



ANTERO RESOURCES CORPORATION

Location: Doddridge Co., WV
Field: Doddridge
Facility: Crimson Pad

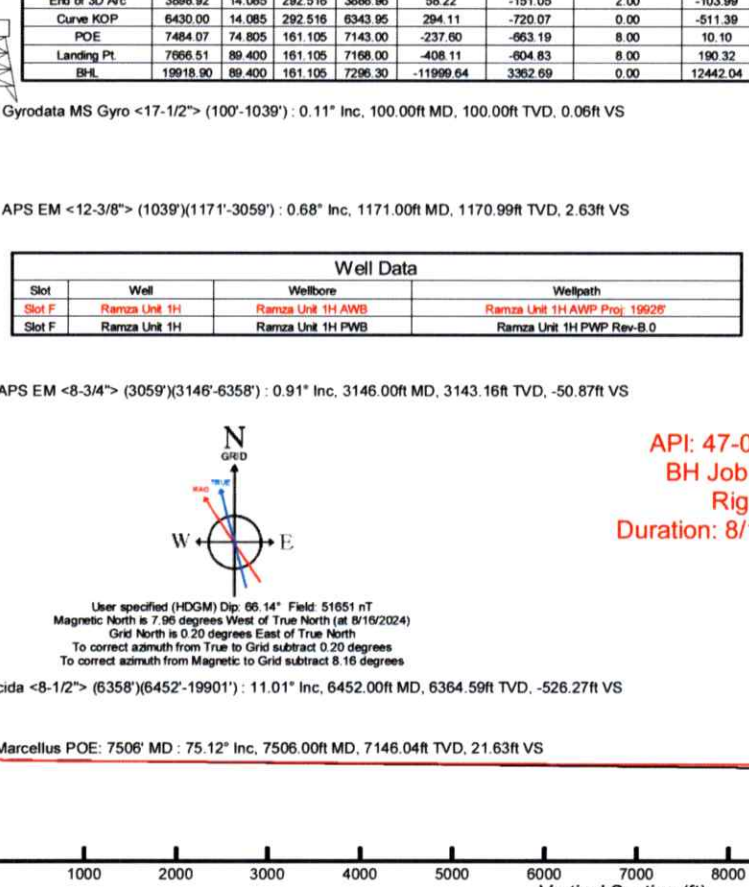
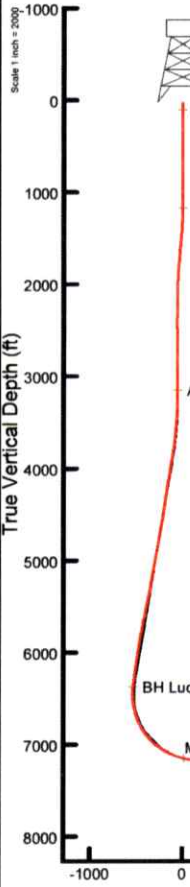
Slot: Slot F
Well: Ramza Unit 1H
Wellbore: Ramza Unit 1H PWB



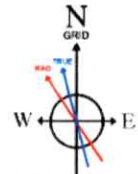
Plot reference wellpath is Ramza Unit 1H PWP Rev-B.0	Grid System: NAD27 / UTM Zone 17 North, US feet
True vertical depths are referenced to H&P 317 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to H&P 317 (RKB)	Scale: True distance
H&P 317 (RKB) to Mean Sea Level: 1247.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot F): -1222 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: edbayer on 2024-08-26; Database: WA_MPL_EASTERNUS_Dat

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Crimson Pad	1729192.990	14302137.140	39°23'4.7014"N	80°41'8.9159"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot F	22.51	19.84	1729212.820	14302159.640	39°23'4.9232"N
Comment	Ramza Unit 1H				
H&P 317 (RKB) to Ground level (At Slot: Slot F)	25.5ft				
Mean Sea Level to Ground level (At Slot: Slot F)	-1222ft				
H&P 317 (RKB) to Mean Sea Level	1247.5ft				

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (1/100ft)	VS (ft)
Tie On	3059.00	0.960	237.410	3056.17	31.02	-67.39	0.20	-51.17
Proj. to Bottom	3141.00	0.960	237.410	3138.16	30.28	-68.55	0.00	-50.84
KOP 1	3221.00	0.960	237.410	3218.15	29.56	-69.68	0.00	-50.53
End of 3D Arc	3898.92	14.085	292.516	3888.96	58.22	-151.05	2.00	-103.99
Curve KOP	6430.00	14.085	292.516	6343.95	294.11	-720.07	0.00	-511.39
POE	7484.07	74.805	161.105	7143.00	-237.60	-663.19	8.00	10.10
Landing Pt.	7666.51	89.400	161.105	7168.00	-408.11	-604.83	8.00	190.32
BHL	19918.90	89.400	161.105	7296.30	-11999.64	3362.99	0.00	12442.04

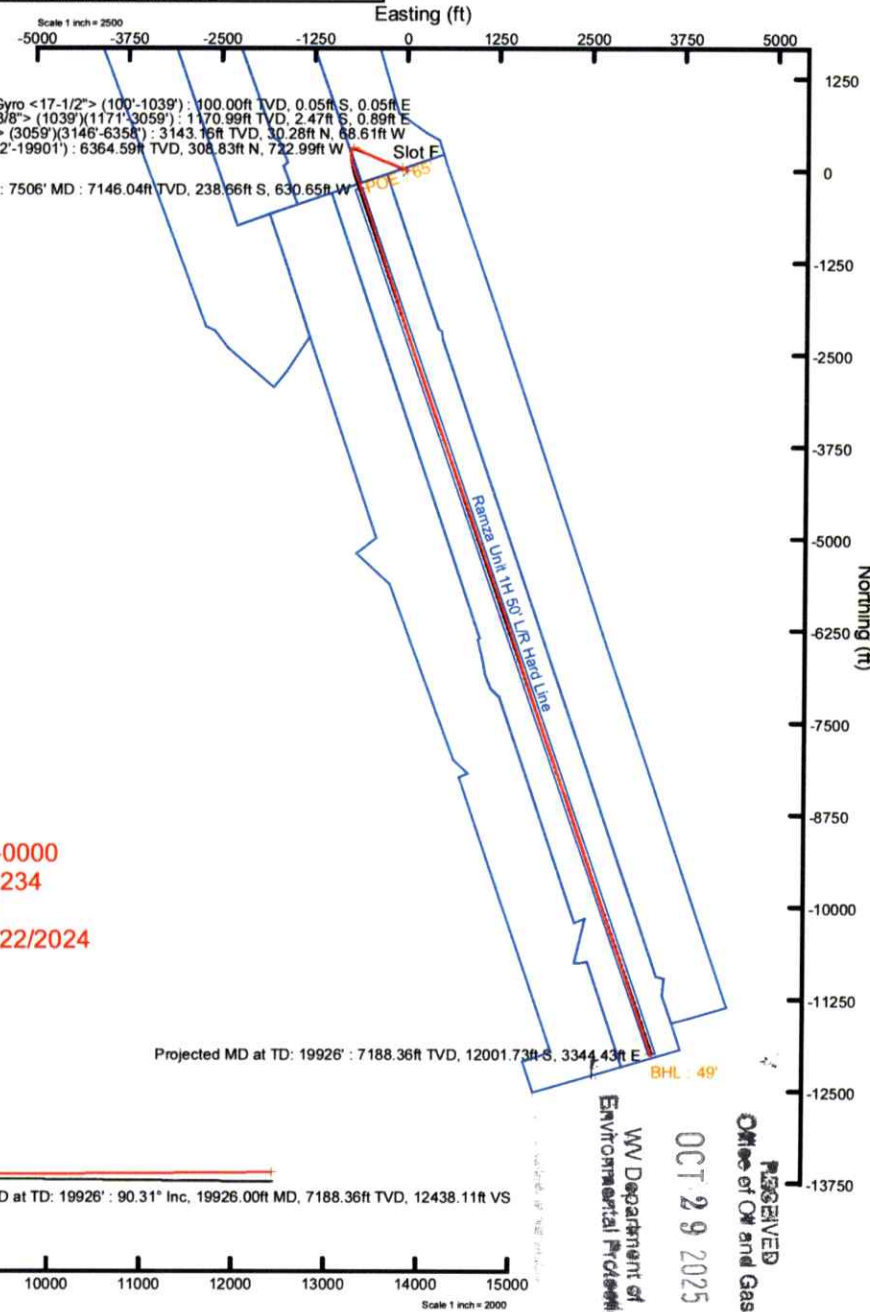


Well Data			
Slot	Well	Wellbore	Wellpath
Slot F	Ramza Unit 1H	Ramza Unit 1H AWB	Ramza Unit 1H AWP Proj. 19926'
Slot F	Ramza Unit 1H	Ramza Unit 1H PWB	Ramza Unit 1H PWP Rev-B.0



User specified (HDGM) Dip: 66.14° Field: 51651 nT
Magnetic North is 7.96 degrees West of True North (at 8/16/2024)
Grid North is 0.20 degrees East of True North
To correct azimuth from True to Grid subtract 0.20 degrees
To correct azimuth from Magnetic to Grid subtract 8.16 degrees

API: 47-017-06985-0000
BH Job #: 112320234
Rig: H&P 317
Duration: 8/18/2024-8/22/2024



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Vertical Section (ft)
Azimuth 161.11° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

REPORT SETUP INFORMATION

Projection System	NAD27 / UTM Zone 17 North, US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Edsaryar
Scale	0.999609	Report Generated	8/29/2024 at 9:51:56 PM
Convergence at slot	0.20° East	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	22.51	19.84	1729212.82	14302159.64	39°23'4.9232"N	80°41'8.6622"W
Facility Reference Pt			1729192.99	14302137.14	39°23'4.7014"N	80°41'8.9159"W
Field Reference Pt			0.00	0.00	0°00'0.0000"	85°29'19.3013"W

WELLPATH DATUM

Calculation method	Minimum curvature	H&P 317 (RKB) to Facility Vertical Datum	1247.50ft
Horizontal Reference Pt	Slot	H&P 317 (RKB) to Mean Sea Level	1247.50ft
Vertical Reference Pt	H&P 317 (RKB)	H&P 317 (RKB) to Ground Level at Slot (Slot F)	25.50ft
MD Reference Pt	H&P 317 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	161.11°

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Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
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WELLPATH DATA (220 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	136.310	0.00	0.00	0.00	0.00	1729212.82	14302159.64	39°23'4.9232"N	80°41'8.6622"W	0.00	0.000	0.00	0.00	0.00	
25.50	0.000	136.310	25.50	0.00	0.00	0.00	1729212.82	14302159.64	39°23'4.9232"N	80°41'8.6622"W	0.00	0.000	0.00	0.00	0.00	
100.00	0.110	136.310	100.00	0.06	-0.05	0.05	1729212.87	14302159.59	39°23'4.9227"N	80°41'8.6616"W	0.07	136.310	0.15	0.15	0.00	Gyrodata MS Gyro <17-1/2"> (100'-1039')
200.00	0.090	151.190	200.00	0.23	-0.19	0.15	1729212.97	14302159.45	39°23'4.9213"N	80°41'8.6603"W	0.24	141.047	0.03	-0.02	14.88	
300.00	0.150	138.080	300.00	0.43	-0.36	0.28	1729213.10	14302159.28	39°23'4.9196"N	80°41'8.6587"W	0.45	141.941	0.07	0.06	-13.11	
400.00	0.260	140.300	400.00	0.76	-0.63	0.51	1729213.33	14302159.01	39°23'4.9169"N	80°41'8.6558"W	0.81	140.857	0.11	0.11	2.22	
500.00	0.220	133.680	500.00	1.14	-0.94	0.80	1729213.61	14302158.71	39°23'4.9139"N	80°41'8.6522"W	1.23	139.635	0.05	-0.04	-6.62	
600.00	0.080	154.690	600.00	1.38	-1.13	0.96	1729213.78	14302158.51	39°23'4.9120"N	80°41'8.6500"W	1.49	139.566	0.15	-0.14	21.01	
700.00	0.120	132.230	700.00	1.54	-1.26	1.07	1729213.89	14302158.38	39°23'4.9106"N	80°41'8.6487"W	1.66	139.733	0.06	0.04	-22.46	
800.00	0.170	165.690	800.00	1.78	-1.48	1.19	1729214.00	14302158.16	39°23'4.9085"N	80°41'8.6472"W	1.90	141.283	0.10	0.05	33.46	
900.00	0.200	157.500	900.00	2.10	-1.78	1.29	1729214.11	14302157.86	39°23'4.9055"N	80°41'8.6459"W	2.20	144.150	0.04	0.03	-8.19	
1000.00	0.290	165.330	1000.00	2.53	-2.19	1.42	1729214.24	14302157.45	39°23'4.9015"N	80°41'8.6443"W	2.61	147.043	0.10	0.09	7.83	
1039.00	0.360	163.170	1039.00	2.75	-2.40	1.48	1729214.30	14302157.24	39°23'4.8994"N	80°41'8.6435"W	2.82	148.363	0.18	0.18	-5.54	
1171.00	0.680	294.850	1170.99	2.63	-2.47	0.89	1729213.71	14302157.17	39°23'4.8987"N	80°41'8.6510"W	2.63	160.198	0.73	0.24	99.76	APS EM <12-3/8"> (1039')(1171'-3059')
1265.00	2.150	307.300	1264.96	0.77	-1.17	-1.02	1729211.80	14302158.47	39°23'4.9117"N	80°41'8.6753"W	1.55	221.135	1.59	1.56	13.24	
1360.00	3.640	312.240	1359.84	-3.35	1.94	-4.67	1729208.15	14302161.58	39°23'4.9425"N	80°41'8.7216"W	5.06	292.560	1.59	1.57	5.20	
1454.00	5.290	311.750	1453.55	-9.74	6.83	-10.11	1729202.71	14302166.47	39°23'4.9910"N	80°41'8.7907"W	12.20	304.043	1.76	1.76	-0.52	
1548.00	5.580	314.840	1547.13	-17.61	12.94	-16.59	1729196.24	14302172.57	39°23'5.0516"N	80°41'8.8729"W	21.04	307.961	0.44	0.31	3.29	
1642.00	5.630	311.520	1640.68	-25.72	19.22	-23.28	1729189.55	14302178.85	39°23'5.1139"N	80°41'8.9579"W	30.19	309.543	0.35	0.05	-3.53	
1737.00	5.440	310.630	1735.23	-33.65	25.24	-30.18	1729182.65	14302184.87	39°23'5.1737"N	80°41'9.0455"W	39.35	309.902	0.22	-0.20	-0.94	
1831.00	4.970	309.670	1828.85	-40.97	30.74	-36.70	1729176.13	14302190.37	39°23'5.2283"N	80°41'9.1283"W	47.87	309.950	0.51	-0.50	-1.02	
1925.00	3.550	302.560	1922.58	-46.72	34.91	-42.29	1729170.55	14302194.53	39°23'5.2696"N	80°41'9.1993"W	54.83	309.538	1.61	-1.51	-7.56	
2020.00	2.200	284.370	2017.47	-50.02	36.94	-46.53	1729166.30	14302196.57	39°23'5.2899"N	80°41'9.2532"W	59.41	308.445	1.70	-1.42	-19.15	
2114.00	1.870	281.460	2111.41	-51.78	37.69	-49.78	1729163.05	14302197.32	39°23'5.2974"N	80°41'9.2946"W	62.45	307.131	0.37	-0.35	-3.10	
2209.00	1.920	274.590	2206.35	-53.20	38.13	-52.89	1729159.95	14302197.75	39°23'5.3018"N	80°41'9.3341"W	65.20	305.789	0.24	0.05	-7.23	
2303.00	1.790	275.180	2300.30	-54.43	38.39	-55.92	1729156.92	14302198.01	39°23'5.3045"N	80°41'9.3727"W	67.83	304.468	0.14	-0.14	0.63	
2397.00	0.930	254.520	2394.28	-55.07	38.32	-58.12	1729154.72	14302197.94	39°23'5.3039"N	80°41'9.4007"W	69.61	303.396	1.04	-0.91	-21.98	
2492.00	0.990	228.740	2489.26	-54.80	37.57	-59.48	1729153.36	14302197.20	39°23'5.2965"N	80°41'9.4181"W	70.35	302.279	0.46	0.06	-27.14	
2586.00	0.960	227.050	2583.25	-54.17	36.50	-60.67	1729152.18	14302196.12	39°23'5.2860"N	80°41'9.4332"W	70.80	301.032	0.04	-0.03	-1.80	
2681.00	1.160	217.880	2678.23	-53.32	35.20	-61.84	1729151.01	14302194.82	39°23'5.2732"N	80°41'9.4482"W	71.15	299.647	0.28	0.21	-9.65	

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Ramza Unit 1H AWP Proj: 19926'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 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
2775.00	1.010	224.450	2772.22	-52.43	33.85	-63.00	1729149.84	14302193.48	39°23'5.2599"N	80°41'9.4631"W	71.52	298.251	0.21	-0.16	6.99	
2870.00	1.250	250.510	2867.20	-52.04	32.91	-64.57	1729148.28	14302192.54	39°23'5.2507"N	80°41'9.4831"W	72.47	297.009	0.59	0.25	27.43	
2965.00	0.990	226.650	2962.18	-51.69	32.00	-66.14	1729146.71	14302191.63	39°23'5.2417"N	80°41'9.5032"W	73.48	295.820	0.56	-0.27	-25.12	
3059.00	0.960	237.410	3056.17	-51.17	31.02	-67.39	1729145.45	14302190.65	39°23'5.2321"N	80°41'9.5192"W	74.19	294.716	0.20	-0.03	11.45	
3146.00	0.910	240.230	3143.16	-50.87	30.28	-68.61	1729144.24	14302189.91	39°23'5.2248"N	80°41'9.5347"W	74.99	293.818	0.08	-0.06	3.24	APS EM <8-3/4"> (3059')(3146'-6358')
3240.00	2.620	271.540	3237.11	-51.47	29.97	-71.40	1729141.44	14302189.60	39°23'5.2218"N	80°41'9.5703"W	77.44	292.770	2.02	1.82	33.31	
3334.00	4.500	279.820	3330.93	-54.00	30.66	-77.19	1729135.66	14302190.29	39°23'5.2288"N	80°41'9.6439"W	83.05	291.663	2.07	2.00	8.81	
3429.00	5.860	290.550	3425.54	-58.87	33.00	-85.40	1729127.45	14302192.62	39°23'5.2522"N	80°41'9.7484"W	91.55	291.126	1.75	1.43	11.29	
3523.00	7.210	291.370	3518.93	-65.73	36.83	-95.39	1729117.47	14302196.46	39°23'5.2905"N	80°41'9.8754"W	102.25	291.113	1.44	1.44	0.87	
3618.00	8.400	290.470	3613.04	-73.98	41.43	-107.44	1729105.42	14302201.05	39°23'5.3363"N	80°41'10.0287"W	115.15	291.087	1.26	1.25	-0.95	
3712.00	9.960	292.130	3705.84	-83.67	46.89	-121.40	1729091.47	14302206.52	39°23'5.3908"N	80°41'10.2063"W	130.14	291.120	1.68	1.66	1.77	
3806.00	11.780	296.330	3798.15	-95.82	54.21	-137.53	1729075.34	14302213.83	39°23'5.4637"N	80°41'10.4114"W	147.83	291.513	2.11	1.94	4.47	
3901.00	13.430	298.060	3890.86	-110.77	63.70	-155.96	1729056.92	14302223.32	39°23'5.5581"N	80°41'10.6457"W	168.47	292.218	1.78	1.74	1.82	
3995.00	13.140	297.250	3982.34	-126.45	73.73	-175.09	1729037.79	14302233.34	39°23'5.6579"N	80°41'10.8889"W	189.99	292.836	0.37	-0.31	-0.86	
4089.00	12.610	294.600	4073.98	-141.21	82.90	-193.92	1729018.97	14302242.50	39°23'5.7491"N	80°41'11.1283"W	210.90	293.145	0.84	-0.56	-2.82	
4184.00	14.180	290.680	4166.39	-155.76	91.32	-214.24	1728998.66	14302250.93	39°23'5.8331"N	80°41'11.3867"W	232.89	293.087	1.91	1.65	-4.13	
4279.00	13.600	286.580	4258.62	-169.66	98.62	-235.83	1728977.08	14302258.22	39°23'5.9060"N	80°41'11.6613"W	255.62	292.693	1.20	-0.61	-4.32	
4373.00	12.490	282.730	4350.19	-181.40	104.01	-256.34	1728956.58	14302263.61	39°23'5.9600"N	80°41'11.9223"W	276.64	292.085	1.50	-1.18	-4.10	
4468.00	13.870	284.520	4442.69	-193.06	109.13	-277.38	1728935.55	14302268.73	39°23'6.0113"N	80°41'12.1901"W	298.08	291.476	1.51	1.45	1.88	
4562.00	15.080	286.200	4533.70	-206.29	115.37	-300.03	1728912.90	14302274.96	39°23'6.0737"N	80°41'12.4783"W	321.45	291.032	1.36	1.29	1.79	
4657.00	15.230	292.750	4625.40	-221.69	123.64	-323.41	1728889.54	14302283.23	39°23'6.1563"N	80°41'12.7756"W	346.24	290.922	1.81	0.16	6.89	
4753.00	14.190	290.830	4718.26	-237.59	132.70	-346.04	1728866.92	14302292.29	39°23'6.2466"N	80°41'13.0634"W	370.61	290.981	1.20	-1.08	-2.00	
4847.00	14.570	295.220	4809.31	-253.18	141.84	-367.50	1728845.46	14302301.42	39°23'6.3376"N	80°41'13.3364"W	393.92	291.104	1.23	0.40	4.67	
4942.00	16.010	298.330	4900.95	-271.11	153.15	-389.85	1728823.13	14302312.73	39°23'6.4502"N	80°41'13.6204"W	418.85	291.447	1.74	1.52	3.27	
5036.00	15.050	293.890	4991.52	-288.92	164.24	-412.42	1728800.57	14302323.82	39°23'6.5606"N	80°41'13.9074"W	443.92	291.714	1.62	-1.02	-4.72	
5132.00	14.530	295.910	5084.34	-305.87	174.55	-434.64	1728778.35	14302334.12	39°23'6.6633"N	80°41'14.1900"W	468.38	291.880	0.76	-0.54	2.10	
5226.00	13.970	298.200	5175.45	-322.49	185.07	-455.25	1728757.75	14302344.63	39°23'6.7679"N	80°41'14.4520"W	491.43	292.122	0.85	-0.60	2.44	
5320.00	13.890	295.770	5266.68	-338.73	195.33	-475.41	1728737.60	14302354.90	39°23'6.8700"N	80°41'14.7083"W	513.98	292.336	0.63	-0.09	-2.59	
5415.00	16.060	293.120	5358.45	-355.54	205.45	-497.77	1728715.25	14302365.01	39°23'6.9708"N	80°41'14.9926"W	538.50	292.428	2.39	2.28	-2.79	
5509.00	17.610	293.930	5448.42	-373.91	216.32	-522.72	1728690.30	14302375.88	39°23'7.0791"N	80°41'15.3099"W	565.72	292.482	1.67	1.65	0.86	

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Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 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
5604.00	16.860	290.400	5539.16	-392.40	226.96	-548.77	1728664.26	14302386.51	39°23'7.1851"N	80°41'15.6412"W	593.85	292.469	1.35	-0.79	-3.72	
5698.00	15.440	294.370	5629.45	-409.61	236.87	-572.95	1728664.10	14302396.42	39°23'7.2839"N	80°41'15.9487"W	619.98	292.461	1.91	-1.51	4.22	
5793.00	14.910	300.800	5721.14	-427.60	248.35	-594.97	1728618.09	14302407.89	39°23'7.3981"N	80°41'16.2286"W	644.72	292.656	1.86	-0.56	6.77	
5887.00	14.040	298.940	5812.16	-445.27	260.06	-615.34	1728597.73	14302419.60	39°23'7.5145"N	80°41'16.4875"W	668.03	292.910	1.05	-0.93	-1.98	
5981.00	12.750	293.300	5903.60	-460.69	269.68	-634.84	1728578.23	14302429.21	39°23'7.6103"N	80°41'16.7355"W	689.75	293.016	1.95	-1.37	-6.00	
6076.00	12.360	296.610	5996.33	-474.98	278.38	-653.56	1728559.52	14302437.91	39°23'7.6969"N	80°41'16.9735"W	710.38	293.071	0.86	-0.41	3.48	
6170.00	11.370	294.860	6088.32	-488.56	286.78	-670.96	1728542.12	14302446.31	39°23'7.7806"N	80°41'17.1948"W	729.68	293.143	1.12	-1.05	-1.86	
6264.00	11.410	293.180	6180.47	-501.20	294.34	-687.92	1728525.17	14302453.86	39°23'7.8558"N	80°41'17.4104"W	748.24	293.165	0.36	0.04	-1.79	
6358.00	12.120	294.700	6272.50	-514.23	302.12	-705.43	1728507.67	14302461.64	39°23'7.9334"N	80°41'17.6331"W	767.40	293.184	0.82	0.76	1.62	
6452.00	11.010	286.730	6364.59	-526.27	308.83	-722.99	1728490.11	14302468.35	39°23'8.0003"N	80°41'17.8565"W	786.19	293.130	2.07	-1.18	-8.48	BH Lucida <8-1/2"> (6358')(6452'-19901')
6546.00	10.970	247.540	6457.00	-530.94	308.00	-739.88	1728473.23	14302467.51	39°23'7.9926"N	80°41'18.0715"W	801.42	292.601	7.80	-0.04	-41.69	
6641.00	12.930	210.640	6550.07	-523.47	295.38	-753.67	1728459.45	14302454.90	39°23'7.8684"N	80°41'18.2477"W	809.49	291.401	8.15	2.06	-38.84	
6735.00	16.850	192.450	6640.94	-504.99	273.01	-761.97	1728451.14	14302432.54	39°23'7.6475"N	80°41'18.3545"W	809.41	289.712	6.44	4.17	-19.35	
6829.00	23.140	182.430	6729.26	-476.11	241.21	-765.70	1728447.42	14302400.75	39°23'7.3334"N	80°41'18.4033"W	802.79	287.485	7.60	6.69	-10.66	
6852.00†	24.747	179.899	6750.28	-467.35	231.88	-765.88	1728447.24	14302391.43	39°23'7.2412"N	80°41'18.4061"W	800.21	286.844	8.29	6.98	-11.00	Sycamore: 6852' MD
6924.00	29.990	173.670	6814.21	-435.49	198.89	-763.87	1728449.25	14302358.45	39°23'6.9151"N	80°41'18.3819"W	789.34	284.594	8.29	7.28	-8.65	
7018.00	37.250	168.200	6892.45	-384.24	147.62	-755.45	1728457.67	14302307.20	39°23'6.4080"N	80°41'18.2769"W	769.74	281.056	8.36	7.72	-5.82	
7023.00†	37.717	168.010	6896.42	-381.22	144.64	-754.82	1728458.29	14302304.22	39°23'6.3785"N	80°41'18.2690"W	768.55	280.847	9.63	9.35	-3.80	Middlesex: 7023' MD
7112.00	46.080	165.180	6962.61	-322.11	86.91	-740.94	1728472.17	14302246.52	39°23'5.8076"N	80°41'18.0948"W	746.02	276.690	9.63	9.40	-3.18	
7207.00	54.770	162.400	7023.08	-249.05	16.71	-720.42	1728492.69	14302176.34	39°23'5.1130"N	80°41'17.8365"W	720.61	271.329	9.42	9.15	-2.93	
7235.00†	56.823	161.835	7038.82	-225.89	-5.33	-713.31	1728499.80	14302154.32	39°23'4.8950"N	80°41'17.7469"W	713.32	269.572	7.52	7.33	-2.02	Burkett: 7235' MD
7294.00†	61.155	160.725	7069.21	-175.34	-53.20	-697.07	1728516.02	14302106.46	39°23'4.4212"N	80°41'17.5422"W	699.10	265.635	7.52	7.34	-1.88	Tully: 7294' MD
7301.00	61.670	160.600	7072.56	-169.19	-59.00	-695.03	1728518.06	14302100.66	39°23'4.3638"N	80°41'17.5166"W	697.53	265.148	7.52	7.35	-1.79	
7396.00	68.790	159.430	7112.34	-83.01	-140.01	-665.55	1728547.53	14302019.69	39°23'3.5622"N	80°41'17.1446"W	680.12	258.120	7.58	7.49	-1.23	
7490.00	74.590	161.310	7141.86	6.18	-224.03	-635.61	1728577.46	14301935.70	39°23'2.7308"N	80°41'16.7670"W	673.93	250.584	6.46	6.17	2.00	
7506.00†	75.118	161.266	7146.04	21.63	-238.66	-630.65	1728582.42	14301921.08	39°23'2.5860"N	80°41'16.7045"W	674.30	249.272	3.31	3.30	-0.28	Marcellus POE: 7506' MD
7537.00	76.140	161.180	7153.74	51.66	-267.09	-620.99	1728592.08	14301892.66	39°23'2.3047"N	80°41'16.5827"W	675.99	246.727	3.31	3.30	-0.28	
7585.00	80.670	161.450	7163.38	98.66	-311.62	-605.93	1728607.13	14301848.15	39°23'1.8641"N	80°41'16.3928"W	681.36	242.784	9.45	9.44	0.56	
7680.00	89.380	160.850	7171.61	193.21	-401.10	-575.37	1728637.67	14301758.70	39°23'0.9787"N	80°41'16.0077"W	701.38	235.120	9.19	9.17	-0.63	
7773.00	89.420	161.900	7172.58	286.21	-489.22	-545.68	1728667.36	14301670.61	39°23'0.1067"N	80°41'15.6333"W	732.87	228.123	1.13	0.04	1.13	

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 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
7868.00	89.260	162.360	7173.68	381.19	-579.63	-516.53	1728696.50	14301580.24	39°22'59.2121"N	80°41'15.2661"W	776.38	221.705	0.51	-0.17	0.48	
7962.00	89.320	162.540	7174.84	475.15	-669.25	-488.18	1728724.83	14301490.66	39°22'58.3254"N	80°41'14.9091"W	828.38	216.109	0.20	0.06	0.19	
8057.00	89.350	162.050	7175.95	570.13	-759.74	-459.29	1728753.71	14301400.20	39°22'57.4300"N	80°41'14.5452"W	887.78	211.155	0.52	0.03	-0.52	
8150.00	89.510	162.310	7176.87	663.10	-848.27	-430.84	1728782.15	14301311.70	39°22'56.5540"N	80°41'14.1866"W	951.41	206.926	0.33	0.07	0.28	
8245.00	89.600	162.230	7177.61	758.08	-938.76	-401.91	1728811.07	14301221.25	39°22'55.6587"N	80°41'13.8222"W	1021.17	203.177	0.13	0.09	-0.08	
8339.00	89.540	161.810	7178.32	852.07	-1028.17	-372.89	1728840.08	14301131.88	39°22'54.7741"N	80°41'13.4566"W	1093.70	199.934	0.45	-0.06	-0.45	
8433.00	89.910	161.850	7178.77	946.06	-1117.48	-343.58	1728869.38	14301042.60	39°22'53.8904"N	80°41'13.0873"W	1169.10	197.090	0.40	0.39	0.04	
8527.00	90.060	162.060	7178.79	1040.05	-1206.85	-314.46	1728898.48	14300953.26	39°22'53.0060"N	80°41'12.7204"W	1247.15	194.604	0.27	0.16	0.22	
8621.00	89.940	162.030	7178.79	1134.04	-1296.28	-285.48	1728927.45	14300863.87	39°22'52.1212"N	80°41'12.3553"W	1327.34	192.420	0.13	-0.13	-0.03	
8716.00	89.690	161.620	7179.10	1229.03	-1386.54	-255.85	1728957.07	14300773.65	39°22'51.2281"N	80°41'11.9819"W	1409.94	190.455	0.51	-0.26	-0.43	
8810.00	90.030	161.030	7179.33	1323.03	-1475.59	-225.75	1728987.16	14300684.63	39°22'50.3470"N	80°41'11.6026"W	1492.76	188.698	0.72	0.36	-0.63	
8904.00	90.060	161.730	7179.25	1417.02	-1564.67	-195.74	1729017.16	14300595.59	39°22'49.4655"N	80°41'11.2243"W	1576.86	187.131	0.75	0.03	0.74	
8999.00	89.880	161.770	7179.30	1512.02	-1654.89	-165.99	1729046.90	14300505.40	39°22'48.5728"N	80°41'10.8494"W	1663.19	185.728	0.19	-0.19	0.04	
9093.00	89.850	161.760	7179.52	1606.01	-1744.17	-136.57	1729076.30	14300416.16	39°22'47.6894"N	80°41'10.4788"W	1749.50	184.477	0.03	-0.03	-0.01	
9188.00	89.940	161.770	7179.70	1701.01	-1834.40	-106.85	1729106.01	14300325.97	39°22'46.7966"N	80°41'10.1042"W	1837.50	183.334	0.10	0.09	0.01	
9283.00	90.090	162.160	7179.67	1796.00	-1924.73	-77.44	1729135.41	14300235.67	39°22'45.9028"N	80°41'9.7337"W	1926.28	182.304	0.44	0.16	0.41	
9377.00	89.970	161.880	7179.62	1889.98	-2014.14	-48.42	1729164.42	14300146.29	39°22'45.0181"N	80°41'9.3681"W	2014.72	181.377	0.32	-0.13	-0.30	
9471.00	89.380	161.740	7180.16	1983.97	-2103.44	-19.08	1729193.75	14300057.03	39°22'44.1345"N	80°41'8.9984"W	2103.52	180.520	0.65	-0.63	-0.15	
9566.00	89.420	161.960	7181.15	2078.96	-2193.71	10.52	1729223.33	14299966.80	39°22'43.2413"N	80°41'8.6256"W	2193.73	179.725	0.24	0.04	0.23	
9660.00	89.350	161.540	7182.16	2172.95	-2282.97	39.95	1729252.76	14299877.57	39°22'42.3580"N	80°41'8.2547"W	2283.32	178.997	0.45	-0.07	-0.45	
9754.00	89.510	161.680	7183.10	2266.94	-2372.17	69.60	1729282.40	14299788.41	39°22'41.4754"N	80°41'7.8810"W	2373.19	178.319	0.23	0.17	0.15	
9849.00	89.450	161.980	7183.96	2361.93	-2462.43	99.23	1729312.01	14299698.18	39°22'40.5824"N	80°41'7.5078"W	2464.42	177.692	0.32	-0.06	0.32	
9943.00	89.380	161.700	7184.92	2455.92	-2551.74	128.52	1729341.29	14299608.90	39°22'39.6986"N	80°41'7.1387"W	2554.97	177.117	0.31	-0.07	-0.30	
10037.00	89.420	160.950	7185.90	2549.91	-2640.78	158.62	1729371.38	14299519.89	39°22'38.8175"N	80°41'6.7593"W	2645.54	176.563	0.80	0.04	-0.80	
10132.00	89.510	160.770	7186.79	2644.91	-2730.53	189.77	1729402.51	14299430.18	39°22'37.9294"N	80°41'6.3667"W	2737.12	176.024	0.21	0.09	-0.19	
10226.00	89.570	161.090	7187.54	2738.90	-2819.37	220.48	1729433.21	14299341.38	39°22'37.0503"N	80°41'5.9796"W	2827.97	175.528	0.35	0.06	0.34	
10320.00	89.420	160.890	7188.37	2832.90	-2908.24	251.10	1729463.82	14299252.55	39°22'36.1709"N	80°41'5.5936"W	2919.06	175.065	0.27	-0.16	-0.21	
10415.00	89.450	161.050	7189.31	2927.89	-2998.04	282.07	1729494.78	14299162.78	39°22'35.2823"N	80°41'5.2032"W	3011.28	174.625	0.17	0.03	0.17	
10509.00	89.480	160.990	7190.19	3021.89	-3086.93	312.64	1729525.34	14299073.93	39°22'34.4027"N	80°41'4.8178"W	3102.72	174.217	0.07	0.03	-0.06	
10603.00	89.570	160.810	7190.97	3115.88	-3175.75	343.40	1729556.08	14298985.14	39°22'33.5238"N	80°41'4.4301"W	3194.26	173.828	0.21	0.10	-0.19	

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'

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Slot	Slot F		

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10698.00	89.420	160.910	7191.80	3210.88	-3265.49	374.55	1729587.22	14298895.43	39°22'32.6357"N	80°41'4.0375"W	3286.90	173.457	0.19	-0.16	0.11	
10792.00	89.510	160.890	7192.68	3304.88	-3354.31	405.30	1729617.96	14298806.64	39°22'31.7568"N	80°41'3.6498"W	3378.71	173.110	0.10	0.10	-0.02	
10887.00	89.450	161.020	7193.54	3399.87	-3444.11	436.30	1729648.95	14298716.88	39°22'30.8682"N	80°41'3.2590"W	3471.64	172.780	0.15	-0.06	0.14	
10981.00	89.480	160.680	7194.42	3493.87	-3532.91	467.14	1729679.77	14298628.12	39°22'29.9896"N	80°41'2.8703"W	3563.65	172.468	0.36	0.03	-0.36	
11075.00	89.420	160.840	7195.32	3587.86	-3621.65	498.11	1729710.73	14298539.41	39°22'29.1114"N	80°41'2.4799"W	3655.74	172.169	0.18	-0.06	0.17	
11170.00	89.380	160.890	7196.32	3682.85	-3711.40	529.25	1729741.86	14298449.70	39°22'28.2233"N	80°41'2.0873"W	3748.94	171.884	0.07	-0.04	0.05	
11264.00	89.420	160.470	7197.30	3776.85	-3800.10	560.35	1729772.95	14298361.03	39°22'27.3455"N	80°41'1.6953"W	3841.19	171.612	0.45	0.04	-0.45	
11359.00	89.450	160.680	7198.24	3871.84	-3889.69	591.94	1729804.53	14298271.48	39°22'26.4590"N	80°41'1.2970"W	3934.47	171.347	0.22	0.03	0.22	
11453.00	89.510	160.400	7199.09	3965.83	-3978.31	623.25	1729835.83	14298182.89	39°22'25.5820"N	80°41'0.9022"W	4026.84	171.096	0.30	0.06	-0.30	
11548.00	89.450	160.820	7199.96	4060.82	-4067.92	654.79	1729867.36	14298093.32	39°22'24.6952"N	80°41'0.5046"W	4120.28	170.856	0.45	-0.06	0.44	
11642.00	89.660	160.640	7200.69	4154.82	-4156.65	685.81	1729898.36	14298004.62	39°22'23.8172"N	80°41'0.1136"W	4212.85	170.631	0.29	0.22	-0.19	
11736.00	89.600	160.530	7201.29	4248.81	-4245.30	717.06	1729929.60	14297916.00	39°22'22.9399"N	80°40'59.7197"W	4305.44	170.413	0.13	-0.06	-0.12	
11831.00	89.850	160.770	7201.75	4343.81	-4334.94	748.54	1729961.06	14297826.41	39°22'22.0529"N	80°40'59.3229"W	4399.09	170.203	0.36	0.26	0.25	
11925.00	89.630	160.460	7202.18	4437.80	-4423.61	779.74	1729992.25	14297737.77	39°22'21.1755"N	80°40'58.9295"W	4491.80	170.003	0.40	-0.23	-0.33	
12019.00	89.720	160.730	7202.71	4531.80	-4512.27	810.97	1730023.47	14297649.15	39°22'20.2981"N	80°40'58.5358"W	4584.56	169.811	0.30	0.10	0.29	
12113.00	89.690	160.690	7203.19	4625.79	-4600.99	842.02	1730054.51	14297560.46	39°22'19.4202"N	80°40'58.1444"W	4677.40	169.629	0.05	-0.03	-0.04	
12208.00	89.820	160.900	7203.60	4720.79	-4690.70	873.27	1730085.74	14297470.78	39°22'18.5324"N	80°40'57.7505"W	4771.29	169.454	0.26	0.14	0.22	
12302.00	89.910	161.210	7203.82	4814.79	-4779.61	903.79	1730116.25	14297381.91	39°22'17.6526"N	80°40'57.3659"W	4864.31	169.292	0.34	0.10	0.33	
12396.00	89.660	160.660	7204.17	4908.79	-4868.45	934.49	1730146.94	14297293.10	39°22'16.7735"N	80°40'56.9789"W	4957.33	169.134	0.64	-0.27	-0.59	
12491.00	89.690	160.550	7204.71	5003.78	-4958.06	966.04	1730178.48	14297203.53	39°22'15.8868"N	80°40'56.5812"W	5051.29	168.975	0.12	0.03	-0.12	
12585.00	89.630	160.690	7205.27	5097.78	-5046.73	997.23	1730209.66	14297114.89	39°22'15.0093"N	80°40'56.1880"W	5144.31	168.822	0.16	-0.06	0.15	
12679.00	89.780	160.880	7205.75	5191.77	-5135.49	1028.16	1730240.58	14297026.17	39°22'14.1309"N	80°40'55.7981"W	5237.40	168.679	0.26	0.16	0.20	
12774.00	89.750	161.190	7206.14	5286.77	-5225.33	1059.04	1730271.44	14296936.36	39°22'13.2419"N	80°40'55.4090"W	5331.57	168.543	0.33	-0.03	0.33	
12868.00	89.630	160.700	7206.65	5380.77	-5314.18	1089.73	1730302.12	14296847.55	39°22'12.3627"N	80°40'55.0222"W	5424.76	168.412	0.54	-0.13	-0.52	
12963.00	89.720	160.600	7207.19	5475.77	-5403.81	1121.20	1730333.58	14296757.95	39°22'11.4757"N	80°40'54.6254"W	5518.90	168.278	0.14	0.09	-0.11	
13057.00	89.630	160.610	7207.72	5569.76	-5492.48	1152.42	1730364.79	14296669.32	39°22'10.5983"N	80°40'54.2320"W	5612.07	168.150	0.10	-0.10	0.01	
13151.00	89.750	161.030	7208.23	5663.76	-5581.26	1183.30	1730395.66	14296580.57	39°22'9.7198"N	80°40'53.8427"W	5705.32	168.030	0.46	0.13	0.45	
13246.00	89.600	160.580	7208.77	5758.76	-5670.98	1214.53	1730426.88	14296490.89	39°22'8.8320"N	80°40'53.4491"W	5799.57	167.912	0.50	-0.16	-0.47	
13340.00	89.600	160.360	7209.43	5852.75	-5759.56	1245.96	1730458.29	14296402.34	39°22'7.9553"N	80°40'53.0529"W	5892.79	167.793	0.23	0.00	-0.23	
13435.00	89.660	160.880	7210.04	5947.74	-5849.18	1277.48	1730489.80	14296312.76	39°22'7.0685"N	80°40'52.6556"W	5987.06	167.680	0.55	0.06	0.55	

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect	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
13529.00	89.690	160.540	7210.57	6041.74	-5937.90	1308.53	1730520.84	14296224.07	39°22'6.1905"N	80°40'52.2642"W	6080.37	167.572	0.36	0.03	-0.36	
13624.00	89.660	160.720	7211.11	6136.73	-6027.52	1340.04	1730552.33	14296134.49	39°22'5.3037"N	80°40'51.8670"W	6174.68	167.466	0.19	-0.03	0.19	
13718.00	89.750	162.230	7211.60	6230.73	-6116.65	1369.91	1730582.19	14296045.40	39°22'4.4217"N	80°40'51.4908"W	6268.18	167.376	1.61	0.10	1.61	
13813.00	89.750	161.960	7212.01	6325.71	-6207.05	1399.11	1730611.38	14295955.03	39°22'3.5273"N	80°40'51.1230"W	6362.78	167.297	0.28	0.00	-0.28	
13907.00	89.820	161.910	7212.36	6419.70	-6296.41	1428.26	1730640.52	14295865.70	39°22'2.6430"N	80°40'50.7559"W	6456.37	167.219	0.09	0.07	-0.05	
14001.00	89.880	161.930	7212.61	6513.69	-6385.77	1457.43	1730669.68	14295776.38	39°22'1.7588"N	80°40'50.3884"W	6549.97	167.144	0.07	0.06	0.02	
14095.00	90.280	161.350	7212.48	6607.69	-6474.98	1487.04	1730699.28	14295687.20	39°22'0.8760"N	80°40'50.0155"W	6643.55	167.066	0.75	0.43	-0.62	
14190.00	90.340	162.010	7211.97	6702.68	-6565.17	1516.90	1730729.13	14295597.05	39°21'59.9836"N	80°40'49.6393"W	6738.13	166.990	0.70	0.06	0.69	
14284.00	89.970	161.610	7211.71	6796.67	-6654.47	1546.25	1730758.46	14295507.79	39°21'59.1000"N	80°40'49.2698"W	6831.75	166.919	0.58	-0.39	-0.43	
14378.00	90.250	161.830	7211.53	6890.67	-6743.73	1575.73	1730787.93	14295418.56	39°21'58.2168"N	80°40'48.8984"W	6925.37	166.848	0.38	0.30	0.23	
14473.00	90.090	162.440	7211.25	6985.65	-6834.14	1604.87	1730817.06	14295328.18	39°21'57.3221"N	80°40'48.5314"W	7020.05	166.785	0.66	-0.17	0.64	
14567.00	90.120	161.880	7211.08	7079.63	-6923.62	1633.67	1730845.85	14295238.74	39°21'56.4368"N	80°40'48.1688"W	7113.75	166.724	0.60	0.03	-0.60	
14662.00	90.150	161.680	7210.85	7174.63	-7013.86	1663.37	1730875.54	14295148.54	39°21'55.5439"N	80°40'47.7947"W	7208.40	166.658	0.21	0.03	-0.21	
14756.00	89.910	161.650	7210.80	7268.62	-7103.09	1692.94	1730905.10	14295059.34	39°21'54.6609"N	80°40'47.4222"W	7302.05	166.594	0.26	-0.26	-0.03	
14851.00	89.940	161.830	7210.93	7363.62	-7193.30	1722.71	1730934.85	14294969.16	39°21'53.7682"N	80°40'47.0473"W	7396.71	166.532	0.19	0.03	0.19	
14945.00	90.000	161.330	7210.98	7457.61	-7282.49	1752.41	1730964.54	14294880.01	39°21'52.8857"N	80°40'46.6731"W	7490.37	166.470	0.54	0.06	-0.53	
15040.00	89.910	161.840	7211.05	7552.61	-7372.62	1782.42	1730994.54	14294789.91	39°21'51.9938"N	80°40'46.2951"W	7585.02	166.409	0.55	-0.09	0.54	
15134.00	90.030	161.750	7211.10	7646.60	-7461.92	1811.79	1731023.90	14294700.65	39°21'51.1103"N	80°40'45.9252"W	7678.72	166.352	0.16	0.13	-0.10	
15229.00	89.880	161.460	7211.18	7741.60	-7552.06	1841.77	1731053.86	14294610.54	39°21'50.2183"N	80°40'45.5476"W	7773.40	166.294	0.34	-0.16	-0.31	
15323.00	89.880	161.020	7211.37	7835.60	-7641.07	1872.00	1731084.08	14294521.57	39°21'49.3375"N	80°40'45.1668"W	7867.04	166.234	0.47	0.00	-0.47	
15418.00	89.820	158.870	7211.62	7930.57	-7730.30	1904.57	1731116.65	14294432.37	39°21'48.4544"N	80°40'44.7561"W	7961.47	166.159	2.26	-0.06	-2.26	
15512.00	89.850	160.550	7211.89	8024.54	-7818.47	1937.17	1731149.23	14294344.25	39°21'47.5819"N	80°40'44.3450"W	8054.88	166.084	1.79	0.03	1.79	
15606.00	89.910	161.820	7212.09	8118.54	-7907.44	1967.48	1731179.53	14294255.31	39°21'46.7014"N	80°40'43.9631"W	8148.54	166.028	1.35	0.06	1.35	
15701.00	89.940	161.430	7212.21	8213.54	-7997.60	1997.43	1731209.47	14294165.19	39°21'45.8093"N	80°40'43.5859"W	8243.26	165.977	0.41	0.03	-0.41	
15795.00	90.060	161.800	7212.21	8307.53	-8086.80	2027.08	1731239.10	14294076.02	39°21'44.9267"N	80°40'43.2125"W	8336.99	165.928	0.41	0.13	0.39	
15889.00	89.940	161.670	7212.21	8401.53	-8176.06	2056.54	1731268.55	14293986.79	39°21'44.0434"N	80°40'42.8414"W	8430.74	165.881	0.19	-0.13	-0.14	
15984.00	90.000	162.140	7212.26	8496.52	-8266.36	2086.05	1731298.05	14293896.52	39°21'43.1498"N	80°40'42.4699"W	8525.51	165.837	0.50	0.06	0.49	
16078.00	89.750	160.080	7212.47	8590.51	-8355.30	2116.48	1731328.47	14293807.63	39°21'42.2698"N	80°40'42.0865"W	8619.19	165.785	2.21	-0.27	-2.19	
16173.00	89.850	158.420	7212.80	8685.46	-8444.13	2150.13	1731362.11	14293718.83	39°21'41.3906"N	80°40'41.6620"W	8713.58	165.714	1.75	0.11	-1.75	
16267.00	89.940	161.570	7212.97	8779.43	-8532.45	2182.29	1731394.25	14293630.54	39°21'40.5166"N	80°40'41.2567"W	8807.10	165.653	3.35	0.10	3.35	

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 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
16361.00	89.750	159.880	7213.23	8873.42	-8621.18	2213.32	1731425.27	14293541.85	39°21'39.6386"N	80°40'40.8656"W	8900.75	165.601	1.81	-0.20	-1.80	
16455.00	90.220	161.510	7213.25	8967.42	-8709.89	2244.39	1731456.33	14293453.18	39°21'38.7607"N	80°40'40.4740"W	8994.41	165.550	1.80	0.50	1.73	
16550.00	90.120	161.540	7212.97	9062.41	-8799.99	2274.50	1731486.42	14293363.11	39°21'37.8691"N	80°40'40.0949"W	9089.18	165.508	0.11	-0.11	0.03	
16644.00	91.350	162.930	7211.76	9156.38	-8889.50	2303.17	1731515.09	14293273.64	39°21'36.9835"N	80°40'39.7338"W	9183.01	165.475	1.97	1.31	1.48	
16738.00	90.250	161.720	7210.45	9250.35	-8979.05	2331.71	1731543.61	14293184.12	39°21'36.0974"N	80°40'39.3746"W	9276.86	165.443	1.74	-1.17	-1.29	
16833.00	90.280	161.760	7210.01	9345.34	-9069.26	2361.47	1731573.37	14293093.94	39°21'35.2047"N	80°40'38.9997"W	9371.66	165.405	0.05	0.03	0.04	
16928.00	90.400	161.830	7209.45	9440.33	-9159.51	2391.15	1731603.03	14293003.73	39°21'34.3117"N	80°40'38.6260"W	9466.48	165.369	0.15	0.13	0.07	
17022.00	90.180	161.610	7208.97	9534.33	-9248.76	2420.64	1731632.51	14292914.51	39°21'33.4285"N	80°40'38.2547"W	9560.29	165.333	0.33	-0.23	-0.23	
17116.00	90.280	161.740	7208.59	9628.32	-9337.99	2450.19	1731662.05	14292825.32	39°21'32.5455"N	80°40'37.8825"W	9654.10	165.298	0.17	0.11	0.14	
17211.00	90.220	161.660	7208.18	9723.32	-9428.19	2480.02	1731691.87	14292735.16	39°21'31.6530"N	80°40'37.5069"W	9748.91	165.263	0.11	-0.06	-0.08	
17305.00	90.310	161.340	7207.74	9817.31	-9517.33	2509.85	1731721.68	14292646.05	39°21'30.7710"N	80°40'37.1312"W	9842.71	165.227	0.35	0.10	-0.34	
17400.00	90.220	161.180	7207.31	9912.31	-9607.29	2540.37	1731752.19	14292556.12	39°21'29.8807"N	80°40'36.7467"W	9937.48	165.189	0.19	-0.09	-0.17	
17494.00	90.340	161.110	7206.85	10006.31	-9696.25	2570.75	1731782.56	14292467.20	39°21'29.0005"N	80°40'36.3641"W	10031.25	165.151	0.15	0.13	-0.07	
17588.00	90.340	161.200	7206.29	10100.31	-9785.21	2601.11	1731812.91	14292378.28	39°21'28.1202"N	80°40'35.9816"W	10125.02	165.114	0.10	0.00	0.10	
17682.00	90.400	161.900	7205.68	10194.30	-9874.37	2630.86	1731842.64	14292289.15	39°21'27.2378"N	80°40'35.6069"W	10218.84	165.081	0.75	0.06	0.74	
17777.00	90.460	162.060	7204.97	10289.29	-9964.71	2660.24	1731872.02	14292198.85	39°21'26.3439"N	80°40'35.2369"W	10313.70	165.053	0.18	0.06	0.17	
17871.00	90.460	161.900	7204.21	10383.28	-10054.10	2689.32	1731901.08	14292109.49	39°21'25.4595"N	80°40'34.8708"W	10407.56	165.025	0.17	0.00	-0.17	
17966.00	90.310	161.350	7203.58	10478.27	-10144.25	2719.27	1731931.02	14292019.38	39°21'24.5674"N	80°40'34.4937"W	10502.39	164.994	0.60	-0.16	-0.58	
18060.00	90.280	159.810	7203.09	10572.26	-10232.90	2750.52	1731962.26	14291930.76	39°21'23.6901"N	80°40'34.0999"W	10596.11	164.955	1.64	-0.03	-1.64	
18155.00	90.430	161.930	7202.50	10667.25	-10322.65	2781.65	1731993.38	14291841.05	39°21'22.8020"N	80°40'33.7077"W	10690.86	164.919	2.24	0.16	2.23	
18250.00	90.310	161.320	7201.89	10762.25	-10412.80	2811.60	1732023.31	14291750.93	39°21'21.9099"N	80°40'33.3305"W	10785.71	164.890	0.65	-0.13	-0.64	
18345.00	90.400	161.560	7201.30	10857.24	-10502.86	2841.83	1732053.54	14291660.91	39°21'21.0187"N	80°40'32.9497"W	10880.53	164.860	0.27	0.09	0.25	
18439.00	90.340	159.300	7200.69	10951.23	-10591.42	2873.32	1732085.01	14291572.38	39°21'20.1423"N	80°40'32.5530"W	10974.25	164.822	2.41	-0.06	-2.40	
18534.00	90.610	162.030	7199.91	11046.21	-10681.05	2904.77	1732116.45	14291482.79	39°21'19.2553"N	80°40'32.1567"W	11068.99	164.786	2.89	0.28	2.87	
18629.00	90.340	161.400	7199.12	11141.20	-10771.25	2934.57	1732146.24	14291392.62	39°21'18.3628"N	80°40'31.7814"W	11163.85	164.760	0.72	-0.28	-0.66	
18723.00	90.490	162.020	7198.44	11235.20	-10860.50	2964.07	1732175.73	14291303.41	39°21'17.4796"N	80°40'31.4100"W	11257.71	164.734	0.68	0.16	0.66	
18818.00	90.430	161.830	7197.67	11330.18	-10950.81	2993.55	1732205.19	14291213.14	39°21'16.5860"N	80°40'31.0389"W	11352.60	164.711	0.21	-0.06	-0.20	
18913.00	90.370	161.460	7197.01	11425.18	-11040.97	3023.46	1732235.09	14291123.01	39°21'15.6938"N	80°40'30.6622"W	11447.46	164.686	0.39	-0.06	-0.39	
19007.00	90.490	161.670	7196.31	11519.17	-11130.14	3053.18	1732264.81	14291033.87	39°21'14.8114"N	80°40'30.2879"W	11541.32	164.660	0.26	0.13	0.22	
19102.00	90.460	161.680	7195.52	11614.16	-11220.32	3083.05	1732294.66	14290943.73	39°21'13.9190"N	80°40'29.9118"W	11636.19	164.636	0.03	-0.03	0.01	



Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

WELLPATH DATA (220 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
19197.00	90.550	161.780	7194.68	11709.15	-11310.53	3112.83	1732324.43	14290853.55	39°21'13.0264"N	80°40'29.5368"W	11731.06	164.612	0.14	0.09	0.11	
19291.00	90.460	161.130	7193.85	11803.15	-11399.65	3142.73	1732354.31	14290764.47	39°21'12.1446"N	80°40'29.1603"W	11824.92	164.587	0.70	-0.10	-0.69	
19386.00	90.610	161.730	7192.97	11898.14	-11489.70	3172.98	1732384.55	14290674.46	39°21'11.2535"N	80°40'28.7793"W	11919.77	164.562	0.65	0.16	0.63	
19481.00	90.430	161.480	7192.10	11993.13	-11579.84	3202.96	1732414.52	14290584.35	39°21'10.3615"N	80°40'28.4018"W	12014.64	164.539	0.32	-0.19	-0.26	
19575.00	90.550	161.630	7191.30	12087.13	-11669.01	3232.70	1732444.25	14290495.22	39°21'9.4791"N	80°40'28.0273"W	12108.51	164.516	0.20	0.13	0.16	
19670.00	90.550	161.600	7190.39	12182.12	-11759.15	3262.66	1732474.20	14290405.11	39°21'8.5871"N	80°40'27.6501"W	12203.39	164.493	0.03	0.00	-0.03	
19764.00	90.580	161.380	7189.46	12276.11	-11848.28	3292.50	1732504.03	14290316.01	39°21'7.7051"N	80°40'27.2743"W	12297.25	164.470	0.24	0.03	-0.23	
19859.00	90.310	161.290	7188.72	12371.11	-11938.29	3322.90	1732534.42	14290226.05	39°21'6.8145"N	80°40'26.8914"W	12392.11	164.446	0.30	-0.28	-0.09	
19901.00	90.310	161.240	7188.50	12413.11	-11978.06	3336.39	1732547.90	14290186.29	39°21'6.4209"N	80°40'26.7215"W	12434.04	164.435	0.12	0.00	-0.12	
19926.00‡	90.310	161.240	7188.36	12438.11	-12001.73	3344.43	1732555.94	14290162.63	39°21'6.1866"N	80°40'26.6203"W	12459.00	164.429	0.00	0.00	0.00	Projected MD at TD: 19926'

HOLE & CASING SECTIONS - Ref Wellbore: Ramza Unit 1H AWB Ref Wellpath: Ramza Unit 1H AWP Proj: 19926'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
20in Conductor	25.50	125.50	100.00	25.50	125.50	0.00	0.00	-0.09	0.08
17.5in Open Hole	125.50	1060.00	934.50	125.50	1059.99	-0.09	0.08	-2.51	1.50
13.375in Casing Surface	25.50	1040.00	1014.50	25.50	1040.00	0.00	0.00	-2.41	1.48
12.375in Open Hole	1060.00	3141.00	2081.00	1059.99	3138.16	-2.51	1.50	30.32	-68.54
9.625in Casing Intermediate	25.50	3111.00	3085.50	25.50	3108.16	0.00	0.00	30.57	-68.12
8.75in Open Hole	3141.00	6428.00	3287.00	3138.16	6341.05	30.32	-68.54	307.41	-718.58
8.5in Open Hole	6428.00	19926.00	13498.00	6341.05	7188.36	307.41	-718.58	-12001.73	3344.43
5.5in Casing Production	25.50	19906.00	19880.50	25.50	7188.47	0.00	0.00	-11982.79	3338.00

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Ramza Unit 1H POE Rev-2	7143.00	-237.60	-663.19	1728549.89	14301922.13	39°23'2.5975"N	80°41'17.1189"W	point
Ramza Unit 1H LP Rev-2	7168.00	-408.11	-604.83	1728608.23	14301751.69	39°23'0.9103"N	80°41'16.3831"W	point
Ramza Unit 1H BHL Rev-2	7296.30	-11999.64	3362.69	1732574.19	14290164.72	39°21'6.2067"N	80°40'26.3878"W	point
Ramza Unit 1H 50' L/R Hard Line	7500.00	-6118.62	1349.75	1730562.04	14296043.42	39°22'4.4029"N	80°40'51.7475"W	rectangle
2D Rectangle 12431.9 x 100.								

WELLPATH COMPOSITION - Ref Wellbore: Ramza Unit 1H AWB Ref Wellpath: Ramza Unit 1H AWP Proj: 19926'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
25.50	1039.00	Gyrodata 2015 - GC+WIR+DPIPE	01 Gyrodata MS Gyro <17-1/2"> (100'-1039')	Ramza Unit 1H AWB	8/7/2024
1039.00	3059.00	BH NaviTrak (2019) (Axial Corr+HRGM)	02 APS EM <12-3/8"> (1039')(1171'-3059')	Ramza Unit 1H AWB	8/7/2024
3059.00	6358.00	BH NaviTrak (2019) (Axial Corr+HRGM)	03 APS EM <8-3/4"> (3059')(3146'-6358')	Ramza Unit 1H AWB	8/16/2024
6358.00	19926.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 BH Lucida <8-1/2"> (6358')(6452'-19901')	Ramza Unit 1H AWB	8/16/2024

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Actual Wellpath Report

Ramza Unit 1H AWP Proj: 19926'

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REFERENCE WELLPATH IDENTIFICATION

Operator	ANTERO RESOURCES CORPORATION	Well	Ramza Unit 1H
Field	Doddridge	API	47-017-06985-0000
Facility	Crimson Pad	Wellbore	Ramza Unit 1H AWB
Slot	Slot F		

COMMENTS

Wellpath general comments

API: 47-017-06985-0000
BH Job #: 112320234
Rig: H&P 317
Duration: 8/18/2024-8/22/2024
Gyrodatta MS Gyro <17-1/2"> (100'-1039')
APS EM <12-3/8"> (1039')(1171'-3059')
APS EM <8-3/4"> (3059')(3146'-6358')
BH Lucida <8-1/2"> (6358')(6452'-19901')
Sycamore: 6852' MD
Middlesex: 7023' MD
Burkett: 7235' MD
Tully: 7294' MD
Marcellus POE: 7506' MD
Projected MD at TD: 19926'

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