



ANTERO RESOURCES CORPORATION

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

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

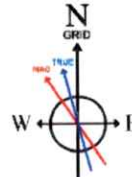
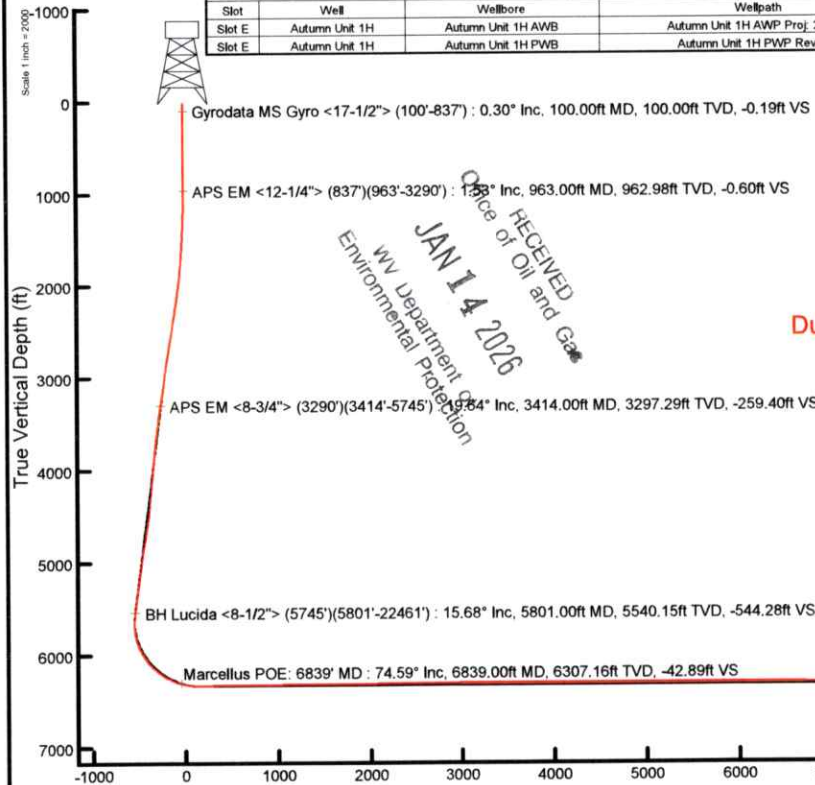


Plot reference wellpath is Autumn Unit 1H PWB Rev-B.0	Grid System: NAD83 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level 1122.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot E) -1027 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edhayan on 2025-07-06, Database: WA_MPL_EASTERNUS_Def

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Minear Pad	1652230.170	14234535.980	39°11'57.7821"N	80°57'29.8821"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot E	-58.83	-11.73	1652218.440	14234477.170	39°11'57.2006"N
Comment: Autumn Unit 1H					
H&P 317 (RKB) to Ground level (At Slot: Slot E)	25.5ft				
Mean Sea Level to Ground level (At Slot: Slot E)	-1097ft				
H&P 317 (RKB) to Mean Sea Level	1122.5ft				

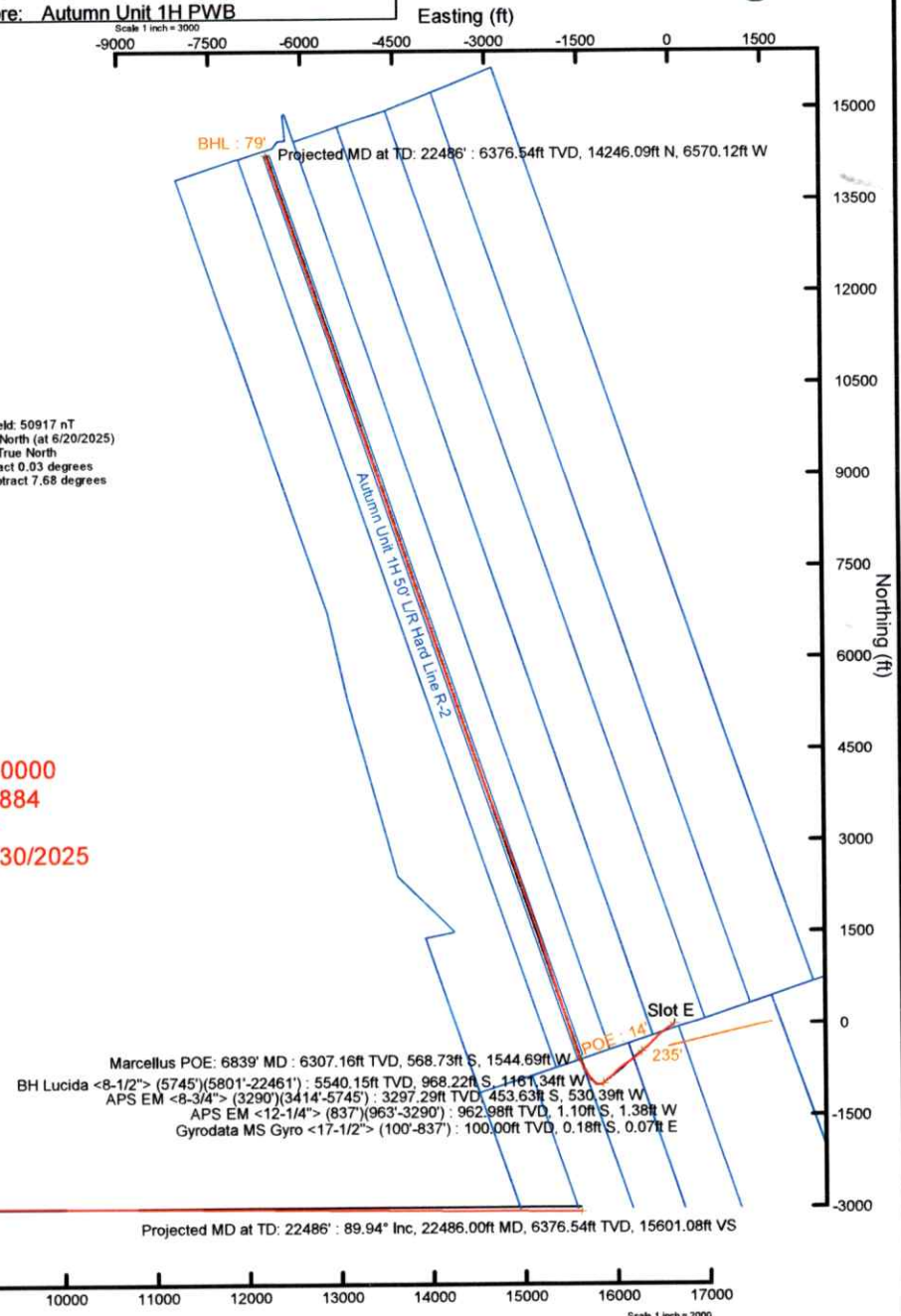
Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	3290.00	20.250	229.070	3180.72	-424.26	-500.03	-241.33
Proj. to Bottom	3365.00	20.250	229.070	3251.08	-441.26	-519.64	-251.15
Drill Out	3445.00	20.250	229.070	3326.14	-459.41	-540.56	-261.61
Adj. Inc / Azi	3475.10	20.211	230.807	3354.38	-466.10	-548.52	-265.40
Curve KOP	5820.41	20.211	230.807	5555.27	-978.13	-1176.49	-548.80
POE	6863.81	75.762	341.281	6312.00	-531.08	-1546.32	-6.71
Landing Pt.	7041.79	90.000	341.281	6334.00	-364.25	-1602.85	169.44
BHL	22462.00	90.000	341.281	14240.27	-6551.69	0.00	15589.66

Well Data			
Slot	Well	Wellbore	Wellpath
Slot E	Autumn Unit 1H	Autumn Unit 1H AWP	Autumn Unit 1H AWP Proj: 22486'
Slot E	Autumn Unit 1H	Autumn Unit 1H PWB	Autumn Unit 1H PWB Rev-B.0



User specified (HDGM) Dip: 65.56° Field: 50917 nT
Magnetic North is 7.65 degrees West of True North (at 6/20/2025)
Grid North is 0.03 degrees East of True North
To correct azimuth from True to Grid subtract 0.03 degrees
To correct azimuth from Magnetic to Grid subtract 7.68 degrees

API: 47-085-10550-0000
BH Job #: 112660884
Rig: H&P 317
Duration: 6/25/2025-6/30/2025





Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 1 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999600	Report Generated	7/6/2025 at 4:45:34 PM
Convergence at slot	0.03° 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	-58.83	-11.73	1652218.44	14234477.17	39°11'57.2006"N	80°57'30.0315"W
Facility Reference Pt			1652230.17	14234535.98	39°11'57.7821"N	80°57'29.8821"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 317 (RKB) to Facility Vertical Datum	1122.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1122.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot E)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	341.28°

RECEIVED
Office of Oil and Gas
JAN 14 2026
WY Department of
Environmental Protection



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 2 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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	158.820	0.00	0.00	0.00	0.00	1652218.44	14234477.17	39°11'57.2006"N	80°57'30.0315"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	158.820	25.50	0.00	0.00	0.00	1652218.44	14234477.17	39°11'57.2006"N	80°57'30.0315"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.300	158.820	100.00	-0.19	-0.18	0.07	1652218.51	14234476.99	39°11'57.1988"N	80°57'30.0306"W	0.20	158.820	0.40	0.40	0.00	Gyrodatta MS Gyro <17-1/2"> (100'-837')
200.00	0.010	150.590	200.00	-0.46	-0.43	0.17	1652218.61	14234476.74	39°11'57.1964"N	80°57'30.0293"W	0.47	158.666	0.29	-0.29	-8.23	
300.00	0.020	239.510	300.00	-0.48	-0.45	0.16	1652218.60	14234476.72	39°11'57.1962"N	80°57'30.0295"W	0.48	160.588	0.02	0.01	88.92	
400.00	0.090	342.650	400.00	-0.40	-0.38	0.12	1652218.56	14234476.79	39°11'57.1968"N	80°57'30.0300"W	0.40	162.626	0.10	0.07	103.14	
500.00	0.150	341.540	500.00	-0.19	-0.18	0.06	1652218.50	14234476.99	39°11'57.1988"N	80°57'30.0308"W	0.19	163.353	0.06	0.06	-1.11	
600.00	0.170	350.170	600.00	0.08	0.09	-0.01	1652218.43	14234477.26	39°11'57.2015"N	80°57'30.0316"W	0.09	352.330	0.03	0.02	8.63	
700.00	0.100	98.390	700.00	0.19	0.22	0.05	1652218.49	14234477.39	39°11'57.2028"N	80°57'30.0308"W	0.22	12.734	0.22	-0.07	108.22	
800.00	0.140	215.540	800.00	0.08	0.11	0.06	1652218.50	14234477.28	39°11'57.2017"N	80°57'30.0307"W	0.12	31.239	0.21	0.04	117.15	
837.00	0.110	233.200	837.00	0.04	0.05	0.01	1652218.45	14234477.22	39°11'57.2011"N	80°57'30.0314"W	0.05	11.683	0.13	-0.08	47.73	
963.00	1.530	230.310	962.98	-0.60	-1.10	-1.38	1652217.06	14234476.07	39°11'57.1898"N	80°57'30.0490"W	1.76	231.518	1.13	1.13	-2.29	APS EM <12-1/4"> (837')(963'-3290')
1052.00	2.000	226.490	1051.94	-1.67	-2.93	-3.42	1652215.02	14234474.25	39°11'57.1717"N	80°57'30.0750"W	4.50	229.467	0.54	0.53	-4.29	
1147.00	2.920	225.130	1146.85	-3.43	-5.77	-6.34	1652212.10	14234471.40	39°11'57.1436"N	80°57'30.1120"W	8.57	227.669	0.97	0.97	-1.43	
1241.00	4.860	227.270	1240.63	-6.11	-10.17	-10.96	1652207.48	14234467.01	39°11'57.1002"N	80°57'30.1708"W	14.95	227.156	2.07	2.06	2.28	
1336.00	7.450	231.740	1335.07	-9.81	-16.71	-18.75	1652199.69	14234460.47	39°11'57.0356"N	80°57'30.2698"W	25.12	228.297	2.77	2.73	4.71	
1431.00	10.410	235.150	1428.91	-14.25	-25.43	-30.64	1652187.82	14234451.75	39°11'56.9494"N	80°57'30.4208"W	39.82	230.304	3.16	3.12	3.59	
1525.00	13.120	238.720	1520.93	-18.93	-35.83	-46.73	1652171.73	14234441.36	39°11'56.8468"N	80°57'30.6252"W	58.88	232.522	2.98	2.88	3.80	
1620.00	15.790	237.250	1612.92	-24.41	-48.42	-66.82	1652151.65	14234428.77	39°11'56.7224"N	80°57'30.8805"W	82.52	234.071	2.84	2.81	-1.55	
1714.00	18.380	235.130	1702.76	-31.64	-63.81	-89.74	1652128.74	14234413.38	39°11'56.5703"N	80°57'31.1717"W	110.11	234.583	2.83	2.76	-2.26	
1809.00	19.780	235.190	1792.54	-40.26	-81.55	-115.22	1652103.26	14234395.65	39°11'56.3951"N	80°57'31.4955"W	141.16	234.710	1.47	1.47	0.06	
1904.00	19.960	233.160	1881.89	-49.76	-100.45	-141.40	1652077.10	14234376.76	39°11'56.2084"N	80°57'31.8281"W	173.45	234.609	0.75	0.19	-2.14	
1998.00	20.010	232.260	1970.22	-59.99	-119.92	-166.96	1652051.55	14234357.30	39°11'56.0162"N	80°57'32.1529"W	205.56	234.313	0.33	0.05	-0.96	
2093.00	20.070	231.260	2059.47	-70.87	-140.06	-192.53	1652025.99	14234337.16	39°11'55.8171"N	80°57'32.4778"W	238.08	233.964	0.37	0.06	-1.05	
2188.00	20.590	228.800	2148.56	-82.83	-161.27	-217.81	1652000.72	14234315.97	39°11'55.6077"N	80°57'32.7990"W	271.01	233.483	1.05	0.55	-2.59	
2282.00	20.270	227.050	2236.64	-95.84	-183.25	-242.16	1651976.37	14234293.99	39°11'55.3905"N	80°57'33.1085"W	303.68	232.884	0.73	-0.34	-1.86	
2377.00	21.330	227.370	2325.45	-109.59	-206.17	-266.92	1651951.63	14234271.09	39°11'55.1641"N	80°57'33.4231"W	337.27	232.318	1.12	1.12	0.34	
2472.00	21.190	226.850	2413.99	-123.70	-229.61	-292.16	1651926.40	14234247.65	39°11'54.9325"N	80°57'33.7439"W	371.59	231.836	0.25	-0.15	-0.55	
2566.00	20.770	226.150	2501.76	-137.80	-252.78	-316.57	1651901.99	14234224.50	39°11'54.7037"N	80°57'34.0541"W	405.11	231.394	0.52	-0.45	-0.74	
2661.00	21.410	226.400	2590.39	-152.25	-276.40	-341.28	1651877.30	14234200.88	39°11'54.4702"N	80°57'34.3680"W	439.17	230.996	0.68	0.67	0.26	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 3 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWP
Slot	Slot E		

WELLPATH DATA (245 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	Comments
2756.00	21.020	225.240	2678.95	-167.02	-300.36	-365.93	1651852.65	14234176.93	39°11'54.2336"N	80°57'34.6813"W	473.41	230.621	0.60	-0.41	-1.22	
2850.00	20.240	223.900	2766.93	-181.90	-323.94	-389.18	1651829.42	14234153.36	39°11'54.0006"N	80°57'34.9767"W	506.36	230.227	0.97	-0.83	-1.43	
2945.00	19.780	226.940	2856.19	-196.09	-346.76	-412.32	1651806.29	14234130.55	39°11'53.7751"N	80°57'35.2708"W	538.75	229.936	1.20	-0.48	3.20	
3040.00	19.140	227.810	2945.77	-208.91	-368.20	-435.60	1651783.01	14234109.12	39°11'53.5634"N	80°57'35.5667"W	570.37	229.794	0.74	-0.67	0.92	
3134.00	19.790	228.990	3034.39	-221.09	-388.99	-459.03	1651759.60	14234088.34	39°11'53.3580"N	80°57'35.8643"W	601.68	229.722	0.81	0.69	1.26	
3229.00	20.600	229.560	3123.55	-233.37	-410.38	-483.88	1651734.75	14234066.95	39°11'53.1466"N	80°57'36.1802"W	634.47	229.699	0.88	0.85	0.60	
3290.00	20.250	229.070	3180.72	-241.33	-424.26	-500.03	1651718.61	14234053.08	39°11'53.0095"N	80°57'36.3853"W	655.76	229.686	0.64	-0.57	-0.80	
3414.00	19.640	222.740	3297.29	-259.40	-453.63	-530.39	1651688.27	14234023.73	39°11'52.7194"N	80°57'36.7711"W	697.92	229.461	1.81	-0.49	-5.10	APS EM <8-3/4"> (3290')(3414'-5745')
3509.00	19.680	227.000	3386.76	-273.61	-476.26	-552.92	1651665.74	14234001.10	39°11'52.4958"N	80°57'37.0574"W	729.76	229.260	1.51	0.04	4.48	
3604.00	20.390	229.840	3476.01	-286.24	-497.85	-577.27	1651641.40	14233979.52	39°11'52.2826"N	80°57'37.3668"W	762.29	229.225	1.27	0.75	2.99	
3698.00	19.320	227.420	3564.42	-298.51	-518.93	-601.24	1651617.45	14233958.45	39°11'52.0743"N	80°57'37.6714"W	794.21	229.202	1.44	-1.14	-2.57	
3793.00	19.290	229.990	3654.08	-310.57	-539.65	-624.83	1651593.87	14233937.74	39°11'51.8696"N	80°57'37.9711"W	825.61	229.183	0.89	-0.03	2.71	
3887.00	19.490	233.890	3742.76	-320.89	-558.87	-649.39	1651569.31	14233918.52	39°11'51.6797"N	80°57'38.2832"W	856.76	229.284	1.39	0.21	4.15	
3982.00	20.930	238.720	3831.91	-329.32	-577.03	-676.70	1651542.02	14233900.37	39°11'51.5004"N	80°57'38.6302"W	889.31	229.545	2.32	1.52	5.08	
4077.00	19.840	234.720	3920.96	-337.61	-595.15	-704.36	1651514.36	14233882.26	39°11'51.3214"N	80°57'38.9817"W	922.13	229.804	1.86	-1.15	-4.21	
4171.00	20.530	236.500	4009.19	-346.36	-613.46	-731.13	1651487.61	14233863.96	39°11'51.1405"N	80°57'39.3218"W	954.40	230.001	0.98	0.73	1.89	
4266.00	19.760	233.470	4098.38	-355.52	-632.21	-757.92	1651460.82	14233845.21	39°11'50.9552"N	80°57'39.6622"W	986.99	230.167	1.36	-0.81	-3.19	
4361.00	19.520	236.660	4187.86	-364.44	-650.50	-784.09	1651434.67	14233826.93	39°11'50.7746"N	80°57'39.9947"W	1018.79	230.320	1.16	-0.25	3.36	
4455.00	20.230	237.700	4276.26	-372.22	-667.81	-810.95	1651407.82	14233809.63	39°11'50.6036"N	80°57'40.3359"W	1050.53	230.529	0.84	0.76	1.11	
4549.00	19.250	234.510	4364.74	-380.50	-685.49	-837.30	1651381.48	14233791.95	39°11'50.4290"N	80°57'40.6707"W	1082.12	230.693	1.55	-1.04	-3.39	
4644.00	20.380	232.460	4454.11	-390.36	-704.67	-863.17	1651355.62	14233772.79	39°11'50.2396"N	80°57'40.9994"W	1114.28	230.773	1.40	1.19	-2.16	
4738.00	22.220	231.630	4541.69	-401.62	-725.67	-890.09	1651328.71	14233751.79	39°11'50.0321"N	80°57'41.3414"W	1148.41	230.810	1.98	1.96	-0.88	
4833.00	21.050	228.250	4630.00	-414.33	-748.19	-916.90	1651301.91	14233729.28	39°11'49.8097"N	80°57'41.6821"W	1183.42	230.786	1.80	-1.23	-3.56	
4928.00	21.380	226.180	4718.56	-428.35	-771.54	-942.12	1651276.70	14233705.94	39°11'49.5790"N	80°57'42.0026"W	1217.73	230.685	0.86	0.35	-2.18	
5022.00	19.680	222.910	4806.59	-443.14	-795.00	-965.26	1651253.56	14233682.49	39°11'49.3472"N	80°57'42.2967"W	1250.50	230.525	2.18	-1.81	-3.48	
5116.00	19.640	226.230	4895.11	-457.35	-817.52	-987.45	1651231.39	14233659.98	39°11'49.1247"N	80°57'42.5786"W	1281.95	230.378	1.19	-0.04	3.53	
5211.00	19.970	229.010	4984.49	-470.26	-839.20	-1011.22	1651207.62	14233638.30	39°11'48.9105"N	80°57'42.8807"W	1314.09	230.311	1.05	0.35	2.93	
5306.00	20.220	230.900	5073.71	-482.13	-860.20	-1036.21	1651182.65	14233617.32	39°11'48.7030"N	80°57'43.1982"W	1346.73	230.303	0.73	0.26	1.99	
5400.00	19.280	229.210	5162.18	-493.62	-880.58	-1060.57	1651158.30	14233596.94	39°11'48.5017"N	80°57'43.5076"W	1378.49	230.297	1.17	-1.00	-1.80	
5495.00	19.990	230.380	5251.66	-505.30	-901.18	-1084.95	1651133.93	14233576.35	39°11'48.2982"N	80°57'43.8175"W	1410.41	230.286	0.85	0.75	1.23	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 4 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
5590.00	21.320	229.440	5340.55	-517.52	-922.77	-1110.58	1651108.31	14233554.77	39°11'48.0849"N	80°57'44.1431"W	1443.91	230.277	1.44	1.40	-0.99	
5684.00	19.420	229.060	5428.67	-529.79	-944.12	-1135.37	1651083.53	14233533.43	39°11'47.8740"N	80°57'44.4581"W	1476.63	230.255	2.03	-2.02	-0.40	
5745.00	17.640	226.550	5486.50	-537.49	-957.12	-1149.74	1651069.16	14233520.43	39°11'47.7455"N	80°57'44.6407"W	1495.99	230.224	3.20	-2.92	-4.11	
5801.00	15.680	225.960	5540.15	-544.28	-968.22	-1161.34	1651057.57	14233509.34	39°11'47.6359"N	80°57'44.7881"W	1512.01	230.182	3.51	-3.50	-1.05	BH Lucida <8-1/2"> (5745')(5801'-22461')
5896.00	19.660	241.410	5630.70	-552.51	-984.81	-1184.62	1651034.29	14233492.76	39°11'47.4720"N	80°57'45.0839"W	1540.51	230.262	6.44	4.19	16.26	
5990.00	19.500	264.280	5719.39	-551.69	-993.95	-1214.16	1651004.77	14233483.62	39°11'47.3818"N	80°57'45.4592"W	1569.12	230.695	8.11	-0.17	24.33	
6085.00	20.900	290.400	5808.73	-537.41	-989.62	-1245.89	1650973.05	14233487.95	39°11'47.4247"N	80°57'45.8621"W	1591.09	231.540	9.53	1.47	27.49	
6180.00	26.680	302.280	5895.67	-510.10	-972.30	-1279.85	1650939.11	14233505.26	39°11'47.5961"N	80°57'46.2934"W	1607.29	232.776	7.88	6.08	12.51	
6274.00	32.030	312.260	5977.62	-471.85	-944.23	-1316.19	1650902.78	14233533.32	39°11'47.8737"N	80°57'46.7548"W	1619.85	234.345	7.70	5.69	10.62	
6314.00†	35.043	315.598	6010.96	-452.22	-928.88	-1332.08	1650886.90	14233548.66	39°11'48.0254"N	80°57'46.9566"W	1623.96	235.111	8.83	7.53	8.35	Sycamore: 6314' MD
6369.00	39.310	319.440	6054.78	-421.80	-904.35	-1354.47	1650864.52	14233573.18	39°11'48.2679"N	80°57'47.2408"W	1628.63	236.270	8.83	7.76	6.98	
6463.00	46.090	324.630	6123.84	-361.63	-854.04	-1393.49	1650825.51	14233623.47	39°11'48.7653"N	80°57'47.7362"W	1634.38	238.497	8.12	7.21	5.52	
6513.00†	50.396	326.337	6157.14	-325.75	-823.31	-1414.60	1650804.41	14233654.19	39°11'49.0692"N	80°57'48.0042"W	1636.74	239.800	8.98	8.61	3.41	Middlesex: 6513' MD
6558.00	54.290	327.700	6184.62	-291.23	-793.43	-1433.98	1650785.04	14233684.06	39°11'49.3646"N	80°57'48.2502"W	1638.85	241.044	8.98	8.65	3.03	
6653.00	60.040	330.110	6236.12	-213.29	-725.08	-1475.14	1650743.90	14233752.38	39°11'50.0403"N	80°57'48.7726"W	1643.71	243.824	6.42	6.05	2.54	
6697.00†	63.618	333.212	6256.89	-175.06	-690.95	-1493.53	1650725.51	14233786.50	39°11'50.3778"N	80°57'49.0060"W	1645.61	245.173	10.23	8.13	7.05	Burkett: 6697' MD
6747.00	67.760	336.510	6277.48	-129.79	-649.70	-1512.86	1650706.19	14233827.73	39°11'50.7855"N	80°57'49.2514"W	1646.47	246.759	10.23	8.28	6.60	
6774.00†	69.754	337.711	6287.26	-104.70	-626.52	-1522.64	1650696.41	14233850.90	39°11'51.0147"N	80°57'49.3755"W	1646.50	247.634	8.47	7.39	4.45	Tully: 6774' MD
6839.00†	74.586	340.485	6307.16	-42.89	-568.73	-1544.69	1650674.37	14233908.67	39°11'51.5859"N	80°57'49.6553"W	1646.06	249.787	8.47	7.43	4.27	Marcellus POE: 6839' MD
6842.00	74.810	340.610	6307.95	-39.99	-566.00	-1545.65	1650673.41	14233911.39	39°11'51.6129"N	80°57'49.6675"W	1646.03	249.888	8.47	7.46	4.15	
6937.00	83.930	342.290	6325.46	53.27	-477.57	-1575.31	1650643.77	14233999.79	39°11'52.4870"N	80°57'50.0437"W	1646.11	253.135	9.76	9.60	1.77	
7031.00	90.550	341.810	6329.98	147.10	-388.30	-1604.23	1650614.86	14234089.02	39°11'53.3695"N	80°57'50.4106"W	1650.55	256.393	7.06	7.04	-0.51	
7126.00	90.460	341.970	6329.14	242.09	-298.01	-1633.76	1650585.34	14234179.28	39°11'54.2620"N	80°57'50.7852"W	1660.71	259.662	0.19	-0.09	0.17	
7220.00	90.520	341.980	6328.34	336.08	-208.63	-1662.84	1650556.27	14234268.62	39°11'55.1456"N	80°57'51.1542"W	1675.88	262.849	0.06	0.06	0.01	
7315.00	90.580	342.150	6327.43	431.07	-118.25	-1692.09	1650527.03	14234358.97	39°11'56.0390"N	80°57'51.5253"W	1696.22	266.002	0.19	0.06	0.18	
7410.00	90.490	342.130	6326.54	526.06	-27.83	-1721.23	1650497.90	14234449.35	39°11'56.9328"N	80°57'51.8950"W	1721.45	269.074	0.10	-0.09	-0.02	
7504.00	90.490	342.110	6325.74	620.04	61.62	-1750.09	1650469.06	14234538.77	39°11'57.8171"N	80°57'52.2611"W	1751.17	272.017	0.02	0.00	-0.02	
7599.00	90.460	341.990	6324.95	715.03	152.00	-1779.36	1650439.79	14234629.11	39°11'58.7104"N	80°57'52.6325"W	1785.84	274.882	0.13	-0.03	-0.13	
7693.00	90.520	342.150	6324.15	809.02	241.43	-1808.30	1650410.87	14234718.50	39°11'59.5945"N	80°57'52.9997"W	1824.35	277.605	0.18	0.06	0.17	
7788.00	90.520	341.950	6323.28	904.01	331.80	-1837.58	1650381.60	14234808.84	39°12'0.4878"N	80°57'53.3711"W	1867.29	280.235	0.21	0.00	-0.21	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 5 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
7883.00	90.490	342.190	6322.45	998.99	422.18	-1866.82	1650352.37	14234899.18	39°12'1.3813"N	80°57'53.7421"W	1913.97	282.743	0.25	-0.03	0.25	
7977.00	90.520	342.230	6321.62	1092.98	511.68	-1895.54	1650323.66	14234988.65	39°12'2.2660"N	80°57'54.1065"W	1963.39	285.106	0.05	0.03	0.04	
8072.00	90.490	342.320	6320.78	1187.96	602.17	-1924.46	1650294.75	14235079.10	39°12'3.1605"N	80°57'54.4734"W	2016.47	287.375	0.10	-0.03	0.09	
8166.00	90.490	342.080	6319.98	1281.94	691.67	-1953.20	1650266.03	14235168.56	39°12'4.0451"N	80°57'54.8380"W	2072.05	289.500	0.26	0.00	-0.26	
8261.00	90.490	342.210	6319.16	1376.93	782.09	-1982.32	1650236.91	14235258.94	39°12'4.9390"N	80°57'55.2075"W	2131.03	291.531	0.14	0.00	0.14	
8356.00	90.490	342.210	6318.35	1471.91	872.54	-2011.35	1650207.90	14235349.36	39°12'5.8331"N	80°57'55.5758"W	2192.45	293.452	0.00	0.00	0.00	
8450.00	90.400	342.010	6317.62	1565.90	961.99	-2040.22	1650179.04	14235438.78	39°12'6.7173"N	80°57'55.9421"W	2255.65	295.245	0.23	-0.10	-0.21	
8544.00	90.280	342.330	6317.06	1659.89	1051.48	-2069.01	1650150.27	14235528.23	39°12'7.6019"N	80°57'56.3073"W	2320.86	296.940	0.36	-0.13	0.34	
8639.00	90.250	342.090	6316.62	1754.87	1141.93	-2098.03	1650121.25	14235618.65	39°12'8.4961"N	80°57'56.6755"W	2388.67	298.559	0.25	-0.03	-0.25	
8734.00	90.280	342.330	6316.19	1849.86	1232.39	-2127.05	1650092.24	14235709.07	39°12'9.3902"N	80°57'57.0438"W	2458.28	300.088	0.25	0.03	0.25	
8828.00	90.180	342.000	6315.81	1943.85	1321.87	-2155.84	1650063.46	14235798.51	39°12'10.2748"N	80°57'57.4091"W	2528.84	301.515	0.37	-0.11	-0.35	
8923.00	90.250	342.440	6315.45	2038.83	1412.33	-2184.85	1650034.46	14235888.94	39°12'11.1690"N	80°57'57.7772"W	2601.59	302.879	0.47	0.07	0.46	
9017.00	90.280	342.190	6315.02	2132.82	1501.89	-2213.41	1650005.92	14235978.46	39°12'12.0543"N	80°57'58.1395"W	2674.86	304.159	0.27	0.03	-0.27	
9111.00	90.250	342.160	6314.58	2226.81	1591.38	-2242.18	1649977.16	14236067.91	39°12'12.9388"N	80°57'58.5046"W	2749.52	305.365	0.05	-0.03	-0.03	
9206.00	90.490	341.070	6313.97	2321.80	1681.53	-2272.15	1649947.21	14236158.02	39°12'13.8300"N	80°57'58.8847"W	2826.69	306.504	1.17	0.25	-1.15	
9301.00	90.400	341.350	6313.23	2416.80	1771.46	-2302.74	1649916.62	14236247.92	39°12'14.7190"N	80°57'59.2730"W	2905.29	307.570	0.31	-0.09	0.29	
9396.00	90.430	341.130	6312.54	2511.79	1861.41	-2333.30	1649886.08	14236337.83	39°12'15.6081"N	80°57'59.6607"W	2984.81	308.581	0.23	0.03	-0.23	
9490.00	90.460	341.310	6311.81	2605.79	1950.40	-2363.56	1649855.83	14236426.79	39°12'16.4878"N	80°58'0.0447"W	3064.39	309.529	0.19	0.03	0.19	
9585.00	90.520	340.970	6311.00	2700.79	2040.30	-2394.26	1649825.14	14236516.65	39°12'17.3765"N	80°58'0.4344"W	3145.68	310.436	0.36	0.06	-0.36	
9679.00	90.550	341.220	6310.12	2794.78	2129.22	-2424.72	1649794.69	14236605.54	39°12'18.2555"N	80°58'0.8208"W	3226.90	311.287	0.27	0.03	0.27	
9774.00	90.460	340.970	6309.28	2889.78	2219.10	-2455.50	1649763.93	14236695.37	39°12'19.1439"N	80°58'1.2114"W	3309.66	312.105	0.28	-0.09	-0.26	
9869.00	90.400	341.050	6308.57	2984.78	2308.92	-2486.41	1649733.03	14236785.17	39°12'20.0319"N	80°58'1.6037"W	3393.14	312.880	0.11	-0.06	0.08	
9963.00	90.550	341.400	6307.79	3078.77	2397.92	-2516.66	1649702.79	14236874.12	39°12'20.9116"N	80°58'1.9876"W	3476.15	313.616	0.41	0.16	0.37	
10058.00	90.580	341.430	6306.86	3173.77	2487.96	-2546.94	1649672.52	14236964.13	39°12'21.8016"N	80°58'2.3718"W	3560.46	314.329	0.04	0.03	0.03	
10153.00	90.460	341.500	6305.99	3268.76	2578.03	-2577.14	1649642.34	14237054.16	39°12'22.6920"N	80°58'2.7550"W	3645.25	315.010	0.15	-0.13	0.07	
10248.00	91.080	341.760	6304.72	3363.75	2668.18	-2607.07	1649612.41	14237144.28	39°12'23.5831"N	80°58'3.1349"W	3730.42	315.664	0.71	0.65	0.27	
10342.00	90.400	341.070	6303.50	3457.74	2757.27	-2637.03	1649582.47	14237233.33	39°12'24.4638"N	80°58'3.5150"W	3815.29	316.277	1.03	-0.72	-0.73	
10437.00	90.180	340.030	6303.02	3552.73	2846.84	-2668.66	1649550.85	14237322.87	39°12'25.3492"N	80°58'3.9164"W	3902.09	316.850	1.12	-0.23	-1.09	
10532.00	90.310	339.980	6302.62	3647.71	2936.12	-2701.15	1649518.38	14237412.11	39°12'26.2317"N	80°58'4.3287"W	3989.61	317.387	0.15	0.14	-0.05	
10626.00	89.780	340.380	6302.54	3741.69	3024.55	-2733.02	1649486.52	14237500.50	39°12'27.1059"N	80°58'4.7332"W	4076.43	317.899	0.71	-0.56	0.43	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 6 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
10721.00	89.600	340.010	6303.06	3836.67	3113.93	-2765.21	1649454.35	14237589.85	39°12'27.9894"N	80°58'5.1417"W	4164.48	318.395	0.43	-0.19	-0.39	
10816.00	89.720	339.940	6303.62	3931.64	3203.18	-2797.74	1649421.83	14237679.07	39°12'28.8717"N	80°58'5.5546"W	4252.96	318.865	0.15	0.13	-0.07	
10910.00	90.150	340.100	6303.73	4025.62	3291.53	-2829.86	1649389.72	14237767.37	39°12'29.7450"N	80°58'5.9622"W	4340.76	319.313	0.49	0.46	0.17	
11005.00	89.820	340.050	6303.75	4120.60	3380.84	-2862.23	1649357.36	14237856.65	39°12'30.6278"N	80°58'6.3731"W	4429.72	319.749	0.35	-0.35	-0.05	
11100.00	90.220	340.100	6303.72	4215.58	3470.15	-2894.61	1649325.00	14237945.93	39°12'31.5107"N	80°58'6.7840"W	4518.93	320.167	0.42	0.42	0.05	
11194.00	89.750	339.960	6303.74	4309.56	3558.50	-2926.71	1649292.91	14238034.24	39°12'32.3840"N	80°58'7.1914"W	4607.44	320.564	0.52	-0.50	-0.15	
11289.00	89.780	339.900	6304.13	4404.53	3647.73	-2959.31	1649260.32	14238123.43	39°12'33.2661"N	80°58'7.6052"W	4697.17	320.948	0.07	0.03	-0.06	
11384.00	89.850	339.940	6304.44	4499.50	3736.95	-2991.93	1649227.72	14238212.62	39°12'34.1481"N	80°58'8.0192"W	4787.11	321.318	0.08	0.07	0.04	
11478.00	89.750	340.080	6304.77	4593.48	3825.29	-3024.06	1649195.60	14238300.92	39°12'35.0213"N	80°58'8.4270"W	4876.25	321.672	0.18	-0.11	0.15	
11573.00	89.750	341.460	6305.18	4688.47	3914.99	-3055.35	1649164.32	14238390.58	39°12'35.9079"N	80°58'8.8241"W	4966.11	322.031	1.45	0.00	1.45	
11668.00	89.880	340.920	6305.49	4783.47	4004.91	-3085.98	1649133.70	14238480.47	39°12'36.7969"N	80°58'9.2129"W	5055.95	322.384	0.58	0.14	-0.57	
11762.00	90.310	341.640	6305.33	4877.47	4093.94	-3116.15	1649103.54	14238569.46	39°12'37.6769"N	80°58'9.5957"W	5144.97	322.723	0.89	0.46	0.77	
11857.00	89.820	340.750	6305.23	4972.47	4183.87	-3146.77	1649072.93	14238659.35	39°12'38.5658"N	80°58'9.9844"W	5235.16	323.052	1.07	-0.52	-0.94	
11952.00	89.880	341.120	6305.47	5067.47	4273.65	-3177.80	1649041.92	14238749.11	39°12'39.4534"N	80°58'10.3782"W	5325.65	323.366	0.39	0.06	0.39	
12046.00	89.820	340.830	6305.72	5161.46	4362.52	-3208.44	1649011.29	14238837.94	39°12'40.3318"N	80°58'10.7671"W	5415.32	323.667	0.32	-0.06	-0.31	
12141.00	89.850	341.160	6305.99	5256.46	4452.34	-3239.38	1648980.36	14238927.72	39°12'41.2197"N	80°58'11.1598"W	5506.08	323.962	0.35	0.03	0.35	
12235.00	89.720	341.060	6306.35	5350.46	4541.28	-3269.81	1648949.94	14239016.62	39°12'42.0988"N	80°58'11.5460"W	5595.97	324.245	0.17	-0.14	-0.11	
12330.00	90.060	341.260	6306.53	5445.46	4631.19	-3300.49	1648919.28	14239106.50	39°12'42.9876"N	80°58'11.9354"W	5686.93	324.524	0.42	0.36	0.21	
12425.00	89.660	340.980	6306.76	5540.46	4721.08	-3331.23	1648888.55	14239196.35	39°12'43.8761"N	80°58'12.3256"W	5778.03	324.793	0.51	-0.42	-0.29	
12519.00	90.000	341.010	6307.04	5634.46	4809.95	-3361.84	1648857.95	14239285.19	39°12'44.7547"N	80°58'12.7141"W	5868.36	325.049	0.36	0.36	0.03	
12614.00	89.910	341.790	6307.11	5729.46	4899.99	-3392.14	1648827.66	14239375.19	39°12'45.6447"N	80°58'13.0987"W	5959.57	325.306	0.83	-0.09	0.82	
12709.00	89.780	341.370	6307.37	5824.46	4990.12	-3422.16	1648797.66	14239465.29	39°12'46.5356"N	80°58'13.4797"W	6050.83	325.558	0.46	-0.14	-0.44	
12803.00	89.850	341.300	6307.67	5918.45	5079.18	-3452.24	1648767.58	14239554.31	39°12'47.4159"N	80°58'13.8615"W	6141.34	325.797	0.11	0.07	-0.07	
12898.00	89.720	341.190	6308.03	6013.45	5169.13	-3482.79	1648737.05	14239644.22	39°12'48.3051"N	80°58'14.2492"W	6232.96	326.029	0.18	-0.14	-0.12	
12992.00	89.880	341.250	6308.36	6107.45	5258.13	-3513.05	1648706.80	14239733.18	39°12'49.1848"N	80°58'14.6333"W	6323.72	326.252	0.18	0.17	0.06	
13087.00	90.150	342.220	6308.33	6202.45	5348.34	-3542.82	1648677.04	14239823.36	39°12'50.0766"N	80°58'15.0112"W	6415.32	326.479	1.06	0.28	1.02	
13181.00	89.850	341.050	6308.33	6296.45	5437.55	-3572.44	1648647.44	14239912.53	39°12'50.9584"N	80°58'15.3871"W	6506.09	326.695	1.28	-0.32	-1.24	
13276.00	90.150	341.770	6308.33	6391.44	5527.59	-3602.72	1648617.16	14240002.54	39°12'51.8485"N	80°58'15.7715"W	6598.02	326.905	0.82	0.32	0.76	
13371.00	89.850	341.130	6308.33	6486.44	5617.66	-3632.95	1648586.95	14240092.57	39°12'52.7388"N	80°58'16.1551"W	6690.02	327.109	0.74	-0.32	-0.67	
13465.00	90.120	341.370	6308.36	6580.44	5706.67	-3663.16	1648556.75	14240181.54	39°12'53.6186"N	80°58'16.5386"W	6781.21	327.303	0.38	0.29	0.26	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 7 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
13560.00	89.820	341.380	6308.41	6675.44	5796.69	-3693.50	1648526.42	14240271.53	39°12'54.5085"N	80°58'16.9237"W	6873.40	327.496	0.32	-0.32	0.01	
13654.00	89.630	341.250	6308.86	6769.44	5885.74	-3723.62	1648496.32	14240360.54	39°12'55.3887"N	80°58'17.3060"W	6964.71	327.680	0.24	-0.20	-0.14	
13749.00	89.850	341.090	6309.29	6864.44	5975.65	-3754.28	1648465.67	14240450.42	39°12'56.2775"N	80°58'17.6952"W	7057.12	327.860	0.29	0.23	-0.17	
13844.00	89.630	340.870	6309.72	6959.44	6065.46	-3785.24	1648434.72	14240540.20	39°12'57.1653"N	80°58'18.0882"W	7149.68	328.033	0.33	-0.23	-0.23	
13938.00	89.750	341.480	6310.23	7053.44	6154.43	-3815.57	1648404.40	14240629.13	39°12'58.0448"N	80°58'18.4732"W	7241.24	328.202	0.66	0.13	0.65	
14033.00	89.660	341.160	6310.72	7148.44	6244.43	-3846.00	1648373.99	14240719.09	39°12'58.9343"N	80°58'18.8594"W	7333.80	328.371	0.35	-0.09	-0.34	
14127.00	89.720	341.000	6311.23	7242.43	6333.35	-3876.47	1648343.52	14240807.97	39°12'59.8133"N	80°58'19.2463"W	7425.52	328.530	0.18	0.06	-0.17	
14222.00	89.750	341.310	6311.67	7337.43	6423.25	-3907.16	1648312.85	14240897.84	39°13'0.7020"N	80°58'19.6358"W	7518.25	328.689	0.33	0.03	0.33	
14316.00	89.750	341.020	6312.08	7431.43	6512.22	-3937.51	1648282.52	14240986.77	39°13'1.5814"N	80°58'20.0211"W	7610.06	328.841	0.31	0.00	-0.31	
14411.00	90.000	341.560	6312.29	7526.43	6602.20	-3967.98	1648252.05	14241076.72	39°13'2.4709"N	80°58'20.4079"W	7702.85	328.994	0.63	0.26	0.57	
14506.00	89.780	341.340	6312.47	7621.43	6692.26	-3998.20	1648221.84	14241166.74	39°13'3.3611"N	80°58'20.7915"W	7795.64	329.144	0.33	-0.23	-0.23	
14600.00	89.690	341.020	6312.90	7715.43	6781.24	-4028.53	1648191.53	14241255.68	39°13'4.2406"N	80°58'21.1765"W	7887.60	329.287	0.35	-0.10	-0.34	
14695.00	89.690	341.040	6313.42	7810.43	6871.08	-4059.41	1648160.66	14241345.48	39°13'5.1287"N	80°58'21.5685"W	7980.63	329.426	0.02	0.00	0.02	
14790.00	89.480	341.080	6314.10	7905.42	6960.93	-4090.24	1648129.84	14241435.30	39°13'6.0169"N	80°58'21.9599"W	8073.70	329.562	0.23	-0.22	0.04	
14884.00	89.600	341.380	6314.86	7999.42	7049.93	-4120.49	1648099.61	14241524.27	39°13'6.8966"N	80°58'22.3439"W	8165.78	329.695	0.34	0.13	0.32	
14979.00	89.540	341.090	6315.57	8094.42	7139.88	-4151.05	1648069.06	14241614.18	39°13'7.7857"N	80°58'22.7318"W	8258.88	329.827	0.31	-0.06	-0.31	
15074.00	89.570	340.980	6316.31	8189.41	7229.72	-4181.92	1648038.20	14241703.98	39°13'8.6738"N	80°58'23.1237"W	8352.08	329.953	0.12	0.03	-0.12	
15168.00	89.540	341.140	6317.04	8283.41	7318.62	-4212.43	1648007.70	14241792.85	39°13'9.5526"N	80°58'23.5110"W	8444.34	330.076	0.17	-0.03	0.17	
15263.00	89.480	341.110	6317.85	8378.41	7408.51	-4243.16	1647976.98	14241882.71	39°13'10.4412"N	80°58'23.9012"W	8537.59	330.198	0.07	-0.06	-0.03	
15358.00	89.480	341.300	6318.71	8473.40	7498.44	-4273.77	1647946.39	14241972.60	39°13'11.3301"N	80°58'24.2897"W	8630.86	330.319	0.20	0.00	0.20	
15453.00	89.420	341.150	6319.63	8568.40	7588.38	-4304.34	1647915.83	14242062.50	39°13'12.2192"N	80°58'24.6778"W	8724.16	330.437	0.17	-0.06	-0.16	
15547.00	89.510	340.850	6320.50	8662.39	7677.26	-4334.94	1647885.24	14242151.34	39°13'13.0977"N	80°58'25.0663"W	8816.58	330.549	0.33	0.10	-0.32	
15642.00	90.120	341.820	6320.81	8757.39	7767.26	-4365.35	1647854.85	14242241.31	39°13'13.9873"N	80°58'25.4523"W	8909.91	330.663	1.21	0.64	1.02	
15736.00	89.410	341.000	6321.20	8851.39	7856.35	-4395.31	1647824.89	14242330.37	39°13'14.8680"N	80°58'25.8327"W	9002.28	330.775	1.15	-0.76	-0.87	
15831.00	89.910	341.140	6321.76	8946.38	7946.21	-4426.13	1647794.09	14242420.19	39°13'15.7562"N	80°58'26.2240"W	9095.77	330.882	0.55	0.53	0.15	
15925.00	89.970	341.290	6321.86	9040.38	8035.21	-4456.40	1647763.83	14242509.15	39°13'16.6359"N	80°58'26.6083"W	9188.26	330.987	0.17	0.06	0.16	
16020.00	90.030	341.110	6321.86	9135.38	8125.14	-4487.02	1647733.23	14242599.04	39°13'17.5249"N	80°58'26.9969"W	9281.77	331.091	0.20	0.06	-0.19	
16115.00	89.880	341.370	6321.93	9230.38	8215.09	-4517.57	1647702.69	14242688.96	39°13'18.4140"N	80°58'27.3848"W	9375.29	331.193	0.32	-0.16	0.27	
16209.00	89.570	341.280	6322.38	9324.38	8304.14	-4547.67	1647672.60	14242777.97	39°13'19.2943"N	80°58'27.7669"W	9467.84	331.293	0.34	-0.33	-0.10	
16304.00	89.480	341.730	6323.17	9419.38	8394.23	-4577.80	1647642.48	14242868.03	39°13'20.1848"N	80°58'28.1495"W	9561.35	331.394	0.48	-0.09	0.47	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 8 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
16398.00	89.480	341.290	6324.03	9513.37	8483.37	-4607.61	1647612.68	14242957.14	39°13'21.0660"N	80°58'28.5280"W	9653.90	331.492	0.47	0.00	-0.47	
16493.00	89.510	341.340	6324.86	9608.37	8573.36	-4638.05	1647582.26	14243047.09	39°13'21.9555"N	80°58'28.9144"W	9747.51	331.587	0.06	0.03	0.05	
16588.00	89.450	341.240	6325.72	9703.37	8663.34	-4668.52	1647551.80	14243137.03	39°13'22.8449"N	80°58'29.3012"W	9841.16	331.681	0.12	-0.06	-0.11	
16682.00	89.420	341.640	6326.65	9797.36	8752.45	-4698.44	1647521.89	14243226.10	39°13'23.7257"N	80°58'29.6811"W	9933.81	331.772	0.43	-0.03	0.43	
16777.00	89.450	341.080	6327.59	9892.36	8842.46	-4728.80	1647491.54	14243316.08	39°13'24.6154"N	80°58'30.0666"W	10027.49	331.863	0.59	0.03	-0.59	
16872.00	89.510	341.160	6328.45	9987.35	8932.34	-4759.54	1647460.81	14243405.92	39°13'25.5039"N	80°58'30.4568"W	10121.26	331.949	0.11	0.06	0.08	
16966.00	89.510	341.280	6329.25	10081.35	9021.34	-4789.80	1647430.57	14243494.88	39°13'26.3836"N	80°58'30.8411"W	10214.04	332.034	0.13	0.00	0.13	
17061.00	89.480	341.210	6330.09	10176.34	9111.29	-4820.34	1647400.03	14243584.80	39°13'27.2727"N	80°58'31.2288"W	10307.83	332.119	0.08	-0.03	-0.07	
17155.00	89.450	341.200	6330.97	10270.34	9200.27	-4850.63	1647369.76	14243673.75	39°13'28.1523"N	80°58'31.6133"W	10400.65	332.201	0.03	-0.03	-0.01	
17250.00	89.480	341.090	6331.86	10365.34	9290.17	-4881.33	1647339.07	14243763.61	39°13'29.0410"N	80°58'32.0031"W	10494.50	332.281	0.12	0.03	-0.12	
17344.00	89.540	341.070	6332.66	10459.33	9379.09	-4911.80	1647308.61	14243852.49	39°13'29.9199"N	80°58'32.3901"W	10587.40	332.359	0.07	0.06	-0.02	
17438.00	89.380	340.900	6333.55	10553.33	9467.96	-4942.43	1647278.00	14243941.32	39°13'30.7983"N	80°58'32.7790"W	10680.35	332.435	0.25	-0.17	-0.18	
17533.00	89.570	340.880	6334.42	10648.32	9557.72	-4973.53	1647246.91	14244031.05	39°13'31.6856"N	80°58'33.1738"W	10774.32	332.509	0.20	0.20	-0.02	
17628.00	89.660	340.760	6335.06	10743.31	9647.44	-5004.74	1647215.71	14244120.73	39°13'32.5725"N	80°58'33.5701"W	10868.33	332.581	0.16	0.09	-0.13	
17722.00	89.750	341.150	6335.54	10837.31	9736.29	-5035.41	1647185.05	14244209.55	39°13'33.4508"N	80°58'33.9596"W	10961.33	332.653	0.43	0.10	0.41	
17817.00	89.720	341.100	6335.98	10932.31	9826.18	-5066.15	1647154.33	14244299.41	39°13'34.3393"N	80°58'34.3498"W	11055.30	332.725	0.06	-0.03	-0.05	
17911.00	89.380	341.200	6336.72	11026.31	9915.14	-5096.52	1647123.97	14244388.33	39°13'35.2186"N	80°58'34.7354"W	11148.29	332.796	0.38	-0.36	0.11	
18006.00	89.320	341.130	6337.79	11121.30	10005.05	-5127.18	1647093.32	14244478.20	39°13'36.1073"N	80°58'35.1248"W	11242.29	332.867	0.10	-0.06	-0.07	
18101.00	89.410	341.080	6338.85	11216.29	10094.92	-5157.95	1647062.57	14244568.04	39°13'36.9957"N	80°58'35.5154"W	11336.31	332.935	0.11	0.09	-0.05	
18195.00	89.380	340.890	6339.84	11310.29	10183.79	-5188.57	1647031.95	14244656.87	39°13'37.8741"N	80°58'35.9043"W	11429.38	333.001	0.20	-0.03	-0.20	
18290.00	89.380	341.060	6340.87	11405.28	10273.59	-5219.54	1647001.00	14244746.64	39°13'38.7618"N	80°58'36.2975"W	11523.47	333.067	0.18	0.00	0.18	
18385.00	89.230	340.820	6342.02	11500.27	10363.38	-5250.56	1646969.99	14244836.38	39°13'39.6493"N	80°58'36.6914"W	11617.57	333.131	0.30	-0.16	-0.25	
18480.00	89.690	340.990	6342.92	11595.27	10453.15	-5281.63	1646938.93	14244926.12	39°13'40.5367"N	80°58'37.0860"W	11711.70	333.194	0.52	0.48	0.18	
18574.00	89.540	340.950	6343.55	11689.26	10542.01	-5312.28	1646908.29	14245014.94	39°13'41.4150"N	80°58'37.4752"W	11804.84	333.256	0.17	-0.16	-0.04	
18669.00	89.570	340.940	6344.29	11784.26	10631.80	-5343.30	1646877.29	14245104.70	39°13'42.3026"N	80°58'37.8690"W	11898.99	333.317	0.03	0.03	-0.01	
18764.00	89.540	341.250	6345.02	11879.25	10721.67	-5374.08	1646846.52	14245194.53	39°13'43.1909"N	80°58'38.2598"W	11993.12	333.378	0.33	-0.03	0.33	
18858.00	89.720	341.530	6345.63	11973.25	10810.76	-5404.07	1646816.54	14245283.58	39°13'44.0715"N	80°58'38.6408"W	12086.21	333.440	0.35	0.19	0.30	
18953.00	89.380	341.280	6346.38	12068.25	10900.79	-5434.37	1646786.26	14245373.58	39°13'44.9615"N	80°58'39.0254"W	12180.30	333.502	0.44	-0.36	-0.26	
19048.00	89.320	341.280	6347.45	12163.24	10990.76	-5464.85	1646755.78	14245463.52	39°13'45.8508"N	80°58'39.4125"W	12274.42	333.562	0.06	-0.06	0.00	
19237.00	89.320	340.950	6349.70	12352.23	11169.58	-5526.02	1646694.64	14245642.26	39°13'47.6183"N	80°58'40.1893"W	12461.80	333.677	0.17	0.00	-0.17	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 9 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Miner Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
19332.00	89.380	341.090	6350.77	12447.22	11259.40	-5556.92	1646663.75	14245732.05	39°13'48.5062"N	80°58'40.5816"W	12556.02	333.732	0.16	0.06	0.15	
19426.00	89.290	340.870	6351.87	12541.21	11348.27	-5587.55	1646633.13	14245820.88	39°13'49.3846"N	80°58'40.9706"W	12649.26	333.786	0.25	-0.10	-0.23	
19521.00	89.350	341.110	6352.99	12636.21	11438.08	-5618.49	1646602.20	14245910.65	39°13'50.2724"N	80°58'41.3636"W	12743.51	333.839	0.26	0.06	0.25	
19616.00	89.380	341.250	6354.05	12731.20	11527.99	-5649.14	1646571.57	14246000.53	39°13'51.1612"N	80°58'41.7527"W	12837.73	333.893	0.15	0.03	0.15	
19710.00	89.510	341.620	6354.96	12825.19	11617.10	-5679.06	1646541.66	14246089.60	39°13'52.0419"N	80°58'42.1328"W	12930.92	333.948	0.42	0.14	0.39	
19805.00	89.260	341.290	6355.98	12920.19	11707.16	-5709.28	1646511.46	14246179.63	39°13'52.9321"N	80°58'42.5164"W	13025.11	334.003	0.44	-0.26	-0.35	
19900.00	89.510	341.560	6357.00	13015.18	11797.21	-5739.54	1646481.21	14246269.64	39°13'53.8222"N	80°58'42.9007"W	13119.31	334.056	0.39	0.26	0.28	
19994.00	89.380	341.340	6357.91	13109.18	11886.32	-5769.44	1646451.32	14246358.71	39°13'54.7031"N	80°58'43.2804"W	13212.53	334.109	0.27	-0.14	-0.23	
20089.00	89.290	341.460	6359.01	13204.17	11976.35	-5799.74	1646421.03	14246448.71	39°13'55.5930"N	80°58'43.6652"W	13306.76	334.161	0.16	-0.09	0.13	
20183.00	89.420	341.280	6360.07	13298.16	12065.42	-5829.77	1646391.02	14246537.74	39°13'56.4734"N	80°58'44.0465"W	13400.02	334.211	0.24	0.14	-0.19	
20278.00	89.570	341.200	6360.90	13393.16	12155.37	-5860.32	1646360.48	14246627.65	39°13'57.3625"N	80°58'44.4345"W	13494.31	334.260	0.18	0.16	-0.08	
20372.00	89.320	341.110	6361.81	13487.16	12244.33	-5890.68	1646330.13	14246716.58	39°13'58.2418"N	80°58'44.8201"W	13587.63	334.308	0.28	-0.27	-0.10	
20467.00	89.320	341.110	6362.94	13582.15	12334.20	-5921.43	1646299.39	14246806.42	39°13'59.1302"N	80°58'45.2107"W	13681.96	334.355	0.00	0.00	0.00	
20562.00	89.320	341.110	6364.07	13677.14	12424.08	-5952.19	1646268.64	14246896.26	39°14°0.0186"N	80°58'45.6012"W	13776.29	334.402	0.00	0.00	0.00	
20656.00	89.290	341.290	6365.21	13771.13	12513.06	-5982.48	1646238.37	14246985.20	39°14°0.8981"N	80°58'45.9859"W	13869.63	334.448	0.19	-0.03	0.19	
20751.00	89.450	341.690	6366.25	13866.13	12603.14	-6012.64	1646208.22	14247075.24	39°14°1.7885"N	80°58'46.3689"W	13963.91	334.495	0.45	0.17	0.42	
20846.00	89.320	341.140	6367.27	13961.12	12693.18	-6042.91	1646177.96	14247165.25	39°14°2.6785"N	80°58'46.7534"W	14058.22	334.542	0.59	-0.14	-0.58	
20940.00	89.350	341.230	6368.37	14055.12	12782.15	-6073.23	1646147.65	14247254.18	39°14°3.5580"N	80°58'47.1384"W	14151.59	334.586	0.10	0.03	0.10	
21035.00	89.320	341.270	6369.47	14150.11	12872.10	-6103.76	1646117.13	14247344.10	39°14°4.4471"N	80°58'47.5262"W	14245.94	334.630	0.05	-0.03	0.04	
21130.00	89.350	341.070	6370.57	14245.10	12962.01	-6134.42	1646086.48	14247433.97	39°14°5.3358"N	80°58'47.9156"W	14340.32	334.674	0.21	0.03	-0.21	
21224.00	89.660	341.100	6371.38	14339.10	13050.93	-6164.89	1646056.03	14247522.86	39°14°6.2148"N	80°58'48.3026"W	14433.74	334.715	0.33	0.33	0.03	
21319.00	89.600	341.320	6372.00	14434.10	13140.87	-6195.49	1646025.44	14247612.76	39°14°7.1037"N	80°58'48.6912"W	14528.13	334.758	0.24	-0.06	0.23	
21414.00	89.570	341.150	6372.68	14529.09	13230.82	-6226.05	1645994.89	14247702.67	39°14°7.9928"N	80°58'49.0793"W	14622.52	334.800	0.18	-0.03	-0.18	
21508.00	89.600	341.230	6373.36	14623.09	13319.79	-6256.36	1645964.60	14247791.61	39°14°8.8723"N	80°58'49.4643"W	14715.94	334.840	0.09	0.03	0.09	
21603.00	89.660	341.340	6373.98	14718.09	13409.77	-6286.84	1645934.13	14247881.55	39°14°9.7617"N	80°58'49.8514"W	14810.34	334.882	0.13	0.06	0.12	
21698.00	89.630	341.290	6374.57	14813.09	13499.76	-6317.27	1645903.71	14247971.50	39°14°10.6512"N	80°58'50.2379"W	14904.75	334.923	0.06	-0.03	-0.05	
21792.00	89.850	341.340	6374.99	14907.09	13588.80	-6347.39	1645873.60	14248060.51	39°14°11.5314"N	80°58'50.6204"W	14998.16	334.963	0.24	0.23	0.05	
21887.00	89.820	341.190	6375.27	15002.09	13678.77	-6377.90	1645843.10	14248150.44	39°14°12.4207"N	80°58'51.0080"W	15092.59	335.002	0.16	-0.03	-0.16	
21982.00	89.850	341.290	6375.54	15097.09	13768.72	-6408.45	1645812.56	14248240.36	39°14°13.3098"N	80°58'51.3960"W	15187.03	335.041	0.11	0.03	0.11	
22076.00	89.940	341.190	6375.71	15191.09	13857.73	-6438.68	1645782.34	14248329.33	39°14°14.1896"N	80°58'51.7800"W	15280.49	335.079	0.14	0.10	-0.11	



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'
Page 10 of 12



REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

WELLPATH DATA (245 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
22171.00	89.880	341.280	6375.86	15286.08	13947.68	-6469.24	1645751.80	14248419.24	39°14'15.0787"N	80°58'52.1681"W	15374.94	335.117	0.11	-0.06	0.09	
22266.00	89.850	341.370	6376.09	15381.08	14037.68	-6499.66	1645721.39	14248509.21	39°14'15.9683"N	80°58'52.5545"W	15469.39	335.155	0.10	-0.03	0.09	
22361.00	89.850	341.350	6376.33	15476.08	14127.69	-6530.03	1645691.04	14248599.19	39°14'16.8580"N	80°58'52.9402"W	15563.83	335.193	0.02	0.00	-0.02	
22461.00	89.940	341.250	6376.52	15576.08	14222.41	-6562.09	1645658.99	14248693.87	39°14'17.7943"N	80°58'53.3474"W	15663.27	335.232	0.13	0.09	-0.10	
22486.00‡	89.940	341.250	6376.54	15601.08	14246.09	-6570.12	1645650.96	14248717.53	39°14'18.0283"N	80°58'53.4494"W	15688.13	335.241	0.00	0.00	0.00	Projected MD at TD: 22486'

DIRECTIONAL DIFFICULTY INDEX	
Directional Difficulty Index @ TD = 7.14	Reference: IADC/SPE 59196
Values	Wellpath characterized as:
< 6.0	Relatively short or simple profiles with low tortuosity
< 6.0-6.4	Shorter with high tortuosity or longer with lower tortuosity
Values	Wellpath characterized as:
6.4-6.8	Longer with relatively tortuous well paths
> 6.8	Long tortuous profiles, high degree of difficulty

HOLE & CASING SECTIONS - Ref Wellbore: Autumn Unit 1H AWB Ref Wellpath: Autumn Unit 1H AWP Proj: 22486'									
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	25.50	125.50	100.00	25.50	125.50	0.00	0.00	-0.29	0.11
17.5in Open Hole	125.50	874.00	748.50	125.50	874.00	-0.29	0.11	-0.08	-0.15
13.375in Casing Surface	25.50	854.00	828.50	25.50	854.00	0.00	0.00	0.01	-0.04
12.25in Open Hole	874.00	3365.00	2491.00	874.00	3251.17	-0.08	-0.15	-441.72	-518.88
9.625in Casing Intermediate	25.50	3335.00	3309.50	25.50	3222.97	0.00	0.00	-434.63	-511.52
8.75in Open Hole	3365.00	5820.00	2455.00	3251.17	5558.41	-441.72	-518.88	-971.74	-1165.23
8.5in Open Hole	5820.00	22486.00	16666.00	5558.41	6376.54	-971.74	-1165.23	14246.09	-6570.12
5.5in Casing Production	25.50	22466.00	22440.50	25.50	6376.52	0.00	0.00	14227.15	-6563.69



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 11 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWB
Slot	Slot E		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Autumn Unit 1H POE Rev-3	6312.00	-531.08	-1546.32	1650672.74	14233946.30	39°11'51.9580"N	80°57'49.6758"W	point
Autumn Unit 1H BHL Rev-3	6334.00	14270.56	-6561.96	1645659.12	14248742.00	39°14'18.2702"N	80°58'53.3456"W	point
Autumn Unit 1H BHL Rev-4	6334.00	14240.27	-6551.69	1645669.38	14248711.71	39°14'17.9707"N	80°58'53.2152"W	point
Autumn Unit 1H LP Rev-3	6334.00	-364.25	-1602.85	1650616.23	14234113.06	39°11'53.6072"N	80°57'50.3930"W	point
Autumn Unit 1H 50' L/R Hard Line R-2	6500.00	6854.59	-4049.01	1648171.06	14241329.01	39°13'4.9657"N	80°58'21.4364"W	rectangle
2D Rectangle 15596.4 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Autumn Unit 1H AWB Ref Wellpath: Autumn Unit 1H AWP Proj: 22486'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	837.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-837')	Autumn Unit 1H AWB	5/12/2025
837.00	3290.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (837')(963'-3290')	Autumn Unit 1H AWB	5/12/2025
3290.00	5745.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (3290')(3414'-5745')	Autumn Unit 1H AWB	6/20/2025
5745.00	22486.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH Lucida <8-1/2"> (5745')(5801'-22461')	Autumn Unit 1H AWB	6/20/2025



Actual Wellpath Report

Autumn Unit 1H AWP Proj: 22486'

Page 12 of 12



REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Autumn Unit 1H
Field	Ritchie	API	47-085-10550-0000
Facility	Minear Pad	Wellbore	Autumn Unit 1H AWP
Slot	Slot E		

COMMENTS

Wellpath general comments

API: 47-085-10550-0000

BH Job #: 112660884

Rig: H&P 317

Duration: 6/25/2025-6/30/2025

Gyrodata MS Gyro <17-1/2"> (100'-837')

APS EM <12-1/4"> (837')(963'-3290')

APS EM <8-3/4"> (3290')(3414'-5745')

BH Lucida <8-1/2"> (5745')(5801'-22461')

Sycamore: 6314' MD

Middlesex: 6513' MD

Burkett: 6697' MD

Tully: 6774' MD

Marcellus POE: 6839' MD

Projected MD at TD: 22486'