

ANTERO RESOURCES CORPORATION

Location: Ritchie County, WV
 Field: Ritchie
 Facility: Weekley Trust Pad

Slot: Slot #07
 Well: Cinqmars Unit 1H
 Wellbore: Cinqmars Unit 1H PWB

Plot reference wellpath is Cinqmars Unit 1H PWP Rev-A.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to Frontier 22 (RKB)	North Reference: Grid north
Measured depths are referenced to Frontier 22 (RKB)	Scale: True distance
Frontier 22 (RKB) to Mean Sea Level: 1259.5 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot #07): -1235 feet	Created by: delaset on 2019-02-22
Coordinates are in feet referenced to Slot	Database: WA_MPL_EasternUS_Defn

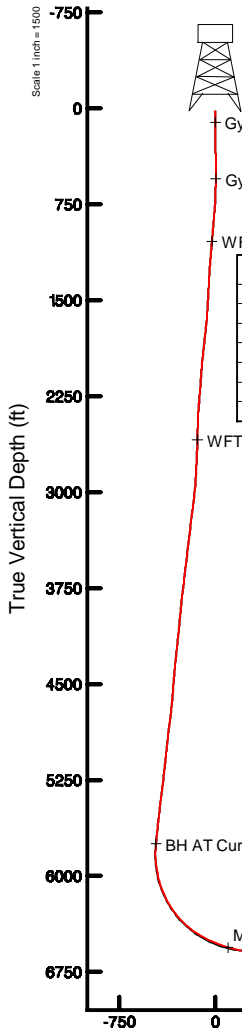


Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude		
Weekley Trust Pad	1661856.457	14297226.975	39°22'17.590"N	80°55'26.890"W		
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #07	9.16	58.89	1661915.326	14297236.127	39°22'17.680"N	80°55'26.140"W
Frontier 22 (RKB) to Ground level (At Slot: Slot #07)					24.5ft	
Mean Sea Level to Ground level (At Slot: Slot #07)					-1235ft	
Frontier 22 (RKB) to Mean Sea Level					1259.5ft	

Well Data

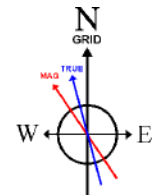
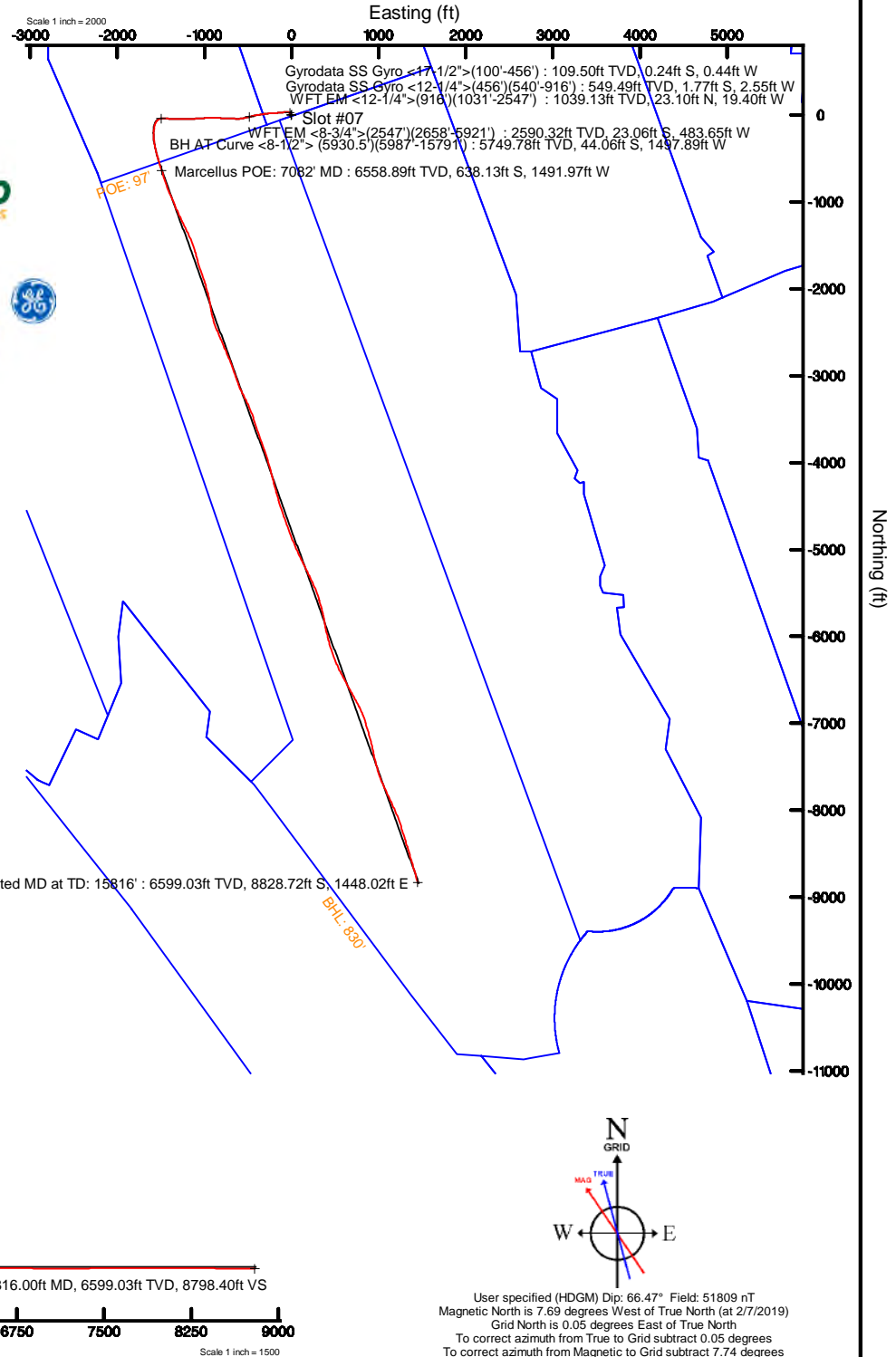
Slot	Well	Wellbore	Wellpath
Slot #07	Cinqmars Unit 1H	Cinqmars Unit 1H AWB	Cinqmars Unit 1H AWP Proj: 15816'
Slot #07	Cinqmars Unit 1H	Cinqmars Unit 1H PWB	Cinqmars Unit 1H PWP Rev-A.0



- Gyrodata SS Gyro <17-1/2">(100'-456') : 0.68° Inc, 109.50ft MD, 109.50ft TVD, 0.08ft VS
- Gyrodata SS Gyro <12-1/4">(456')(540'-916') : 0.02° Inc, 549.50ft MD, 549.49ft TVD, 0.81ft VS
- WFT EM <12-1/4">(916')(1031'-2547') : 7.00° Inc, 1040.50ft MD, 1039.13ft TVD, -28.30ft VS
- WFT EM <8-3/4">(2547')(2658'-5921') : 17.93° Inc, 2667.50ft MD, 2590.32ft TVD, -141.81ft VS
- BH AT Curve <8-1/2">(5930.5')(5987'-15791') : 16.85° Inc, 5987.00ft MD, 5749.78ft TVD, -464.94ft VS
- Marcellus POE: 7082' MD : 73.34° Inc, 7082.00ft MD, 6558.89ft TVD, 96.15ft VS

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5930.50	16.930	268.410	5695.72	-43.47	-1481.49	0.56	-459.96
Proj. to Bottom	6006.50	16.930	268.410	5768.43	-44.08	-1503.61	0.00	-466.86
End of 3D Arc	6509.27	33.348	182.800	6234.14	-188.87	-1586.24	7.11	-358.53
POE	7043.03	72.539	160.240	6552.00	-593.91	-1503.47	8.00	50.65
Landing Pt.	7261.29	90.000	160.240	6585.00	-796.16	-1430.82	8.00	265.54
BHL	15804.29	90.000	160.240	6585.00	-8836.12	1457.42	0.00	8808.55

API: 47-085-10341-0000
 BHI Job #: 109652316
 Rig: Frontier 22
 Duration: 02/10/2019-02/13/2019



User specified (HDGM) Dip: 66.47° Field: 51809 nT
 Magnetic North is 7.69 degrees West of True North (at 2/7/2019)
 Grid North is 0.05 degrees East of True North
 To correct azimuth from True to Grid subtract 0.05 degrees
 To correct azimuth from Magnetic to Grid subtract 7.74 degrees

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



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust 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	2/22/2019 at 9:53:07 PM
Convergence at slot	0.05° East	Database/Source file	WA_MPL_EasternUS_Defn/Cinqmars_Unit_1H_AWP_Proj_15816_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	9.16	58.89	1661915.33	14297236.13	39°22'17.680"N	80°55'26.140"W
Facility Reference Pt			1661856.46	14297226.98	39°22'17.590"N	80°55'26.890"W
Field Reference Pt			0.00	0.00	0°00'00.000"	85°29'19.301"W

WELLPATH DATUM

Calculation method	Minimum curvature	Frontier 22 (RKB) to Facility Vertical Datum	24.50ft
Horizontal Reference Pt	Slot	Frontier 22 (RKB) to Mean Sea Level	1259.50ft
Vertical Reference Pt	Frontier 22 (RKB)	Frontier 22 (RKB) to Ground Level at Slot (Slot #07)	24.50ft
MD Reference Pt	Frontier 22 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	160.24°



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

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Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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	241.330	0.00	0.00	0.00	0.00	1661915.33	14297236.13	39°22'17.680"N	80°55'26.140"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	241.330	24.50	0.00	0.00	0.00	1661915.33	14297236.13	39°22'17.680"N	80°55'26.140"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.680	241.330	109.50	0.08	-0.24	-0.44	1661914.88	14297235.88	39°22'17.678"N	80°55'26.146"W	0.50	241.330	0.80	0.80	-139.61	Gyrodata SS Gyro <17-1/2">(100'-456')
134.50	0.720	248.520	134.50	0.11	-0.37	-0.72	1661914.61	14297235.76	39°22'17.676"N	80°55'26.149"W	0.81	242.723	0.39	0.16	28.76	
159.50	0.520	245.210	159.49	0.12	-0.48	-0.97	1661914.36	14297235.65	39°22'17.675"N	80°55'26.152"W	1.08	243.827	0.81	-0.80	-13.24	
184.50	0.380	246.670	184.49	0.14	-0.56	-1.15	1661914.18	14297235.57	39°22'17.675"N	80°55'26.155"W	1.27	244.135	0.56	-0.56	5.84	
209.50	0.360	241.480	209.49	0.15	-0.63	-1.29	1661914.03	14297235.50	39°22'17.674"N	80°55'26.156"W	1.44	244.136	0.16	-0.08	-20.76	
234.50	0.470	248.540	234.49	0.17	-0.70	-1.46	1661913.87	14297235.43	39°22'17.673"N	80°55'26.159"W	1.62	244.286	0.48	0.44	28.24	
259.50	0.530	247.910	259.49	0.18	-0.78	-1.66	1661913.67	14297235.34	39°22'17.672"N	80°55'26.161"W	1.83	244.752	0.24	0.24	-2.52	
284.50	0.500	243.360	284.49	0.19	-0.87	-1.86	1661913.46	14297235.25	39°22'17.671"N	80°55'26.164"W	2.06	244.855	0.20	-0.12	-18.20	
309.50	0.450	225.720	309.49	0.25	-0.99	-2.03	1661913.30	14297235.13	39°22'17.670"N	80°55'26.166"W	2.26	243.968	0.62	-0.20	-70.56	
334.50	0.160	205.910	334.49	0.31	-1.09	-2.12	1661913.21	14297235.03	39°22'17.669"N	80°55'26.167"W	2.38	242.711	1.22	-1.16	-79.24	
359.50	0.170	214.030	359.49	0.36	-1.15	-2.15	1661913.17	14297234.97	39°22'17.669"N	80°55'26.167"W	2.44	241.803	0.10	0.04	32.48	
384.50	0.190	198.460	384.49	0.41	-1.22	-2.19	1661913.14	14297234.90	39°22'17.668"N	80°55'26.168"W	2.51	240.758	0.21	0.08	-62.28	
409.50	0.190	212.820	409.49	0.47	-1.30	-2.22	1661913.10	14297234.83	39°22'17.667"N	80°55'26.168"W	2.57	239.704	0.19	0.00	57.44	
434.50	0.240	193.250	434.49	0.54	-1.38	-2.26	1661913.07	14297234.74	39°22'17.666"N	80°55'26.169"W	2.65	238.478	0.35	0.20	-78.28	
459.50	0.400	208.850	459.49	0.64	-1.51	-2.31	1661913.02	14297234.62	39°22'17.665"N	80°55'26.169"W	2.76	236.811	0.72	0.64	62.40	
465.50	0.440	221.770	465.49	0.67	-1.55	-2.34	1661912.99	14297234.58	39°22'17.665"N	80°55'26.170"W	2.80	236.488	1.71	0.67	215.33	
549.50	0.020	23.800	549.49	0.81	-1.77	-2.55	1661912.78	14297234.35	39°22'17.662"N	80°55'26.172"W	3.10	235.121	0.55	-0.50	192.89	Gyrodata SS Gyro <12-1/4">(456')(540'-916')
642.50	1.600	11.830	642.48	-0.31	-0.49	-2.27	1661913.05	14297235.64	39°22'17.675"N	80°55'26.169"W	2.32	257.864	1.70	1.70	-12.87	
736.50	3.260	353.600	736.39	-4.03	3.45	-2.30	1661913.03	14297239.58	39°22'17.714"N	80°55'26.169"W	4.15	326.304	1.93	1.77	-19.39	
829.50	4.670	334.090	829.17	-10.36	9.49	-4.25	1661911.08	14297245.61	39°22'17.774"N	80°55'26.194"W	10.39	335.860	2.08	1.52	-20.98	
925.50	5.420	313.540	924.80	-18.30	16.12	-9.25	1661906.08	14297252.24	39°22'17.839"N	80°55'26.258"W	18.59	330.171	2.02	0.78	-21.41	
1040.50	7.000	297.480	1039.13	-28.30	23.10	-19.40	1661895.93	14297259.22	39°22'17.908"N	80°55'26.387"W	30.17	319.975	2.03	1.37	-13.97	WFT EM <12-1/4">(916')(1031'-2547')
1134.50	8.090	288.560	1132.32	-36.61	27.85	-30.75	1661884.58	14297263.96	39°22'17.956"N	80°55'26.531"W	41.49	312.163	1.70	1.16	-9.49	
1229.50	8.710	277.740	1226.31	-44.07	30.95	-44.22	1661871.12	14297267.06	39°22'17.986"N	80°55'26.703"W	53.97	304.986	1.78	0.65	-11.39	
1324.50	9.630	268.610	1320.10	-49.90	31.72	-59.29	1661856.06	14297267.84	39°22'17.994"N	80°55'26.895"W	67.24	298.148	1.81	0.97	-9.61	
1418.50	11.470	265.110	1412.51	-54.78	30.73	-76.47	1661838.89	14297266.85	39°22'17.984"N	80°55'27.113"W	82.41	291.897	2.07	1.96	-3.72	
1512.50	13.900	263.590	1504.20	-59.78	28.68	-97.00	1661818.36	14297264.79	39°22'17.964"N	80°55'27.375"W	101.15	286.470	2.61	2.59	-1.62	
1607.50	16.220	263.350	1595.94	-65.43	25.87	-121.52	1661793.85	14297261.98	39°22'17.937"N	80°55'27.687"W	124.24	282.016	2.44	2.44	-0.25	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
1702.50	19.200	265.770	1686.42	-72.62	23.18	-150.29	1661765.10	14297259.29	39°22'17.910"N	80°55'28.053"W	152.06	278.767	3.23	3.14	2.55	
1797.50	21.690	266.970	1775.43	-81.86	21.10	-183.40	1661732.00	14297257.21	39°22'17.890"N	80°55'28.475"W	184.61	276.562	2.66	2.62	1.26	
1892.50	21.560	266.530	1863.75	-91.81	19.11	-218.36	1661697.06	14297255.23	39°22'17.871"N	80°55'28.920"W	219.19	275.002	0.22	-0.14	-0.46	
1987.50	20.990	265.550	1952.27	-101.20	16.74	-252.74	1661662.69	14297252.86	39°22'17.847"N	80°55'29.358"W	253.30	273.788	0.71	-0.60	-1.03	
2082.50	21.120	262.790	2040.93	-109.41	13.27	-286.69	1661628.75	14297249.39	39°22'17.813"N	80°55'29.790"W	286.99	272.650	1.05	0.14	-2.91	
2177.50	20.890	260.760	2129.62	-116.22	8.40	-320.38	1661595.07	14297244.52	39°22'17.766"N	80°55'30.219"W	320.49	271.502	0.80	-0.24	-2.14	
2272.50	21.170	261.570	2218.29	-122.68	3.16	-354.07	1661561.40	14297239.29	39°22'17.714"N	80°55'30.648"W	354.08	270.512	0.42	0.29	0.85	
2367.50	21.650	262.060	2306.74	-129.64	-1.77	-388.40	1661527.09	14297234.36	39°22'17.666"N	80°55'31.086"W	388.40	269.739	0.54	0.51	0.52	
2461.50	19.400	258.460	2394.77	-135.43	-7.29	-420.87	1661494.62	14297228.84	39°22'17.611"N	80°55'31.499"W	420.93	269.008	2.74	-2.39	-3.83	
2556.50	18.030	255.110	2484.75	-138.93	-14.22	-450.54	1661464.97	14297221.91	39°22'17.543"N	80°55'31.877"W	450.77	268.192	1.83	-1.44	-3.53	
2667.50	17.930	255.000	2590.32	-141.81	-23.06	-483.65	1661431.87	14297213.07	39°22'17.456"N	80°55'32.299"W	484.20	267.270	0.10	-0.09	-0.10	WFT EM <8-3/4">(2547')(2658'-5921')
2762.50	16.770	258.360	2681.00	-144.96	-29.61	-511.20	1661404.34	14297206.53	39°22'17.392"N	80°55'32.650"W	512.05	266.685	1.61	-1.22	3.54	
2857.50	17.920	258.050	2771.68	-148.88	-35.40	-538.92	1661376.62	14297200.74	39°22'17.335"N	80°55'33.003"W	540.08	266.241	1.21	1.21	-0.33	
2952.50	17.410	259.460	2862.20	-153.14	-41.03	-567.19	1661348.36	14297195.11	39°22'17.279"N	80°55'33.363"W	568.67	265.863	0.70	-0.54	1.48	
3046.50	17.910	265.680	2951.78	-159.24	-44.69	-595.43	1661320.14	14297191.45	39°22'17.243"N	80°55'33.722"W	597.10	265.708	2.08	0.53	6.62	
3141.50	17.190	271.910	3042.37	-168.32	-45.32	-624.03	1661291.55	14297190.82	39°22'17.237"N	80°55'34.086"W	625.67	265.846	2.12	-0.76	6.56	
3236.50	18.110	272.320	3132.89	-179.05	-44.26	-652.81	1661262.77	14297191.89	39°22'17.248"N	80°55'34.453"W	654.31	266.122	0.98	0.97	0.43	
3331.50	19.560	271.920	3222.80	-190.48	-43.13	-683.46	1661232.14	14297193.02	39°22'17.259"N	80°55'34.843"W	684.82	266.389	1.53	1.53	-0.42	
3426.50	18.540	269.830	3312.60	-201.42	-42.64	-714.46	1661201.15	14297193.50	39°22'17.264"N	80°55'35.238"W	715.73	266.585	1.29	-1.07	-2.20	
3526.50	17.910	273.240	3407.59	-212.76	-41.82	-745.71	1661169.91	14297194.33	39°22'17.273"N	80°55'35.636"W	746.88	266.790	1.24	-0.63	3.41	
3621.50	16.530	273.830	3498.33	-223.87	-40.09	-773.78	1661141.86	14297196.05	39°22'17.290"N	80°55'35.993"W	774.82	267.034	1.46	-1.45	0.62	
3716.50	16.890	273.560	3589.31	-234.74	-38.33	-801.04	1661114.61	14297197.81	39°22'17.308"N	80°55'36.340"W	801.96	267.261	0.39	0.38	-0.28	
3811.50	17.830	271.810	3679.99	-245.55	-37.01	-829.35	1661086.31	14297199.13	39°22'17.321"N	80°55'36.701"W	830.18	267.445	1.13	0.99	-1.84	
3906.50	18.140	271.210	3770.34	-256.19	-36.24	-858.67	1661057.00	14297199.90	39°22'17.329"N	80°55'37.074"W	859.44	267.583	0.38	0.33	-0.63	
4001.50	16.060	271.330	3861.14	-266.22	-35.62	-886.60	1661029.08	14297200.52	39°22'17.335"N	80°55'37.430"W	887.31	267.699	2.19	-2.19	0.13	
4096.50	16.180	269.320	3952.41	-275.27	-35.48	-912.97	1661002.72	14297200.67	39°22'17.337"N	80°55'37.766"W	913.66	267.775	0.60	0.13	-2.12	
4191.50	17.190	269.310	4043.40	-284.18	-35.80	-940.24	1660975.46	14297200.34	39°22'17.334"N	80°55'38.113"W	940.93	267.819	1.06	1.06	-0.01	
4285.50	17.860	268.150	4133.04	-293.16	-36.43	-968.54	1660947.17	14297199.71	39°22'17.328"N	80°55'38.473"W	969.23	267.846	0.80	0.71	-1.23	
4381.50	18.800	267.460	4224.17	-302.26	-37.60	-998.71	1660917.02	14297198.55	39°22'17.317"N	80°55'38.857"W	999.42	267.844	1.00	0.98	-0.72	
4476.50	19.090	269.050	4314.02	-311.80	-38.53	-1029.53	1660886.21	14297197.61	39°22'17.308"N	80°55'39.250"W	1030.26	267.857	0.62	0.31	1.67	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
4570.50	18.610	266.090	4402.98	-320.86	-39.81	-1059.87	1660855.88	14297196.33	39°22'17.295"N	80°55'39.636"W	1060.62	267.849	1.14	-0.51	-3.15	
4665.50	17.770	263.310	4493.24	-328.28	-42.53	-1089.39	1660826.37	14297193.61	39°22'17.268"N	80°55'40.012"W	1090.22	267.764	1.27	-0.88	-2.93	
4760.50	17.060	265.570	4583.88	-335.24	-45.30	-1117.68	1660798.09	14297190.85	39°22'17.241"N	80°55'40.372"W	1118.60	267.679	1.03	-0.75	2.38	
4855.50	17.680	269.170	4674.55	-343.60	-46.58	-1146.00	1660769.78	14297189.56	39°22'17.229"N	80°55'40.733"W	1146.95	267.672	1.31	0.65	3.79	
4950.50	18.340	271.590	4764.90	-353.72	-46.38	-1175.37	1660740.43	14297189.77	39°22'17.231"N	80°55'41.107"W	1176.28	267.740	1.05	0.69	2.55	
5045.50	19.010	271.290	4854.90	-364.72	-45.61	-1205.78	1660710.03	14297190.53	39°22'17.239"N	80°55'41.494"W	1206.64	267.834	0.71	0.71	-0.32	
5140.50	18.860	269.930	4944.76	-375.45	-45.28	-1236.60	1660679.22	14297190.86	39°22'17.242"N	80°55'41.887"W	1237.43	267.903	0.49	-0.16	-1.43	
5234.50	18.510	267.320	5033.80	-384.96	-46.00	-1266.70	1660649.14	14297190.14	39°22'17.236"N	80°55'42.270"W	1267.53	267.920	0.96	-0.37	-2.78	
5329.50	18.750	269.310	5123.83	-394.37	-46.89	-1297.03	1660618.82	14297189.26	39°22'17.227"N	80°55'42.656"W	1297.88	267.930	0.72	0.25	2.09	
5424.50	19.220	268.700	5213.66	-404.31	-47.43	-1327.93	1660587.93	14297188.72	39°22'17.222"N	80°55'43.049"W	1328.78	267.955	0.54	0.49	-0.64	
5519.50	18.440	271.090	5303.58	-414.61	-47.50	-1358.59	1660557.29	14297188.65	39°22'17.222"N	80°55'43.440"W	1359.42	267.998	1.15	-0.82	2.52	
5614.50	17.550	274.400	5393.93	-425.82	-46.11	-1387.89	1660527.99	14297190.03	39°22'17.235"N	80°55'43.813"W	1388.66	268.097	1.43	-0.94	3.48	
5709.50	17.480	273.300	5484.53	-437.27	-44.19	-1416.41	1660499.48	14297191.95	39°22'17.255"N	80°55'44.176"W	1417.10	268.213	0.36	-0.07	-1.16	
5804.50	17.100	270.730	5575.23	-447.75	-43.19	-1444.63	1660471.28	14297192.95	39°22'17.265"N	80°55'44.535"W	1445.27	268.287	0.90	-0.40	-2.71	
5930.50	16.930	268.410	5695.72	-459.96	-43.47	-1481.49	1660434.43	14297192.68	39°22'17.262"N	80°55'45.005"W	1482.12	268.319	0.56	-0.13	-1.84	
5987.00	16.850	267.410	5749.78	-464.94	-44.06	-1497.89	1660418.04	14297192.08	39°22'17.257"N	80°55'45.214"W	1498.54	268.315	0.53	-0.14	-1.77	BH AT Curve <8-1/2"> (5930.5')(5987'-15791')
6007.00	16.940	267.210	5768.92	-466.65	-44.34	-1503.70	1660412.23	14297191.81	39°22'17.254"N	80°55'45.288"W	1504.35	268.311	0.54	0.45	-1.00	
6052.00	15.680	255.950	5812.12	-469.16	-46.13	-1516.15	1660399.79	14297190.01	39°22'17.236"N	80°55'45.446"W	1516.85	268.257	7.55	-2.80	-25.02	
6102.00	14.740	237.160	5860.40	-468.40	-51.23	-1528.05	1660387.89	14297184.92	39°22'17.186"N	80°55'45.598"W	1528.91	268.080	9.99	-1.88	-37.58	
6151.00	14.920	222.710	5907.78	-464.07	-59.24	-1537.57	1660378.37	14297176.91	39°22'17.107"N	80°55'45.719"W	1538.71	267.793	7.54	0.37	-29.49	
6198.00	17.130	218.070	5952.95	-457.59	-69.14	-1545.95	1660370.00	14297167.01	39°22'17.009"N	80°55'45.826"W	1547.49	267.439	5.43	4.70	-9.87	
6245.00	18.980	214.600	5997.64	-449.45	-80.88	-1554.56	1660361.39	14297155.28	39°22'16.893"N	80°55'45.936"W	1556.66	267.022	4.55	3.94	-7.38	
6292.00	21.190	205.700	6041.79	-439.03	-94.83	-1562.58	1660353.37	14297141.33	39°22'16.755"N	80°55'46.038"W	1565.46	266.527	8.01	4.70	-18.94	
6339.00	23.860	196.780	6085.21	-425.43	-111.60	-1569.01	1660346.94	14297124.58	39°22'16.590"N	80°55'46.120"W	1572.98	265.932	9.21	5.68	-18.98	
6387.00	26.240	190.810	6128.70	-408.49	-131.32	-1573.81	1660342.15	14297104.86	39°22'16.395"N	80°55'46.181"W	1579.28	265.230	7.23	4.96	-12.44	
6434.00	29.470	187.980	6170.25	-389.30	-152.98	-1577.36	1660338.60	14297083.21	39°22'16.181"N	80°55'46.227"W	1584.76	264.460	7.42	6.87	-6.02	
6482.00	32.120	185.550	6211.48	-367.31	-177.38	-1580.24	1660335.72	14297058.82	39°22'15.940"N	80°55'46.263"W	1590.16	263.595	6.10	5.52	-5.06	
6529.00	34.700	182.960	6250.71	-343.67	-203.18	-1582.14	1660333.82	14297033.03	39°22'15.685"N	80°55'46.288"W	1595.13	262.682	6.27	5.49	-5.51	
6577.00	38.270	180.430	6289.30	-317.11	-231.70	-1582.95	1660333.01	14297004.52	39°22'15.403"N	80°55'46.299"W	1599.82	261.673	8.07	7.44	-5.27	
6624.00	42.260	177.220	6325.16	-288.32	-262.06	-1582.30	1660333.66	14296974.17	39°22'15.103"N	80°55'46.291"W	1603.85	260.596	9.57	8.49	-6.83	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
6672.00	46.110	173.840	6359.58	-256.05	-295.39	-1579.66	1660336.30	14296940.85	39°22'14.773"N	80°55'46.257"W	1607.04	259.408	9.40	8.02	-7.04	
6719.00	50.020	170.670	6390.99	-221.86	-330.02	-1574.92	1660341.04	14296906.24	39°22'14.431"N	80°55'46.197"W	1609.12	258.165	9.71	8.32	-6.74	
6756.00†	53.031	169.071	6414.01	-193.31	-358.53	-1569.82	1660346.14	14296877.74	39°22'14.149"N	80°55'46.133"W	1610.24	257.135	8.81	8.14	-4.32	Middlesex: 6756' MD
6767.00	53.930	168.620	6420.55	-184.57	-367.20	-1568.10	1660347.85	14296869.07	39°22'14.063"N	80°55'46.111"W	1610.52	256.821	8.81	8.17	-4.10	
6814.00	57.630	166.810	6446.98	-146.04	-405.16	-1559.82	1660356.13	14296831.13	39°22'13.688"N	80°55'46.006"W	1611.59	255.439	8.49	7.87	-3.85	
6861.00	60.420	166.030	6471.17	-105.98	-444.33	-1550.36	1660365.59	14296791.98	39°22'13.301"N	80°55'45.886"W	1612.77	254.008	6.10	5.94	-1.66	
6908.00	63.540	164.080	6493.25	-64.65	-484.40	-1539.65	1660376.29	14296751.92	39°22'12.905"N	80°55'45.750"W	1614.06	252.535	7.58	6.64	-4.15	
6954.00†	66.028	163.055	6512.84	-23.10	-524.32	-1527.88	1660388.06	14296712.02	39°22'12.510"N	80°55'45.600"W	1615.34	251.060	5.77	5.41	-2.23	Burkett: 6954' MD
6957.00	66.190	162.990	6514.06	-20.36	-526.94	-1527.08	1660388.86	14296709.40	39°22'12.484"N	80°55'45.590"W	1615.43	250.962	5.77	5.42	-2.18	
7004.00	67.720	162.540	6532.46	22.84	-568.24	-1514.26	1660401.67	14296668.11	39°22'12.076"N	80°55'45.427"W	1617.37	249.431	3.37	3.26	-0.96	
7026.00†	68.984	162.389	6540.57	43.27	-587.74	-1508.10	1660407.83	14296648.62	39°22'11.883"N	80°55'45.349"W	1618.58	248.708	5.78	5.74	-0.69	Tully: 7026' MD
7051.00	70.420	162.220	6549.24	66.71	-610.08	-1500.97	1660414.96	14296626.29	39°22'11.662"N	80°55'45.258"W	1620.22	247.880	5.78	5.74	-0.68	
7082.00†	73.335	162.180	6558.89	96.15	-638.13	-1491.97	1660423.96	14296598.25	39°22'11.385"N	80°55'45.144"W	1622.71	246.843	9.41	9.40	-0.13	Marcellus POE: 7082' MD
7098.00	74.840	162.160	6563.27	111.53	-652.78	-1487.26	1660428.67	14296583.61	39°22'11.240"N	80°55'45.084"W	1624.21	246.303	9.41	9.40	-0.13	
7147.00	78.790	163.030	6574.45	159.18	-698.29	-1472.99	1660442.93	14296538.12	39°22'10.790"N	80°55'44.903"W	1630.13	244.636	8.24	8.06	1.78	
7194.00	82.190	162.540	6582.21	205.48	-742.56	-1459.27	1660456.64	14296493.86	39°22'10.353"N	80°55'44.729"W	1637.34	243.030	7.31	7.23	-1.04	
7242.00	84.110	161.890	6587.94	253.11	-787.94	-1444.72	1660471.19	14296448.50	39°22'09.904"N	80°55'44.544"W	1645.62	241.392	4.22	4.00	-1.35	
7289.00	87.690	160.070	6591.30	299.98	-832.25	-1429.44	1660486.46	14296404.21	39°22'09.466"N	80°55'44.350"W	1654.07	239.791	8.54	7.62	-3.87	
7338.00	90.430	157.250	6592.10	348.94	-877.87	-1411.61	1660504.28	14296358.60	39°22'09.015"N	80°55'44.123"W	1662.32	238.123	8.02	5.59	-5.76	
7433.00	90.460	155.240	6591.36	443.70	-964.82	-1373.35	1660542.53	14296271.70	39°22'08.155"N	80°55'43.637"W	1678.38	234.911	2.12	0.03	-2.12	
7528.00	90.680	157.210	6590.42	538.46	-1051.75	-1335.05	1660580.81	14296184.80	39°22'07.296"N	80°55'43.150"W	1699.57	231.769	2.09	0.23	2.07	
7623.00	90.490	155.980	6589.45	633.26	-1138.92	-1297.32	1660618.53	14296097.66	39°22'06.434"N	80°55'42.671"W	1726.32	228.720	1.31	-0.20	-1.29	
7717.00	90.250	153.490	6588.84	726.82	-1223.92	-1257.20	1660658.63	14296012.69	39°22'05.593"N	80°55'42.161"W	1754.58	225.768	2.66	-0.26	-2.65	
7812.00	90.220	153.920	6588.45	821.20	-1309.09	-1215.12	1660700.69	14295927.56	39°22'04.751"N	80°55'41.626"W	1786.13	222.868	0.45	-0.03	0.45	
7907.00	90.310	156.000	6588.01	915.79	-1395.16	-1174.91	1660740.88	14295841.53	39°22'03.900"N	80°55'41.115"W	1823.98	220.102	2.19	0.09	2.19	
8002.00	89.910	158.620	6587.83	1010.66	-1482.80	-1138.27	1660777.51	14295753.92	39°22'03.034"N	80°55'40.649"W	1869.32	217.512	2.79	-0.42	2.76	
8096.00	90.340	164.110	6587.62	1104.60	-1571.84	-1108.25	1660807.52	14295664.92	39°22'02.154"N	80°55'40.268"W	1923.25	215.186	5.86	0.46	5.84	
8191.00	90.550	165.510	6586.89	1199.30	-1663.51	-1083.36	1660832.40	14295573.28	39°22'01.247"N	80°55'39.952"W	1985.18	213.074	1.49	0.22	1.47	
8286.00	90.860	163.060	6585.72	1294.05	-1754.95	-1057.63	1660858.12	14295481.88	39°22'00.343"N	80°55'39.625"W	2049.00	211.076	2.60	0.33	-2.58	
8381.00	91.110	159.810	6584.08	1389.00	-1844.98	-1027.39	1660888.35	14295391.89	39°21'59.453"N	80°55'39.241"W	2111.75	209.112	3.43	0.26	-3.42	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
8476.00	89.480	161.790	6583.59	1483.98	-1934.69	-996.15	1660919.57	14295302.22	39°21'58.566"N	80°55'38.844"W	2176.08	207.244	2.70	-1.72	2.08	
8571.00	89.290	164.710	6584.61	1578.84	-2025.64	-968.78	1660946.94	14295211.30	39°21'57.667"N	80°55'38.497"W	2245.38	205.560	3.08	-0.20	3.07	
8666.00	89.510	168.960	6585.61	1673.18	-2118.12	-947.15	1660968.56	14295118.86	39°21'56.753"N	80°55'38.222"W	2320.24	204.093	4.48	0.23	4.47	
8760.00	90.030	171.130	6585.99	1765.80	-2210.69	-930.90	1660984.80	14295026.32	39°21'55.838"N	80°55'38.016"W	2398.70	202.835	2.37	0.55	2.31	
8855.00	90.430	167.140	6585.60	1859.64	-2303.97	-913.00	1661002.70	14294933.08	39°21'54.916"N	80°55'37.789"W	2478.27	201.617	4.22	0.42	-4.20	
8949.00	90.120	161.870	6585.15	1953.35	-2394.52	-887.89	1661027.79	14294842.57	39°21'54.021"N	80°55'37.470"W	2553.84	200.345	5.62	-0.33	-5.61	
9044.00	90.000	156.860	6585.05	2048.30	-2483.40	-854.42	1661061.25	14294753.72	39°21'53.142"N	80°55'37.045"W	2626.27	198.986	5.28	-0.13	-5.27	
9139.00	89.600	156.610	6585.39	2143.13	-2570.67	-816.90	1661098.75	14294666.49	39°21'52.279"N	80°55'36.568"W	2697.35	197.629	0.50	-0.42	-0.26	
9234.00	89.720	157.950	6585.95	2238.00	-2658.30	-780.21	1661135.43	14294578.90	39°21'51.413"N	80°55'36.102"W	2770.43	196.357	1.42	0.13	1.41	
9329.00	89.820	156.540	6586.33	2332.86	-2745.90	-743.47	1661172.16	14294491.33	39°21'50.547"N	80°55'35.635"W	2844.77	195.150	1.49	0.11	-1.48	
9423.00	89.600	158.470	6586.81	2426.75	-2832.74	-707.50	1661208.11	14294404.52	39°21'49.688"N	80°55'35.178"W	2919.76	194.023	2.07	-0.23	2.05	
9518.00	89.750	160.790	6587.35	2521.74	-2921.80	-674.44	1661241.16	14294315.50	39°21'48.808"N	80°55'34.758"W	2998.63	192.998	2.45	0.16	2.44	
9613.00	89.970	161.320	6587.58	2616.73	-3011.65	-643.60	1661271.99	14294225.69	39°21'47.919"N	80°55'34.366"W	3079.65	192.063	0.60	0.23	0.56	
9708.00	90.460	158.150	6587.22	2711.71	-3100.76	-610.70	1661304.87	14294136.62	39°21'47.038"N	80°55'33.949"W	3160.32	191.142	3.38	0.52	-3.34	
9802.00	90.280	152.950	6586.61	2805.36	-3186.29	-571.80	1661343.75	14294051.11	39°21'46.193"N	80°55'33.454"W	3237.20	190.174	5.54	-0.19	-5.53	
9897.00	89.720	153.880	6586.61	2899.69	-3271.25	-529.29	1661386.25	14293966.19	39°21'45.353"N	80°55'32.914"W	3313.79	189.191	1.14	-0.59	0.98	
9992.00	89.140	156.060	6587.56	2994.27	-3357.32	-489.10	1661426.42	14293880.16	39°21'44.502"N	80°55'32.403"W	3392.76	188.289	2.37	-0.61	2.29	
10087.00	89.720	160.190	6588.50	3089.18	-3445.45	-453.72	1661461.79	14293792.06	39°21'43.630"N	80°55'31.953"W	3475.20	187.502	4.39	0.61	4.35	
10181.00	90.000	163.100	6588.73	3183.14	-3534.66	-424.12	1661491.38	14293702.88	39°21'42.748"N	80°55'31.578"W	3560.02	186.842	3.11	0.30	3.10	
10276.00	90.150	162.080	6588.61	3278.06	-3625.31	-395.69	1661519.79	14293612.27	39°21'41.852"N	80°55'31.217"W	3646.84	186.229	1.09	0.16	-1.07	
10371.00	90.000	159.780	6588.49	3373.05	-3715.09	-364.66	1661550.82	14293522.53	39°21'40.965"N	80°55'30.822"W	3732.94	185.606	2.43	-0.16	-2.42	
10466.00	89.570	159.740	6588.84	3468.05	-3804.22	-331.79	1661583.67	14293433.43	39°21'40.083"N	80°55'30.405"W	3818.66	184.985	0.45	-0.45	-0.04	
10561.00	89.690	161.170	6589.46	3563.04	-3893.74	-300.01	1661615.44	14293343.95	39°21'39.198"N	80°55'30.001"W	3905.28	184.406	1.51	0.13	1.51	
10656.00	89.380	163.160	6590.23	3657.98	-3984.17	-270.92	1661644.52	14293253.56	39°21'38.304"N	80°55'29.632"W	3993.37	183.890	2.12	-0.33	2.09	
10750.00	89.780	165.100	6590.92	3751.75	-4074.58	-245.21	1661670.21	14293163.18	39°21'37.411"N	80°55'29.306"W	4081.95	183.444	2.11	0.43	2.06	
10845.00	90.220	166.270	6590.92	3846.32	-4166.63	-221.73	1661693.69	14293071.17	39°21'36.501"N	80°55'29.008"W	4172.52	183.046	1.32	0.46	1.23	
10940.00	89.970	164.630	6590.76	3940.93	-4258.58	-197.86	1661717.55	14292979.26	39°21'35.592"N	80°55'28.705"W	4263.17	182.660	1.75	-0.26	-1.73	
11035.00	90.090	164.940	6590.71	4035.63	-4350.25	-172.93	1661742.47	14292887.62	39°21'34.685"N	80°55'28.388"W	4353.68	182.276	0.35	0.13	0.33	
11129.00	90.090	164.360	6590.56	4129.35	-4440.89	-148.05	1661767.34	14292797.01	39°21'33.789"N	80°55'28.072"W	4443.36	181.909	0.62	0.00	-0.62	
11225.00	90.950	162.110	6589.69	4225.21	-4532.80	-120.36	1661795.02	14292705.14	39°21'32.881"N	80°55'27.721"W	4534.40	181.521	2.51	0.90	-2.34	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
11320.00	89.850	159.800	6589.03	4320.19	-4622.59	-89.36	1661826.00	14292615.39	39°21'31.993"N	80°55'27.327"W	4623.46	181.107	2.69	-1.16	-2.43	
11414.00	89.880	158.560	6589.25	4414.17	-4710.45	-55.95	1661859.40	14292527.56	39°21'31.124"N	80°55'26.903"W	4710.79	180.681	1.32	0.03	-1.32	
11508.00	90.400	159.910	6589.02	4508.16	-4798.35	-22.63	1661892.71	14292439.71	39°21'30.255"N	80°55'26.479"W	4798.40	180.270	1.54	0.55	1.44	
11604.00	89.720	159.090	6588.92	4604.15	-4888.26	10.99	1661926.32	14292349.82	39°21'29.366"N	80°55'26.052"W	4888.28	179.871	1.11	-0.71	-0.85	
11699.00	89.480	156.870	6589.58	4699.06	-4976.33	46.61	1661961.92	14292261.80	39°21'28.496"N	80°55'25.600"W	4976.55	179.463	2.35	-0.25	-2.34	
11793.00	89.850	153.680	6590.13	4792.70	-5061.70	85.92	1662001.21	14292176.46	39°21'27.652"N	80°55'25.100"W	5062.43	179.028	3.42	0.39	-3.39	
11888.00	89.630	153.710	6590.56	4887.08	-5146.86	128.02	1662043.29	14292091.33	39°21'26.809"N	80°55'24.565"W	5148.45	178.575	0.23	-0.23	0.03	
11983.00	89.720	154.100	6591.10	4981.50	-5232.17	169.80	1662085.06	14292006.05	39°21'25.966"N	80°55'24.034"W	5234.93	178.141	0.42	0.09	0.41	
12077.00	89.880	154.470	6591.43	5074.99	-5316.86	210.59	1662125.83	14291921.40	39°21'25.129"N	80°55'23.516"W	5321.03	177.732	0.43	0.17	0.39	
12172.00	89.380	155.880	6592.04	5169.61	-5403.08	250.47	1662165.70	14291835.22	39°21'24.276"N	80°55'23.009"W	5408.88	177.346	1.57	-0.53	1.48	
12267.00	89.780	159.440	6592.74	5264.50	-5490.93	286.58	1662201.79	14291747.40	39°21'23.407"N	80°55'22.551"W	5498.41	177.012	3.77	0.42	3.75	
12362.00	89.720	162.690	6593.15	5359.47	-5580.78	317.40	1662232.60	14291657.59	39°21'22.519"N	80°55'22.159"W	5589.80	176.745	3.42	-0.06	3.42	
12457.00	90.030	165.590	6593.36	5454.24	-5672.15	343.36	1662258.55	14291566.25	39°21'21.616"N	80°55'21.830"W	5682.54	176.536	3.07	0.33	3.05	
12552.00	89.910	168.620	6593.41	5548.55	-5764.75	364.56	1662279.74	14291473.69	39°21'20.701"N	80°55'21.561"W	5776.26	176.381	3.19	-0.13	3.19	
12647.00	90.090	169.950	6593.41	5642.37	-5858.09	382.22	1662297.39	14291380.39	39°21'19.778"N	80°55'21.337"W	5870.54	176.267	1.41	0.19	1.40	
12742.00	90.250	167.230	6593.13	5736.35	-5951.20	401.01	1662316.18	14291287.31	39°21'18.857"N	80°55'21.099"W	5964.70	176.145	2.87	0.17	-2.86	
12835.00	91.420	165.060	6591.77	5828.84	-6041.48	423.28	1662338.43	14291197.07	39°21'17.965"N	80°55'20.816"W	6056.29	175.992	2.65	1.26	-2.33	
12930.00	89.940	161.880	6590.64	5923.67	-6132.53	450.30	1662365.45	14291106.06	39°21'17.065"N	80°55'20.473"W	6149.04	175.800	3.69	-1.56	-3.35	
13024.00	89.850	160.190	6590.82	6017.66	-6221.43	480.85	1662395.98	14291017.20	39°21'16.186"N	80°55'20.085"W	6239.98	175.580	1.80	-0.10	-1.80	
13119.00	90.460	157.530	6590.56	6112.62	-6310.02	515.11	1662430.23	14290928.64	39°21'15.310"N	80°55'19.650"W	6331.01	175.333	2.87	0.64	-2.80	
13213.00	89.940	153.590	6590.23	6206.29	-6395.58	553.99	1662469.09	14290843.11	39°21'14.464"N	80°55'19.156"W	6419.53	175.049	4.23	-0.55	-4.19	
13308.00	89.780	151.910	6590.46	6300.47	-6480.04	597.49	1662512.57	14290758.69	39°21'13.629"N	80°55'18.603"W	6507.52	174.732	1.78	-0.17	-1.77	
13402.00	89.660	151.070	6590.92	6393.38	-6562.64	642.35	1662557.42	14290676.12	39°21'12.812"N	80°55'18.033"W	6594.00	174.410	0.90	-0.13	-0.89	
13497.00	89.690	151.070	6591.46	6487.16	-6645.78	688.31	1662603.36	14290593.01	39°21'11.990"N	80°55'17.449"W	6681.33	174.087	0.03	0.03	0.00	
13591.00	89.540	151.810	6592.09	6580.05	-6728.34	733.25	1662648.28	14290510.49	39°21'11.174"N	80°55'16.878"W	6768.18	173.781	0.80	-0.16	0.79	
13686.00	89.540	152.550	6592.86	6674.11	-6812.36	777.58	1662692.59	14290426.51	39°21'10.343"N	80°55'16.314"W	6856.59	173.488	0.78	0.00	0.78	
13780.00	89.080	158.510	6593.99	6767.74	-6897.87	816.50	1662731.49	14290341.03	39°21'09.497"N	80°55'15.820"W	6946.02	173.249	6.36	-0.49	6.34	
13875.00	89.540	163.360	6593.13	6862.70	-6987.62	847.52	1662762.50	14290251.31	39°21'08.610"N	80°55'15.426"W	7038.83	173.084	5.13	0.48	5.11	
13970.00	89.880	163.930	6595.62	6957.53	-7078.78	874.27	1662789.24	14290160.19	39°21'07.709"N	80°55'15.087"W	7132.56	172.959	0.70	0.36	0.60	
14065.00	89.880	164.080	6595.81	7052.33	-7170.10	900.44	1662815.41	14290068.91	39°21'06.806"N	80°55'14.754"W	7226.42	172.842	0.16	0.00	0.16	



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH DATA (200 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
14161.00	90.000	167.720	6595.91	7147.84	-7263.19	923.83	1662838.78	14289975.85	39°21'05.886"N	80°55'14.458"W	7321.71	172.751	3.79	0.13	3.79	
14254.00	90.030	168.060	6595.89	7240.01	-7354.12	943.34	1662858.28	14289884.96	39°21'04.987"N	80°55'14.210"W	7414.38	172.690	0.37	0.03	0.37	
14349.00	90.250	165.660	6595.66	7334.37	-7446.63	964.93	1662879.87	14289792.49	39°21'04.072"N	80°55'13.937"W	7508.88	172.617	2.54	0.23	-2.53	
14443.00	90.580	164.210	6594.98	7428.05	-7537.39	989.36	1662904.29	14289701.76	39°21'03.175"N	80°55'13.627"W	7602.05	172.522	1.58	0.35	-1.54	
14538.00	90.090	159.470	6594.42	7522.99	-7627.63	1018.96	1662933.88	14289611.56	39°21'02.283"N	80°55'13.251"W	7695.39	172.391	5.02	-0.52	-4.99	
14632.00	90.180	155.030	6594.20	7616.83	-7714.30	1055.30	1662970.21	14289524.93	39°21'01.426"N	80°55'12.789"W	7786.14	172.210	4.72	0.10	-4.72	
14727.00	90.430	155.300	6593.69	7711.46	-7800.51	1095.20	1663010.09	14289438.75	39°21'00.574"N	80°55'12.282"W	7877.02	172.008	0.39	0.26	0.28	
14822.00	90.620	154.900	6592.82	7806.07	-7886.68	1135.20	1663050.07	14289352.62	39°20'59.722"N	80°55'11.774"W	7967.96	171.809	0.47	0.20	-0.42	
14917.00	89.780	155.860	6592.49	7900.73	-7973.04	1174.78	1663089.63	14289266.29	39°20'58.868"N	80°55'11.271"W	8059.12	171.618	1.34	-0.88	1.01	
15012.00	89.350	158.080	6593.21	7995.57	-8060.46	1211.94	1663126.78	14289178.91	39°20'58.003"N	80°55'10.799"W	8151.06	171.449	2.38	-0.45	2.34	
15106.00	89.510	161.210	6594.15	8089.54	-8148.57	1244.63	1663159.46	14289090.83	39°20'57.132"N	80°55'10.384"W	8243.08	171.316	3.33	0.17	3.33	
15201.00	89.720	163.550	6594.79	8184.47	-8239.11	1273.38	1663188.20	14289000.33	39°20'56.237"N	80°55'10.019"W	8336.93	171.214	2.47	0.22	2.46	
15296.00	90.280	162.090	6594.79	8279.37	-8329.86	1301.44	1663216.25	14288909.61	39°20'55.340"N	80°55'09.663"W	8430.92	171.120	1.65	0.59	-1.54	
15390.00	89.750	162.940	6594.76	8373.30	-8419.52	1329.68	1663244.48	14288819.99	39°20'54.453"N	80°55'09.304"W	8523.87	171.025	1.07	-0.56	0.90	
15484.00	89.320	164.120	6595.53	8467.14	-8509.66	1356.33	1663271.12	14288729.88	39°20'53.562"N	80°55'08.966"W	8617.07	170.944	1.34	-0.46	1.26	
15579.00	89.380	163.750	6596.60	8561.93	-8600.94	1382.62	1663297.39	14288638.64	39°20'52.660"N	80°55'08.633"W	8711.36	170.868	0.39	0.06	-0.39	
15674.00	89.320	163.290	6597.68	8656.77	-8692.03	1409.57	1663324.33	14288547.58	39°20'51.759"N	80°55'08.291"W	8805.59	170.789	0.49	-0.06	-0.48	
15769.00	89.420	164.680	6598.73	8751.56	-8783.34	1435.78	1663350.53	14288456.31	39°20'50.857"N	80°55'07.958"W	8899.92	170.716	1.47	0.11	1.46	
15791.00	89.690	164.970	6598.90	8773.49	-8804.57	1441.53	1663356.28	14288435.09	39°20'50.647"N	80°55'07.885"W	8921.80	170.702	1.80	1.23	1.32	
15816.00	89.690	164.970	6599.03	8798.40	-8828.72	1448.02	1663362.76	14288410.96	39°20'50.408"N	80°55'07.803"W	8946.67	170.686	0.00	0.00	0.00	Projected MD at TD: 15816'



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

HOLE & CASING SECTIONS - Ref Wellbore: Cinqmars Unit 1H AWB Ref Wellpath: Cinqmars Unit 1H AWP Proj: 15816'

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	24.50	104.50	80.00	24.50	104.50	0.00	0.00	-0.21	-0.39
17.5in Open Hole	104.50	481.40	376.90	104.50	481.39	-0.21	-0.39	-1.63	-2.41
13.375in Casing Surface	24.50	481.40	456.90	24.50	481.39	0.00	0.00	-1.63	-2.41
12.25in Open Hole	481.40	2631.90	2150.50	481.39	2556.46	-1.63	-2.41	-20.23	-473.05
9.625in Casing Intermediate	24.50	2631.90	2607.40	24.50	2556.46	0.00	0.00	-20.23	-473.05
8.75in Open Hole	2631.90	6006.50	3374.60	2556.46	5768.44	-20.23	-473.05	-44.33	-1503.55
8.5in Open Hole	6006.50	15816.00	9809.50	5768.44	6599.03	-44.33	-1503.55	-8828.72	1448.02
5.5in Casing Production	24.50	15816.00	15791.50	24.50	6599.03	0.00	0.00	-8828.72	1448.02

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Cinqmars Unit 1H POE Plat	6552.00	-592.36	-1503.93	1660412.00	14296644.00	39°22'11.837"N	80°55'45.296"W	point
Cinqmars Unit 1H POE Rev-1	6552.00	-593.91	-1503.47	1660412.46	14296642.45	39°22'11.822"N	80°55'45.290"W	point
Cinqmars Unit 1H BHL Plat	6585.00	-10012.92	1879.84	1663794.41	14287227.23	39°20'38.700"N	80°55'02.320"W	point
Cinqmars Unit 1H BHL Rev-1	6585.00	-8836.12	1457.42	1663372.16	14288403.55	39°20'50.335"N	80°55'07.683"W	point
Cinqmars Unit 1H LP Rev-1	6585.00	-796.16	-1430.82	1660485.08	14296440.29	39°22'09.823"N	80°55'44.367"W	point



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'
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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

WELLPATH COMPOSITION - Ref Wellbore: Cinqmars Unit 1H AWB Ref Wellpath: Cinqmars Unit 1H AWP Proj: 15816'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	465.50	Gyrodata standard - Single-shot	01_Gyrodata SS Gyro <17-1/2">(100'-456')	Cinqmars Unit 1H AWB
465.50	925.50	Gyrodata standard - Single-shot	02_Gyrodata SS Gyro <12-1/4">(456')(540'-916')	Cinqmars Unit 1H AWB
925.50	2556.50	ISCWSA MWD, Rev. 4 (Standard)	03_WFT EM <12-1/4">(916')(1031'-2547')	Cinqmars Unit 1H AWB
2556.50	5930.50	ISCWSA MWD, Rev. 4 (Standard)	04_WFT EM <8-3/4">(2547')(2658'-5921')	Cinqmars Unit 1H AWB
5930.50	15791.00	BHI AutoTrak Curve (Short)	05_BH AT Curve <8-1/2"> (5930.5')(5987'-15791')	Cinqmars Unit 1H AWB
15791.00	15816.00	Blind Drilling (std)	Projection to bit	Cinqmars Unit 1H AWB



Actual Wellpath Report

Cinqmars Unit 1H AWP Proj: 15816'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #07
Area	Ritchie County, WV	Well	Cinqmars Unit 1H
Field	Ritchie	Wellbore	Cinqmars Unit 1H AWB
Facility	Weekley Trust Pad		

COMMENTS
<p>Wellpath general comments API: 47-085-10341-0000 BHI Job #: 109652316 Rig: Frontier 22 Duration: 02/10/2019-02/13/2019 Gyrodata SS Gyro <17-1/2">(100'-456') Gyrodata SS Gyro <12-1/4">(456')(540'-916') WFT EM <12-1/4">(916')(1031'-2547') WFT EM <8-3/4">(2547')(2658'-5921') BH AT Curve <8-1/2"> (5930.5')(5987'-15791') Middlesex: 6756' MD Burkett: 6954' MD Tully: 7026' MD Marcellus POE: 7082' MD Projected MD at TD: 15816'</p>