540.55	154.528	2.07	1.95	-0.71	
13917.00	89.420	159.790	6349.10	6600.80	-5993.41	2844.17	1647889.42	14261255.33	39°16'21.9935"N	80°58'24.9423"W	6634.02	154.613	2.69	-2.13	-1.64	
14012.00	89.540	163.060	6349.96	6695.77	-6083.45	2874.42	1647919.67	14261165.33	39°16'21.1035"N	80°58'24.5580"W	6728.34	154.709	3.44	0.13	3.44	
14107.00	92.370	163.300	6348.38	6790.63	-6174.36	2901.91	1647947.14	14261074.45	39°16'20.2049"N	80°58'24.2088"W	6822.30	154.827	2.99	2.98	0.25	
14201.00	88.400	158.030	6347.75	6884.57	-6263.01	2933.01	1647978.23	14260985.84	39°16'19.3286"N	80°58'23.8136"W	6915.77	154.906	7.02	-4.22	-5.61	
14295.00	89.380	160.540	6349.57	6978.53	-6350.91	2966.25	1648011.46	14260897.98	39°16'18.4597"N	80°58'23.3913"W	7009.47	154.965	2.87	1.04	2.67	
14390.00	89.780	158.420	6350.26	7073.51	-6439.87	2999.55	1648044.74	14260809.05	39°16'17.5803"N	80°58'22.9683"W	7104.17	155.025	2.27	0.42	-2.23	
14484.00	89.170	159.370	6351.13	7167.47	-6527.56	3033.39	1648078.58	14260721.39	39°16'16.7135"N	80°58'22.5382"W	7197.95	155.075	1.20	-0.65	1.01	
14579.00	89.380	157.840	6352.33	7262.42	-6616.00	3068.05	1648113.21	14260632.99	39°16'15.8393"N	80°58'22.0980"W	7292.76	155.121	1.63	0.22	-1.61	
14673.00	89.260	158.710	6353.44	7356.35	-6703.32	3102.84	1648147.99	14260545.71	39°16'14.9762"N	80°58'21.6559"W	7386.62	155.161	0.93	-0.13	0.93	
14767.00	90.830	160.300	6353.37	7450.33	-6791.36	3135.75	1648180.89	14260457.70	39°16'14.1059"N	80°58'21.2378"W	7480.34	155.216	2.38	1.67	1.69	
14861.00	92.030	161.040	6351.02	7544.30	-6880.04	3168.85	1648211.98	14260369.06	39°16'13.2394"N	80°58'20.8427"W	7573.89	155.284	1.50	1.28	0.79	
14956.00	90.680	159.590	6348.78	7639.27	-6969.45	3198.84	1648243.96	14260279.68	39°16'12.3455"N	80°58'20.4363"W	7668.50	155.346	2.09	-1.42	-1.53	
15050.00	89.940	159.940	6348.27	7733.26	-7057.65	3231.35	1648276.46	14260191.52	39°16'11.4737"N	80°58'20.0232"W	7762.22	155.399	0.87	-0.79	0.37	
15145.00	89.880	158.980	6348.42	7828.25	-7146.61	3264.69	1648309.77	14260102.59	39°16'10.5943"N	80°58'19.5998"W	7856.98	155.448	1.01	-0.06	-1.01	
15240.00	89.540	159.260	6348.90	7923.23	-7235.37	3298.54	1648343.62	14260013.87	39°16'9.7169"N	80°58'19.1696"W	7951.79	155.492	0.46	-0.36	0.29	
15334.00	90.800	159.680	6348.62	8017.21	-7323.40	3331.51	1648376.57	14259925.88	39°16'8.8468"N	80°58'18.7508"W	8045.56	155.539	1.41	1.34	0.45	
15429.00	89.660	159.600	6348.24	8112.20	-7412.46	3364.56	1648409.61	14259836.85	39°16'7.9664"N	80°58'18.3309"W	8140.32	155.586	1.20	-1.20	-0.08	
15523.00	90.150	160.000	6348.39	8206.20	-7500.68	3397.02	1648442.05	14259748.67	39°16'6.2122"N	80°58'17.9186"W	8234.07	155.634	0.67	0.52	0.43	
15618.00	89.600	159.930	6348.60	8301.20	-7589.93	3429.56	1648474.59	14259659.45	39°16'5.3384"N	80°58'17.5051"W	8328.80	155.684	0.58	-0.58	-0.07	
15712.00	89.570	160.300	6349.28	8395.19	-7678.32	3461.94	1648506.54	14259571.10	39°16'5.3384"N	80°58'17.0990"W	8422.52	155.733	0.39	-0.03	0.39	
15806.00	89.690	159.900	6349.89	8489.19	-7766.71	3493.53	1648538.53	14259482.75	39°16'4.4647"N	80°58'16.6925"W	8516.25	155.781	0.44	0.13	-0.43	
15901.00	89.290	159.020	6350.74	8584.17	-7855.66	3526.86	1648571.84	14259393.83	39°16'3.5854"N	80°58'16.2691"W	8611.05	155.822	1.02	-0.42	-0.93	
15995.00	89.260	160.250	6351.92	8678.16	-7943.78	3559.57	1648604.54	14259305.75	39°16'2.7144"N	80°58'15.8536"W	8704.83	155.863	1.31	-0.03	1.31	
16090.00	89.260	159.230	6353.15	8773.14	-8032.89	3592.46	1648637.42	14259216.67	39°16'1.8335"N	80°58'15.4357"W	8799.61	155.905	1.07	0.00	-1.07	
16184.00	90.520	161.060	6353.33	8867.13	-8121.30	3624.39	1648669.33	14259128.30	39°16'0.9596"N	80°58'15.0302"W	8893.35	155.950	2.36	1.34	1.95	
16279.00	89.420	160.120	6353.38	8962.13	-8210.90	3655.96	1648700.89	14259038.73	39°16'0.0739"N	80°58'14.6292"W	8988.04	155.999	1.52	-1.16	-0.99	
16373.00	89.630	159.950	6354.16	9056.12	-8298.96	3688.82	1648733.74	14258950.71	39°15'59.2034"N	80°58'14.2117"W	9081.86	156.035	1.26	0.22	-1.24	

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Hazelbaker Unit 3H AWP Proj: 16826'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

WELLPATH DATA (186 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
16467.00	90.520	159.790	6354.04	9150.10	-8386.93	3721.94	1648766.84	14258862.77	39°15'58.3339"N	80°58'13.7910"W	9175.70	156.069	1.30	0.95	0.89	
16561.00	89.970	160.860	6353.69	9244.10	-8475.44	3753.59	1648798.48	14258774.30	39°15'57.4569"N	80°58'13.3890"W	9269.44	156.112	1.31	-0.65	1.14	
16655.00	89.600	158.740	6354.09	9338.09	-8563.65	3786.04	1648830.92	14258686.12	39°15'56.5870"N	80°58'12.9767"W	9363.24	156.149	2.28	-0.33	-2.26	
16750.00	89.660	159.090	6354.70	9433.06	-8652.29	3820.22	1648865.08	14258597.52	39°15'55.7108"N	80°58'12.5425"W	9458.13	156.177	0.37	0.06	0.37	
16801.00	90.090	160.370	6354.81	9484.05	-8700.13	3837.89	1648882.74	14258549.70	39°15'55.2379"N	80°58'12.3181"W	9509.03	156.196	2.65	0.84	2.51	
16826.00‡	90.090	160.370	6354.77	9509.05	-8723.68	3846.29	1648891.14	14258526.16	39°15'55.0051"N	80°58'12.2114"W	9533.96	156.207	0.00	0.00	0.00	Projected MD at TD: 16826'

HOLE & CASING SECTIONS - Ref Wellbore: Hazelbaker Unit 3H AWB Ref Wellpath: Hazelbaker Unit 3H AWP Proj: 16826'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	End N/S [ft]	Start E/W [ft]	End E/W [ft]	End E/W [ft]
20in Conductor	30.00	130.00	100.00	30.00	130.00	0.00	0.00	0.00	0.00	-0.19
17.5in Open Hole	130.00	381.00	251.00	130.00	381.00	0.09	0.09	-0.19	-0.19	-1.09
13.375in Casing Surface	30.00	361.00	331.00	30.00	361.00	0.00	0.00	0.00	0.00	-1.02
12.25in Open Hole	381.00	3291.00	2910.00	381.00	3195.87	0.09	0.09	-1.09	-1.09	97.82
9.825in Casing Intermediate	30.00	3261.00	3231.00	30.00	3166.69	0.00	0.00	0.00	0.00	97.66
8.75in Open Hole	3291.00	5556.00	2265.00	3195.87	5377.59	669.49	669.49	97.82	97.82	207.41
8.5in Open Hole	5556.00	16826.00	11270.00	5377.59	6354.77	1256.98	1256.98	207.41	207.41	3846.29
5.5in Casing Production	30.00	16806.00	16776.00	30.00	6354.80	0.00	0.00	0.00	0.00	3839.57

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Hazelbaker Unit 3H POE Rev-2	6297.00	839.47	428.51	1645474.74	14268086.46	39°17'29.5337"N	80°58'55.6413"W	point
Hazelbaker Unit 3H BHL Rev-3	6332.00	-8669.72	3823.82	1648868.88	14258580.09	39°15'55.5384"N	80°58'12.4969"W	point
Hazelbaker Unit 3H LP Rev-2	6332.00	631.19	502.88	1645549.08	14267877.27	39°17'27.4750"N	80°58'54.6960"W	point
Hazelbaker Unit 3H 50' L/R Hard Line	6750.00	-3915.13	2126.17	1647171.71	14263332.77	39°16'42.5367"N	80°58'34.0651"W	rectangle

2D Rectangle 10097.2 x 100.

WELLPATH COMPOSITION - Ref Wellbore: Hazelbaker Unit 3H AWB Ref Wellpath: Hazelbaker Unit 3H AWP Proj: 16826'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	258.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-258')	Hazelbaker Unit 3H AWB	7/10/2023
258.00	3221.00	BH NavITrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (258')(414'-3221')	Hazelbaker Unit 3H AWB	7/10/2023
3221.00	5481.00	BH NavITrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (3221')(3311'-5481')	Hazelbaker Unit 3H AWB	7/28/2023
5481.00	16826.00	BH AutoTrak Curve/Express (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (5481')(5529'-16801')	Hazelbaker Unit 3H AWB	7/28/2023

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Operator	ANTERO RESOURCES CORPORATION	Well	Hazelbaker Unit 3H
Field	Ritchie	API	47-085-10485-0000
Facility	Jackson Pad	Wellbore	Hazelbaker Unit 3H AWB
Slot	Slot D		

COMMENTS
<p>Wellpath general comments API: 47-085-10485-0000 BH Job #: 111872728 Rig: H&P 519 Duration: 7/30/2023-8/1/2023 Gyrodatta MS Gyro <17'-1/2"> (100'-258') APS EM <12'-1/4"> (258')(414'-3221') APS EM <8-3/4"> (3221')(3311'-5481') BH AT Curve <8-1/2"> (5481')(5529'-16801') Sycamore: 6276' MD Middlesex: 6406' MD Burkett: 6585' MD Tully: 6650' MD Marcellus POE: 6696' MD Projected MD at TD: 16826'</p>

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