



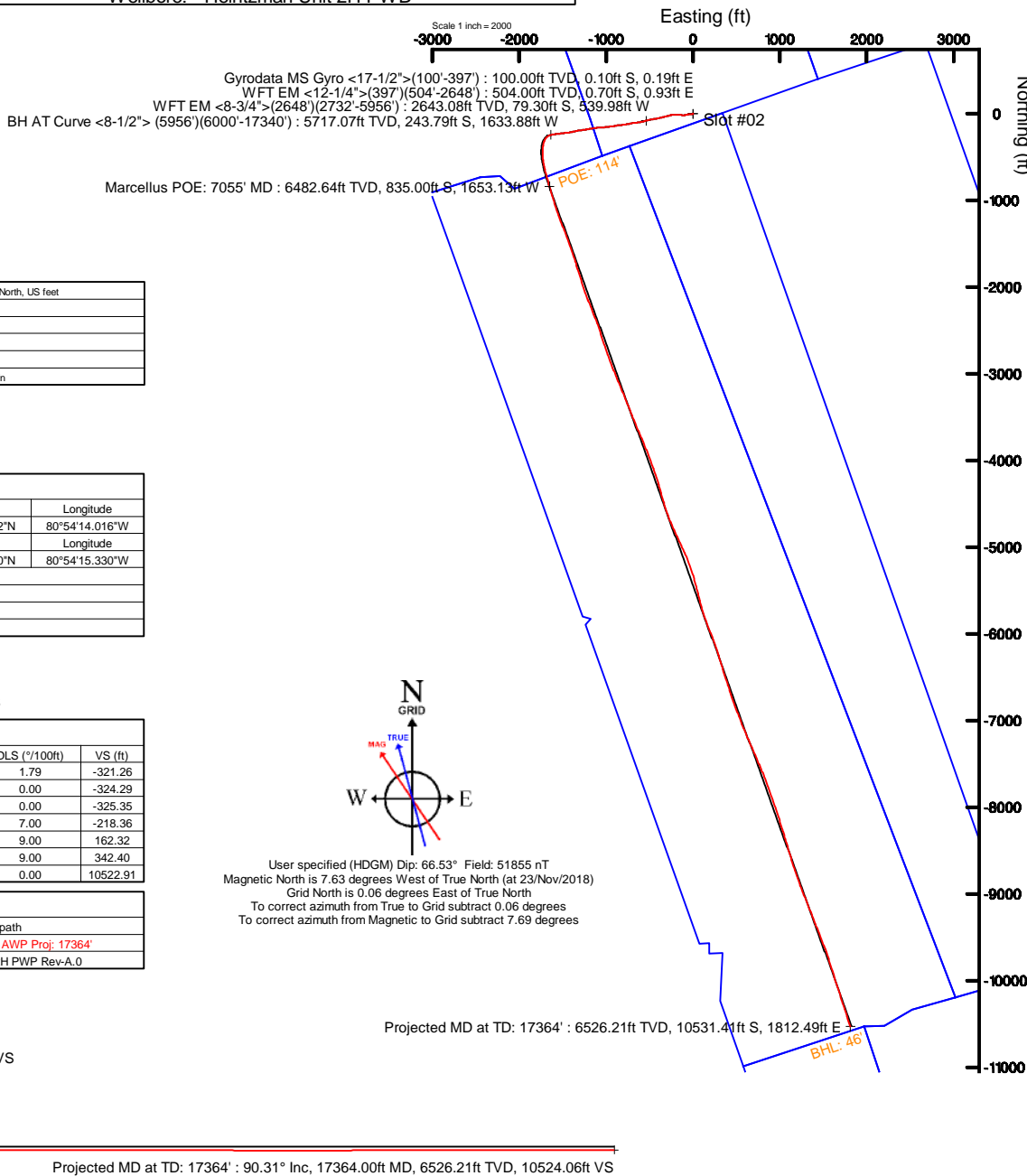
# ANTERO RESOURCES CORPORATION

Location: Tyler County, WV  
 Field: Tyler  
 Facility: Pyle Run Pad

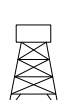
Slot: Slot #02  
 Well: Heintzman Unit 2H  
 Wellbore: Heintzman Unit 2H PWB



API: 47-095-02527-0000  
 BHI Job #: 109516301  
 Rig: Patterson 342  
 Duration: 11/25/2018-11/28/2018



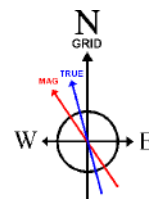
Plot reference wellpath is Heintzman Unit 2H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Patterson 342 (RKB)	North Reference: Grid north
Measured depths are referenced to Patterson 342 (RKB)	Scale: True distance
Patterson 342 (RKB) to Mean Sea Level: 1140 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #02): -1115 feet	Created by: delaset on 2018-12-04
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_DeIn



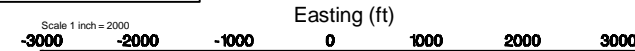
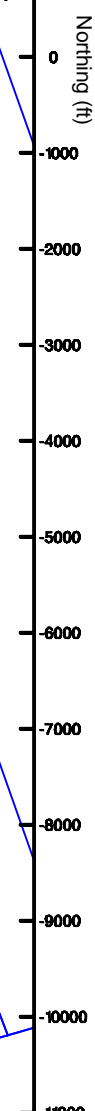
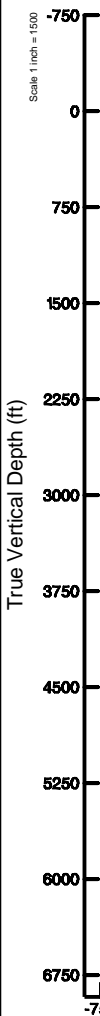
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Pyle Run Pad	1667566.130	14307672.036	39°24'00.812"N	80°54'14.016"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #02	-50.90	-103.10	1667463.074	14307621.155
			Latitude	Longitude
			39°24'00.310"N	80°54'15.330"W
Comment	Heintzman Unit 2H			
Patterson 342 (RKB) to Ground level (At Slot: Slot #02)	25ft			
Mean Sea Level to Ground level (At Slot: Slot #02)	-1115ft			
Patterson 342 (RKB) to Mean Sea Level	1140ft			

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5956.00	20.900	258.370	5676.02	-240.06	-1618.49	1.79	-321.26
Proj. To Bottom	6016.00	20.900	258.370	5732.07	-244.37	-1639.45	0.00	-324.29
Curve KOP	6037.00	20.900	258.370	5751.69	-245.88	-1646.79	0.00	-325.35
End of 3D Arc	6505.72	33.346	186.162	6178.13	-394.91	-1745.21	7.00	-218.36
POE	7002.65	73.569	160.243	6471.00	-774.47	-1675.75	9.00	162.32
Landing Pt.	7185.22	90.000	160.243	6497.00	-943.94	-1614.87	9.00	342.40
BHL	17365.73	90.000	160.243	6497.00	-10525.15	1826.52	0.00	10522.91

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #02	Heintzman Unit 2H	Heintzman Unit 2H AWB	Heintzman Unit 2H AWP Proj: 17364'
Slot #02	Heintzman Unit 2H	Heintzman Unit 2H PWB	Heintzman Unit 2H PWP Rev-A.0



User specified (HDGM) Dip: 66.53° Field: 51855 nT  
 Magnetic North is 7.63 degrees West of True North (at 23/Nov/2018)  
 Grid North is 0.06 degrees East of True North  
 To correct azimuth from True to Grid subtract 0.06 degrees  
 To correct azimuth from Magnetic to Grid subtract 7.69 degrees



Vertical Section (ft)  
 Azimuth 160.24° with reference 0.00 N, 0.00 E

Scale 1 inch = 1500



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

REPORT SETUP INFORMATION			
Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 5.1
North Reference	Grid	User	Delaset
Scale	0.999601	Report Generated	04/Dec/2018 at 17:41
Convergence at slot	0.06° East	Database/Source file	WA_MPL_EasternUS_Defn/Heintzman_Unit_2H_AWP_Proj_17364_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-50.90	-103.10	1667463.07	14307621.16	39°24'00.310"N	80°54'15.330"W
Facility Reference Pt			1667566.13	14307672.04	39°24'00.812"N	80°54'14.016"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 342 (RKB) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 342 (RKB) to Mean Sea Level	1140.00ft
Vertical Reference Pt	Patterson 342 (RKB)	Patterson 342 (RKB) to Ground Level at Slot (Slot #02)	25.00ft
MD Reference Pt	Patterson 342 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.24°



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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	117.500	0.00	0.00	0.00	0.00	1667463.07	14307621.16	39°24'00.310"N	80°54'15.330"W	0.00	0.000	0.00	0.00	0.00	
25.00	0.000	117.500	25.00	0.00	0.00	0.00	1667463.07	14307621.16	39°24'00.310"N	80°54'15.330"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.320	117.500	100.00	0.15	-0.10	0.19	1667463.26	14307621.06	39°24'00.309"N	80°54'15.328"W	0.21	117.500	0.43	0.43	156.67	Gyrodata MS Gyro <17-1/2">(100'-397')
125.00	0.280	121.740	125.00	0.25	-0.16	0.30	1667463.37	14307620.99	39°24'00.308"N	80°54'15.326"W	0.34	118.261	0.18	-0.16	16.96	
150.00	0.210	120.430	150.00	0.34	-0.22	0.39	1667463.47	14307620.94	39°24'00.308"N	80°54'15.326"W	0.45	118.958	0.28	-0.28	-5.24	
175.00	0.150	105.960	175.00	0.39	-0.25	0.46	1667463.54	14307620.91	39°24'00.308"N	80°54'15.324"W	0.52	118.283	0.30	-0.24	-57.88	
200.00	0.180	129.300	200.00	0.44	-0.28	0.52	1667463.60	14307620.87	39°24'00.307"N	80°54'15.323"W	0.60	118.333	0.29	0.12	93.36	
225.00	0.100	137.780	225.00	0.50	-0.32	0.57	1667463.64	14307620.83	39°24'00.307"N	80°54'15.323"W	0.65	119.623	0.33	-0.32	33.92	
250.00	0.120	163.580	250.00	0.54	-0.36	0.59	1667463.67	14307620.79	39°24'00.306"N	80°54'15.322"W	0.69	121.683	0.21	0.08	103.20	
275.00	0.120	151.710	275.00	0.60	-0.41	0.61	1667463.68	14307620.74	39°24'00.306"N	80°54'15.322"W	0.74	124.061	0.10	0.00	-47.48	
300.00	0.150	139.750	300.00	0.65	-0.46	0.64	1667463.72	14307620.69	39°24'00.305"N	80°54'15.322"W	0.79	125.579	0.16	0.12	-47.84	
325.00	0.120	181.650	325.00	0.71	-0.51	0.66	1667463.74	14307620.64	39°24'00.305"N	80°54'15.322"W	0.84	127.610	0.40	-0.12	167.60	
350.00	0.060	151.360	350.00	0.74	-0.55	0.67	1667463.74	14307620.61	39°24'00.305"N	80°54'15.321"W	0.87	129.359	0.30	-0.24	-121.16	
375.00	0.060	181.320	375.00	0.77	-0.57	0.68	1667463.75	14307620.58	39°24'00.304"N	80°54'15.321"W	0.89	130.341	0.12	0.00	119.84	
397.00	0.040	187.770	397.00	0.79	-0.59	0.67	1667463.75	14307620.56	39°24'00.304"N	80°54'15.321"W	0.90	131.325	0.09	-0.09	29.32	
504.00	0.290	104.730	504.00	0.97	-0.70	0.93	1667464.01	14307620.46	39°24'00.303"N	80°54'15.318"W	1.17	126.889	0.27	0.23	-77.61	WFT EM <12-1/4">(397')(504'-2648')
594.00	0.320	82.140	594.00	1.15	-0.72	1.40	1667464.47	14307620.43	39°24'00.303"N	80°54'15.312"W	1.58	117.292	0.14	0.03	-25.10	
685.00	1.520	259.180	684.99	1.02	-0.91	0.47	1667463.54	14307620.24	39°24'00.301"N	80°54'15.324"W	1.03	152.942	2.02	1.32	194.55	
777.00	3.690	265.060	776.89	0.07	-1.40	-3.68	1667459.39	14307619.76	39°24'00.296"N	80°54'15.377"W	3.94	249.194	2.37	2.36	6.39	
871.00	6.350	269.550	870.52	-2.42	-1.70	-11.89	1667451.18	14307619.46	39°24'00.293"N	80°54'15.482"W	12.02	261.866	2.86	2.83	4.78	
966.00	8.010	265.300	964.77	-5.88	-2.28	-23.75	1667439.34	14307618.87	39°24'00.288"N	80°54'15.633"W	23.86	264.506	1.83	1.75	-4.47	
1060.00	9.560	262.220	1057.67	-9.20	-3.88	-38.01	1667425.08	14307617.28	39°24'00.272"N	80°54'15.814"W	38.20	264.175	1.72	1.65	-3.28	
1155.00	9.830	257.730	1151.31	-11.90	-6.67	-53.75	1667409.35	14307614.49	39°24'00.245"N	80°54'16.015"W	54.16	262.927	0.84	0.28	-4.73	
1250.00	9.670	256.350	1244.94	-13.80	-10.27	-69.43	1667393.68	14307610.88	39°24'00.209"N	80°54'16.215"W	70.18	261.581	0.30	-0.17	-1.45	
1345.00	10.300	260.210	1338.50	-16.12	-13.60	-85.55	1667377.56	14307607.56	39°24'00.176"N	80°54'16.420"W	86.62	260.966	0.97	0.66	4.06	
1440.00	11.640	267.500	1431.77	-20.44	-15.46	-103.49	1667359.62	14307605.70	39°24'00.158"N	80°54'16.649"W	104.64	261.502	2.03	1.41	7.67	
1535.00	14.740	274.270	1524.25	-28.20	-14.98	-125.13	1667338.00	14307606.18	39°24'00.163"N	80°54'16.924"W	126.02	263.172	3.64	3.26	7.13	
1629.00	17.540	276.560	1614.54	-39.36	-12.47	-151.13	1667312.00	14307608.69	39°24'00.188"N	80°54'17.255"W	151.64	265.282	3.05	2.98	2.44	
1724.00	19.990	274.370	1704.49	-52.34	-9.60	-181.55	1667281.60	14307611.56	39°24'00.217"N	80°54'17.643"W	181.80	266.973	2.68	2.58	-2.31	
1818.00	21.690	267.960	1792.34	-64.20	-8.99	-214.93	1667248.23	14307612.16	39°24'00.223"N	80°54'18.068"W	215.12	267.604	3.02	1.81	-6.82	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
1913.00	21.470	256.980	1880.72	-71.59	-13.54	-249.43	1667213.74	14307607.62	39°24'00.179"N	80°54'18.508"W	249.80	266.893	4.25	-0.23	-11.56	
2008.00	21.090	252.140	1969.25	-74.19	-22.70	-282.64	1667180.55	14307598.47	39°24'00.089"N	80°54'18.931"W	283.55	265.409	1.89	-0.40	-5.09	
2102.00	22.920	256.230	2056.41	-76.67	-32.24	-316.52	1667146.68	14307588.93	39°23'59.995"N	80°54'19.362"W	318.16	264.184	2.54	1.95	4.35	
2196.00	24.820	257.590	2142.36	-81.10	-40.84	-353.57	1667109.65	14307580.33	39°23'59.910"N	80°54'19.835"W	355.92	263.411	2.10	2.02	1.45	
2290.00	23.390	257.330	2228.16	-85.93	-49.17	-391.05	1667072.19	14307572.00	39°23'59.828"N	80°54'20.312"W	394.12	262.833	1.53	-1.52	-0.28	
2385.00	20.220	259.810	2316.36	-90.99	-56.22	-425.61	1667037.63	14307564.96	39°23'59.759"N	80°54'20.752"W	429.31	262.476	3.47	-3.34	2.61	
2480.00	19.310	261.510	2405.76	-96.79	-61.44	-457.31	1667005.95	14307559.74	39°23'59.708"N	80°54'21.156"W	461.41	262.348	1.13	-0.96	1.79	
2575.00	20.380	260.420	2495.12	-102.78	-66.51	-489.15	1666974.12	14307554.67	39°23'59.658"N	80°54'21.562"W	493.65	262.257	1.19	1.13	-1.15	
2648.00	19.790	256.040	2563.68	-106.27	-71.61	-513.68	1666949.60	14307549.58	39°23'59.608"N	80°54'21.874"W	518.65	262.064	2.21	-0.81	-6.00	
2732.00	18.320	251.180	2643.08	-107.93	-79.30	-539.98	1666923.31	14307541.89	39°23'59.532"N	80°54'22.210"W	545.77	261.646	2.57	-1.75	-5.79	WFT EM <8-3/4">(2648')(2732'-5956')
2826.00	17.280	256.610	2732.59	-109.72	-87.30	-567.55	1666895.75	14307533.89	39°23'59.453"N	80°54'22.561"W	574.22	261.256	2.08	-1.11	5.78	
2921.00	18.340	257.610	2823.03	-113.20	-93.77	-595.87	1666867.44	14307527.42	39°23'59.389"N	80°54'22.922"W	603.21	261.057	1.16	1.12	1.05	
3016.00	18.230	262.740	2913.24	-118.34	-98.86	-625.21	1666838.11	14307522.34	39°23'59.339"N	80°54'23.296"W	632.98	261.015	1.70	-0.12	5.40	
3111.00	19.830	263.440	3003.05	-125.23	-102.58	-655.96	1666807.37	14307518.62	39°23'59.303"N	80°54'23.687"W	663.93	261.112	1.70	1.68	0.74	
3210.00	21.750	262.780	3095.60	-133.05	-106.80	-690.85	1666772.51	14307514.40	39°23'59.262"N	80°54'24.132"W	699.05	261.212	1.95	1.94	-0.67	
3305.00	20.710	255.900	3184.16	-138.53	-113.11	-724.60	1666738.76	14307508.09	39°23'59.200"N	80°54'24.562"W	733.38	261.128	2.84	-1.09	-7.24	
3399.00	18.810	260.570	3272.63	-142.89	-119.64	-755.68	1666707.70	14307501.56	39°23'59.135"N	80°54'24.958"W	765.09	261.004	2.63	-2.02	4.97	
3494.00	19.760	262.690	3362.30	-149.10	-124.19	-786.72	1666676.67	14307497.01	39°23'59.091"N	80°54'25.353"W	796.46	261.029	1.24	1.00	2.23	
3589.00	20.970	263.680	3451.36	-156.51	-128.11	-819.54	1666643.86	14307493.10	39°23'59.052"N	80°54'25.771"W	829.49	261.116	1.32	1.27	1.04	
3684.00	21.290	264.250	3539.97	-164.64	-131.71	-853.60	1666609.82	14307489.50	39°23'59.017"N	80°54'26.205"W	863.70	261.229	0.40	0.34	0.60	
3778.00	19.700	257.250	3628.03	-170.70	-136.91	-886.04	1666577.39	14307484.30	39°23'58.966"N	80°54'26.619"W	896.55	261.216	3.11	-1.69	-7.45	
3873.00	18.010	261.350	3717.93	-175.49	-142.66	-916.18	1666547.26	14307478.56	39°23'58.909"N	80°54'27.003"W	927.22	261.150	2.26	-1.78	4.32	
3968.00	18.200	263.850	3808.23	-181.81	-146.45	-945.45	1666518.01	14307474.76	39°23'58.872"N	80°54'27.376"W	956.72	261.195	0.84	0.20	2.63	
4063.00	19.500	262.650	3898.14	-188.71	-150.07	-975.93	1666487.54	14307471.14	39°23'58.837"N	80°54'27.764"W	987.40	261.258	1.43	1.37	-1.26	
4158.00	19.600	263.800	3987.66	-195.85	-153.82	-1007.49	1666455.99	14307467.40	39°23'58.800"N	80°54'28.166"W	1019.17	261.319	0.42	0.11	1.21	
4252.00	19.620	266.880	4076.21	-204.07	-156.38	-1038.93	1666424.57	14307464.83	39°23'58.775"N	80°54'28.566"W	1050.63	261.440	1.10	0.02	3.28	
4348.00	20.410	266.340	4166.41	-213.32	-158.33	-1071.72	1666391.78	14307462.89	39°23'58.756"N	80°54'28.984"W	1083.36	261.596	0.85	0.82	-0.56	
4442.00	21.230	264.980	4254.27	-222.20	-160.86	-1105.04	1666358.48	14307460.35	39°23'58.731"N	80°54'29.409"W	1116.68	261.717	1.01	0.87	-1.45	
4537.00	18.570	261.400	4343.60	-229.50	-164.63	-1137.13	1666326.40	14307456.59	39°23'58.695"N	80°54'29.818"W	1148.99	261.762	3.08	-2.80	-3.77	
4631.00	19.080	261.170	4432.57	-235.31	-169.23	-1167.12	1666296.43	14307451.99	39°23'58.649"N	80°54'30.200"W	1179.32	261.750	0.55	0.54	-0.24	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
4726.00	20.300	258.680	4522.01	-240.68	-174.85	-1198.62	1666264.94	14307446.38	39°23'58.594"N	80°54'30.601"W	1211.31	261.701	1.56	1.28	-2.62	
4821.00	19.810	259.400	4611.25	-245.66	-181.04	-1230.60	1666232.97	14307440.18	39°23'58.533"N	80°54'31.008"W	1243.85	261.631	0.58	-0.52	0.76	
4915.00	20.980	262.120	4699.36	-251.66	-186.28	-1262.93	1666200.65	14307434.95	39°23'58.482"N	80°54'31.420"W	1276.59	261.609	1.60	1.24	2.89	
5010.00	22.070	263.840	4787.73	-259.36	-190.53	-1297.52	1666166.07	14307430.70	39°23'58.440"N	80°54'31.861"W	1311.44	261.646	1.33	1.15	1.81	
5105.00	19.780	257.660	4876.47	-265.63	-195.88	-1330.98	1666132.63	14307425.35	39°23'58.388"N	80°54'32.287"W	1345.31	261.628	3.34	-2.41	-6.51	
5199.00	20.270	257.320	4964.79	-269.69	-202.85	-1362.40	1666101.22	14307418.38	39°23'58.319"N	80°54'32.688"W	1377.42	261.531	0.54	0.52	-0.36	
5294.00	19.800	258.510	5054.04	-274.04	-209.67	-1394.22	1666069.41	14307411.57	39°23'58.252"N	80°54'33.093"W	1409.90	261.448	0.65	-0.49	1.25	
5389.00	18.160	261.580	5143.88	-279.26	-215.04	-1424.64	1666039.01	14307406.20	39°23'58.199"N	80°54'33.481"W	1440.78	261.416	2.02	-1.73	3.23	
5483.00	19.090	265.830	5232.96	-286.27	-218.31	-1454.46	1666009.19	14307402.94	39°23'58.167"N	80°54'33.861"W	1470.76	261.464	1.75	0.99	4.52	
5578.00	20.960	261.350	5322.21	-293.72	-221.99	-1486.76	1665976.91	14307399.25	39°23'58.131"N	80°54'34.272"W	1503.24	261.508	2.54	1.97	-4.72	
5672.00	21.520	261.190	5409.83	-300.24	-227.16	-1520.42	1665943.26	14307394.08	39°23'58.080"N	80°54'34.701"W	1537.30	261.502	0.60	0.60	-0.17	
5767.00	20.000	265.400	5498.66	-307.80	-231.13	-1553.84	1665909.86	14307390.11	39°23'58.041"N	80°54'35.127"W	1570.93	261.539	2.24	-1.60	4.43	
5861.00	19.990	262.500	5587.00	-315.41	-234.52	-1585.79	1665877.92	14307386.73	39°23'58.008"N	80°54'35.534"W	1603.04	261.588	1.05	-0.01	-3.09	
5956.00	20.900	258.370	5676.02	-321.26	-240.06	-1618.49	1665845.24	14307381.19	39°23'57.954"N	80°54'35.950"W	1636.19	261.563	1.79	0.96	-4.35	
6000.00	21.330	254.400	5717.07	-322.95	-243.79	-1633.88	1665829.85	14307377.46	39°23'57.917"N	80°54'36.146"W	1651.97	261.514	3.39	0.98	-9.02	BH AT Curve <8-1/2"> (5956')(6000'-17340')
6051.00	20.500	249.160	5764.71	-323.45	-249.46	-1651.17	1665812.57	14307371.79	39°23'57.861"N	80°54'36.367"W	1669.90	261.409	4.01	-1.63	-10.27	
6081.00	20.630	241.920	5792.80	-322.59	-253.82	-1660.74	1665803.00	14307367.44	39°23'57.818"N	80°54'36.489"W	1680.02	261.310	8.48	0.43	-24.13	
6127.00	20.850	231.790	5835.84	-318.83	-262.70	-1674.33	1665789.42	14307358.56	39°23'57.731"N	80°54'36.662"W	1694.81	261.083	7.80	0.48	-22.02	
6176.00	20.050	222.920	5881.76	-312.21	-274.25	-1686.90	1665776.85	14307347.02	39°23'57.617"N	80°54'36.822"W	1709.05	260.766	6.53	-1.63	-18.10	
6223.00	19.600	215.780	5925.98	-304.05	-286.55	-1697.00	1665766.76	14307334.72	39°23'57.495"N	80°54'36.951"W	1721.02	260.416	5.24	-0.96	-15.19	
6271.00	20.760	207.510	5971.04	-293.72	-300.63	-1705.64	1665758.12	14307320.65	39°23'57.356"N	80°54'37.061"W	1731.93	260.004	6.41	2.42	-17.23	
6318.00	22.920	201.280	6014.67	-281.16	-316.55	-1712.81	1665750.95	14307304.74	39°23'57.199"N	80°54'37.153"W	1741.81	259.529	6.74	4.60	-13.26	
6365.00	24.480	195.900	6057.71	-266.34	-334.44	-1718.80	1665744.97	14307286.85	39°23'57.022"N	80°54'37.229"W	1751.03	258.989	5.67	3.32	-11.45	
6412.00	26.950	191.420	6100.06	-249.32	-354.25	-1723.57	1665740.19	14307267.05	39°23'56.826"N	80°54'37.290"W	1759.60	258.386	6.68	5.26	-9.53	
6460.00	30.770	187.650	6142.09	-229.10	-377.09	-1727.36	1665736.40	14307244.21	39°23'56.601"N	80°54'37.339"W	1768.05	257.685	8.81	7.96	-7.85	
6506.00	34.210	184.640	6180.89	-206.87	-401.65	-1729.98	1665733.79	14307219.66	39°23'56.358"N	80°54'37.372"W	1775.99	256.929	8.26	7.48	-6.54	
6555.00	37.920	181.670	6220.49	-180.30	-430.44	-1731.53	1665732.24	14307190.88	39°23'56.073"N	80°54'37.393"W	1784.23	256.040	8.37	7.57	-6.06	
6601.00	41.000	178.640	6256.01	-152.81	-459.67	-1731.59	1665732.18	14307161.67	39°23'55.784"N	80°54'37.394"W	1791.56	255.133	7.90	6.70	-6.59	
6650.00	44.380	175.810	6292.02	-121.04	-492.84	-1729.95	1665733.82	14307128.51	39°23'55.457"N	80°54'37.373"W	1798.78	254.098	7.93	6.90	-5.78	
6696.00	48.420	172.950	6323.74	-88.75	-525.98	-1726.66	1665737.10	14307095.39	39°23'55.129"N	80°54'37.332"W	1805.00	253.058	9.87	8.78	-6.22	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
6702.00†	48.965	172.669	6327.70	-84.35	-530.45	-1726.10	1665737.67	14307090.92	39°23'55.085"N	80°54'37.325"W	1805.77	252.917	9.75	9.09	-4.69	Middlesex: 6702' MD
6744.00	52.800	170.820	6354.20	-52.42	-562.68	-1721.41	1665742.36	14307058.70	39°23'54.766"N	80°54'37.265"W	1811.04	251.899	9.75	9.13	-4.40	
6790.00	57.090	168.200	6380.61	-15.27	-599.69	-1714.53	1665749.23	14307021.70	39°23'54.400"N	80°54'37.178"W	1816.38	250.722	10.43	9.33	-5.70	
6839.00	61.070	166.940	6405.79	26.42	-640.73	-1705.48	1665758.28	14306980.68	39°23'53.995"N	80°54'37.063"W	1821.86	249.409	8.42	8.12	-2.57	
6878.00†	64.401	165.576	6423.65	60.89	-674.40	-1697.24	1665766.52	14306947.03	39°23'53.662"N	80°54'36.959"W	1826.32	248.330	9.09	8.54	-3.50	Burkett: 6878' MD
6885.00	65.000	165.340	6426.64	67.19	-680.53	-1695.65	1665768.11	14306940.90	39°23'53.601"N	80°54'36.939"W	1827.11	248.133	9.09	8.56	-3.38	
6933.00	68.450	164.650	6445.61	111.12	-723.11	-1684.23	1665779.52	14306898.34	39°23'53.180"N	80°54'36.794"W	1832.90	246.764	7.31	7.19	-1.44	
6961.00†	69.999	164.608	6455.54	137.23	-748.35	-1677.29	1665786.46	14306873.10	39°23'52.931"N	80°54'36.706"W	1836.66	245.955	5.53	5.53	-0.15	Tully: 6961' MD
6980.00	71.050	164.580	6461.87	155.09	-765.62	-1672.53	1665791.21	14306855.84	39°23'52.760"N	80°54'36.645"W	1839.44	245.404	5.53	5.53	-0.15	
7028.00	75.090	164.370	6475.85	200.87	-809.85	-1660.24	1665803.50	14306811.63	39°23'52.323"N	80°54'36.489"W	1847.23	243.997	8.43	8.42	-0.44	
7055.00†	75.768	164.019	6482.64	226.94	-835.00	-1653.13	1665810.61	14306786.49	39°23'52.074"N	80°54'36.399"W	1852.04	243.202	2.81	2.51	-1.30	Marcellus POE: 7055' MD
7075.00	76.270	163.760	6487.47	246.31	-853.64	-1647.74	1665816.00	14306767.85	39°23'51.890"N	80°54'36.331"W	1855.74	242.613	2.81	2.51	-1.29	
7122.00	79.600	163.540	6497.30	292.18	-897.74	-1634.80	1665828.93	14306723.78	39°23'51.454"N	80°54'36.166"W	1865.08	241.227	7.10	7.09	-0.47	
7169.00	83.990	163.380	6504.00	338.62	-942.32	-1621.56	1665842.16	14306679.21	39°23'51.013"N	80°54'35.998"W	1875.48	239.838	9.35	9.34	-0.34	
7217.00	87.970	162.990	6507.37	386.43	-988.15	-1607.71	1665856.01	14306633.40	39°23'50.560"N	80°54'35.822"W	1887.11	238.424	8.33	8.29	-0.81	
7312.00	89.630	162.060	6509.36	481.32	-1078.74	-1579.19	1665884.51	14306542.85	39°23'49.664"N	80°54'35.460"W	1912.47	235.663	2.00	1.75	-0.98	
7407.00	89.720	161.040	6509.90	576.30	-1168.85	-1549.13	1665914.57	14306452.77	39°23'48.773"N	80°54'35.079"W	1940.62	232.965	1.08	0.09	-1.07	
7501.00	89.660	158.610	6510.40	670.29	-1257.08	-1516.71	1665946.97	14306364.58	39°23'47.901"N	80°54'34.667"W	1969.94	230.347	2.59	-0.06	-2.59	
7597.00	89.660	158.300	6510.97	766.24	-1346.37	-1481.46	1665982.21	14306275.33	39°23'47.018"N	80°54'34.219"W	2001.86	227.735	0.32	0.00	-0.32	
7691.00	89.660	159.760	6511.53	860.21	-1434.14	-1447.82	1666015.84	14306187.59	39°23'46.150"N	80°54'33.791"W	2037.88	225.272	1.55	0.00	1.55	
7786.00	89.660	160.560	6512.10	955.21	-1523.50	-1415.58	1666048.06	14306098.27	39°23'45.267"N	80°54'33.382"W	2079.64	222.897	0.84	0.00	0.84	
7881.00	89.600	161.670	6512.71	1050.20	-1613.38	-1384.83	1666078.80	14306008.42	39°23'44.378"N	80°54'32.991"W	2126.21	220.641	1.17	-0.06	1.17	
7976.00	89.820	162.180	6513.19	1145.15	-1703.69	-1355.36	1666108.26	14305918.15	39°23'43.485"N	80°54'32.617"W	2177.05	218.504	0.58	0.23	0.54	
8070.00	89.660	162.910	6513.62	1239.08	-1793.36	-1327.16	1666136.45	14305828.51	39°23'42.599"N	80°54'32.259"W	2231.03	216.503	0.80	-0.17	0.78	
8166.00	90.060	162.360	6513.85	1334.99	-1884.99	-1298.51	1666165.09	14305736.93	39°23'41.693"N	80°54'31.895"W	2288.95	214.562	0.71	0.42	-0.57	
8261.00	89.820	163.270	6513.95	1429.89	-1975.74	-1270.44	1666193.14	14305646.20	39°23'40.796"N	80°54'31.539"W	2348.95	212.742	0.99	-0.25	0.96	
8356.00	89.780	160.400	6514.28	1524.85	-2066.00	-1240.83	1666222.74	14305555.99	39°23'39.903"N	80°54'31.163"W	2409.98	210.989	3.02	-0.04	-3.02	
8450.00	89.780	157.590	6514.64	1618.81	-2153.74	-1207.14	1666256.42	14305468.28	39°23'39.036"N	80°54'30.735"W	2468.96	209.270	2.99	0.00	-2.99	
8545.00	89.630	157.810	6515.13	1713.72	-2241.64	-1171.09	1666292.46	14305380.42	39°23'38.167"N	80°54'30.277"W	2529.11	207.584	0.28	-0.16	0.23	
8639.00	89.750	159.190	6515.64	1807.67	-2329.09	-1136.64	1666326.89	14305293.00	39°23'37.302"N	80°54'29.839"W	2591.64	206.013	1.47	0.13	1.47	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
8734.00	89.780	160.170	6516.03	1902.67	-2418.18	-1103.65	1666359.87	14305203.95	39°23'36.421"N	80°54'29.420"W	2658.12	204.532	1.03	0.03	1.03	
8829.00	89.880	161.430	6516.31	1997.66	-2507.89	-1072.41	1666391.10	14305114.27	39°23'35.534"N	80°54'29.023"W	2727.56	203.152	1.33	0.11	1.33	
8923.00	89.690	161.200	6516.66	2091.64	-2596.94	-1042.29	1666421.20	14305025.26	39°23'34.654"N	80°54'28.641"W	2798.30	201.868	0.32	-0.20	-0.24	
9018.00	89.750	161.910	6517.13	2186.61	-2687.05	-1012.24	1666451.24	14304935.18	39°23'33.763"N	80°54'28.259"W	2871.39	200.642	0.75	0.06	0.75	
9113.00	89.970	160.380	6517.36	2281.60	-2776.95	-981.54	1666481.93	14304845.32	39°23'32.874"N	80°54'27.869"W	2945.32	199.466	1.63	0.23	-1.61	
9207.00	90.280	159.700	6517.16	2375.60	-2865.31	-949.45	1666514.01	14304757.00	39°23'32.000"N	80°54'27.462"W	3018.52	198.333	0.80	0.33	-0.72	
9302.00	90.060	158.360	6516.87	2470.57	-2954.01	-915.45	1666547.99	14304668.33	39°23'31.123"N	80°54'27.030"W	3092.61	197.218	1.43	-0.23	-1.41	
9397.00	90.060	157.390	6516.77	2565.49	-3042.02	-879.67	1666583.76	14304595.36	39°23'30.253"N	80°54'26.575"W	3166.65	196.128	1.02	0.00	-1.02	
9491.00	90.250	157.370	6516.52	2659.37	-3128.78	-843.52	1666619.89	14304493.63	39°23'29.395"N	80°54'26.116"W	3240.50	195.088	0.20	0.20	-0.02	
9587.00	90.090	158.010	6516.24	2755.28	-3217.60	-807.08	1666656.32	14304404.85	39°23'28.517"N	80°54'25.653"W	3317.27	194.081	0.69	-0.17	0.67	
9681.00	90.060	157.910	6516.11	2849.20	-3304.73	-771.80	1666691.58	14304317.75	39°23'27.656"N	80°54'25.205"W	3393.66	193.145	0.11	-0.03	-0.11	
9775.00	90.090	157.850	6515.99	2943.12	-3391.81	-736.41	1666726.96	14304230.71	39°23'26.795"N	80°54'24.755"W	3470.83	192.250	0.07	0.03	-0.06	
9870.00	90.090	158.580	6515.84	3038.06	-3480.02	-701.15	1666762.21	14304142.53	39°23'25.922"N	80°54'24.307"W	3549.95	191.391	0.77	0.00	0.77	
9964.00	90.060	158.030	6515.72	3132.01	-3567.36	-666.40	1666796.94	14304055.22	39°23'25.059"N	80°54'23.866"W	3629.07	190.581	0.59	-0.03	-0.59	
10059.00	89.750	156.520	6515.87	3226.88	-3654.99	-629.70	1666833.62	14303967.63	39°23'24.192"N	80°54'23.400"W	3708.84	189.775	1.62	-0.33	-1.59	
10154.00	89.750	156.780	6516.29	3321.69	-3742.21	-592.05	1666871.26	14303880.45	39°23'23.330"N	80°54'22.921"W	3788.75	188.990	0.27	0.00	0.27	
10249.00	89.750	157.540	6516.70	3416.55	-3829.76	-555.18	1666908.12	14303792.94	39°23'22.464"N	80°54'22.453"W	3869.79	188.248	0.80	0.00	0.80	
10343.00	89.630	158.680	6517.21	3510.49	-3916.98	-520.13	1666943.15	14303705.75	39°23'21.602"N	80°54'22.008"W	3951.36	187.564	1.22	-0.13	1.21	
10438.00	89.630	159.070	6517.83	3605.46	-4005.59	-485.89	1666977.38	14303617.17	39°23'20.726"N	80°54'21.573"W	4034.95	186.916	0.41	0.00	0.41	
10532.00	89.600	160.290	6518.46	3699.45	-4093.74	-453.25	1667010.00	14303529.06	39°23'19.854"N	80°54'21.158"W	4118.75	186.318	1.30	-0.03	1.30	
10627.00	89.660	162.320	6519.07	3794.43	-4183.72	-422.80	1667040.44	14303439.12	39°23'18.964"N	80°54'20.772"W	4205.03	185.771	2.14	0.06	2.14	
10722.00	89.630	164.100	6519.66	3889.29	-4274.66	-395.36	1667067.87	14303348.21	39°23'18.065"N	80°54'20.423"W	4292.91	185.284	1.87	-0.03	1.87	
10816.00	89.820	165.090	6520.11	3983.02	-4365.28	-370.39	1667092.83	14303257.62	39°23'17.169"N	80°54'20.106"W	4380.97	184.850	1.07	0.20	1.05	
10911.00	89.820	163.310	6520.41	4077.79	-4456.69	-344.53	1667118.68	14303166.25	39°23'16.266"N	80°54'19.778"W	4469.99	184.421	1.87	0.00	-1.87	
11006.00	89.910	161.980	6520.63	4172.70	-4547.36	-316.19	1667147.01	14303075.62	39°23'15.369"N	80°54'19.419"W	4558.34	183.978	1.40	0.09	-1.40	
11100.00	89.750	159.840	6520.91	4266.69	-4636.19	-285.45	1667177.74	14302986.83	39°23'14.491"N	80°54'19.028"W	4644.97	183.523	2.28	-0.17	-2.28	
11195.00	89.780	157.450	6521.30	4361.64	-4724.66	-250.86	1667212.32	14302898.39	39°23'13.616"N	80°54'18.589"W	4731.31	183.039	2.52	0.03	-2.52	
11289.00	89.350	155.430	6522.02	4455.43	-4810.81	-213.29	1667249.87	14302812.27	39°23'12.764"N	80°54'18.111"W	4815.54	182.539	2.20	-0.46	-2.15	
11384.00	89.750	155.640	6522.76	4550.11	-4897.28	-173.95	1667289.20	14302725.84	39°23'11.909"N	80°54'17.612"W	4900.37	182.034	0.48	0.42	0.22	
11478.00	89.880	155.050	6523.07	4643.76	-4982.71	-134.74	1667328.39	14302640.44	39°23'11.065"N	80°54'17.113"W	4984.53	181.549	0.64	0.14	-0.63	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
11573.00	89.570	154.960	6523.52	4738.37	-5068.81	-94.60	1667368.52	14302554.38	39°23'10.213"N	80°54'16.603"W	5069.70	181.069	0.34	-0.33	-0.09	
11668.00	89.660	157.800	6524.16	4833.14	-5155.84	-56.54	1667406.56	14302467.38	39°23'09.353"N	80°54'16.120"W	5156.15	180.628	2.99	0.09	2.99	
11762.00	89.720	161.200	6524.67	4927.11	-5243.88	-23.62	1667439.46	14302379.38	39°23'08.482"N	80°54'15.702"W	5243.93	180.258	3.62	0.06	3.62	
11857.00	89.660	164.140	6525.18	5022.02	-5334.55	4.67	1667467.74	14302288.74	39°23'07.586"N	80°54'15.343"W	5334.55	179.950	3.10	-0.06	3.09	
11952.00	89.750	165.150	6525.67	5116.73	-5426.16	29.83	1667492.89	14302197.17	39°23'06.680"N	80°54'15.023"W	5426.24	179.685	1.07	0.09	1.06	
12046.00	89.750	165.170	6526.08	5210.39	-5517.02	53.90	1667516.96	14302106.35	39°23'05.782"N	80°54'14.718"W	5517.29	179.440	0.02	0.00	0.02	
12141.00	89.820	166.580	6526.44	5304.93	-5609.15	77.09	1667540.13	14302014.26	39°23'04.871"N	80°54'14.424"W	5609.68	179.213	1.49	0.07	1.48	
12235.00	89.780	163.820	6526.77	5398.56	-5700.02	101.09	1667564.43	14301923.42	39°23'03.973"N	80°54'14.119"W	5700.92	178.984	2.94	-0.04	-2.94	
12330.00	89.970	161.800	6526.97	5493.46	-5790.77	129.17	1667592.19	14301832.71	39°23'03.075"N	80°54'13.763"W	5792.21	178.722	2.14	0.20	-2.13	
12424.00	89.940	159.160	6527.05	5587.45	-5879.36	160.58	1667623.59	14301744.15	39°23'02.199"N	80°54'13.364"W	5881.55	178.436	2.81	-0.03	-2.81	
12518.00	89.850	158.550	6527.22	5681.43	-5967.03	194.48	1667657.48	14301656.52	39°23'01.333"N	80°54'12.934"W	5970.20	178.133	0.66	-0.10	-0.65	
12613.00	89.940	159.560	6527.39	5776.40	-6055.75	228.44	1667691.43	14301567.83	39°23'00.455"N	80°54'12.502"W	6060.06	177.840	1.07	0.09	1.06	
12707.00	89.940	160.760	6527.49	5870.40	-6144.17	260.35	1667723.32	14301479.45	39°22'59.581"N	80°54'12.097"W	6149.68	177.574	1.28	0.00	1.28	
12802.00	89.880	162.350	6527.64	5965.37	-6234.29	290.40	1667753.36	14301389.37	39°22'58.690"N	80°54'11.716"W	6241.05	177.333	1.67	-0.06	1.67	
12896.00	89.880	163.650	6527.84	6059.26	-6324.18	317.88	1667780.83	14301299.51	39°22'57.801"N	80°54'11.367"W	6332.16	177.122	1.38	0.00	1.38	
12991.00	90.000	163.000	6527.94	6154.12	-6415.18	345.14	1667808.08	14301208.55	39°22'56.902"N	80°54'11.021"W	6424.46	176.920	0.70	0.13	-0.68	
13085.00	90.000	162.450	6527.94	6248.04	-6504.94	373.06	1667835.98	14301118.82	39°22'56.014"N	80°54'10.667"W	6515.63	176.718	0.59	0.00	-0.59	
13180.00	89.910	161.240	6528.01	6343.00	-6595.21	402.66	1667865.57	14301028.59	39°22'55.122"N	80°54'10.291"W	6607.49	176.506	1.28	-0.09	-1.27	
13274.00	89.970	161.450	6528.11	6436.98	-6684.27	432.73	1667895.63	14300939.56	39°22'54.241"N	80°54'09.909"W	6698.26	176.296	0.23	0.06	0.22	
13368.00	90.030	160.480	6528.11	6530.97	-6773.13	463.38	1667926.27	14300850.74	39°22'53.363"N	80°54'09.520"W	6788.96	176.086	1.03	0.06	-1.03	
13462.00	89.880	159.870	6528.19	6624.97	-6861.56	495.26	1667958.14	14300762.35	39°22'52.488"N	80°54'09.115"W	6879.41	175.872	0.67	-0.16	-0.65	
13557.00	89.940	159.190	6528.33	6719.96	-6950.56	528.49	1667991.35	14300673.38	39°22'51.608"N	80°54'08.694"W	6970.62	175.652	0.72	0.06	-0.72	
13652.00	89.910	157.920	6528.46	6814.92	-7038.98	563.22	1668026.07	14300585.00	39°22'50.734"N	80°54'08.252"W	7061.48	175.425	1.34	-0.03	-1.34	
13746.00	89.850	157.180	6528.66	6908.81	-7125.86	599.11	1668061.95	14300498.16	39°22'49.875"N	80°54'07.797"W	7151.00	175.194	0.79	-0.06	-0.79	
13841.00	89.910	157.010	6528.85	7003.67	-7213.37	636.09	1668098.91	14300410.68	39°22'49.010"N	80°54'07.327"W	7241.36	174.961	0.19	0.06	-0.18	
13936.00	89.940	156.620	6528.98	7098.50	-7300.69	673.49	1668136.29	14300323.39	39°22'48.146"N	80°54'06.852"W	7331.69	174.729	0.41	0.03	-0.41	
14031.00	89.940	156.770	6529.08	7193.32	-7387.94	711.07	1668173.86	14300236.18	39°22'47.283"N	80°54'06.374"W	7422.08	174.502	0.16	0.00	0.16	
14125.00	89.910	156.370	6529.20	7287.13	-7474.19	748.45	1668211.23	14300149.96	39°22'46.431"N	80°54'05.900"W	7511.57	174.282	0.43	-0.03	-0.43	
14220.00	89.850	157.140	6529.40	7381.95	-7561.48	785.94	1668248.70	14300062.71	39°22'45.567"N	80°54'05.423"W	7602.22	174.066	0.81	-0.06	0.81	
14315.00	89.880	158.380	6529.62	7476.86	-7649.41	821.90	1668284.64	14299974.81	39°22'44.698"N	80°54'04.967"W	7693.44	173.867	1.31	0.03	1.31	





# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
14409.00	89.970	159.270	6529.75	7570.83	-7737.06	855.85	1668318.58	14299887.20	39°22'43.831"N	80°54'04.535"W	7784.25	173.688	0.95	0.10	0.95	
14504.00	89.750	160.150	6529.98	7665.82	-7826.17	888.80	1668351.51	14299798.13	39°22'42.950"N	80°54'04.117"W	7876.47	173.521	0.95	-0.23	0.93	
14598.00	89.850	161.170	6530.31	7759.82	-7914.86	919.93	1668382.63	14299709.47	39°22'42.073"N	80°54'03.722"W	7968.14	173.370	1.09	0.11	1.09	
14693.00	90.220	161.880	6530.25	7854.79	-8004.96	950.03	1668412.72	14299619.40	39°22'41.182"N	80°54'03.340"W	8061.14	173.232	0.84	0.39	0.75	
14788.00	90.090	162.370	6529.99	7949.74	-8095.38	979.19	1668441.87	14299529.03	39°22'40.289"N	80°54'02.970"W	8154.38	173.103	0.53	-0.14	0.52	
14882.00	90.120	162.440	6529.82	8043.67	-8184.98	1007.60	1668470.27	14299439.46	39°22'39.403"N	80°54'02.609"W	8246.77	172.982	0.08	0.03	0.07	
14977.00	90.220	162.870	6529.54	8138.59	-8275.66	1035.93	1668498.58	14299348.82	39°22'38.506"N	80°54'02.250"W	8340.24	172.865	0.46	0.11	0.45	
15072.00	90.180	163.370	6529.21	8233.47	-8366.56	1063.51	1668526.16	14299257.95	39°22'37.607"N	80°54'01.900"W	8433.89	172.756	0.53	-0.04	0.53	
15166.00	90.220	163.710	6528.88	8327.31	-8456.71	1090.15	1668552.78	14299167.84	39°22'36.716"N	80°54'01.562"W	8526.69	172.655	0.36	0.04	0.36	
15261.00	90.120	163.270	6528.60	8422.16	-8547.79	1117.14	1668579.77	14299076.79	39°22'35.816"N	80°54'01.219"W	8620.49	172.554	0.47	-0.11	-0.46	
15356.00	90.180	162.680	6528.35	8517.05	-8638.63	1144.96	1668607.57	14298985.99	39°22'34.917"N	80°54'00.867"W	8714.18	172.450	0.62	0.06	-0.62	
15450.00	90.150	162.220	6528.08	8610.98	-8728.25	1173.30	1668635.91	14298896.40	39°22'34.031"N	80°54'00.507"W	8806.76	172.344	0.49	-0.03	-0.49	
15544.00	90.250	160.760	6527.75	8704.95	-8817.39	1203.14	1668665.73	14298807.30	39°22'33.150"N	80°54'00.128"W	8899.09	172.230	1.56	0.11	-1.55	
15638.00	90.150	159.350	6527.42	8798.95	-8905.75	1235.21	1668697.79	14298718.98	39°22'32.276"N	80°53'59.721"W	8991.00	172.104	1.50	-0.11	-1.50	
15733.00	90.220	157.910	6527.11	8893.91	-8994.21	1269.82	1668732.39	14298630.55	39°22'31.402"N	80°53'59.281"W	9083.41	171.964	1.52	0.07	-1.52	
15828.00	90.220	158.260	6526.75	8988.84	-9082.35	1305.28	1668767.83	14298542.45	39°22'30.530"N	80°53'58.831"W	9175.66	171.822	0.37	0.00	0.37	
15922.00	90.000	158.560	6526.57	9082.79	-9169.75	1339.87	1668802.40	14298455.08	39°22'29.666"N	80°53'58.392"W	9267.12	171.687	0.40	-0.23	0.32	
16017.00	90.000	158.330	6526.57	9177.75	-9258.11	1374.77	1668837.29	14298366.76	39°22'28.792"N	80°53'57.949"W	9359.62	171.554	0.24	0.00	-0.24	
16112.00	89.940	158.420	6526.62	9272.70	-9346.42	1409.78	1668872.29	14298278.48	39°22'27.919"N	80°53'57.504"W	9452.15	171.422	0.11	-0.06	0.09	
16206.00	89.970	158.710	6526.69	9366.66	-9433.92	1444.13	1668906.63	14298191.02	39°22'27.054"N	80°53'57.068"W	9543.81	171.297	0.31	0.03	0.31	
16300.00	89.850	158.810	6526.84	9460.62	-9521.53	1478.19	1668940.67	14298103.44	39°22'26.188"N	80°53'56.636"W	9635.59	171.175	0.17	-0.13	0.11	
16395.00	89.850	158.950	6527.09	9555.60	-9610.15	1512.42	1668974.88	14298014.86	39°22'25.311"N	80°53'56.201"W	9728.43	171.056	0.15	0.00	0.15	
16490.00	89.970	160.890	6527.24	9650.59	-9699.37	1545.03	1669007.49	14297925.67	39°22'24.429"N	80°53'55.787"W	9821.66	170.949	2.05	0.13	2.04	
16584.00	89.910	162.960	6527.34	9744.55	-9788.73	1574.19	1669036.64	14297836.35	39°22'23.546"N	80°53'55.417"W	9914.50	170.864	2.20	-0.06	2.20	
16679.00	89.940	162.730	6527.46	9839.45	-9879.50	1602.22	1669064.65	14297745.61	39°22'22.648"N	80°53'55.061"W	10008.58	170.788	0.24	0.03	-0.24	
16774.00	89.970	162.370	6527.54	9934.37	-9970.13	1630.70	1669093.12	14297655.02	39°22'21.752"N	80°53'54.700"W	10102.61	170.711	0.38	0.03	-0.38	
16869.00	90.000	161.730	6527.56	10029.32	-10060.51	1659.98	1669122.39	14297564.68	39°22'20.859"N	80°53'54.328"W	10196.54	170.631	0.67	0.03	-0.67	
16963.00	89.940	162.550	6527.61	10123.27	-10149.98	1688.81	1669151.21	14297475.25	39°22'19.974"N	80°53'53.963"W	10289.51	170.553	0.87	-0.06	0.87	
17058.00	90.220	162.390	6527.48	10218.20	-10240.56	1717.42	1669179.81	14297384.70	39°22'19.078"N	80°53'53.600"W	10383.58	170.480	0.34	0.29	-0.17	
17152.00	90.120	162.080	6527.20	10312.14	-10330.08	1746.10	1669208.48	14297295.22	39°22'18.193"N	80°53'53.236"W	10476.61	170.406	0.35	-0.11	-0.33	



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## WELLPATH DATA (213 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
17247.00	90.310	162.010	6526.84	10407.09	-10420.45	1775.39	1669237.75	14297204.88	39°22'17.300"N	80°53'52.864"W	10570.61	170.331	0.21	0.20	-0.07	
17340.00	90.310	161.180	6526.34	10500.06	-10508.69	1804.75	1669267.10	14297116.68	39°22'16.427"N	80°53'52.491"W	10662.54	170.255	0.89	0.00	-0.89	
17364.00	90.310	161.180	6526.21	10524.06	-10531.41	1812.49	1669274.84	14297093.97	39°22'16.203"N	80°53'52.393"W	10686.24	170.235	0.00	0.00	0.00	Projected MD at TD: 17364'

## HOLE & CASING SECTIONS - Ref Wellbore: Heintzman Unit 2H AWB Ref Wellpath: Heintzman Unit 2H AWP Proj: 17364'

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	25.00	105.00	80.00	25.00	105.00	0.00	0.00	-0.11	0.21
17.5in Open Hole	105.00	430.10	325.10	105.00	430.10	-0.11	0.21	-0.62	0.70
13.375in Casing Surface	25.00	430.10	405.10	25.00	430.10	0.00	0.00	-0.62	0.70
12.25in Open Hole	430.10	2696.70	2266.60	430.10	2609.63	-0.62	0.70	-75.86	-529.25
9.625in Casing Intermediate	25.00	2696.70	2671.70	25.00	2609.63	0.00	0.00	-75.86	-529.25
8.75in Open Hole	2696.70	6016.00	3319.30	2609.63	5731.98	-75.86	-529.25	-245.42	-1639.43
8.5in Open Hole	6016.00	17364.00	11348.00	5731.98	6526.21	-245.42	-1639.43	-10531.41	1812.49
5.5in Casing Production	25.00	17364.00	17339.00	25.00	6526.21	0.00	0.00	-10531.41	1812.49



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Heintzman Unit 2H POE Rev-1	6471.00	-774.47	-1675.75	1665787.99	14306847.00	39°23'52.673"N	80°54'36.686"W	point
Heintzman Unit 2H BHL Rev-1	6497.00	-10525.15	1826.52	1669288.86	14297100.22	39°22'16.264"N	80°53'52.215"W	point
Heintzman Unit 2H LP Rev-1	6497.00	-943.94	-1614.87	1665848.85	14306677.59	39°23'50.997"N	80°54'35.913"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Heintzman Unit 2H AWB Ref Wellpath: Heintzman Unit 2H AWP Proj: 17364'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	397.00	Gyrodata standard - Drop gyro or Multi-shot	01 Gyrodata MS Gyro <17-1/2">(100'-397')	Heintzman Unit 2H AWB
397.00	2648.00	ISCWSA MWD, Rev. 4 (Standard)	02 WFT EM <12-1/4">(397')(504'-2648')	Heintzman Unit 2H AWB
2648.00	5956.00	ISCWSA MWD, Rev. 4 (Standard)	03 WFT EM <8-3/4">(2648')(2732'-5956')	Heintzman Unit 2H AWB
5956.00	17340.00	BHI AutoTrak Curve (Short)	04 BH AT Curve <8-1/2"> (5956')(6000'-17340')	Heintzman Unit 2H AWB
17340.00	17364.00	Blind Drilling (std)	Projection to bit	Heintzman Unit 2H AWB



# Actual Wellpath Report

Heintzman Unit 2H AWP Proj: 17364'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #02
Area	Tyler County, WV	Well	Heintzman Unit 2H
Field	Tyler	Wellbore	Heintzman Unit 2H AWB
Facility	Pyle Run Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-095-02527-0000 BHI Job #: 109516301 Rig: Patterson 342 Duration: 11/25/2018-11/28/2018 Gyrodata MS Gyro &lt;17-1/2"&gt;(100'-397') WFT EM &lt;12-1/4"&gt;(397')(504'-2648') WFT EM &lt;8-3/4"&gt;(2648')(2732'-5956') BH AT Curve &lt;8-1/2"&gt; (5956')(6000'-17340') Middlesex: 6702' MD Burkett: 6878' MD Tully: 6961' MD Marcellus POE: 7055' MD Projected MD at TD: 17364'</p>