



# ANTERO RESOURCES CORPORATION



Location: Wetzel County, WV  
Field: Wetzel  
Facility: Furbee Pad

Slot: Slot E  
Well: Lenny Unit 2H  
Wellbore: Lenny Unit 2H PWB

Easting (ft)

Scale 1 inch = 2500

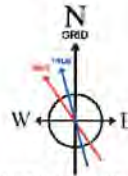
Plot reference wellpath is Lenny Unit 2HPWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 519 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 519 (RKB)	Scale: True distance
H&P 519 (RKB) to Mean Sea Level: 1242 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot E): -1212 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: subarya on 2022-10-15; Databases: WA_MPL_EASTERN.6_Dat

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Furbee Pad	1716103.700	14364954.390	39°33'26.2100"N	80°43'53.2980"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot E	-57.83	16.57	1716120.260	14364896.780
Comment: Lenny Unit 2H				
H&P 519 (RKB) to Ground level (At Slot: Slot E)				30ft
Mean Sea Level to Ground level (At Slot: Slot E)				-1212ft
H&P 519 (RKB) to Mean Sea Level				1242ft

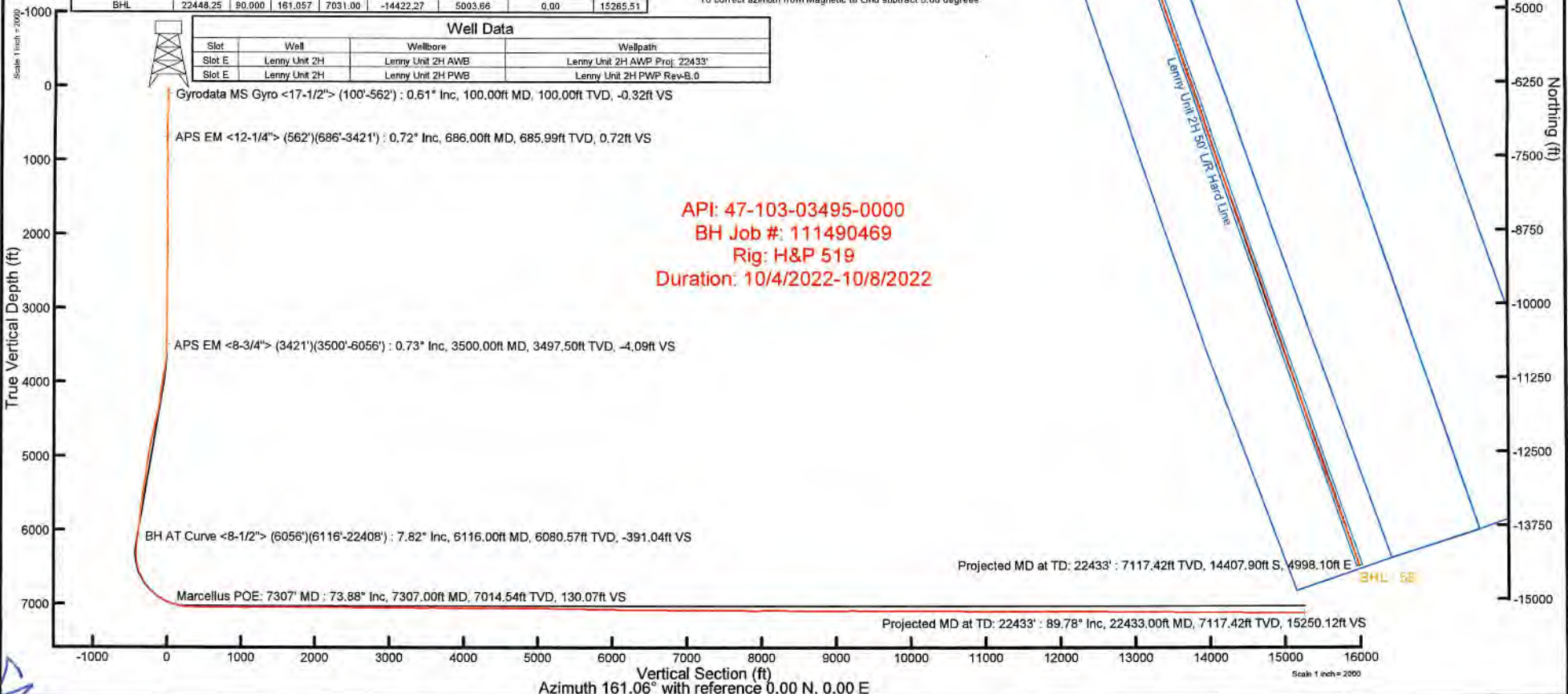
Well Profile Data								
Design Comment	MD (ft)	Inc (")	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	3421.00	1.040	10.840	3418.51	-4.55	-22.50	4.16	-3.00
Proj. to Bottom	3494.00	1.040	10.840	3491.50	-3.24	-22.25	0.00	-4.15
Drill Out	3574.00	1.040	10.840	3571.48	-1.82	-21.97	0.00	-5.41
End of 3D Arc	4006.56	8.607	348.919	4001.79	37.53	-26.18	2.00	-44.64
Curve KOP	6232.50	9.607	348.919	6198.52	402.67	-99.57	0.00	-412.62
POE	7275.57	73.826	161.057	7003.00	-73.76	79.15	8.00	95.46
Landing Pt.	7476.49	90.000	161.057	7031.00	-261.32	143.52	8.00	293.76
BHL	22448.25	90.000	161.057	7031.00	-14422.27	5003.66	0.00	15265.51

Well Data			
Slot	Well	Wellbore	Wellpath
Slot E	Lenny Unit 2H	Lenny Unit 2H AWB	Lenny Unit 2H AWP Proj: 22433'
Slot E	Lenny Unit 2H	Lenny Unit 2H PWB	Lenny Unit 2H PWP Rev-B.0

Slot E  
 BH AT Curve <8-1/2"> (6056')(6116'-22408') : 7.82° Inc, 6116.00ft MD, 6080.57ft TVD, -391.04ft VS  
 POE 84°  
 Marcellus POE: 7307' MD : 7014.54ft TVD, 104.59ft S, 95.97ft E  
 APS EM <8-3/4"> (3421')(3500'-6056') : 3497.50ft TVD, 3.34ft S, 22.32ft W  
 APS EM <12-1/4"> (562')(686'-3421') : 685.99ft TVD, 0.38ft S, 1.13ft E  
 Gyrodata MS Gyro <17-1/2"> (100'-562') : 100.00ft TVD, 0.23ft N, -0.29ft W



User specified (HDGM) Dip: 66.43° Field: 51796 nT  
 Magnetic North is 7.83 degrees West of True North (at 10/2/2022)  
 Grid North is 0.17 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.17 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.00 degrees





# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H 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	0.999607	Report Generated	10/15/2022 at 12:36:46 AM
Convergence at slot	0.17° 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	-57.63	16.57	1716120.26	14364896.78	39°33'25.6400"N	80°43'53.0887"W
Facility Reference Pt			1716103.70	14364954.39	39°33'26.2100"N	80°43'53.2980"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	1242.00ft
Horizontal Reference Pt	Slot	H&P 519 (RKB) to Mean Sea Level	1242.00ft
Vertical Reference Pt	H&P 519 (RKB)	H&P 519 (RKB) to Ground Level at Slot (Slot E)	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	161.06°



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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	309.050	0.00	0.00	0.00	0.00	1716120.26	14364896.78	39°33'25.6400"N	80°43'53.0887"W	0.00	0.000	0.00	0.00	0.00	
30.00	0.000	309.050	30.00	0.00	0.00	0.00	1716120.26	14364896.78	39°33'25.6400"N	80°43'53.0887"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.610	309.050	100.00	-0.32	0.23	-0.29	1716119.97	14364897.01	39°33'25.6423"N	80°43'53.0924"W	0.37	309.050	0.87	0.87	0.00	Gyrodata MS Gyro <17-1/2"> (100'-562')
200.00	0.230	322.180	200.00	-0.96	0.73	-0.83	1716119.43	14364897.51	39°33'25.6472"N	80°43'53.0992"W	1.10	311.423	0.39	-0.38	13.13	
300.00	0.070	86.520	300.00	-1.13	0.89	-0.89	1716119.37	14364897.67	39°33'25.6488"N	80°43'53.1000"W	1.26	315.096	0.28	-0.16	124.34	
400.00	0.150	122.690	400.00	-1.01	0.82	-0.72	1716119.54	14364897.60	39°33'25.6481"N	80°43'53.0978"W	1.09	318.977	0.10	0.08	36.17	
500.00	0.380	116.690	499.99	-0.67	0.60	-0.31	1716119.95	14364897.38	39°33'25.6459"N	80°43'53.0926"W	0.68	332.815	0.23	0.23	-8.00	
562.00	0.520	107.170	561.99	-0.36	0.43	0.14	1716120.40	14364897.21	39°33'25.6442"N	80°43'53.0869"W	0.45	18.335	0.26	0.23	-15.35	
686.00	0.720	144.960	685.99	0.72	-0.38	1.13	1716121.39	14364896.41	39°33'25.6362"N	80°43'53.0743"W	1.19	108.409	0.36	0.16	30.48	APS EM <12-1/4"> (562')(686'-3421')
777.00	2.610	213.330	776.95	2.54	-2.57	0.32	1716120.58	14364894.21	39°33'25.6145"N	80°43'53.0848"W	2.59	172.986	2.68	2.08	75.13	
867.00	4.310	236.590	866.79	4.64	-6.15	-3.63	1716116.63	14364890.63	39°33'25.5793"N	80°43'53.1353"W	7.14	210.572	2.41	1.89	25.84	
958.00	5.340	249.760	957.46	5.59	-9.50	-10.46	1716109.80	14364887.29	39°33'25.5464"N	80°43'53.2226"W	14.13	227.763	1.66	1.13	14.47	
1049.00	5.120	252.480	1048.09	5.58	-12.18	-18.31	1716101.96	14364884.60	39°33'25.5201"N	80°43'53.3229"W	21.99	236.351	0.36	-0.24	2.99	
1144.00	5.370	250.740	1142.69	5.50	-14.93	-26.54	1716093.73	14364881.86	39°33'25.4932"N	80°43'53.4282"W	30.45	240.649	0.31	0.26	-1.83	
1239.00	5.190	264.890	1237.29	4.50	-16.78	-35.02	1716085.25	14364880.01	39°33'25.4752"N	80°43'53.5365"W	38.83	244.404	1.38	-0.19	14.89	
1333.00	4.210	246.230	1330.98	3.78	-18.55	-42.41	1716077.86	14364878.24	39°33'25.4579"N	80°43'53.6309"W	46.29	246.382	1.92	-1.04	-19.85	
1428.00	1.920	199.310	1425.85	5.32	-21.45	-46.13	1716074.15	14364875.33	39°33'25.4293"N	80°43'53.6785"W	50.88	245.059	3.39	-2.41	-49.39	
1522.00	0.800	173.510	1519.82	7.20	-23.59	-46.58	1716073.70	14364873.20	39°33'25.4082"N	80°43'53.6843"W	52.21	243.138	1.33	-1.19	-27.45	
1617.00	0.570	149.200	1614.81	8.31	-24.66	-46.26	1716074.02	14364872.13	39°33'25.3976"N	80°43'53.6803"W	52.42	241.943	0.38	-0.24	-25.59	
1711.00	1.110	63.630	1708.81	8.65	-24.65	-45.21	1716075.07	14364872.14	39°33'25.3976"N	80°43'53.6668"W	51.49	241.394	1.29	0.57	-91.03	
1806.00	1.760	63.310	1803.78	8.33	-23.59	-43.08	1716077.20	14364873.20	39°33'25.4081"N	80°43'53.6396"W	49.12	241.295	0.68	0.68	-0.34	
1900.00	1.330	54.870	1897.74	7.83	-22.31	-40.90	1716079.38	14364874.47	39°33'25.4206"N	80°43'53.6117"W	46.59	241.383	0.52	-0.46	-8.98	
1995.00	1.170	65.380	1992.72	7.43	-21.28	-39.11	1716081.16	14364875.51	39°33'25.4308"N	80°43'53.5889"W	44.53	241.456	0.29	-0.17	11.06	
2089.00	1.120	52.910	2086.70	7.05	-20.32	-37.51	1716082.77	14364876.47	39°33'25.4402"N	80°43'53.5684"W	42.66	241.552	0.27	-0.05	-13.27	
2183.00	1.260	54.000	2180.68	6.46	-19.16	-35.94	1716084.33	14364877.63	39°33'25.4516"N	80°43'53.5483"W	40.73	241.937	0.15	0.15	1.16	
2278.00	1.240	46.690	2275.66	5.73	-17.84	-34.35	1716085.93	14364878.95	39°33'25.4646"N	80°43'53.5279"W	38.70	242.551	0.17	-0.02	-7.69	
2373.00	1.220	54.590	2370.64	5.02	-16.55	-32.77	1716087.50	14364880.24	39°33'25.4774"N	80°43'53.5078"W	36.72	243.208	0.18	-0.02	8.32	
2467.00	0.970	51.640	2464.62	4.47	-15.48	-31.34	1716088.94	14364881.31	39°33'25.4879"N	80°43'53.4894"W	34.95	243.715	0.27	-0.27	-3.14	
2561.00	0.960	64.710	2558.60	4.12	-14.65	-30.00	1716090.27	14364882.14	39°33'25.4961"N	80°43'53.4723"W	33.38	243.977	0.23	-0.01	13.90	
2656.00	0.900	55.250	2653.59	3.83	-13.88	-28.67	1716091.60	14364882.90	39°33'25.5036"N	80°43'53.4552"W	31.85	244.162	0.17	-0.06	-9.96	



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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	
2751.00	1.060	36.260	2748.58	3.12	-12.75	-27.53	1716092.74	14364884.04	39°33'25.5148"N	80°43'53.4407"W	30.34	245.157	0.38	0.17	-19.99		
2845.00	0.860	48.330	2842.57	2.35	-11.58	-26.49	1716093.78	14364885.21	39°33'25.5263"N	80°43'53.4274"W	28.91	246.395	0.30	-0.21	-12.84		
2940.00	0.880	32.310	2937.55	1.62	-10.49	-25.57	1716094.70	14364886.30	39°33'25.5371"N	80°43'53.4156"W	27.64	247.701	0.26	0.02	-16.86		
3034.00	0.800	32.220	3031.54	0.76	-9.32	-24.83	1716095.44	14364887.46	39°33'25.5486"N	80°43'53.4061"W	26.53	249.427	0.09	-0.09	-0.10		
3129.00	0.780	24.370	3126.54	-0.13	-8.17	-24.21	1716096.06	14364888.61	39°33'25.5599"N	80°43'53.3982"W	25.56	251.352	0.12	-0.02	-8.26		
3224.00	0.700	29.050	3221.53	-0.99	-7.08	-23.67	1716096.60	14364889.71	39°33'25.5707"N	80°43'53.3911"W	24.70	253.355	0.11	-0.08	4.93		
3318.00	0.910	26.980	3315.52	-1.89	-5.91	-23.05	1716097.22	14364890.87	39°33'25.5822"N	80°43'53.3832"W	23.79	255.623	0.23	0.22	-2.20		
3413.00	0.720	17.080	3410.51	-2.90	-4.67	-22.53	1716097.74	14364892.12	39°33'25.5945"N	80°43'53.3765"W	23.01	258.302	0.25	-0.20	-10.42		
3421.00	1.040	10.940	3418.51	-3.00	-4.55	-22.50	1716097.77	14364892.24	39°33'25.5957"N	80°43'53.3762"W	22.96	258.579	4.16	4.00	-76.75		
3500.00	0.730	5.030	3497.50	-4.09	-3.34	-22.32	1716097.95	14364893.44	39°33'25.6076"N	80°43'53.3738"W	22.57	261.489	0.41	-0.39	-7.48	APS EM <8-3/4"> (3421')(3500'-6056')	
3597.00	2.950	350.350	3594.44	-7.11	-0.26	-22.69	1716097.58	14364896.52	39°33'25.6380"N	80°43'53.3783"W	22.69	269.334	2.32	2.29	-15.13		
3690.00	5.510	353.550	3687.18	-13.84	6.53	-23.59	1716096.68	14364903.31	39°33'25.7052"N	80°43'53.3896"W	24.48	285.481	2.76	2.75	3.44		
3787.00	7.400	352.990	3783.56	-24.50	17.36	-24.87	1716095.40	14364914.13	39°33'25.8123"N	80°43'53.4056"W	30.33	304.914	1.95	1.95	-0.58		
3881.00	9.690	353.310	3876.51	-38.15	31.23	-26.54	1716093.74	14364928.00	39°33'25.9494"N	80°43'53.4263"W	40.98	319.645	2.44	2.44	0.34		
3976.00	9.800	351.190	3970.14	-53.92	47.16	-28.70	1716091.57	14364943.92	39°33'26.1069"N	80°43'53.4534"W	55.21	328.672	0.40	0.12	-2.23		
4070.00	9.100	1.120	4062.87	-68.78	62.50	-29.78	1716090.49	14364959.25	39°33'26.2585"N	80°43'53.4666"W	69.23	334.519	1.88	-0.74	10.56		
4164.00	8.520	1.650	4155.76	-82.28	76.89	-29.44	1716090.83	14364973.64	39°33'26.4007"N	80°43'53.4616"W	82.33	339.050	0.62	-0.62	0.56		
4259.00	8.200	357.230	4249.75	-95.38	90.69	-29.56	1716090.71	14364987.44	39°33'26.5372"N	80°43'53.4627"W	95.39	341.945	0.76	-0.34	-4.65		
4353.00	10.100	0.280	4342.55	-109.60	105.63	-29.85	1716090.42	14365002.37	39°33'26.6848"N	80°43'53.4657"W	109.77	344.222	2.09	2.02	3.24		
4448.00	12.460	3.910	4435.71	-126.91	124.19	-29.11	1716091.16	14365020.92	39°33'26.8682"N	80°43'53.4556"W	127.55	346.809	2.59	2.48	3.82		
4542.00	14.150	359.160	4527.19	-147.18	145.80	-28.58	1716091.69	14365042.52	39°33'27.0817"N	80°43'53.4481"W	148.57	348.907	2.14	1.80	-5.05		
4637.00	13.610	357.290	4619.42	-168.95	168.57	-29.28	1716090.99	14365065.29	39°33'27.3068"N	80°43'53.4561"W	171.10	350.145	0.74	-0.57	-1.97		
4731.00	12.650	352.340	4710.96	-189.66	189.82	-31.18	1716089.09	14365086.53	39°33'27.5169"N	80°43'53.4795"W	192.36	350.672	1.57	-1.02	-5.27		
4826.00	11.630	346.700	4803.84	-209.40	209.45	-34.77	1716085.51	14365106.15	39°33'27.7110"N	80°43'53.5246"W	212.32	350.575	1.65	-1.07	-5.94		
4920.00	10.670	343.130	4896.06	-227.52	227.00	-39.47	1716080.80	14365123.69	39°33'27.8846"N	80°43'53.5840"W	230.41	350.135	1.26	-1.02	-3.80		
5015.00	9.620	337.710	4989.58	-244.24	242.76	-45.04	1716075.24	14365139.45	39°33'28.0405"N	80°43'53.6544"W	246.90	349.490	1.49	-1.11	-5.71		
5110.00	8.490	332.340	5083.40	-259.09	256.32	-51.30	1716068.98	14365153.00	39°33'28.1747"N	80°43'53.7339"W	261.40	348.682	1.48	-1.19	-5.65		
5204.00	7.470	327.810	5176.49	-271.90	267.64	-57.78	1716062.50	14365164.31	39°33'28.2868"N	80°43'53.8162"W	273.80	347.817	1.27	-1.09	-4.82		
5299.00	7.440	341.490	5270.69	-284.06	278.69	-63.02	1716057.26	14365175.36	39°33'28.3962"N	80°43'53.8827"W	285.73	347.258	1.86	-0.03	14.40		
5393.00	8.030	344.090	5363.83	-296.70	290.78	-66.75	1716053.53	14365187.44	39°33'28.5158"N	80°43'53.9299"W	298.34	347.071	0.73	0.63	2.77		



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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
5488.00	8.620	340.590	5457.83	-310.45	303.88	-70.94	1716049.35	14365200.54	39°33'28.6453"N	80°43'53.9828"W	312.05	346.860	0.82	0.62	-3.68	
5583.00	7.550	333.000	5551.89	-323.75	316.15	-76.14	1716044.15	14365212.81	39°33'28.7668"N	80°43'54.0487"W	325.19	346.459	1.59	-1.13	-7.99	
5677.00	7.340	343.170	5645.10	-335.86	327.40	-80.68	1716039.61	14365224.05	39°33'28.8781"N	80°43'54.1063"W	337.20	346.156	1.42	-0.22	10.82	
5772.00	7.850	352.100	5739.27	-348.30	339.64	-83.33	1716036.96	14365236.28	39°33'28.9991"N	80°43'54.1397"W	349.71	346.215	1.35	0.54	9.40	
5866.00	7.130	349.020	5832.47	-360.37	351.72	-85.32	1716034.97	14365248.36	39°33'29.1186"N	80°43'54.1647"W	361.92	346.364	0.88	-0.77	-3.28	
5961.00	6.400	341.750	5926.81	-371.51	362.54	-88.10	1716032.19	14365259.18	39°33'29.2256"N	80°43'54.1997"W	373.09	346.341	1.18	-0.77	-7.65	
6056.00	7.530	341.730	6021.11	-383.03	373.48	-91.71	1716028.58	14365270.11	39°33'29.3338"N	80°43'54.2454"W	384.58	346.203	1.19	1.19	-0.02	
6116.00	7.820	339.440	6080.57	-391.04	381.03	-94.38	1716025.92	14365277.66	39°33'29.4086"N	80°43'54.2792"W	392.55	346.088	0.70	0.48	-3.82	BH AT Curve <8-1/2"> (6056')(6116'-22408')
6175.00	7.030	347.590	6139.08	-398.64	388.32	-96.57	1716023.73	14365284.95	39°33'29.4806"N	80°43'54.3068"W	400.15	346.035	2.23	-1.34	13.81	
6270.00	5.390	345.200	6233.52	-408.86	398.31	-98.96	1716021.34	14365294.93	39°33'29.5795"N	80°43'54.3369"W	410.42	346.048	1.75	-1.73	-2.52	
6365.00	0.180	173.510	6328.38	-413.17	402.48	-100.08	1716020.22	14365299.10	39°33'29.6207"N	80°43'54.3511"W	414.74	346.036	5.86	-5.48	-180.73	
6459.00	8.680	162.230	6422.01	-405.92	395.57	-97.89	1716022.41	14365292.19	39°33'29.5523"N	80°43'54.3235"W	407.50	346.100	9.05	9.04	-12.00	
6553.00	15.490	159.400	6513.88	-386.26	377.04	-91.30	1716028.99	14365273.67	39°33'29.3690"N	80°43'54.2400"W	387.94	346.387	7.27	7.24	-3.01	
6647.00	22.790	163.790	6602.62	-355.49	347.77	-81.79	1716038.50	14365244.41	39°33'29.0794"N	80°43'54.1197"W	357.26	346.765	7.91	7.77	4.67	
6731.00†	30.159	160.093	6677.77	-318.08	312.25	-70.05	1716050.24	14365208.91	39°33'28.7281"N	80°43'53.9711"W	320.01	347.356	8.99	8.77	-4.40	Sycamore: 6731' MD
6742.00	31.130	159.730	6687.23	-312.48	306.99	-68.12	1716052.16	14365203.65	39°33'28.6760"N	80°43'53.9468"W	314.46	347.488	8.99	8.83	-3.30	
6837.00	38.080	157.730	6765.38	-258.61	256.78	-48.49	1716071.79	14365153.46	39°33'28.1792"N	80°43'53.6980"W	261.32	349.306	7.41	7.32	-2.11	
6887.00†	42.689	156.859	6803.46	-226.30	226.91	-35.98	1716084.30	14365123.60	39°33'27.8836"N	80°43'53.5394"W	229.74	350.990	9.29	9.22	-1.74	Middlesex: 6887' MD
6931.00	46.750	156.210	6834.71	-195.44	198.51	-23.65	1716096.62	14365095.22	39°33'27.6026"N	80°43'53.3830"W	199.92	353.207	9.29	9.23	-1.48	
7025.00	55.050	154.990	6893.95	-122.89	132.16	6.50	1716126.76	14365028.89	39°33'26.9459"N	80°43'53.0006"W	132.32	2.817	8.89	8.83	-1.30	
7042.00†	56.099	155.307	6903.56	-108.95	119.44	12.40	1716132.65	14365016.17	39°33'26.8200"N	80°43'52.9259"W	120.08	5.926	6.36	6.17	1.87	Burkett: 7042' MD
7096.00†	59.435	156.265	6932.36	-63.47	77.78	31.12	1716151.37	14364974.53	39°33'26.4078"N	80°43'52.6884"W	83.78	21.807	6.36	6.18	1.77	Tully: 7096' MD
7120.00	60.920	156.670	6944.29	-42.72	58.69	39.43	1716159.68	14364955.45	39°33'26.2189"N	80°43'52.5830"W	70.71	33.896	6.36	6.19	1.69	
7188.00†	66.325	160.818	6974.50	18.12	1.94	61.46	1716181.69	14364898.72	39°33'25.6573"N	80°43'52.3040"W	61.49	88.196	9.64	7.95	6.10	Hamilton: 7188' MD
7214.00	68.420	162.310	6984.51	42.11	-20.83	69.04	1716189.28	14364875.96	39°33'25.4321"N	80°43'52.2080"W	72.12	106.788	9.64	8.06	5.74	
7307.00†	73.883	162.055	7014.54	130.07	-104.59	95.97	1716216.19	14364792.23	39°33'24.6035"N	80°43'51.8675"W	141.94	137.461	5.88	5.87	-0.27	Marcellus POE: 7307' MD
7309.00	74.000	162.050	7015.09	132.00	-106.42	96.56	1716216.78	14364790.41	39°33'24.5854"N	80°43'51.8600"W	143.69	137.780	5.88	5.87	-0.27	
7404.00	82.470	162.430	7034.45	224.90	-194.91	124.90	1716245.11	14364701.95	39°33'23.7099"N	80°43'51.5016"W	231.49	147.348	8.92	8.92	0.40	
7499.00	89.910	161.860	7040.75	319.60	-285.07	153.94	1716274.14	14364611.82	39°33'22.8180"N	80°43'51.1342"W	323.98	151.630	7.85	7.83	-0.60	
7592.00	89.570	162.110	7041.18	412.59	-373.51	182.70	1716302.89	14364523.42	39°33'21.9431"N	80°43'50.7704"W	415.80	153.934	0.45	-0.37	0.27	



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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	
7686.00	89.170	161.420	7042.21	506.58	-462.78	212.12	1716332.29	14364434.18	39°33'21.0599"N	80°43'50.3983"W	509.08	155.376	0.85	-0.43	-0.73		
7781.00	89.850	161.480	7043.02	601.57	-552.84	242.34	1716362.50	14364344.16	39°33'20.1689"N	80°43'50.0159"W	603.62	156.330	0.72	0.72	0.06		
7876.00	89.970	161.890	7043.17	696.56	-643.03	272.19	1716392.34	14364254.00	39°33'19.2767"N	80°43'49.6382"W	698.27	157.057	0.45	0.13	0.43		
7970.00	89.260	159.540	7043.80	790.55	-731.75	303.23	1716423.37	14364165.32	39°33'18.3990"N	80°43'49.2453"W	792.09	157.491	2.61	-0.76	-2.50		
8065.00	89.350	156.700	7044.96	885.41	-819.89	338.63	1716458.76	14364077.22	39°33'17.5268"N	80°43'48.7968"W	887.07	157.558	2.99	0.09	-2.99		
8159.00	89.200	158.600	7046.14	979.23	-906.82	374.37	1716494.48	14363990.32	39°33'16.6666"N	80°43'48.3438"W	981.05	157.567	2.03	-0.16	2.02		
8254.00	90.280	163.310	7046.58	1074.20	-996.59	405.36	1716525.46	14363900.59	39°33'15.7785"N	80°43'47.9516"W	1075.87	157.866	5.09	1.14	4.96		
8348.00	92.220	160.860	7044.53	1168.15	-1086.00	434.26	1716554.35	14363811.21	39°33'14.8939"N	80°43'47.5860"W	1169.61	158.205	3.32	2.06	-2.61		
8443.00	89.410	162.310	7043.17	1263.13	-1176.11	464.27	1716584.34	14363721.13	39°33'14.0024"N	80°43'47.2065"W	1264.43	158.459	3.33	-2.96	1.53		
8537.00	90.150	162.560	7043.53	1357.10	-1265.73	492.63	1716612.70	14363631.55	39°33'13.1159"N	80°43'46.8477"W	1358.22	158.734	0.83	0.79	0.27		
8632.00	90.250	161.150	7043.20	1452.09	-1356.00	522.22	1716642.27	14363541.31	39°33'12.2228"N	80°43'46.4735"W	1453.08	158.938	1.49	0.11	-1.48		
8726.00	89.850	162.440	7043.12	1546.08	-1445.29	551.58	1716671.63	14363452.06	39°33'11.3395"N	80°43'46.1020"W	1546.97	159.111	1.44	-0.43	1.37		
8821.00	89.750	161.080	7043.45	1641.07	-1535.52	581.32	1716701.35	14363361.87	39°33'10.4469"N	80°43'45.7259"W	1641.87	159.264	1.44	-0.11	-1.43		
8916.00	89.660	161.810	7043.94	1736.06	-1625.58	611.55	1716731.57	14363271.84	39°33'9.5559"N	80°43'45.3434"W	1736.81	159.384	0.77	-0.09	0.77		
9010.00	89.850	162.060	7044.34	1830.05	-1714.94	640.70	1716760.70	14363182.51	39°33'8.6718"N	80°43'44.9747"W	1830.72	159.514	0.33	0.20	0.27		
9105.00	90.120	162.200	7044.37	1925.03	-1805.36	669.85	1716789.84	14363092.13	39°33'7.7773"N	80°43'44.6061"W	1925.62	159.643	0.32	0.28	0.15		
9200.00	89.660	160.700	7044.55	2020.03	-1895.42	700.07	1716820.05	14363002.11	39°33'6.8863"N	80°43'44.2237"W	2020.57	159.728	1.65	-0.48	-1.58		
9294.00	90.220	162.300	7044.65	2114.02	-1984.56	729.90	1716849.87	14362913.00	39°33'6.0045"N	80°43'43.8464"W	2114.53	159.807	1.80	0.60	1.70		
9388.00	89.660	161.860	7044.75	2208.01	-2074.00	758.82	1716878.78	14362823.60	39°33'5.1196"N	80°43'43.4806"W	2208.46	159.904	0.76	-0.60	-0.47		
9483.00	89.420	161.580	7045.51	2303.00	-2164.20	788.61	1716908.56	14362733.43	39°33'4.2273"N	80°43'43.1037"W	2303.41	159.979	0.39	-0.25	-0.29		
9578.00	90.250	162.870	7045.78	2397.98	-2254.67	817.62	1716937.55	14362643.01	39°33'3.3323"N	80°43'42.7369"W	2398.33	160.068	1.61	0.87	1.36		
9672.00	89.140	159.140	7046.28	2491.96	-2343.53	848.20	1716968.13	14362554.18	39°33'2.4532"N	80°43'42.3499"W	2492.30	160.103	4.14	-1.18	-3.97		
9767.00	89.420	161.950	7047.48	2586.93	-2433.09	879.84	1716999.75	14362464.65	39°33'1.5671"N	80°43'41.9495"W	2587.28	160.119	2.97	0.29	2.96		
9861.00	89.630	161.750	7048.26	2680.92	-2522.41	909.12	1717029.02	14362375.37	39°33'0.6835"N	80°43'41.5791"W	2681.24	160.180	0.31	0.22	-0.21		
9956.00	89.080	162.460	7049.33	2775.90	-2612.81	938.31	1717058.20	14362285.01	39°32'59.7892"N	80°43'41.2100"W	2776.18	160.246	0.95	-0.58	0.75		
10051.00	89.480	163.180	7050.52	2870.85	-2703.56	966.37	1717086.25	14362194.29	39°32'58.8914"N	80°43'40.8553"W	2871.08	160.331	0.87	0.42	0.76		
10146.00	88.650	159.370	7052.07	2965.81	-2793.50	996.85	1717116.72	14362104.38	39°32'58.0016"N	80°43'40.4696"W	2966.04	160.361	4.10	-0.87	-4.01		
10240.00	90.800	163.590	7052.52	3059.78	-2882.61	1026.70	1717146.56	14362015.31	39°32'57.1200"N	80°43'40.0920"W	3059.99	160.396	5.04	2.29	4.49		
10335.00	89.510	160.510	7052.27	3154.76	-2972.97	1055.98	1717175.82	14361924.99	39°32'56.2261"N	80°43'39.7218"W	3154.94	160.445	3.51	-1.36	-3.24		
10429.00	91.050	161.350	7051.81	3248.75	-3061.81	1086.69	1717206.52	14361836.18	39°32'55.3472"N	80°43'39.3332"W	3248.93	160.459	1.87	1.64	0.89		



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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	
10524.00	88.620	157.390	7052.08	3343.68	-3150.69	1120.15	1717239.97	14361747.34	39°32'54.4677"N	80°43'38.9094"W	3343.89	160.428	4.89	-2.56	-4.17		
10618.00	88.610	161.900	7054.35	3437.60	-3238.77	1152.83	1717272.63	14361659.29	39°32'53.5962"N	80°43'38.4957"W	3437.83	160.407	4.80	-0.01	4.80		
10712.00	92.550	160.100	7053.40	3531.58	-3327.62	1183.42	1717303.21	14361570.47	39°32'52.7171"N	80°43'38.1086"W	3531.79	160.423	4.61	4.19	-1.91		
10807.00	88.490	153.740	7052.54	3626.26	-3414.95	1220.64	1717340.41	14361483.18	39°32'51.8529"N	80°43'37.6369"W	3626.55	160.331	7.94	-4.27	-6.69		
10901.00	88.400	157.620	7055.09	3719.79	-3500.56	1259.33	1717379.09	14361397.60	39°32'51.0056"N	80°43'37.1463"W	3720.19	160.214	4.13	-0.10	4.13		
10996.00	89.540	160.660	7056.80	3814.71	-3589.31	1293.14	1717412.89	14361308.89	39°32'50.1275"N	80°43'36.7180"W	3815.15	160.187	3.42	1.20	3.20		
11090.00	90.580	163.520	7056.70	3908.68	-3678.74	1322.05	1717441.79	14361219.49	39°32'49.2428"N	80°43'36.3525"W	3909.09	160.233	3.24	1.11	3.04		
11185.00	90.620	159.920	7055.71	4003.65	-3768.93	1351.84	1717471.57	14361129.34	39°32'48.3505"N	80°43'35.9757"W	4004.04	160.268	3.79	0.04	-3.79		
11280.00	89.080	158.630	7055.95	4098.60	-3857.78	1385.46	1717505.17	14361040.53	39°32'47.4714"N	80°43'35.5501"W	4099.02	160.245	2.11	-1.62	-1.36		
11374.00	89.910	160.850	7056.78	4192.57	-3945.95	1418.00	1717537.70	14360952.39	39°32'46.5990"N	80°43'35.1380"W	4193.00	160.234	2.52	0.88	2.36		
11469.00	89.510	162.970	7057.26	4287.55	-4036.25	1447.50	1717567.19	14360862.13	39°32'45.7057"N	80°43'34.7650"W	4287.96	160.271	2.27	-0.42	2.23		
11563.00	90.280	163.090	7057.44	4381.49	-4126.16	1474.94	1717594.61	14360772.25	39°32'44.8163"N	80°43'34.4183"W	4381.85	160.330	0.83	0.82	0.13		
11658.00	90.340	162.690	7056.92	4476.44	-4216.95	1502.88	1717622.55	14360681.50	39°32'43.9181"N	80°43'34.0650"W	4476.76	160.384	0.43	0.06	-0.42		
11752.00	89.690	162.040	7056.90	4570.42	-4306.53	1531.36	1717651.02	14360591.95	39°32'43.0319"N	80°43'33.7050"W	4570.70	160.425	0.98	-0.69	-0.69		
11847.00	89.380	161.420	7057.67	4665.41	-4396.74	1561.14	1717680.79	14360501.78	39°32'42.1395"N	80°43'33.3284"W	4665.67	160.452	0.73	-0.33	-0.65		
11942.00	89.320	160.470	7058.75	4760.40	-4486.53	1592.16	1717711.79	14360412.03	39°32'41.2511"N	80°43'32.9360"W	4760.66	160.462	1.00	-0.06	-1.00		
12036.00	90.000	161.110	7059.30	4854.40	-4575.29	1623.08	1717742.70	14360323.30	39°32'40.3729"N	80°43'32.5446"W	4854.66	160.468	0.99	0.72	0.68		
12130.00	90.280	162.100	7059.07	4948.39	-4664.49	1652.75	1717772.35	14360234.14	39°32'39.4905"N	80°43'32.1695"W	4948.64	160.489	1.09	0.30	1.05		
12225.00	89.380	159.270	7059.36	5043.38	-4754.13	1684.17	1717803.76	14360144.53	39°32'38.6036"N	80°43'31.7719"W	5043.63	160.493	3.13	-0.95	-2.98		
12320.00	90.090	162.100	7059.80	5138.37	-4843.77	1715.58	1717835.17	14360054.92	39°32'37.7167"N	80°43'31.3743"W	5138.61	160.497	3.07	0.75	2.98		
12414.00	88.980	160.680	7060.56	5232.36	-4932.85	1745.58	1717865.15	14359965.88	39°32'36.8354"N	80°43'30.9949"W	5232.60	160.513	1.92	-1.18	-1.51		
12509.00	88.520	161.300	7062.63	5327.33	-5022.65	1776.52	1717896.07	14359876.12	39°32'35.9470"N	80°43'30.6035"W	5327.57	160.521	0.81	-0.48	0.65		
12603.00	89.750	160.400	7064.05	5421.32	-5111.43	1807.35	1717926.89	14359787.37	39°32'35.0686"N	80°43'30.2134"W	5421.55	160.527	1.62	1.31	-0.96		
12698.00	89.450	162.830	7064.71	5516.31	-5201.57	1837.31	1717956.84	14359697.26	39°32'34.1768"N	80°43'29.8345"W	5516.53	160.546	2.58	-0.32	2.56		
12793.00	89.140	162.040	7065.88	5611.27	-5292.14	1865.98	1717985.50	14359606.74	39°32'33.2608"N	80°43'29.4721"W	5611.47	160.578	0.89	-0.33	-0.83		
12887.00	89.080	159.810	7067.34	5705.25	-5380.96	1896.69	1718016.20	14359517.95	39°32'32.4021"N	80°43'29.0836"W	5705.45	160.583	2.37	-0.06	-2.37		
12982.00	88.310	163.080	7069.51	5800.21	-5470.98	1926.91	1718046.41	14359427.96	39°32'31.5114"N	80°43'28.7013"W	5800.40	160.597	3.54	-0.81	3.44		
13077.00	90.520	159.790	7070.48	5895.19	-5561.02	1957.15	1718076.63	14359337.96	39°32'30.6207"N	80°43'28.3189"W	5895.37	160.611	4.17	2.33	-3.46		
13172.00	88.250	162.300	7071.50	5990.17	-5650.85	1988.00	1718107.47	14359248.17	39°32'29.7319"N	80°43'27.9286"W	5990.34	160.618	3.56	-2.39	2.64		
13266.00	89.450	160.310	7073.38	6084.14	-5739.86	2018.12	1718137.58	14359159.18	39°32'28.8512"N	80°43'27.5476"W	6084.31	160.628	2.47	1.28	-2.12		



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

## WELLPATH DATA (248 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
13361.00	90.460	162.110	7073.46	6179.13	-5829.80	2048.72	1718168.17	14359069.29	39°32'27.9615"N	80°43'27.1605"W	6179.30	160.637	2.17	1.06	1.89	
13456.00	89.110	161.330	7073.81	6274.12	-5920.00	2078.52	1718197.95	14358979.12	39°32'27.0691"N	80°43'26.7837"W	6274.28	160.654	1.64	-1.42	-0.82	
13550.00	88.180	160.370	7076.04	6368.10	-6008.77	2109.34	1718228.77	14358890.39	39°32'26.1908"N	80°43'26.3937"W	6368.25	160.657	1.42	-0.99	-1.02	
13645.00	89.600	161.340	7077.88	6463.07	-6098.50	2140.49	1718259.91	14358800.70	39°32'25.3031"N	80°43'25.9997"W	6463.23	160.660	1.81	1.49	1.02	
13740.00	89.570	160.860	7078.57	6558.07	-6188.37	2171.26	1718290.66	14358710.86	39°32'24.4139"N	80°43'25.6104"W	6558.23	160.666	0.51	-0.03	-0.51	
13834.00	89.570	161.610	7079.27	6652.07	-6277.37	2201.50	1718320.89	14358621.89	39°32'23.5334"N	80°43'25.2279"W	6652.22	160.674	0.80	0.00	0.80	
13929.00	89.570	162.220	7079.98	6747.05	-6367.68	2230.99	1718350.37	14358531.62	39°32'22.6400"N	80°43'24.8551"W	6747.19	160.691	0.64	0.00	0.64	
14023.00	89.480	160.500	7080.76	6841.05	-6456.74	2261.03	1718380.40	14358442.59	39°32'21.7588"N	80°43'24.4751"W	6841.18	160.701	1.83	-0.10	-1.83	
14118.00	89.450	160.420	7081.65	6936.04	-6546.26	2292.81	1718412.16	14358353.10	39°32'20.8731"N	80°43'24.0731"W	6936.18	160.697	0.09	-0.03	-0.08	
14212.00	88.830	160.110	7083.06	7030.02	-6634.73	2324.54	1718443.88	14358264.67	39°32'19.9978"N	80°43'23.6715"W	7030.16	160.692	0.74	-0.66	-0.33	
14307.00	91.690	162.490	7082.63	7125.00	-6724.70	2355.00	1718474.32	14358174.74	39°32'19.1076"N	80°43'23.2863"W	7125.14	160.700	3.92	3.01	2.51	
14401.00	88.920	160.050	7082.13	7218.98	-6813.71	2385.17	1718504.49	14358085.77	39°32'18.2271"N	80°43'22.9046"W	7219.12	160.707	3.93	-2.95	-2.60	
14496.00	89.910	160.340	7083.10	7313.96	-6903.08	2417.36	1718536.66	14357996.43	39°32'17.3428"N	80°43'22.4973"W	7314.11	160.700	1.09	1.04	0.31	
14591.00	89.510	159.610	7083.58	7408.94	-6992.34	2449.89	1718569.18	14357907.21	39°32'16.4597"N	80°43'22.0856"W	7409.10	160.691	0.88	-0.42	-0.77	
14685.00	90.620	162.650	7083.47	7502.93	-7081.27	2480.29	1718599.57	14357818.31	39°32'15.5798"N	80°43'21.7011"W	7503.08	160.697	3.44	1.18	3.23	
14780.00	88.800	161.080	7083.96	7597.91	-7171.54	2509.85	1718629.12	14357728.07	39°32'14.6867"N	80°43'21.3273"W	7598.05	160.711	2.53	-1.92	-1.65	
14875.00	90.030	162.010	7084.93	7692.90	-7261.65	2539.92	1718659.18	14357638.00	39°32'13.7952"N	80°43'20.9470"W	7693.04	160.722	1.62	1.29	0.98	
14970.00	88.800	160.060	7085.90	7787.89	-7351.48	2570.80	1718690.04	14357548.20	39°32'12.9064"N	80°43'20.5566"W	7788.02	160.725	2.43	-1.29	-2.05	
15064.00	89.820	159.860	7087.03	7881.86	-7439.78	2603.00	1718722.23	14357459.94	39°32'12.0327"N	80°43'20.1489"W	7882.01	160.716	1.11	1.09	-0.21	
15159.00	90.580	161.220	7086.70	7976.86	-7529.35	2634.65	1718753.87	14357370.40	39°32'11.1465"N	80°43'19.7485"W	7977.00	160.714	1.64	0.80	1.43	
15253.00	90.280	160.440	7085.99	8070.85	-7618.14	2665.52	1718784.72	14357281.65	39°32'10.2681"N	80°43'19.3581"W	8071.00	160.716	0.89	-0.32	-0.83	
15348.00	90.370	160.370	7085.45	8165.85	-7707.64	2697.38	1718816.57	14357192.19	39°32'9.3826"N	80°43'18.9550"W	8166.00	160.712	0.12	0.09	-0.07	
15443.00	90.250	161.020	7084.94	8260.84	-7797.29	2728.78	1718847.96	14357102.57	39°32'8.4956"N	80°43'18.5577"W	8260.99	160.712	0.70	-0.13	0.68	
15538.00	88.150	160.310	7086.26	8355.82	-7886.92	2760.23	1718879.40	14357012.98	39°32'7.6088"N	80°43'18.1598"W	8355.98	160.711	2.33	-2.21	-0.75	
15632.00	89.380	159.820	7088.29	8449.79	-7975.26	2792.27	1718911.43	14356924.67	39°32'6.7347"N	80°43'17.7544"W	8449.95	160.704	1.41	1.31	-0.52	
15727.00	90.980	161.790	7087.99	8544.78	-8064.98	2823.51	1718942.65	14356834.99	39°32'5.8471"N	80°43'17.3593"W	8544.94	160.705	2.67	1.68	2.07	
15821.00	89.750	158.890	7087.39	8638.76	-8153.48	2855.13	1718974.26	14356746.52	39°32'4.9714"N	80°43'16.9592"W	8638.93	160.701	3.35	-1.31	-3.09	
15916.00	89.570	159.700	7087.96	8733.71	-8242.34	2888.71	1719007.83	14356657.69	39°32'4.0921"N	80°43'16.5341"W	8733.89	160.686	0.87	-0.19	0.85	
16010.00	90.400	161.070	7087.98	8827.70	-8330.89	2920.27	1719039.37	14356569.19	39°32'3.2161"N	80°43'16.1348"W	8827.89	160.683	1.70	0.88	1.46	
16105.00	90.620	160.040	7087.14	8922.69	-8420.46	2951.89	1719070.98	14356479.65	39°32'2.3298"N	80°43'15.7348"W	8922.88	160.681	1.11	0.23	-1.08	





# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

## WELLPATH DATA (248 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
16199.00	89.570	159.450	7086.98	9016.66	-8508.65	2984.43	1719103.51	14356391.50	39°32'1.4572"N	80°43'15.3229"W	9016.87	160.672	1.28	-1.12	-0.63	
16294.00	90.150	160.020	7087.21	9111.64	-8597.77	3017.34	1719136.40	14356302.41	39°32'0.5754"N	80°43'14.9065"W	9111.86	160.662	0.86	0.61	0.60	
16389.00	90.800	161.500	7086.42	9206.63	-8687.46	3048.64	1719167.70	14356212.76	39°31'59.6881"N	80°43'14.5105"W	9206.85	160.663	1.70	0.68	1.56	
16483.00	88.710	161.470	7086.83	9300.62	-8776.58	3078.49	1719197.53	14356123.67	39°31'58.8063"N	80°43'14.1331"W	9300.83	160.671	2.22	-2.22	-0.03	
16578.00	89.140	160.230	7088.61	9395.60	-8866.31	3109.65	1719228.68	14356033.98	39°31'57.9185"N	80°43'13.7390"W	9395.82	160.673	1.38	0.45	-1.31	
16672.00	89.540	161.990	7089.69	9489.59	-8955.24	3140.08	1719259.09	14355945.08	39°31'57.0387"N	80°43'13.3542"W	9489.80	160.677	1.92	0.43	1.87	
16767.00	89.140	160.610	7090.79	9584.58	-9045.21	3170.53	1719289.54	14355855.14	39°31'56.1485"N	80°43'12.9691"W	9584.79	160.683	1.51	-0.42	-1.45	
16861.00	90.220	160.230	7091.31	9678.57	-9133.78	3202.03	1719321.03	14355766.62	39°31'55.2723"N	80°43'12.5705"W	9678.78	160.681	1.22	1.15	-0.40	
16956.00	90.090	160.490	7091.05	9773.56	-9223.25	3233.96	1719352.94	14355677.18	39°31'54.3870"N	80°43'12.1666"W	9773.78	160.678	0.31	-0.14	0.27	
17051.00	90.180	160.340	7090.83	9868.56	-9312.75	3265.81	1719384.78	14355587.71	39°31'53.5014"N	80°43'11.7637"W	9868.78	160.675	0.18	0.09	-0.16	
17145.00	89.170	160.790	7091.36	9962.55	-9401.39	3297.08	1719416.04	14355499.10	39°31'52.6244"N	80°43'11.3681"W	9962.78	160.674	1.18	-1.07	0.48	
17240.00	90.490	160.990	7091.64	10057.55	-9491.16	3328.18	1719447.13	14355409.38	39°31'51.7363"N	80°43'10.9747"W	10057.77	160.676	1.41	1.39	0.21	
17334.00	90.220	160.960	7091.06	10151.55	-9580.02	3358.82	1719477.76	14355320.55	39°31'50.8571"N	80°43'10.5872"W	10151.77	160.679	0.29	-0.29	-0.03	
17429.00	89.600	160.250	7091.21	10246.54	-9669.63	3390.37	1719509.29	14355230.98	39°31'49.9705"N	80°43'10.1882"W	10246.77	160.678	0.99	-0.65	-0.75	
17524.00	89.850	160.720	7091.67	10341.54	-9759.17	3422.11	1719541.01	14355141.47	39°31'49.0846"N	80°43'9.7867"W	10341.77	160.676	0.56	0.26	0.49	
17618.00	89.380	161.040	7092.30	10435.53	-9847.98	3452.90	1719571.79	14355052.69	39°31'48.2059"N	80°43'9.3973"W	10435.77	160.678	0.60	-0.50	0.34	
17713.00	90.370	162.410	7092.51	10530.52	-9938.18	3482.68	1719601.57	14354962.53	39°31'47.3135"N	80°43'9.0207"W	10530.75	160.688	1.78	1.04	1.44	
17807.00	89.750	161.410	7092.41	10624.51	-10027.54	3511.87	1719630.74	14354873.21	39°31'46.4295"N	80°43'8.6518"W	10624.72	160.699	1.25	-0.66	-1.06	
17902.00	88.520	162.210	7093.84	10719.49	-10117.78	3541.52	1719660.38	14354783.00	39°31'45.5367"N	80°43'8.2770"W	10719.69	160.708	1.54	-1.29	0.84	
17997.00	89.910	161.690	7095.14	10814.47	-10208.09	3570.96	1719689.80	14354692.73	39°31'44.6432"N	80°43'7.9050"W	10814.66	160.719	1.56	1.46	-0.55	
18091.00	89.020	161.430	7096.02	10908.46	-10297.26	3600.69	1719719.52	14354603.59	39°31'43.7610"N	80°43'7.5291"W	10908.64	160.727	0.99	-0.95	-0.28	
18186.00	89.290	160.740	7097.42	11003.45	-10387.12	3631.48	1719750.30	14354513.77	39°31'42.8719"N	80°43'7.1397"W	11003.63	160.730	0.78	0.28	-0.73	
18280.00	89.820	161.030	7098.15	11097.44	-10475.93	3662.26	1719781.07	14354424.99	39°31'41.9932"N	80°43'6.7504"W	11097.63	160.731	0.64	0.56	0.31	
18375.00	90.550	162.250	7097.85	11192.44	-10566.09	3692.18	1719810.98	14354334.86	39°31'41.1012"N	80°43'6.3721"W	11192.61	160.739	1.50	0.77	1.28	
18470.00	90.220	161.400	7097.21	11287.42	-10656.35	3721.81	1719840.60	14354244.64	39°31'40.2082"N	80°43'5.9976"W	11287.59	160.748	0.96	-0.35	-0.89	
18564.00	89.260	161.070	7097.63	11381.42	-10745.35	3752.05	1719870.83	14354155.68	39°31'39.3277"N	80°43'5.6153"W	11381.59	160.752	1.08	-1.02	-0.35	
18659.00	90.490	162.570	7097.84	11476.41	-10835.61	3781.69	1719900.46	14354065.46	39°31'38.4348"N	80°43'5.2406"W	11476.56	160.761	2.04	1.29	1.58	
18754.00	89.570	161.290	7097.79	11571.39	-10925.92	3811.16	1719929.91	14353975.18	39°31'37.5413"N	80°43'4.8682"W	11571.54	160.770	1.66	-0.97	-1.35	
18848.00	89.820	161.790	7098.29	11666.39	-11015.08	3840.92	1719959.66	14353886.06	39°31'36.6592"N	80°43'4.4919"W	11666.53	160.777	0.59	0.27	0.53	
18943.00	90.400	161.820	7098.11	11760.38	-11105.33	3870.58	1719989.31	14353795.84	39°31'35.7663"N	80°43'4.1170"W	11760.52	160.785	0.61	0.61	0.03	



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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
19038.00	90.120	161.800	7097.68	11855.37	-11195.58	3900.24	1720018.96	14353705.63	39°31'34.8734"N	80°43'3.7421"W	11855.50	160.793	0.30	-0.29	-0.02	
19132.00	89.110	161.060	7098.31	11949.37	-11284.68	3930.17	1720048.88	14353616.56	39°31'33.9918"N	80°43'3.3637"W	11949.49	160.798	1.33	-1.07	-0.79	
19227.00	90.340	161.610	7098.77	12044.36	-11374.68	3960.58	1720079.27	14353526.60	39°31'33.1014"N	80°43'2.9793"W	12044.48	160.802	1.42	1.29	0.58	
19332.00	90.220	161.570	7098.25	12149.36	-11474.31	3993.74	1720112.42	14353427.01	39°31'32.1157"N	80°43'2.5602"W	12149.47	160.809	0.12	-0.11	-0.04	
19416.00	89.970	161.460	7098.11	12233.35	-11553.97	4020.37	1720139.04	14353347.38	39°31'31.3276"N	80°43'2.2235"W	12233.47	160.814	0.33	-0.30	-0.13	
19511.00	89.510	162.710	7098.54	12328.33	-11644.36	4049.59	1720168.25	14353257.02	39°31'30.4333"N	80°43'1.8542"W	12328.44	160.824	1.40	-0.48	1.32	
19606.00	90.180	161.470	7098.80	12423.32	-11734.76	4078.80	1720197.45	14353166.66	39°31'29.5390"N	80°43'1.4850"W	12423.41	160.833	1.48	0.71	-1.31	
19701.00	89.660	161.720	7098.93	12518.31	-11824.90	4108.80	1720227.43	14353076.56	39°31'28.6472"N	80°43'1.1059"W	12518.40	160.839	0.61	-0.55	0.26	
19795.00	89.540	161.870	7099.59	12612.30	-11914.19	4138.17	1720256.79	14352987.30	39°31'27.7638"N	80°43'0.7347"W	12612.39	160.846	0.20	-0.13	0.16	
19890.00	89.540	161.770	7100.35	12707.29	-12004.45	4167.81	1720286.42	14352897.08	39°31'26.8708"N	80°43'0.3601"W	12707.37	160.854	0.11	0.00	-0.11	
19985.00	89.720	161.440	7100.97	12802.28	-12094.59	4197.78	1720316.38	14352806.97	39°31'25.9790"N	80°42'59.9812"W	12802.36	160.859	0.40	0.19	-0.35	
20080.00	89.570	161.750	7101.55	12897.28	-12184.73	4227.78	1720346.37	14352716.87	39°31'25.0872"N	80°42'59.6020"W	12897.35	160.865	0.36	-0.16	0.33	
20175.00	89.510	161.530	7102.32	12992.27	-12274.89	4257.70	1720376.28	14352626.74	39°31'24.1952"N	80°42'59.2238"W	12992.34	160.870	0.24	-0.06	-0.23	
20269.00	89.660	161.890	7103.00	13086.26	-12364.14	4287.20	1720405.76	14352537.53	39°31'23.3122"N	80°42'58.8510"W	13086.33	160.876	0.41	0.16	0.38	
20364.00	89.630	161.750	7103.59	13181.25	-12454.39	4316.84	1720435.39	14352447.31	39°31'22.4193"N	80°42'58.4764"W	13181.31	160.883	0.15	-0.03	-0.15	
20458.00	89.450	161.900	7104.34	13275.24	-12543.70	4346.16	1720464.70	14352358.04	39°31'21.5357"N	80°42'58.1058"W	13275.30	160.890	0.25	-0.19	0.16	
20553.00	89.450	161.660	7105.25	13370.23	-12633.93	4375.86	1720494.39	14352267.84	39°31'20.6430"N	80°42'57.7304"W	13370.28	160.896	0.25	0.00	-0.25	
20647.00	89.510	160.790	7106.11	13464.22	-12722.93	4406.11	1720524.63	14352178.88	39°31'19.7625"N	80°42'57.3480"W	13464.28	160.898	0.93	0.06	-0.93	
20742.00	89.540	160.510	7106.89	13559.22	-12812.56	4437.59	1720556.09	14352089.29	39°31'18.8757"N	80°42'56.9499"W	13559.27	160.897	0.30	0.03	-0.29	
20836.00	89.480	160.630	7107.70	13653.21	-12901.20	4468.86	1720587.35	14352000.68	39°31'17.9986"N	80°42'56.5545"W	13653.27	160.894	0.14	-0.06	0.13	
20931.00	89.320	160.130	7108.69	13748.20	-12990.68	4500.75	1720619.23	14351911.24	39°31'17.1133"N	80°42'56.1511"W	13748.26	160.891	0.55	-0.17	-0.53	
21026.00	89.320	160.480	7109.82	13843.18	-13080.12	4532.77	1720651.24	14351821.84	39°31'16.2283"N	80°42'55.7461"W	13843.25	160.887	0.37	0.00	0.37	
21120.00	89.630	160.620	7110.68	13937.17	-13168.75	4564.07	1720682.52	14351733.24	39°31'15.3514"N	80°42'55.3503"W	13937.24	160.885	0.36	0.33	0.15	
21215.00	89.690	160.370	7111.25	14032.17	-13258.29	4595.79	1720714.23	14351643.73	39°31'14.4654"N	80°42'54.9492"W	14032.24	160.882	0.27	0.06	-0.26	
21309.00	90.090	160.820	7111.43	14126.16	-13346.95	4627.02	1720745.45	14351555.10	39°31'13.5882"N	80°42'54.5543"W	14126.23	160.880	0.64	0.43	0.48	
21404.00	89.880	160.760	7111.45	14221.16	-13436.66	4658.27	1720776.69	14351465.43	39°31'12.7006"N	80°42'54.1590"W	14221.23	160.879	0.23	-0.22	-0.06	
21499.00	89.450	160.360	7112.01	14316.16	-13526.25	4689.89	1720808.30	14351375.88	39°31'11.8142"N	80°42'53.7592"W	14316.23	160.877	0.62	-0.45	-0.42	
21593.00	89.350	160.930	7112.99	14410.15	-13614.93	4721.04	1720839.44	14351287.23	39°31'10.9368"N	80°42'53.3653"W	14410.22	160.876	0.62	-0.11	0.61	
21688.00	89.570	160.880	7113.89	14505.14	-13704.70	4752.12	1720870.50	14351197.50	39°31'10.0486"N	80°42'52.9723"W	14505.22	160.876	0.24	0.23	-0.05	
21782.00	89.910	160.790	7114.31	14599.14	-13793.49	4782.98	1720901.35	14351108.75	39°31'9.1701"N	80°42'52.5822"W	14599.22	160.876	0.37	0.36	-0.10	



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

WELLPATH DATA (248 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
21877.00	89.910	160.750	7114.46	14694.14	-13883.19	4814.27	1720932.62	14351019.08	39°31'8.2826"N	80°42'52.1865"W	14694.22	160.875	0.04	0.00	-0.04	
21972.00	89.780	160.650	7114.72	14789.14	-13972.85	4845.67	1720964.01	14350929.46	39°31'7.3954"N	80°42'51.7895"W	14789.22	160.874	0.17	-0.14	-0.11	
22066.00	89.720	160.820	7115.13	14883.14	-14061.58	4876.68	1720995.01	14350840.76	39°31'6.5175"N	80°42'51.3974"W	14883.22	160.873	0.19	-0.06	0.18	
22161.00	89.690	161.030	7115.62	14978.14	-14151.36	4907.73	1721026.05	14350751.01	39°31'5.6292"N	80°42'51.0049"W	14978.21	160.873	0.22	-0.03	0.22	
22255.00	89.630	160.590	7116.18	15072.13	-14240.14	4938.62	1721056.93	14350662.27	39°31'4.7508"N	80°42'50.6142"W	15072.21	160.873	0.47	-0.06	-0.47	
22350.00	89.450	160.610	7116.94	15167.13	-14329.74	4970.18	1721088.47	14350572.70	39°31'3.8642"N	80°42'50.2152"W	15167.21	160.871	0.19	-0.19	0.02	
22408.00	89.780	160.200	7117.33	15225.12	-14384.38	4989.63	1721107.92	14350518.09	39°31'3.3236"N	80°42'49.9692"W	15225.21	160.869	0.91	0.57	-0.71	
22433.00‡	89.780	160.200	7117.42	15250.12	-14407.90	4998.10	1721116.38	14350494.57	39°31'3.0909"N	80°42'49.8621"W	15250.20	160.868	0.00	0.00	0.00	Projected MD at TD: 22433'

HOLE & CASING SECTIONS - Ref Wellbore: Lenny Unit 2H AWB Ref Wellpath: Lenny Unit 2H AWP Proj: 22433'									
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	0.42	-0.51
17.5in Open Hole	130.00	673.00	543.00	130.00	672.99	0.42	-0.51	-0.25	1.03
13.375in Casing Surface	30.00	653.00	623.00	30.00	652.99	0.00	0.00	-0.07	0.88
12.25in Open Hole	673.00	3494.00	2821.00	672.99	3491.50	-0.25	1.03	-3.42	-22.33
9.625in Casing Intermediate	30.00	3474.00	3444.00	30.00	3471.50	0.00	0.00	-3.69	-22.36
8.75in Open Hole	3494.00	6131.00	2637.00	3491.50	6095.43	-3.42	-22.33	382.93	-95.06
8.5in Open Hole	6131.00	22433.00	16302.00	6095.43	7117.42	382.93	-95.06	-14407.90	4998.10
5.5in Casing Production	30.00	22413.00	22383.00	30.00	7117.35	0.00	0.00	-14389.09	4991.32



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Lenny Unit 2H POE Rev-2	7003.00	-73.76	79.15	1716199.38	14364823.05	39°33'24.9086"N	80°43'52.0810"W	point
Lenny Unit 2H BHL Rev-2	7031.00	-14422.27	5003.66	1721121.94	14350480.21	39°31'2.9487"N	80°42'49.7918"W	point
Lenny Unit 2H LP Rev-2	7031.00	-261.32	143.52	1716263.73	14364635.56	39°33'23.0530"N	80°43'51.2663"W	point
Lenny Unit 2H 50' L/R Hard Line	7250.00	-7248.02	2541.41	1718660.66	14357651.63	39°32'13.9299"N	80°43'20.9276"W	rectangle
2D Rectangle 15170 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Lenny Unit 2H AWB Ref Wellpath: Lenny Unit 2H AWP Proj: 22433'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
30.00	562.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-562')	Lenny Unit 2H AWB	9/17/2022
562.00	3421.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-1/4"> (562')(686'-3421')	Lenny Unit 2H AWB	9/17/2022
3421.00	6056.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (3421')(3500'-6056')	Lenny Unit 2H AWB	9/30/2022
6056.00	22433.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH AT Curve <8-1/2"> (6056')(6116'-22408')	Lenny Unit 2H AWB	9/30/2022



# Actual Wellpath Report

Lenny Unit 2H AWP Proj: 22433'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Lenny Unit 2H
Field	Wetzel	API	47-103-03495-0000
Facility	Furbee Pad	Wellbore	Lenny Unit 2H AWB
Slot	Slot E		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-103-03495-0000            BH Job #: 111490469            Rig: H&amp;P 519            Duration: 10/4/2022-10/8/2022            Gyrodata MS Gyro &lt;17-1/2"&gt; (100'-562')            APS EM &lt;12-1/4"&gt; (562')(686'-3421')            APS EM &lt;8-3/4"&gt; (3421')(3500'-6056')            BH AT Curve &lt;8-1/2"&gt; (6056')(6116'-22408')            Sycamore: 6731' MD            Middlesex: 6887' MD            Burkett: 7042' MD            Tully: 7096' MD            Hamilton: 7188' MD            Marcellus POE: 7307' MD            Projected MD at TD: 22433'</p>

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 Office of Oil and Gas  
**MAY 10 2023**  
 WV Department of  
 Environmental Protection