

# ANTERO RESOURCES CORPORATION

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

Slot: Slot #08  
 Well: Cinqmars Unit 2H  
 Wellbore: Cinqmars Unit 2H PWB

Plot reference wellpath is Cinqmars Unit 2H 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 #08): -1235 feet	Created by: delaset on 2019-02-25
Coordinates are in feet referenced to Slot	Database: WA, MPL, EasternUS, Defn

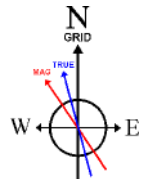
Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Weekley Trust Pad	1661856.457	14297226.975	39°22'17.590"N	80°55'26.890"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #08	11.19	69.10	1661925.530	14297238.158
			39°22'17.700"N	80°55'26.010"W
Frontier 22 (RKB) to Ground level (At Slot: Slot #08)			24.5ft	
Mean Sea Level to Ground level (At Slot: Slot #08)			-1235ft	
Frontier 22 (RKB) to Mean Sea Level			1259.5ft	

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #08	Cinqmars Unit 2H	Cinqmars Unit 2H AWB	Cinqmars Unit 2H AWP Proj: 16904'
Slot #08	Cinqmars Unit 2H	Cinqmars Unit 2H PWB	Cinqmars Unit 2H PWP Rev-A.0

- Gyrodata MS Gyro <17-1/2">(100'-455') : 0.14° Inc, 109.50ft MD, 109.50ft TVD, -0.09ft VS
- Gyrodata MS Gyro <12-1/4">(455')(479'-572') : 0.69° Inc, 488.50ft MD, 488.49ft TVD, -0.50ft VS
- WFT EM <12-1/4">(572')(684'-2519') : 1.18° Inc, 693.50ft MD, 693.48ft TVD, 0.10ft VS

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	VS (ft)
Tie On	5735.50	12.260	291.050	5669.26	274.37	-562.09	-448.25
Proj. To Bottom	5809.50	12.230	291.050	5741.58	280.01	-576.74	-458.51
End of 3D Arc	6614.57	53.086	164.726	6444.12	-29.52	-570.98	-165.26
POE	6862.71	72.539	160.241	6557.00	-238.70	-504.17	54.19
Landing Pt.	7080.97	90.000	160.241	6590.00	-440.94	-431.52	269.09
BHL	16880.97	90.000	160.241	6590.00	-9663.92	2881.57	10069.09

- WFT EM <8-3/4">(2519')(2657'-5726') : 1.85° Inc, 2666.50ft MD, 2665.31ft TVD, -35.28ft VS



User specified (HDGM) Dip: 66.46° Field: 51807 nT  
 Magnetic North is 7.69 degrees West of True North (at 2/14/2019)  
 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

- BH AT Curve <8-1/2"> (5735.5')(5793'-16879') : 12.51° Inc, 5793.00ft MD, 5725.42ft TVD, -456.30ft VS

Marcellus POE: 6875' MD : 72.40° Inc, 6875.00ft MD, 6560.38ft TVD, 69.44ft VS

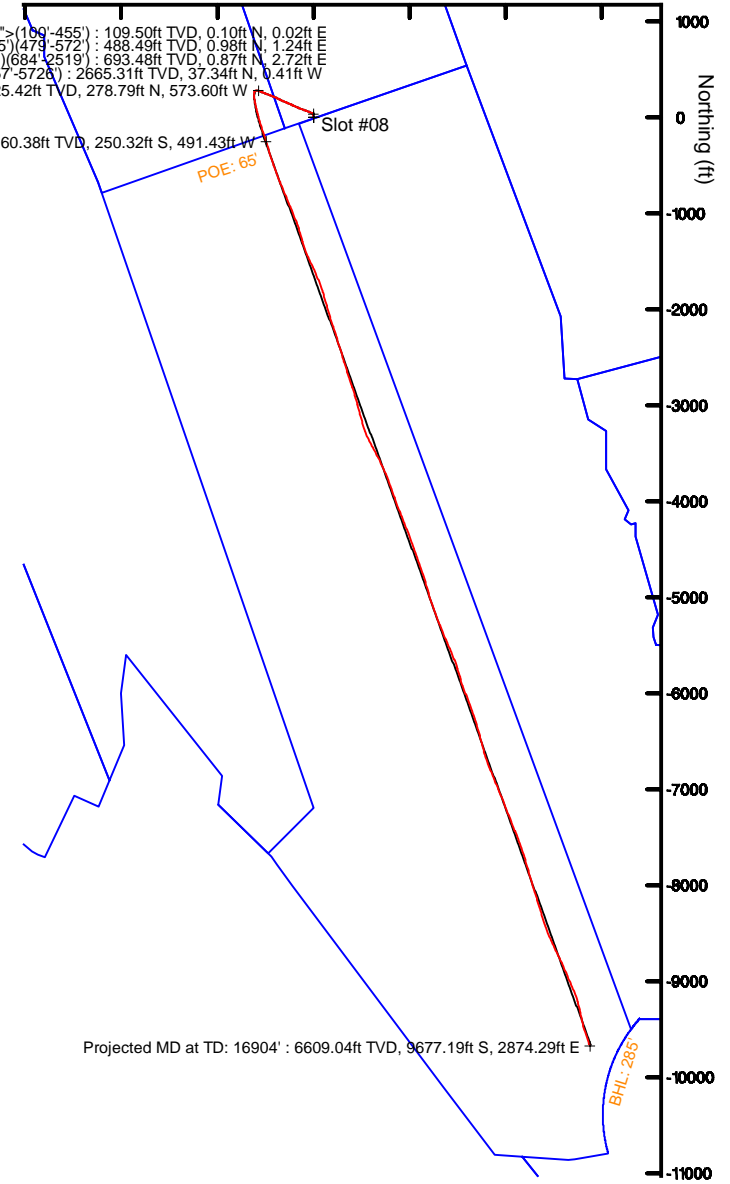
Projected MD at TD: 16904' : 89.97° Inc, 16904.00ft MD, 6609.04ft TVD, 10079.11ft VS

Scale 1 inch = 1500  
 True Vertical Depth (ft)  
 -750  
 0  
 750  
 1500  
 2250  
 3000  
 3750  
 4500  
 5250  
 6000  
 6750

Scale 1 inch = 2000  
 Easting (ft)  
 -3000 -2000 -1000 0 1000 2000 3000

Gyrodata MS Gyro <17-1/2">(100'-455') : 109.50ft MD, 0.10ft N, 0.02ft E  
 Gyrodata MS Gyro <12-1/4">(455')(479'-572') : 488.49ft TVD, 0.98ft N, 1.24ft E  
 WFT EM <12-1/4">(572')(684'-2519') : 693.48ft TVD, 0.87ft N, 2.72ft E  
 WFT EM <8-3/4">(2519')(2657'-5726') : 2665.31ft TVD, 37.34ft N, 0.41ft W  
 BH AT Curve <8-1/2"> (5735.5')(5793'-16879') : 5725.42ft TVD, 278.79ft N, 573.60ft W

Marcellus POE: 6875' MD : 6560.38ft TVD, 250.32ft S, 491.43ft W



Projected MD at TD: 16904' : 6609.04ft TVD, 9677.19ft S, 2874.29ft E

API: 47-085-10342-000  
 BHI Job #: 109670127  
 Rig: Frontier 22  
 Duration: 02/16/2019-02/20/2019

Vertical Section (ft)  
 Azimuth 160.24° with reference 0.00 N, 0.00 E  
 Scale 1 inch = 1500



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H 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	2/25/2019 at 1:34:37 PM
Convergence at slot	0.05° East	Database/Source file	WA_MPL_EasternUS_Defn/Cinqmars_Unit_2H_AWP_Proj_16904_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	11.19	69.10	1661925.53	14297238.16	39°22'17.700"N	80°55'26.010"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 #08)	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 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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	8.590	0.00	0.00	0.00	0.00	1661925.53	14297238.16	39°22'17.700"N	80°55'26.010"W	0.00	0.000	0.00	0.00	0.00	
24.50	0.000	8.590	24.50	0.00	0.00	0.00	1661925.53	14297238.16	39°22'17.700"N	80°55'26.010"W	0.00	0.000	0.00	0.00	0.00	
109.50	0.140	8.590	109.50	-0.09	0.10	0.02	1661925.55	14297238.26	39°22'17.701"N	80°55'26.010"W	0.10	8.590	0.16	0.16	10.11	Gyrodata MS Gyro <17-1/2">(100'-455')
134.50	0.260	0.040	134.50	-0.17	0.19	0.02	1661925.55	14297238.35	39°22'17.702"N	80°55'26.010"W	0.19	6.055	0.49	0.48	-34.20	
159.50	0.360	355.380	159.50	-0.30	0.32	0.01	1661925.54	14297238.48	39°22'17.703"N	80°55'26.010"W	0.32	2.439	0.41	0.40	-18.64	
184.50	0.370	0.820	184.50	-0.45	0.48	0.01	1661925.54	14297238.64	39°22'17.705"N	80°55'26.010"W	0.48	1.025	0.14	0.04	21.76	
209.50	0.530	5.420	209.50	-0.63	0.68	0.02	1661925.55	14297238.84	39°22'17.707"N	80°55'26.010"W	0.68	1.748	0.66	0.64	18.40	
234.50	0.580	22.210	234.50	-0.83	0.91	0.08	1661925.61	14297239.07	39°22'17.709"N	80°55'26.009"W	0.92	4.983	0.68	0.20	67.16	
259.50	0.300	53.890	259.50	-0.94	1.07	0.18	1661925.71	14297239.22	39°22'17.711"N	80°55'26.008"W	1.08	9.582	1.44	-1.12	126.72	
309.50	0.250	72.280	309.50	-0.98	1.18	0.39	1661925.92	14297239.34	39°22'17.712"N	80°55'26.005"W	1.24	18.315	0.20	-0.10	36.78	
334.50	0.280	49.170	334.50	-1.00	1.23	0.49	1661926.02	14297239.39	39°22'17.712"N	80°55'26.004"W	1.33	21.573	0.44	0.12	-92.44	
359.50	0.320	60.990	359.50	-1.03	1.31	0.60	1661926.12	14297239.47	39°22'17.713"N	80°55'26.002"W	1.44	24.470	0.29	0.16	47.28	
384.50	0.290	109.110	384.49	-1.00	1.32	0.72	1661926.25	14297239.48	39°22'17.713"N	80°55'26.001"W	1.50	28.459	1.00	-0.12	192.48	
409.50	0.290	106.690	409.49	-0.92	1.28	0.84	1661926.37	14297239.44	39°22'17.713"N	80°55'25.999"W	1.53	33.118	0.05	0.00	-9.68	
434.50	0.380	114.980	434.49	-0.83	1.23	0.97	1661926.50	14297239.39	39°22'17.712"N	80°55'25.998"W	1.57	38.344	0.41	0.36	33.16	
459.50	0.340	122.040	459.49	-0.71	1.15	1.11	1661926.64	14297239.31	39°22'17.711"N	80°55'25.996"W	1.60	43.874	0.24	-0.16	28.24	
464.50	0.270	119.360	464.49	-0.69	1.14	1.13	1661926.66	14297239.30	39°22'17.711"N	80°55'25.996"W	1.61	44.798	1.43	-1.40	-53.60	
488.50	0.690	157.250	488.49	-0.50	0.98	1.24	1661926.77	14297239.14	39°22'17.710"N	80°55'25.994"W	1.58	51.637	2.10	1.75	157.87	Gyrodata MS Gyro <12-1/4">(455')(479'-572')
581.50	0.540	129.670	581.49	0.43	0.18	1.79	1661927.32	14297238.34	39°22'17.702"N	80°55'25.987"W	1.80	84.138	0.35	-0.16	-29.66	
693.50	1.180	27.020	693.48	0.10	0.87	2.72	1661928.25	14297239.03	39°22'17.709"N	80°55'25.975"W	2.86	72.192	1.25	0.57	-91.65	WFT EM <12-1/4">(572')(684'-2519')
787.50	2.110	359.390	787.44	-2.20	3.47	3.14	1661928.67	14297241.62	39°22'17.734"N	80°55'25.970"W	4.68	42.199	1.27	0.99	-29.39	
881.50	2.910	336.630	881.35	-6.22	7.39	2.18	1661927.71	14297245.54	39°22'17.773"N	80°55'25.982"W	7.70	16.431	1.34	0.85	-24.21	
976.50	3.950	338.300	976.18	-11.89	12.64	0.01	1661925.54	14297250.79	39°22'17.825"N	80°55'26.010"W	12.64	0.056	1.10	1.09	1.76	
1071.50	3.820	346.220	1070.96	-18.31	18.76	-1.95	1661923.58	14297256.91	39°22'17.885"N	80°55'26.035"W	18.86	354.060	0.58	-0.14	8.34	
1166.50	3.280	355.830	1165.78	-24.08	24.54	-2.90	1661922.63	14297262.69	39°22'17.943"N	80°55'26.047"W	24.71	353.254	0.84	-0.57	10.12	
1261.50	3.460	353.160	1260.62	-29.49	30.10	-3.44	1661922.09	14297268.24	39°22'17.997"N	80°55'26.054"W	30.29	353.476	0.25	0.19	-2.81	
1355.50	2.410	347.230	1354.49	-34.21	34.84	-4.22	1661921.32	14297272.98	39°22'18.044"N	80°55'26.063"W	35.09	353.100	1.16	-1.12	-6.31	
1450.50	1.460	314.490	1449.44	-37.29	37.64	-5.52	1661920.01	14297275.78	39°22'18.072"N	80°55'26.080"W	38.04	351.654	1.50	-1.00	-34.46	
1545.50	0.890	309.960	1544.42	-39.01	38.96	-6.95	1661918.58	14297277.10	39°22'18.085"N	80°55'26.098"W	39.57	349.885	0.61	-0.60	-4.77	
1640.50	0.260	40.700	1639.41	-39.76	39.60	-7.38	1661918.16	14297277.74	39°22'18.091"N	80°55'26.103"W	40.28	349.449	0.98	-0.66	95.52	



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
1735.50	0.060	66.460	1734.41	-39.87	39.78	-7.19	1661918.34	14297277.92	39°22'18.093"N	80°55'26.101"W	40.42	349.756	0.22	-0.21	27.12	
1830.50	0.350	100.810	1829.41	-39.72	39.74	-6.86	1661918.67	14297277.89	39°22'18.093"N	80°55'26.097"W	40.33	350.209	0.32	0.31	36.16	
1925.50	0.520	136.960	1924.41	-39.18	39.38	-6.28	1661919.25	14297277.52	39°22'18.089"N	80°55'26.090"W	39.87	350.939	0.33	0.18	38.05	
2019.50	0.670	148.040	2018.41	-38.25	38.60	-5.70	1661919.83	14297276.74	39°22'18.082"N	80°55'26.082"W	39.02	351.603	0.20	0.16	11.79	
2114.50	1.010	149.540	2113.40	-36.89	37.40	-4.98	1661920.55	14297275.55	39°22'18.070"N	80°55'26.073"W	37.73	352.418	0.36	0.36	1.58	
2209.50	1.080	160.310	2208.38	-35.17	35.84	-4.25	1661921.28	14297273.98	39°22'18.054"N	80°55'26.064"W	36.09	353.233	0.22	0.07	11.34	
2304.50	0.620	114.300	2303.37	-33.91	34.79	-3.48	1661922.05	14297272.93	39°22'18.044"N	80°55'26.054"W	34.96	354.283	0.83	-0.48	-48.43	
2399.50	1.070	66.580	2398.36	-33.61	34.93	-2.20	1661923.33	14297273.07	39°22'18.045"N	80°55'26.038"W	35.00	356.396	0.84	0.47	-50.23	
2528.50	1.300	66.950	2527.33	-33.77	35.98	0.25	1661925.78	14297274.12	39°22'18.056"N	80°55'26.006"W	35.98	0.401	0.18	0.18	0.29	
2666.50	1.850	289.680	2665.31	-35.28	37.34	-0.41	1661925.12	14297275.48	39°22'18.069"N	80°55'26.015"W	37.34	359.378	2.13	0.40	-99.47	WFT EM <8-3/4">(2519')(2657'-5726')
2761.50	3.070	296.550	2760.22	-38.09	38.99	-4.13	1661921.41	14297277.14	39°22'18.085"N	80°55'26.062"W	39.21	353.961	1.32	1.28	7.23	
2856.50	4.640	296.850	2855.00	-42.73	41.87	-9.83	1661915.70	14297280.01	39°22'18.114"N	80°55'26.135"W	43.01	346.788	1.65	1.65	0.32	
2951.50	5.880	297.530	2949.60	-49.09	45.85	-17.57	1661907.96	14297283.99	39°22'18.153"N	80°55'26.233"W	49.10	339.030	1.31	1.31	0.72	
3045.50	7.380	294.670	3042.97	-56.86	50.60	-27.33	1661898.21	14297288.74	39°22'18.200"N	80°55'26.357"W	57.51	331.625	1.63	1.60	-3.04	
3140.50	9.050	290.470	3136.99	-65.96	55.76	-39.87	1661885.67	14297293.89	39°22'18.251"N	80°55'26.517"W	68.55	324.430	1.87	1.76	-4.42	
3235.50	11.120	292.530	3230.52	-76.95	61.88	-55.34	1661870.21	14297300.01	39°22'18.312"N	80°55'26.714"W	83.02	318.195	2.21	2.18	2.17	
3330.50	12.430	291.230	3323.52	-89.82	69.09	-73.33	1661852.23	14297307.22	39°22'18.384"N	80°55'26.943"W	100.75	313.296	1.41	1.38	-1.37	
3425.50	12.110	289.960	3416.35	-102.89	76.20	-92.23	1661833.34	14297314.33	39°22'18.454"N	80°55'27.184"W	119.63	309.564	0.44	-0.34	-1.34	
3524.50	12.940	290.540	3512.99	-116.70	83.63	-112.37	1661813.21	14297321.76	39°22'18.528"N	80°55'27.440"W	140.08	306.659	0.85	0.84	0.59	
3619.50	12.590	289.230	3605.64	-130.09	90.78	-132.11	1661793.48	14297328.90	39°22'18.598"N	80°55'27.691"W	160.29	304.495	0.48	-0.37	-1.38	
3714.50	13.030	295.090	3698.28	-144.16	98.73	-151.58	1661774.01	14297336.85	39°22'18.677"N	80°55'27.939"W	180.90	303.077	1.44	0.46	6.17	
3809.50	12.780	294.650	3790.88	-159.07	107.65	-170.83	1661754.77	14297345.77	39°22'18.765"N	80°55'28.184"W	201.92	302.217	0.28	-0.26	-0.46	
3904.50	12.320	292.850	3883.61	-173.28	115.97	-189.72	1661735.89	14297354.08	39°22'18.848"N	80°55'28.425"W	222.36	301.436	0.64	-0.48	-1.89	
3999.50	13.260	295.690	3976.26	-187.91	124.63	-208.88	1661716.73	14297362.74	39°22'18.933"N	80°55'28.668"W	243.23	300.822	1.19	0.99	2.99	
4094.50	13.080	294.310	4068.76	-203.15	133.78	-228.49	1661697.13	14297371.88	39°22'19.024"N	80°55'28.918"W	264.77	300.348	0.38	-0.19	-1.45	
4188.50	12.470	293.210	4160.43	-217.46	142.15	-247.51	1661678.11	14297380.26	39°22'19.107"N	80°55'29.160"W	285.43	299.870	0.70	-0.65	-1.17	
4283.50	11.880	291.650	4253.29	-230.92	149.80	-266.03	1661659.61	14297387.90	39°22'19.183"N	80°55'29.396"W	305.31	299.384	0.71	-0.62	-1.64	
4378.50	13.140	292.810	4346.04	-244.70	157.60	-285.07	1661640.57	14297395.69	39°22'19.260"N	80°55'29.638"W	325.74	298.935	1.35	1.33	1.22	
4473.50	13.130	291.510	4438.55	-259.12	165.74	-305.07	1661620.59	14297403.83	39°22'19.341"N	80°55'29.893"W	347.18	298.515	0.31	-0.01	-1.37	
4568.50	12.760	296.990	4531.14	-273.88	174.46	-324.45	1661601.21	14297412.55	39°22'19.427"N	80°55'30.140"W	368.38	298.267	1.35	-0.39	5.77	



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
4663.50	12.330	297.940	4623.87	-289.02	183.97	-342.76	1661582.90	14297422.06	39°22'19.521"N	80°55'30.373"W	389.02	298.224	0.50	-0.45	1.00	
4758.50	12.940	295.010	4716.57	-304.02	193.22	-361.36	1661564.31	14297431.30	39°22'19.613"N	80°55'30.609"W	409.78	298.134	0.93	0.64	-3.08	
4853.50	12.840	294.080	4809.18	-318.82	202.03	-380.64	1661545.04	14297440.10	39°22'19.700"N	80°55'30.855"W	430.93	297.957	0.24	-0.11	-0.98	
4947.50	12.530	293.500	4900.88	-333.04	210.35	-399.53	1661526.16	14297448.43	39°22'19.782"N	80°55'31.095"W	451.52	297.767	0.36	-0.33	-0.62	
5043.50	13.100	292.140	4994.49	-347.44	218.61	-419.15	1661506.54	14297456.68	39°22'19.864"N	80°55'31.345"W	472.74	297.544	0.67	0.59	-1.42	
5137.50	13.220	290.660	5086.02	-361.53	226.41	-439.08	1661486.63	14297464.48	39°22'19.941"N	80°55'31.599"W	494.02	297.278	0.38	0.13	-1.57	
5232.50	13.060	290.690	5178.54	-375.53	234.04	-459.28	1661466.43	14297472.10	39°22'20.017"N	80°55'31.856"W	515.48	297.002	0.17	-0.17	0.03	
5327.50	12.880	291.460	5271.11	-389.47	241.70	-479.18	1661446.54	14297479.77	39°22'20.093"N	80°55'32.109"W	536.69	296.767	0.26	-0.19	0.81	
5421.50	12.820	291.950	5362.76	-403.32	249.44	-498.60	1661427.13	14297487.49	39°22'20.169"N	80°55'32.356"W	557.52	296.577	0.13	-0.06	0.52	
5516.50	12.650	291.570	5455.42	-417.20	257.20	-518.05	1661407.68	14297495.25	39°22'20.246"N	80°55'32.604"W	578.39	296.403	0.20	-0.18	-0.40	
5611.50	12.500	291.330	5548.14	-430.83	264.76	-537.30	1661388.44	14297502.82	39°22'20.321"N	80°55'32.849"W	598.99	296.232	0.17	-0.16	-0.25	
5735.50	12.260	291.050	5669.26	-448.25	274.37	-562.09	1661363.66	14297512.42	39°22'20.416"N	80°55'33.164"W	625.48	296.018	0.20	-0.19	-0.23	
5793.00	12.510	290.960	5725.42	-456.30	278.79	-573.60	1661352.16	14297516.84	39°22'20.460"N	80°55'33.311"W	637.77	295.922	0.44	0.43	-0.16	BH AT Curve <8-1/2"> (5735.5')(5793'-16879')
5811.00	12.570	290.240	5742.99	-458.83	280.17	-577.26	1661348.50	14297518.21	39°22'20.474"N	80°55'33.358"W	641.66	295.889	0.93	0.33	-4.00	
5858.00	11.370	279.870	5788.97	-464.41	282.73	-586.63	1661339.14	14297520.78	39°22'20.499"N	80°55'33.477"W	651.21	295.732	5.23	-2.55	-22.06	
5907.00	10.550	261.980	5837.09	-467.71	282.94	-595.83	1661329.94	14297520.98	39°22'20.501"N	80°55'33.594"W	659.59	295.401	7.11	-1.67	-36.51	
5954.00	10.320	237.520	5883.34	-467.66	280.07	-603.65	1661322.13	14297518.12	39°22'20.473"N	80°55'33.694"W	665.45	294.890	9.37	-0.49	-52.04	
6001.00	11.480	214.100	5929.51	-463.98	273.94	-609.82	1661315.95	14297511.98	39°22'20.412"N	80°55'33.772"W	668.52	294.190	9.67	2.47	-49.83	
6048.00	13.930	199.160	5975.37	-456.81	264.72	-614.30	1661311.47	14297502.77	39°22'20.321"N	80°55'33.829"W	668.91	293.312	8.68	5.21	-31.79	
6096.00	16.640	189.020	6021.68	-446.29	252.47	-617.28	1661308.50	14297490.52	39°22'20.200"N	80°55'33.867"W	666.91	292.244	7.91	5.65	-21.12	
6143.00	19.470	179.780	6066.37	-433.00	237.98	-618.30	1661307.47	14297476.04	39°22'20.057"N	80°55'33.881"W	662.52	291.051	8.55	6.02	-19.66	
6190.00	22.730	175.280	6110.21	-416.85	221.09	-617.53	1661308.25	14297459.16	39°22'19.890"N	80°55'33.871"W	655.91	289.699	7.74	6.94	-9.57	
6237.00	26.020	172.510	6153.02	-398.00	201.82	-615.43	1661310.34	14297439.89	39°22'19.700"N	80°55'33.844"W	647.68	288.156	7.41	7.00	-5.89	
6286.00	29.380	170.360	6196.40	-375.66	179.30	-612.02	1661313.76	14297417.39	39°22'19.477"N	80°55'33.801"W	637.74	286.329	7.15	6.86	-4.39	
6333.00	32.940	168.520	6236.61	-351.65	155.41	-607.54	1661318.23	14297393.50	39°22'19.241"N	80°55'33.744"W	627.10	284.348	7.84	7.57	-3.91	
6381.00	36.540	167.410	6276.05	-324.55	128.66	-601.83	1661323.94	14297366.77	39°22'18.977"N	80°55'33.672"W	615.43	282.067	7.61	7.50	-2.31	
6428.00	40.170	166.850	6312.90	-295.60	100.24	-595.33	1661330.44	14297338.35	39°22'18.696"N	80°55'33.589"W	603.71	279.557	7.76	7.72	-1.19	
6475.00	43.570	166.680	6347.90	-264.44	69.70	-588.15	1661337.62	14297307.83	39°22'18.394"N	80°55'33.498"W	592.26	276.759	7.24	7.23	-0.36	
6522.00	47.600	165.700	6380.78	-231.06	37.11	-580.13	1661345.64	14297275.26	39°22'18.072"N	80°55'33.397"W	581.31	273.660	8.70	8.57	-2.09	
6569.00	50.310	164.820	6411.64	-195.75	2.84	-571.10	1661354.66	14297240.99	39°22'17.733"N	80°55'33.282"W	571.11	270.285	5.94	5.77	-1.87	



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
6574.00†	50.647	164.762	6414.82	-191.90	-0.88	-570.09	1661355.67	14297237.27	39°22'17.696"N	80°55'33.269"W	570.09	269.911	6.80	6.74	-1.15	Middlesex: 6574' MD
6616.00	53.480	164.300	6440.64	-158.88	-32.81	-561.25	1661364.50	14297205.37	39°22'17.380"N	80°55'33.157"W	562.21	266.655	6.80	6.74	-1.10	
6663.00	56.660	163.500	6467.55	-120.43	-69.82	-550.56	1661375.19	14297168.37	39°22'17.014"N	80°55'33.021"W	554.97	262.773	6.91	6.77	-1.70	
6710.00	60.370	162.170	6492.09	-80.39	-108.10	-538.73	1661387.02	14297130.10	39°22'16.636"N	80°55'32.871"W	549.47	258.653	8.25	7.89	-2.83	
6756.00†	62.867	161.474	6513.96	-39.94	-146.55	-526.10	1661399.64	14297091.67	39°22'16.256"N	80°55'32.711"W	546.13	254.434	5.59	5.43	-1.51	Burkett: 6756' MD
6759.00	63.030	161.430	6515.32	-37.27	-149.08	-525.25	1661400.49	14297089.13	39°22'16.231"N	80°55'32.700"W	546.00	254.154	5.59	5.43	-1.48	
6806.00	65.510	161.200	6535.72	5.06	-189.19	-511.69	1661414.05	14297049.04	39°22'15.834"N	80°55'32.527"W	545.54	249.709	5.29	5.28	-0.49	
6818.00†	66.757	161.334	6540.58	16.03	-199.58	-508.16	1661417.57	14297038.66	39°22'15.732"N	80°55'32.483"W	545.95	248.558	10.44	10.39	1.11	Tully: 6818' MD
6854.00	70.500	161.720	6553.70	49.54	-231.37	-497.54	1661428.18	14297006.88	39°22'15.417"N	80°55'32.348"W	548.71	245.060	10.44	10.40	1.07	
6875.00†	72.397	162.498	6560.38	69.44	-250.32	-491.43	1661434.30	14296987.94	39°22'15.230"N	80°55'32.270"W	551.51	243.007	9.69	9.03	3.71	Marcellus POE: 6875' MD
6901.00	74.750	163.440	6567.73	94.34	-274.16	-484.13	1661441.60	14296964.11	39°22'14.994"N	80°55'32.177"W	556.37	240.477	9.69	9.05	3.62	
6949.00	78.060	164.440	6579.01	140.90	-318.99	-471.23	1661454.49	14296919.30	39°22'14.551"N	80°55'32.014"W	569.04	235.904	7.19	6.90	2.08	
6996.00	83.590	163.450	6586.50	187.18	-363.56	-458.40	1661467.32	14296874.74	39°22'14.110"N	80°55'31.851"W	585.07	231.581	11.95	11.77	-2.11	
7044.00	89.630	162.380	6589.34	235.02	-409.34	-444.32	1661481.38	14296828.98	39°22'13.658"N	80°55'31.672"W	604.14	227.347	12.78	12.58	-2.23	
7138.00	89.880	160.660	6589.74	328.99	-498.49	-414.53	1661511.17	14296739.87	39°22'12.777"N	80°55'31.294"W	648.33	219.746	1.85	0.27	-1.83	
7233.00	90.120	159.250	6589.74	423.99	-587.73	-381.97	1661543.72	14296650.66	39°22'11.894"N	80°55'30.880"W	700.95	213.020	1.51	0.25	-1.48	
7327.00	90.220	158.010	6589.46	517.95	-675.27	-347.72	1661577.95	14296563.16	39°22'11.029"N	80°55'30.445"W	759.53	207.245	1.32	0.11	-1.32	
7422.00	90.280	157.110	6589.05	612.84	-763.07	-311.45	1661614.20	14296475.39	39°22'10.161"N	80°55'29.984"W	824.19	202.203	0.95	0.06	-0.95	
7516.00	90.340	157.140	6588.54	706.70	-849.68	-274.91	1661650.73	14296388.82	39°22'09.304"N	80°55'29.520"W	893.05	197.929	0.07	0.06	0.03	
7611.00	90.310	158.200	6588.00	801.60	-937.55	-238.82	1661686.80	14296300.98	39°22'08.436"N	80°55'29.061"W	967.49	194.291	1.12	-0.03	-1.12	
7705.00	90.180	157.300	6587.60	895.51	-1024.55	-203.23	1661722.38	14296214.02	39°22'07.575"N	80°55'28.609"W	1044.51	191.220	0.97	-0.14	-0.96	
7800.00	90.120	160.200	6587.35	990.47	-1113.08	-168.80	1661756.80	14296125.52	39°22'06.700"N	80°55'28.171"W	1125.81	188.623	3.05	-0.06	3.05	
7895.00	90.090	164.640	6587.18	1085.38	-1203.62	-140.12	1661785.47	14296035.02	39°22'05.805"N	80°55'27.807"W	1211.75	186.640	4.67	-0.03	4.67	
7989.00	90.490	163.740	6586.70	1179.15	-1294.06	-114.51	1661811.07	14295944.61	39°22'04.911"N	80°55'27.482"W	1299.12	185.057	1.05	0.43	-0.96	
8083.00	91.540	159.500	6585.03	1273.09	-1383.23	-84.88	1661840.69	14295855.48	39°22'04.029"N	80°55'27.106"W	1385.83	183.511	4.65	1.12	-4.51	
8178.00	91.200	155.420	6582.76	1367.93	-1470.93	-48.48	1661877.07	14295767.82	39°22'03.162"N	80°55'26.643"W	1471.73	181.888	4.31	-0.36	-4.29	
8273.00	89.910	154.210	6581.84	1462.50	-1556.89	-8.06	1661917.48	14295681.89	39°22'02.312"N	80°55'26.129"W	1556.91	180.296	1.86	-1.36	-1.27	
8367.00	89.750	157.580	6582.12	1556.21	-1642.68	30.33	1661955.85	14295596.13	39°22'01.464"N	80°55'25.641"W	1642.96	178.942	3.59	-0.17	3.59	
8462.00	89.200	158.720	6582.99	1651.14	-1730.85	65.68	1661991.19	14295508.00	39°22'00.592"N	80°55'25.192"W	1732.10	177.827	1.33	-0.58	1.20	
8556.00	89.820	162.620	6583.80	1745.12	-1819.53	96.79	1662022.28	14295419.35	39°21'59.716"N	80°55'24.797"W	1822.11	176.955	4.20	0.66	4.15	





# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
8651.00	89.880	164.220	6584.04	1839.97	-1910.58	123.90	1662049.38	14295328.34	39°21'58.816"N	80°55'24.453"W	1914.59	176.290	1.69	0.06	1.68	
8746.00	89.970	164.430	6584.17	1934.73	-2002.05	149.57	1662075.03	14295236.91	39°21'57.911"N	80°55'24.127"W	2007.63	175.728	0.24	0.09	0.22	
8841.00	90.430	162.190	6583.84	2029.58	-2093.04	176.85	1662102.31	14295145.96	39°21'57.012"N	80°55'23.781"W	2100.50	175.170	2.41	0.48	-2.36	
8935.00	89.820	161.840	6583.63	2123.54	-2182.44	205.87	1662131.32	14295056.59	39°21'56.128"N	80°55'23.412"W	2192.13	174.611	0.75	-0.65	-0.37	
9030.00	90.310	162.750	6583.52	2218.47	-2272.94	234.76	1662160.20	14294966.13	39°21'55.233"N	80°55'23.045"W	2285.04	174.103	1.09	0.52	0.96	
9125.00	89.820	162.450	6583.42	2313.39	-2363.60	263.17	1662188.59	14294875.51	39°21'54.337"N	80°55'22.685"W	2378.20	173.647	0.60	-0.52	-0.32	
9221.00	89.880	163.420	6583.67	2409.29	-2455.37	291.34	1662216.75	14294783.78	39°21'53.430"N	80°55'22.327"W	2472.59	173.233	1.01	0.06	1.01	
9313.00	90.000	163.110	6583.76	2501.16	-2543.47	317.83	1662243.23	14294695.71	39°21'52.559"N	80°55'21.991"W	2563.25	172.877	0.36	0.13	-0.34	
9408.00	89.970	162.800	6583.79	2596.05	-2634.30	345.68	1662271.07	14294604.92	39°21'51.661"N	80°55'21.637"W	2656.88	172.524	0.33	-0.03	-0.33	
9501.00	90.490	161.800	6583.42	2688.99	-2722.89	373.95	1662299.33	14294516.36	39°21'50.785"N	80°55'21.278"W	2748.45	172.180	1.21	0.56	-1.08	
9596.00	89.750	161.540	6583.22	2783.96	-2813.07	403.83	1662329.20	14294426.21	39°21'49.893"N	80°55'20.899"W	2841.91	171.831	0.83	-0.78	-0.27	
9691.00	89.320	163.450	6583.99	2878.88	-2903.67	432.40	1662357.76	14294335.66	39°21'48.998"N	80°55'20.536"W	2935.69	171.530	2.06	-0.45	2.01	
9786.00	90.090	165.460	6584.48	2973.61	-2995.18	457.86	1662383.21	14294244.18	39°21'48.093"N	80°55'20.213"W	3029.98	171.309	2.27	0.81	2.12	
9881.00	90.150	164.650	6584.28	3068.28	-3086.97	482.36	1662407.70	14294152.43	39°21'47.186"N	80°55'19.902"W	3124.43	171.119	0.85	0.06	-0.85	
9976.00	90.680	164.850	6583.59	3162.98	-3178.62	507.35	1662432.67	14294060.81	39°21'46.280"N	80°55'19.585"W	3218.86	170.931	0.60	0.56	0.21	
10071.00	90.430	159.800	6582.67	3257.88	-3269.10	536.18	1662461.49	14293970.37	39°21'45.385"N	80°55'19.219"W	3312.78	170.686	5.32	-0.26	-5.32	
10166.00	90.550	153.340	6581.86	3352.63	-3356.22	573.93	1662499.23	14293883.28	39°21'44.524"N	80°55'18.739"W	3404.94	170.296	6.80	0.13	-6.80	
10261.00	89.630	151.790	6581.71	3446.78	-3440.53	617.70	1662542.98	14293799.01	39°21'43.690"N	80°55'18.183"W	3495.54	169.822	1.90	-0.97	-1.63	
10355.00	89.570	152.520	6582.36	3539.84	-3523.65	661.61	1662586.87	14293715.93	39°21'42.868"N	80°55'17.625"W	3585.22	169.366	0.78	-0.06	0.78	
10450.00	89.450	154.750	6583.17	3634.20	-3608.76	703.79	1662629.04	14293630.85	39°21'42.027"N	80°55'17.088"W	3676.74	168.965	2.35	-0.13	2.35	
10545.00	89.850	156.150	6583.76	3728.86	-3695.16	743.26	1662668.49	14293544.48	39°21'41.172"N	80°55'16.587"W	3769.17	168.627	1.53	0.42	1.47	
10640.00	89.320	158.110	6584.44	3823.72	-3782.69	780.18	1662705.39	14293456.99	39°21'40.307"N	80°55'16.118"W	3862.31	168.346	2.14	-0.56	2.06	
10735.00	89.570	160.830	6585.36	3918.69	-3871.64	813.49	1662738.69	14293368.07	39°21'39.427"N	80°55'15.695"W	3956.18	168.134	2.88	0.26	2.86	
10830.00	89.660	160.700	6586.00	4013.69	-3961.34	844.79	1662769.98	14293278.41	39°21'38.541"N	80°55'15.297"W	4050.42	167.962	0.17	0.09	-0.14	
10925.00	89.600	160.240	6586.62	4108.69	-4050.87	876.54	1662801.72	14293188.91	39°21'37.655"N	80°55'14.894"W	4144.62	167.790	0.49	-0.06	-0.48	
11020.00	89.510	159.220	6587.35	4203.68	-4139.98	909.45	1662834.62	14293099.84	39°21'36.774"N	80°55'14.476"W	4238.70	167.610	1.08	-0.09	-1.07	
11115.00	89.690	157.230	6588.02	4298.61	-4228.20	944.69	1662869.84	14293011.66	39°21'35.902"N	80°55'14.028"W	4332.45	167.405	2.10	0.19	-2.09	
11209.00	89.780	159.660	6588.45	4392.56	-4315.62	979.22	1662904.36	14292924.27	39°21'35.038"N	80°55'13.590"W	4425.32	167.216	2.59	0.10	2.59	
11305.00	89.570	159.990	6589.00	4488.55	-4405.73	1012.33	1662937.46	14292834.20	39°21'34.147"N	80°55'13.169"W	4520.53	167.059	0.41	-0.22	0.34	
11400.00	89.660	160.020	6589.63	4583.55	-4495.00	1044.82	1662969.93	14292744.97	39°21'33.264"N	80°55'12.757"W	4614.83	166.915	0.10	0.09	0.03	



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
11495.00	89.570	159.820	6590.27	4678.55	-4584.22	1077.43	1663002.53	14292655.78	39°21'32.382"N	80°55'12.342"W	4709.13	166.774	0.23	-0.09	-0.21	
11591.00	89.570	160.770	6590.99	4774.54	-4674.59	1109.80	1663034.88	14292565.44	39°21'31.489"N	80°55'11.931"W	4804.53	166.645	0.99	0.00	0.99	
11685.00	89.510	161.860	6591.75	4868.52	-4763.64	1139.91	1663064.99	14292476.43	39°21'30.608"N	80°55'11.549"W	4898.13	166.542	1.16	-0.06	1.16	
11779.00	89.570	163.270	6592.50	4962.44	-4853.31	1168.08	1663093.14	14292386.79	39°21'29.722"N	80°55'11.191"W	4991.90	166.468	1.50	0.06	1.50	
11872.00	89.570	165.240	6593.20	5055.20	-4942.82	1193.31	1663118.36	14292297.33	39°21'28.837"N	80°55'10.871"W	5084.82	166.427	2.12	0.00	2.12	
11967.00	89.780	163.020	6593.74	5149.98	-5034.19	1219.29	1663144.33	14292205.99	39°21'27.934"N	80°55'10.541"W	5179.74	166.385	2.35	0.22	-2.34	
12061.00	90.220	158.920	6593.74	5243.95	-5123.03	1249.93	1663174.96	14292117.18	39°21'27.055"N	80°55'10.152"W	5273.31	166.289	4.39	0.47	-4.36	
12156.00	89.540	158.280	6593.94	5338.91	-5211.48	1284.59	1663209.61	14292028.77	39°21'26.181"N	80°55'09.712"W	5367.47	166.153	0.98	-0.72	-0.67	
12250.00	89.600	159.230	6594.64	5432.87	-5299.09	1318.65	1663243.65	14291941.20	39°21'25.315"N	80°55'09.279"W	5460.69	166.026	1.01	0.06	1.01	
12345.00	89.510	157.210	6595.38	5527.81	-5387.30	1353.90	1663278.89	14291853.02	39°21'24.443"N	80°55'08.832"W	5554.82	165.893	2.13	-0.09	-2.13	
12440.00	89.570	156.880	6596.14	5622.66	-5474.77	1390.95	1663315.92	14291765.58	39°21'23.578"N	80°55'08.361"W	5648.71	165.745	0.35	0.06	-0.35	
12534.00	89.600	156.550	6596.83	5716.48	-5561.12	1428.11	1663353.06	14291679.27	39°21'22.724"N	80°55'07.889"W	5741.56	165.598	0.35	0.03	-0.35	
12630.00	89.780	158.640	6597.35	5812.37	-5649.86	1464.69	1663389.64	14291590.56	39°21'21.846"N	80°55'07.424"W	5836.63	165.466	2.19	0.19	2.18	
12725.00	89.820	162.710	6597.68	5907.34	-5739.49	1496.13	1663421.05	14291500.97	39°21'20.960"N	80°55'07.025"W	5931.29	165.390	4.28	0.04	4.28	
12820.00	89.940	164.550	6597.88	6002.17	-5830.64	1522.90	1663447.82	14291409.86	39°21'20.059"N	80°55'06.685"W	6026.24	165.362	1.94	0.13	1.94	
12915.00	89.970	161.110	6597.95	6097.06	-5921.39	1550.94	1663475.85	14291319.15	39°21'19.162"N	80°55'06.329"W	6121.13	165.323	3.62	0.03	-3.62	
13009.00	89.820	158.300	6598.12	6191.05	-6009.54	1583.54	1663508.43	14291231.03	39°21'18.290"N	80°55'05.915"W	6214.68	165.238	2.99	-0.16	-2.99	
13104.00	89.910	159.780	6598.35	6286.02	-6098.25	1617.52	1663542.40	14291142.35	39°21'17.413"N	80°55'05.484"W	6309.13	165.145	1.56	0.09	1.56	
13198.00	89.820	160.450	6598.57	6380.02	-6186.65	1649.49	1663574.36	14291053.99	39°21'16.539"N	80°55'05.078"W	6402.77	165.071	0.72	-0.10	0.71	
13293.00	89.750	161.860	6598.92	6475.01	-6276.55	1680.18	1663605.03	14290964.12	39°21'15.651"N	80°55'04.688"W	6497.55	165.014	1.49	-0.07	1.48	
13387.00	89.880	162.500	6599.23	6568.95	-6366.04	1708.95	1663633.79	14290874.67	39°21'14.766"N	80°55'04.323"W	6591.43	164.973	0.69	0.14	0.68	
13482.00	90.060	166.190	6599.28	6663.69	-6457.50	1734.58	1663659.41	14290783.25	39°21'13.862"N	80°55'03.998"W	6686.41	164.964	3.89	0.19	3.88	
13577.00	90.180	165.930	6599.08	6758.20	-6549.70	1757.46	1663682.29	14290691.08	39°21'12.950"N	80°55'03.708"W	6781.39	164.980	0.30	0.13	-0.27	
13672.00	90.400	163.100	6598.60	6852.93	-6641.25	1782.82	1663707.64	14290599.58	39°21'12.045"N	80°55'03.386"W	6876.38	164.973	2.99	0.23	-2.98	
13768.00	90.310	158.760	6598.00	6948.90	-6731.95	1814.18	1663738.98	14290508.91	39°21'11.148"N	80°55'02.988"W	6972.12	164.918	4.52	-0.09	-4.52	
13863.00	89.940	158.470	6597.80	7043.86	-6820.41	1848.82	1663773.61	14290420.48	39°21'10.274"N	80°55'02.548"W	7066.55	164.833	0.49	-0.39	-0.31	
13958.00	89.820	157.750	6597.99	7138.79	-6908.56	1884.24	1663809.01	14290332.37	39°21'09.402"N	80°55'02.098"W	7160.91	164.744	0.77	-0.13	-0.76	
14053.00	90.000	156.790	6598.14	7233.66	-6996.18	1920.95	1663845.70	14290244.78	39°21'08.536"N	80°55'01.632"W	7255.11	164.647	1.03	0.19	-1.01	
14147.00	89.940	158.530	6598.19	7327.56	-7083.12	1956.67	1663881.42	14290157.88	39°21'07.676"N	80°55'01.178"W	7348.42	164.557	1.85	-0.06	1.85	
14242.00	89.910	158.780	6598.32	7422.53	-7171.61	1991.25	1663915.98	14290069.43	39°21'06.801"N	80°55'00.739"W	7442.92	164.482	0.27	-0.03	0.26	





# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH DATA (209 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
14337.00	90.000	158.430	6598.39	7517.49	-7260.06	2025.91	1663950.62	14289981.01	39°21'05.927"N	80°55'00.299"W	7537.43	164.408	0.38	0.09	-0.37	
14431.00	90.030	158.470	6598.37	7611.44	-7347.49	2060.43	1663985.14	14289893.62	39°21'05.062"N	80°54'59.860"W	7630.92	164.335	0.05	0.03	0.04	
14526.00	89.750	158.320	6598.55	7706.39	-7435.82	2095.41	1664020.10	14289805.33	39°21'04.189"N	80°54'59.416"W	7725.42	164.262	0.33	-0.29	-0.16	
14621.00	89.630	158.350	6599.06	7801.34	-7524.10	2130.49	1664055.16	14289717.08	39°21'03.316"N	80°54'58.970"W	7819.92	164.190	0.13	-0.13	0.03	
14716.00	89.750	161.530	6599.58	7896.32	-7613.33	2163.07	1664087.73	14289627.89	39°21'02.434"N	80°54'58.557"W	7914.65	164.139	3.35	0.13	3.35	
14811.00	89.750	162.900	6599.99	7991.26	-7703.78	2192.08	1664116.73	14289537.47	39°21'01.540"N	80°54'58.188"W	8009.59	164.116	1.44	0.00	1.44	
14906.00	89.750	163.850	6600.41	8086.12	-7794.81	2219.26	1664143.90	14289446.48	39°21'00.640"N	80°54'57.844"W	8104.58	164.108	1.00	0.00	1.00	
15001.00	89.910	164.110	6600.69	8180.92	-7886.12	2245.48	1664170.11	14289355.20	39°20'59.737"N	80°54'57.511"W	8199.58	164.106	0.32	0.17	0.27	
15095.00	89.570	163.060	6601.12	8274.75	-7976.29	2272.04	1664196.66	14289265.07	39°20'58.846"N	80°54'57.174"W	8293.57	164.100	1.17	-0.36	-1.12	
15190.00	89.660	162.910	6601.75	8369.64	-8067.13	2299.84	1664224.45	14289174.27	39°20'57.948"N	80°54'56.821"W	8388.55	164.088	0.18	0.09	-0.16	
15284.00	89.660	162.820	6602.31	8463.54	-8156.95	2327.53	1664252.13	14289084.48	39°20'57.060"N	80°54'56.470"W	8482.53	164.074	0.10	0.00	-0.10	
15379.00	89.690	163.460	6602.85	8558.42	-8247.87	2355.09	1664279.67	14288993.60	39°20'56.161"N	80°54'56.120"W	8577.52	164.064	0.67	0.03	0.67	
15474.00	89.820	162.960	6603.26	8653.29	-8338.82	2382.53	1664307.10	14288902.69	39°20'55.262"N	80°54'55.772"W	8672.50	164.055	0.54	0.14	-0.53	
15568.00	89.910	160.870	6603.48	8747.24	-8428.17	2411.71	1664336.27	14288813.37	39°20'54.378"N	80°54'55.401"W	8766.43	164.032	2.23	0.10	-2.22	
15663.00	90.120	157.440	6603.45	8842.21	-8516.94	2445.51	1664370.06	14288724.64	39°20'53.501"N	80°54'54.972"W	8861.08	163.979	3.62	0.22	-3.61	
15758.00	89.690	155.170	6603.61	8936.98	-8603.92	2483.68	1664408.22	14288637.69	39°20'52.640"N	80°54'54.487"W	8955.23	163.898	2.43	-0.45	-2.39	
15853.00	89.720	153.730	6604.10	9031.49	-8689.63	2524.65	1664449.17	14288552.02	39°20'51.793"N	80°54'53.967"W	9048.95	163.799	1.52	0.03	-1.52	
15948.00	89.660	154.310	6604.61	9125.93	-8775.03	2566.27	1664490.77	14288466.65	39°20'50.949"N	80°54'53.438"W	9142.58	163.698	0.61	-0.06	0.61	
16043.00	89.750	157.450	6605.10	9220.65	-8861.72	2605.09	1664529.57	14288380.00	39°20'50.091"N	80°54'52.945"W	9236.70	163.618	3.31	0.09	3.31	
16137.00	89.720	156.680	6605.54	9314.50	-8948.29	2641.72	1664566.18	14288293.46	39°20'49.235"N	80°54'52.480"W	9330.09	163.552	0.82	-0.03	-0.82	
16232.00	89.720	156.030	6606.00	9409.28	-9035.31	2679.82	1664604.27	14288206.47	39°20'48.375"N	80°54'51.996"W	9424.34	163.480	0.68	0.00	-0.68	
16327.00	89.750	158.590	6606.44	9504.15	-9122.95	2716.46	1664640.90	14288118.87	39°20'47.508"N	80°54'51.531"W	9518.79	163.419	2.69	0.03	2.69	
16421.00	89.570	163.490	6607.00	9598.11	-9211.82	2746.99	1664671.42	14288030.03	39°20'46.630"N	80°54'51.143"W	9612.68	163.395	5.22	-0.19	5.21	
16516.00	89.880	168.860	6607.46	9692.56	-9304.03	2769.68	1664694.10	14287937.86	39°20'45.718"N	80°54'50.855"W	9707.53	163.422	5.66	0.33	5.65	
16611.00	89.540	167.740	6607.94	9786.62	-9397.06	2788.95	1664713.36	14287844.87	39°20'44.799"N	80°54'50.611"W	9802.19	163.470	1.23	-0.36	-1.18	
16706.00	89.720	163.130	6608.55	9881.20	-9488.98	2812.83	1664737.23	14287752.99	39°20'43.890"N	80°54'50.308"W	9897.11	163.489	4.86	0.19	-4.85	
16801.00	89.850	161.370	6608.91	9976.14	-9579.45	2841.79	1664766.18	14287662.55	39°20'42.995"N	80°54'49.941"W	9992.08	163.477	1.86	0.14	-1.85	
16879.00	89.970	161.750	6609.03	10054.12	-9653.45	2866.46	1664790.84	14287588.59	39°20'42.264"N	80°54'49.628"W	10070.04	163.462	0.51	0.15	0.49	
16904.00	89.970	161.750	6609.04	10079.11	-9677.19	2874.29	1664798.67	14287564.85	39°20'42.029"N	80°54'49.528"W	10095.03	163.458	0.00	0.00	0.00	Projected MD at TD: 16904'

## HOLE & CASING SECTIONS - Ref Wellbore: Cinqmars Unit 2H AWB Ref Wellpath: Cinqmars Unit 2H AWP Proj: 16904'

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	0.09	0.01
17.5in Open Hole	104.50	478.00	373.50	104.50	477.99	0.09	0.01	1.08	1.19
13.375in Casing Surface	24.50	478.00	453.50	24.50	477.99	0.00	0.00	1.08	1.19
12.25in Open Hole	478.00	2610.40	2132.40	477.99	2609.23	1.08	1.19	36.75	0.72
9.625in Casing Intermediate	24.50	2610.40	2585.90	24.50	2609.23	0.00	0.00	36.75	0.72
8.75in Open Hole	2610.40	5809.50	3199.10	2609.23	5741.53	36.75	0.72	280.06	-576.96
8.5in Open Hole	5809.50	16904.00	11094.50	5741.53	6609.04	280.06	-576.96	-9677.19	2874.29
5.5in Casing Production	24.50	16904.00	16879.50	24.50	6609.04	0.00	0.00	-9677.19	2874.29

<b>TARGETS</b>								
<b>Name</b>	<b>TVD [ft]</b>	<b>North [ft]</b>	<b>East [ft]</b>	<b>Grid East [US ft]</b>	<b>Grid North [US ft]</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Shape</b>
Cinqmars Unit 2H - POE - Rev-3	6557.00	-238.70	-504.17	1661421.56	14296999.55	39°22'15.345"N	80°55'32.432"W	point
Cinqmars Unit 2H - LP - Rev-3	6590.00	-440.94	-431.52	1661494.18	14296797.39	39°22'13.345"N	80°55'31.509"W	point
Cinqmars Unit 2H -BHL - Rev-3	6590.00	-9663.92	2881.57	1664805.94	14287578.12	39°20'42.160"N	80°54'49.435"W	point



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

## WELLPATH COMPOSITION - Ref Wellbore: Cinqmars Unit 2H AWB Ref Wellpath: Cinqmars Unit 2H AWP Proj: 16904'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
24.50	464.50	Gyrodata standard - Drop gyro or Multi-shot	01_Gyrodata MS Gyro <17-1/2">(100'-455')	Cinqmars Unit 2H AWB
464.50	581.50	Gyrodata standard - Drop gyro or Multi-shot	02_Gyrodata MS Gyro <12-1/4">(455')(479'-572')	Cinqmars Unit 2H AWB
581.50	2528.50	ISCWSA MWD, Rev. 4 (Standard)	03_WFT EM <12-1/4">(572')(684'-2519')	Cinqmars Unit 2H AWB
2528.50	5735.50	ISCWSA MWD, Rev. 4 (Standard)	04_WFT EM <8-3/4">(2519')(2657'-5726')	Cinqmars Unit 2H AWB
5735.50	16879.00	BHI AutoTrak Curve (Short)	05_BH AT Curve <8-1/2"> (5735.5')(5793'-16879')	Cinqmars Unit 2H AWB
16879.00	16904.00	Blind Drilling (std)	Projection to bit	Cinqmars Unit 2H AWB



# Actual Wellpath Report

Cinqmars Unit 2H AWP Proj: 16904'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Slot	Slot #08
Area	Ritchie County, WV	Well	Cinqmars Unit 2H
Field	Ritchie	Wellbore	Cinqmars Unit 2H AWB
Facility	Weekley Trust Pad		

COMMENTS
<p><b>Wellpath general comments</b> API: 47-085-10342-0000 BHI Job #: 109670127 Rig: Frontier 22 Duration: 02/16/2019-02/20/2019 Gyrodata MS Gyro &lt;17-1/2"&gt;(100'-455') Gyrodata MS Gyro &lt;12-1/4"&gt;(455')(479'-572') WFT EM &lt;12-1/4"&gt;(572')(684'-2519') WFT EM &lt;8-3/4"&gt;(2519')(2657'-5726') BH AT Curve &lt;8-1/2"&gt; (5735.5')(5793'-16879') Middlesex: 6574' MD Burkett: 6756' MD Tully: 6818' MD Marcellus POE: 6875' MD Projected MD at TD: 16904'</p>