



ANTERO RESOURCES CORPORATION



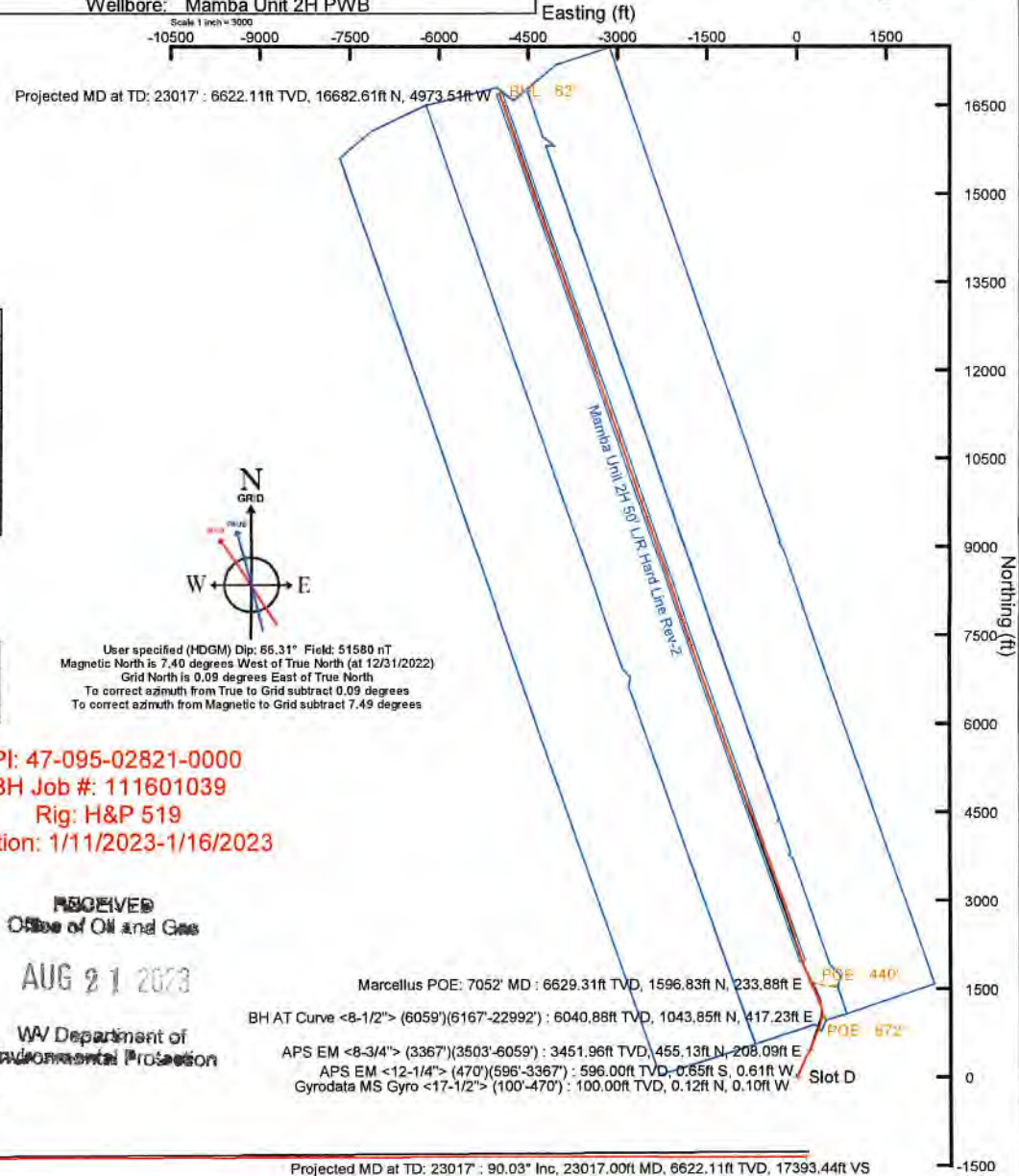
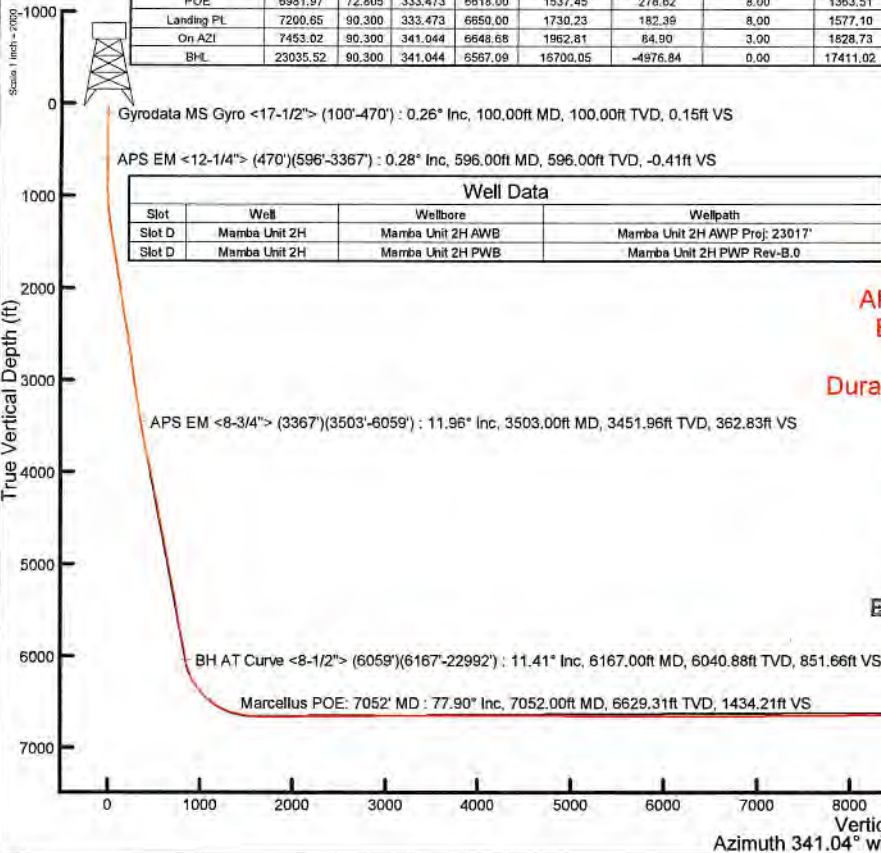
Location: Tyler County, WV
Field: Tyler
Facility: Heintzman Pad

Slot: Slot D
Well: Mamba Unit 2H
Wellbore: Mamba Unit 2H PWB

| | |
|--|---|
| File reference wellpath is Mamba Unit 2H PWB Rev-8.0 | Grid System: NAD27 / UTM Zone 17 North, US feet |
| True vertical depths are referenced to H&P 519 (RKB) | North Reference: Grid north |
| Reference wellpath measured depths are referenced to H&P 519 (RKB) | Scale: True distance |
| H&P 519 (RKB) to Mean Sea Level: 1223 feet | Coordinates are in feet referenced to Sikt |
| Mean Sea Level to Ground level (At Slot: Slot D): -1193 feet | Depths are in feet |
| Offset wellpath MDs are referenced to each well's default MD datum | Created by: edsanyar on 2023-02-06; Database: WA_MPL_EASTERNUS_Deft |

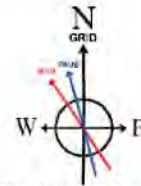
| Location Information | | | | | | |
|--|-------------------|--------------------|-------------------|--------------------|-----------------|-----------------|
| Facility Name | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude | | |
| Heintzman Pad | 1681067.630 | 14359648.490 | 39°32'34.5540"N | 80°51'20.8980"W | | |
| Slot | Local N (ft) | Local E (ft) | Grid East (US ft) | Grid North (US ft) | Latitude | Longitude |
| Slot D | -13.15 | 7.20 | 1681074.830 | 14359636.350 | 39°32'34.4239"N | 80°51'20.8063"W |
| Comment | Mamba Unit 2H | | | | | |
| H&P 519 (RKB) to Ground level (At Slot: Slot D) | | | | | 30ft | |
| Mean Sea Level to Ground level (At Slot: Slot D) | | | | | -1193ft | |
| H&P 519 (RKB) to Mean Sea Level | | | | | 1223ft | |

| Well Profile Data | | | | | | | | |
|-------------------|----------|---------|---------|----------|--------------|--------------|---------------|----------|
| Design Comment | MD (ft) | Inc (") | Az (°) | TVD (ft) | Local N (ft) | Local E (ft) | DLS (°/100ft) | VS (ft) |
| Tie On | 3367.00 | 13.260 | 29.370 | 3319.24 | 428.60 | 194.86 | 0.55 | 342.03 |
| Proj. to Bottom | 3440.00 | 13.260 | 29.370 | 3390.29 | 443.19 | 203.07 | 0.00 | 353.16 |
| Drill Out | 3520.00 | 13.250 | 29.370 | 3468.16 | 459.18 | 212.07 | 0.00 | 365.36 |
| End of 3D Arc | 3649.50 | 13.247 | 18.055 | 3594.23 | 486.23 | 223.95 | 2.00 | 387.09 |
| Curve KDP | 6172.81 | 13.247 | 18.055 | 6050.41 | 1035.96 | 403.16 | 0.00 | 848.76 |
| Avoid NGZ | 6395.82 | 30.000 | 0.000 | 6257.19 | 1116.66 | 411.14 | 8.00 | 922.49 |
| POE | 6981.97 | 72.805 | 333.473 | 6618.00 | 1537.45 | 278.62 | 8.00 | 1363.51 |
| Landing PL | 7200.65 | 90.300 | 333.473 | 6650.00 | 1730.23 | 182.39 | 8.00 | 1577.10 |
| On AZ1 | 7453.02 | 90.300 | 341.044 | 6648.68 | 1962.81 | 84.90 | 3.00 | 1628.73 |
| BHL | 23035.52 | 90.300 | 341.044 | 6567.09 | 16700.05 | -4976.84 | 0.00 | 17411.02 |



API: 47-095-02821-0000
BH Job #: 111601039
Rig: H&P 519
Duration: 1/11/2023-1/16/2023

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User specified (HDGM) Dip: 66.31° Field: 51580 nT
Magnetic North is 7.40 degrees West of True North (at 12/31/2022)
Grid North is 0.09 degrees East of True North
To correct azimuth from True to Grid subtract 0.09 degrees
To correct azimuth from Magnetic to Grid subtract 7.49 degrees

Scale 1 inch = 2000



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

| REPORT SETUP INFORMATION | | | |
|--------------------------|------------------------------------|------------------|------------------------|
| Projection System | NAD27 / UTM Zone 17 North, US feet | Software System | WellArchitect® 6.0 |
| North Reference | Grid | User | Edsaryar |
| Scale | 0.999602 | Report Generated | 2/6/2023 at 5:42:44 PM |
| Convergence at slot | 0.09° 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 | -13.15 | 7.20 | 1681074.83 | 14359636.35 | 39°32'34.4239"N | 80°51'20.8063"W |
| Facility Reference Pt | | | 1681067.63 | 14359649.49 | 39°32'34.5540"N | 80°51'20.8980"W |
| Field Reference Pt | | | 0.00 | 0.00 | 0°00'0.0000" | 85°29'19.3013"W |

| WELLPATH DATUM | | | |
|--------------------------|-------------------|--|-------------------|
| Calculation method | Minimum curvature | H&P 519 (RKB) to Facility Vertical Datum | 1223.00ft |
| Horizontal Reference Pt | Slot | H&P 519 (RKB) to Mean Sea Level | 1223.00ft |
| Vertical Reference Pt | H&P 519 (RKB) | H&P 519 (RKB) to Ground Level at Slot (Slot D) | 30.00ft |
| MD Reference Pt | H&P 519 (RKB) | Section Origin | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level | Section Azimuth | 341.04° |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

| WELLPATH DATA (251 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 [°] | Build Rate ["/100ft] | Turn Rate ["/100ft] | Comments |
| 0.00 | 0.00 | 319.300 | 0.00 | 0.00 | 0.00 | 0.00 | 1681074.83 | 14359636.35 | 39°32'34.4239"N | 80°51'20.8063"W | 0.00 | 0.000 | 0.00 | 0.00 | |
| 30.00 | 0.000 | 319.300 | 30.00 | 0.00 | 0.00 | 0.00 | 1681074.83 | 14359636.35 | 39°32'34.4239"N | 80°51'20.8063"W | 0.00 | 0.000 | 0.00 | 0.00 | |
| 100.00 | 0.260 | 319.300 | 100.00 | 0.15 | 0.12 | -0.10 | 1681074.73 | 14359636.47 | 39°32'34.4251"N | 80°51'20.8076"W | 0.16 | 319.300 | 0.37 | 0.00 | Gyrodata MS Gyro <17-1/2"> (100'-470') |
| 200.00 | 0.170 | 281.670 | 200.00 | 0.43 | 0.32 | -0.40 | 1681074.43 | 14359636.67 | 39°32'34.4271"N | 80°51'20.8114"W | 0.51 | 309.096 | -0.09 | -37.63 | |
| 300.00 | 0.160 | 174.790 | 300.00 | 0.37 | 0.21 | -0.53 | 1681074.30 | 14359636.56 | 39°32'34.4261"N | 80°51'20.8130"W | 0.57 | 291.953 | -0.01 | -106.88 | |
| 400.00 | 0.270 | 176.030 | 400.00 | 0.01 | -0.16 | -0.50 | 1681074.33 | 14359636.19 | 39°32'34.4224"N | 80°51'20.8127"W | 0.53 | 252.196 | 0.11 | 1.24 | |
| 470.00 | 0.350 | 179.300 | 470.00 | -0.35 | -0.54 | -0.49 | 1681074.34 | 14359635.81 | 39°32'34.4186"N | 80°51'20.8125"W | 0.73 | 222.061 | 0.11 | 4.67 | |
| 596.00 | 0.280 | 334.350 | 596.00 | -0.41 | -0.65 | -0.61 | 1681074.22 | 14359635.70 | 39°32'34.4176"N | 80°51'20.8142"W | 0.89 | 223.576 | -0.06 | 123.06 | APS EM <12-1/4"> (470')(596'-3367') |
| 685.00 | 0.060 | 314.960 | 685.00 | -0.15 | -0.42 | -0.74 | 1681074.09 | 14359635.93 | 39°32'34.4198"N | 80°51'20.8158"W | 0.85 | 240.646 | -0.25 | -21.79 | |
| 775.00 | 0.030 | 239.830 | 775.00 | -0.12 | -0.40 | -0.80 | 1681074.03 | 14359635.95 | 39°32'34.4200"N | 80°51'20.8165"W | 0.89 | 243.551 | -0.03 | -83.48 | |
| 866.00 | 1.350 | 41.130 | 866.99 | 0.41 | 0.40 | -0.11 | 1681074.72 | 14359636.75 | 39°32'34.4279"N | 80°51'20.8077"W | 0.41 | 344.443 | 1.45 | 177.25 | |
| 956.00 | 3.340 | 36.920 | 955.91 | 2.41 | 3.29 | 2.16 | 1681076.99 | 14359639.64 | 39°32'34.4565"N | 80°51'20.7786"W | 3.94 | 33.266 | 2.21 | -4.68 | |
| 1047.00 | 5.010 | 29.480 | 1046.66 | 6.54 | 8.87 | 5.71 | 1681080.54 | 14359645.22 | 39°32'34.5115"N | 80°51'20.7332"W | 10.55 | 32.758 | 1.84 | -8.18 | |
| 1141.00 | 7.100 | 25.950 | 1140.13 | 13.37 | 17.67 | 10.27 | 1681085.10 | 14359654.01 | 39°32'34.5984"N | 80°51'20.6748"W | 20.44 | 30.169 | 2.22 | -3.76 | |
| 1236.00 | 8.560 | 21.290 | 1234.25 | 22.93 | 29.54 | 15.41 | 1681090.23 | 14359665.88 | 39°32'34.7156"N | 80°51'20.6090"W | 33.32 | 27.548 | 1.54 | -4.91 | |
| 1331.00 | 9.950 | 18.880 | 1328.01 | 34.81 | 43.89 | 20.63 | 1681095.45 | 14359680.23 | 39°32'34.8574"N | 80°51'20.5420"W | 48.50 | 25.176 | 1.46 | -2.54 | |
| 1425.00 | 11.430 | 17.060 | 1420.37 | 48.76 | 60.48 | 25.99 | 1681100.81 | 14359696.81 | 39°32'35.0213"N | 80°51'20.4733"W | 65.83 | 23.256 | 1.57 | -1.94 | |
| 1520.00 | 11.700 | 18.530 | 1513.45 | 64.01 | 78.61 | 31.81 | 1681106.63 | 14359714.93 | 39°32'35.2004"N | 80°51'20.3986"W | 84.81 | 22.033 | 0.28 | 1.55 | |
| 1614.00 | 11.990 | 22.790 | 1605.45 | 78.86 | 96.65 | 38.63 | 1681113.44 | 14359732.96 | 39°32'35.3786"N | 80°51'20.3113"W | 104.09 | 21.784 | 0.31 | 4.53 | |
| 1709.00 | 11.460 | 17.600 | 1698.47 | 93.80 | 114.75 | 45.30 | 1681120.11 | 14359751.05 | 39°32'35.5573"N | 80°51'20.2257"W | 123.37 | 21.544 | -0.56 | -5.46 | |
| 1803.00 | 11.770 | 23.830 | 1790.55 | 108.34 | 132.42 | 52.00 | 1681126.81 | 14359768.72 | 39°32'35.7318"N | 80°51'20.1398"W | 142.26 | 21.440 | 0.33 | 6.63 | |
| 1898.00 | 11.620 | 23.990 | 1883.57 | 122.45 | 150.02 | 59.80 | 1681134.61 | 14359786.31 | 39°32'35.9057"N | 80°51'20.0398"W | 161.50 | 21.734 | -0.16 | 0.17 | |
| 1993.00 | 11.820 | 23.290 | 1976.59 | 136.66 | 167.70 | 67.54 | 1681142.34 | 14359803.98 | 39°32'36.0803"N | 80°51'19.9407"W | 180.79 | 21.937 | 0.21 | -0.74 | |
| 2087.00 | 11.790 | 23.110 | 2068.60 | 150.91 | 185.38 | 75.12 | 1681149.92 | 14359821.65 | 39°32'36.2549"N | 80°51'19.8437"W | 200.02 | 22.058 | -0.03 | -0.19 | |
| 2182.00 | 11.880 | 24.050 | 2161.58 | 165.27 | 203.23 | 82.91 | 1681157.71 | 14359839.50 | 39°32'36.4312"N | 80°51'19.7438"W | 219.49 | 22.194 | 0.09 | 0.99 | |
| 2276.00 | 12.170 | 23.880 | 2253.52 | 179.61 | 221.13 | 90.87 | 1681165.66 | 14359857.39 | 39°32'36.6080"N | 80°51'19.6419"W | 239.07 | 22.339 | 0.31 | -0.18 | |
| 2370.00 | 12.170 | 22.940 | 2345.41 | 194.25 | 239.31 | 98.74 | 1681173.53 | 14359875.57 | 39°32'36.7876"N | 80°51'19.5410"W | 258.88 | 22.421 | 0.00 | -1.00 | |
| 2465.00 | 12.320 | 21.110 | 2438.25 | 209.46 | 257.99 | 106.29 | 1681181.08 | 14359894.24 | 39°32'36.9720"N | 80°51'19.4442"W | 279.03 | 22.392 | 0.16 | -1.93 | |
| 2559.00 | 12.180 | 22.300 | 2530.11 | 224.59 | 276.52 | 113.67 | 1681188.45 | 14359912.76 | 39°32'37.1551"N | 80°51'19.3497"W | 298.97 | 22.346 | -0.15 | 1.27 | |
| 2654.00 | 12.050 | 19.020 | 2622.99 | 239.94 | 295.17 | 120.70 | 1681195.48 | 14359931.40 | 39°32'37.3392"N | 80°51'19.2595"W | 318.89 | 22.241 | -0.14 | -3.45 | |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'
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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

| WELLPATH DATA (251 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 [°] | Build Rate ["/100ft] | Turn Rate ["/100ft] | Comments |
| 2749.00 | 10.880 | 24.560 | 2716.10 | 254.25 | 312.70 | 127.66 | 1681202.44 | 14359948.92 | 39°32'37.5124"N | 80°51'19.1704"W | 337.75 | 22.208 | -1.23 | 5.83 | |
| 2843.00 | 11.130 | 30.710 | 2808.37 | 266.56 | 328.57 | 135.98 | 1681210.76 | 14359964.79 | 39°32'37.6691"N | 80°51'19.0638"W | 355.59 | 22.483 | 0.27 | 6.54 | |
| 2938.00 | 11.030 | 31.430 | 2901.60 | 278.29 | 344.20 | 145.40 | 1681220.17 | 14359980.42 | 39°32'37.8235"N | 80°51'18.9432"W | 373.66 | 22.901 | -0.11 | 0.76 | |
| 3032.00 | 12.160 | 29.720 | 2993.68 | 290.56 | 360.48 | 155.00 | 1681229.77 | 14359996.68 | 39°32'37.9842"N | 80°51'18.8204"W | 392.39 | 23.267 | 1.20 | -1.82 | |
| 3127.00 | 14.450 | 29.890 | 3086.13 | 304.97 | 379.44 | 165.87 | 1681240.63 | 14360015.64 | 39°32'38.1715"N | 80°51'18.6813"W | 414.11 | 23.612 | 2.41 | 0.18 | |
| 3222.00 | 13.740 | 31.580 | 3178.27 | 319.94 | 399.33 | 177.68 | 1681252.44 | 14360035.52 | 39°32'38.3678"N | 80°51'18.5300"W | 437.08 | 23.987 | -0.75 | 1.78 | |
| 3316.00 | 13.500 | 30.000 | 3269.62 | 334.23 | 418.34 | 189.02 | 1681263.77 | 14360054.53 | 39°32'38.5556"N | 80°51'18.3850"W | 459.06 | 24.314 | -0.26 | -1.68 | |
| 3367.00 | 13.260 | 29.370 | 3319.24 | 342.03 | 428.60 | 194.86 | 1681269.61 | 14360064.78 | 39°32'38.6568"N | 80°51'18.3102"W | 470.81 | 24.449 | -0.47 | -1.24 | |
| 3503.00 | 11.960 | 23.300 | 3451.96 | 362.83 | 455.13 | 208.09 | 1681282.83 | 14360091.30 | 39°32'38.9189"N | 80°51'18.1408"W | 500.45 | 24.570 | -0.96 | -4.46 | APS EM <8-3/4"> (3367')(3503'-6059') |
| 3599.00 | 13.480 | 24.130 | 3545.60 | 378.37 | 474.48 | 216.59 | 1681291.34 | 14360110.64 | 39°32'39.1099"N | 80°51'18.0318"W | 521.58 | 24.536 | 1.58 | 0.86 | |
| 3694.00 | 14.700 | 24.490 | 3637.74 | 395.20 | 495.56 | 226.12 | 1681300.86 | 14360131.71 | 39°32'39.3181"N | 80°51'17.9098"W | 544.71 | 24.527 | 1.28 | 0.38 | |
| 3788.00 | 13.580 | 22.440 | 3728.90 | 412.14 | 516.61 | 235.27 | 1681310.01 | 14360152.76 | 39°32'39.5260"N | 80°51'17.7925"W | 567.66 | 24.485 | -1.19 | -2.18 | |
| 3882.00 | 15.070 | 20.880 | 3819.97 | 429.80 | 538.23 | 243.84 | 1681318.58 | 14360174.37 | 39°32'39.7395"N | 80°51'17.6827"W | 590.89 | 24.373 | 1.59 | -1.66 | |
| 3977.00 | 15.890 | 19.080 | 3911.52 | 449.53 | 562.06 | 252.50 | 1681327.23 | 14360198.19 | 39°32'39.9749"N | 80°51'17.5717"W | 616.17 | 24.191 | 0.86 | -1.89 | |
| 4072.00 | 14.460 | 15.430 | 4003.21 | 469.56 | 585.79 | 259.90 | 1681334.63 | 14360221.90 | 39°32'40.2093"N | 80°51'17.4767"W | 640.86 | 23.926 | -1.51 | -3.84 | |
| 4166.00 | 14.530 | 20.750 | 4094.22 | 488.32 | 608.13 | 267.20 | 1681341.93 | 14360244.23 | 39°32'40.4300"N | 80°51'17.3830"W | 664.24 | 23.720 | 0.07 | 5.66 | |
| 4261.00 | 14.830 | 26.990 | 4186.13 | 505.94 | 630.11 | 276.94 | 1681351.66 | 14360266.20 | 39°32'40.6471"N | 80°51'17.2582"W | 688.28 | 23.726 | 0.32 | 6.57 | |
| 4356.00 | 14.120 | 23.360 | 4278.11 | 522.96 | 651.58 | 287.06 | 1681361.77 | 14360287.67 | 39°32'40.8591"N | 80°51'17.1287"W | 712.01 | 23.776 | -0.75 | -3.82 | |
| 4450.00 | 12.620 | 18.990 | 4369.57 | 539.54 | 671.82 | 294.95 | 1681369.66 | 14360307.90 | 39°32'41.0590"N | 80°51'17.0276"W | 733.71 | 23.703 | -1.60 | -4.65 | |
| 4545.00 | 13.960 | 21.020 | 4462.02 | 556.50 | 692.33 | 302.43 | 1681377.14 | 14360328.40 | 39°32'41.2616"N | 80°51'16.9316"W | 755.50 | 23.597 | 1.41 | 2.14 | |
| 4640.00 | 15.340 | 23.200 | 4553.93 | 574.60 | 714.57 | 311.49 | 1681386.20 | 14360350.64 | 39°32'41.4813"N | 80°51'16.8155"W | 779.52 | 23.553 | 1.45 | 2.29 | |
| 4734.00 | 14.290 | 20.630 | 4644.80 | 592.76 | 736.86 | 320.48 | 1681395.18 | 14360372.92 | 39°32'41.7014"N | 80°51'16.7003"W | 803.54 | 23.505 | -1.12 | -2.73 | |
| 4829.00 | 12.990 | 17.870 | 4737.12 | 610.34 | 758.00 | 327.89 | 1681402.59 | 14360394.04 | 39°32'41.9102"N | 80°51'16.6053"W | 825.88 | 23.392 | -1.37 | -2.91 | |
| 4923.00 | 13.730 | 19.640 | 4828.58 | 627.51 | 778.56 | 334.88 | 1681409.58 | 14360414.60 | 39°32'42.1133"N | 80°51'16.5156"W | 847.52 | 23.274 | 0.79 | 1.88 | |
| 5018.00 | 14.280 | 22.540 | 4920.76 | 645.10 | 800.00 | 343.16 | 1681417.85 | 14360436.03 | 39°32'42.3251"N | 80°51'16.4095"W | 870.49 | 23.217 | 0.58 | 3.05 | |
| 5113.00 | 12.380 | 18.620 | 5013.19 | 661.95 | 820.47 | 350.90 | 1681425.59 | 14360456.49 | 39°32'42.5273"N | 80°51'16.3102"W | 892.36 | 23.156 | -2.00 | -4.13 | |
| 5207.00 | 13.550 | 17.780 | 5104.80 | 678.76 | 840.51 | 357.48 | 1681432.17 | 14360476.52 | 39°32'42.7252"N | 80°51'16.2258"W | 913.37 | 23.041 | 1.24 | -0.89 | |
| 5302.00 | 14.520 | 18.980 | 5196.96 | 697.07 | 862.37 | 364.76 | 1681439.44 | 14360498.37 | 39°32'42.9412"N | 80°51'16.1325"W | 936.34 | 22.927 | 1.02 | 1.26 | |
| 5397.00 | 13.010 | 13.720 | 5289.23 | 715.46 | 884.02 | 371.17 | 1681445.85 | 14360520.02 | 39°32'43.1550"N | 80°51'16.0503"W | 958.78 | 22.776 | -1.59 | -5.54 | |
| 5491.00 | 11.980 | 18.090 | 5381.01 | 732.16 | 903.57 | 376.70 | 1681451.38 | 14360539.56 | 39°32'43.3482"N | 80°51'15.9792"W | 978.95 | 22.632 | -1.10 | 4.65 | |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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|-----------------------------------|------------------------------|--|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | | Well | Mamba Unit 2H |
| Field | Tyler | | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | | |

| WELLPATH DATA (251 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 [°] | Build Rate [°/100ft] | Turn Rate [°/100ft] | Comments |
| 5586.00 | 11.200 | 19.710 | 5474.07 | 747.23 | 921.63 | 382.88 | 1681457.55 | 14360557.61 | 39°32'43.5266"N | 80°51'15.9000"W | 998.00 | 22.560 | -0.82 | 1.71 | |
| 5680.00 | 12.330 | 20.340 | 5566.09 | 762.12 | 939.64 | 389.45 | 1681464.12 | 14360575.61 | 39°32'43.7044"N | 80°51'15.8158"W | 1017.15 | 22.512 | 1.20 | 0.67 | |
| 5775.00 | 12.710 | 19.420 | 5658.83 | 778.17 | 959.00 | 396.45 | 1681471.12 | 14360594.97 | 39°32'43.8957"N | 80°51'15.7260"W | 1037.72 | 22.460 | 0.40 | -0.97 | |
| 5870.00 | 13.910 | 15.660 | 5751.28 | 795.76 | 979.86 | 403.00 | 1681477.67 | 14360615.81 | 39°32'44.1017"N | 80°51'15.6419"W | 1059.50 | 22.357 | 1.26 | -3.96 | |
| 5964.00 | 14.290 | 14.150 | 5842.45 | 814.77 | 1001.98 | 408.89 | 1681483.56 | 14360637.93 | 39°32'44.3203"N | 80°51'15.5663"W | 1082.20 | 22.199 | 0.40 | -1.61 | |
| 6059.00 | 11.540 | 10.940 | 5935.04 | 832.83 | 1022.69 | 413.56 | 1681488.22 | 14360658.63 | 39°32'44.5249"N | 80°51'15.5062"W | 1103.14 | 22.018 | -2.89 | -3.38 | |
| 6167.00 | 11.410 | 8.720 | 6040.88 | 851.66 | 1043.85 | 417.23 | 1681491.89 | 14360679.79 | 39°32'44.7340"N | 80°51'15.4590"W | 1124.15 | 21.787 | -0.12 | -2.06 | BH AT Curve <8-1/2"> (6059')(6167'-22992') |
| 6262.00 | 18.460 | 2.210 | 6132.62 | 874.03 | 1068.20 | 419.24 | 1681493.90 | 14360704.13 | 39°32'44.9746"N | 80°51'15.4328"W | 1147.53 | 21.428 | 7.42 | -6.85 | |
| 6357.00 | 25.200 | 356.010 | 6220.77 | 907.64 | 1103.45 | 418.41 | 1681493.07 | 14360739.36 | 39°32'45.3230"N | 80°51'15.4427"W | 1180.12 | 20.766 | 7.09 | -6.53 | |
| 6451.00 | 31.660 | 350.610 | 6303.40 | 951.35 | 1147.81 | 412.98 | 1681487.65 | 14360783.70 | 39°32'45.7615"N | 80°51'15.5110"W | 1219.85 | 19.789 | 6.87 | -5.74 | |
| 6520.00† | 37.643 | 346.384 | 6360.15 | 990.23 | 1186.19 | 405.06 | 1681479.73 | 14360822.07 | 39°32'46.1410"N | 80°51'15.6113"W | 1253.45 | 18.854 | 8.67 | -6.13 | Sycamore: 6520' MD |
| 6546.00 | 39.930 | 345.080 | 6380.41 | 1006.46 | 1201.98 | 401.04 | 1681475.71 | 14360837.84 | 39°32'46.2970"N | 80°51'15.6623"W | 1267.12 | 18.451 | 8.80 | -5.01 | |
| 6640.00 | 47.100 | 338.900 | 6448.57 | 1071.07 | 1263.35 | 380.85 | 1681455.52 | 14360899.20 | 39°32'46.9040"N | 80°51'15.9189"W | 1319.51 | 16.776 | 7.63 | -6.57 | |
| 6667.00† | 49.371 | 338.114 | 6466.55 | 1091.19 | 1282.09 | 373.47 | 1681448.15 | 14360917.93 | 39°32'47.0892"N | 80°51'16.0127"W | 1335.38 | 16.241 | 8.41 | -2.91 | Middlesex: 6667' MD |
| 6735.00 | 55.110 | 336.350 | 6508.17 | 1144.80 | 1331.63 | 352.64 | 1681427.33 | 14360967.44 | 39°32'47.5791"N | 80°51'16.2775"W | 1377.53 | 14.833 | 8.44 | -2.59 | |
| 6827.00† | 62.654 | 335.476 | 6555.69 | 1223.19 | 1403.47 | 320.50 | 1681395.20 | 14361039.25 | 39°32'48.2897"N | 80°51'16.6863"W | 1439.60 | 12.864 | 8.20 | -0.95 | Burkett: 6827' MD |
| 6830.00 | 62.900 | 335.450 | 6557.06 | 1225.84 | 1405.89 | 319.39 | 1681394.09 | 14361041.68 | 39°32'48.3137"N | 80°51'16.7004"W | 1441.72 | 12.799 | 8.20 | -0.88 | |
| 6867.00† | 65.726 | 335.556 | 6573.09 | 1259.03 | 1436.23 | 305.57 | 1681380.28 | 14361072.01 | 39°32'48.6138"N | 80°51'16.8762"W | 1468.38 | 12.011 | 7.64 | 0.29 | Tully: 6867' MD |
| 6924.00 | 70.080 | 335.710 | 6594.53 | 1311.59 | 1484.33 | 283.78 | 1681358.50 | 14361120.09 | 39°32'49.0895"N | 80°51'17.1533"W | 1511.21 | 10.824 | 7.64 | 0.27 | |
| 7019.00 | 76.350 | 336.330 | 6621.95 | 1402.15 | 1567.39 | 246.85 | 1681321.58 | 14361203.12 | 39°32'49.9110"N | 80°51'17.6232"W | 1586.71 | 8.950 | 6.60 | 0.65 | |
| 7052.00† | 77.898 | 336.138 | 6629.31 | 1434.21 | 1596.83 | 233.88 | 1681308.62 | 14361232.55 | 39°32'50.2022"N | 80°51'17.7880"W | 1613.87 | 8.333 | 4.69 | -0.58 | Marcellus POE: 7052' MD |
| 7113.00 | 80.760 | 335.790 | 6640.60 | 1493.91 | 1651.58 | 209.47 | 1681284.21 | 14361287.26 | 39°32'50.7436"N | 80°51'18.0986"W | 1664.81 | 7.228 | 4.69 | -0.57 | |
| 7207.00 | 85.970 | 336.650 | 6651.46 | 1586.92 | 1736.99 | 171.83 | 1681246.60 | 14361372.65 | 39°32'51.5884"N | 80°51'18.5772"W | 1745.47 | 5.650 | 5.54 | 0.91 | |
| 7302.00 | 90.370 | 339.280 | 6654.49 | 1681.70 | 1824.98 | 136.23 | 1681211.00 | 14361460.60 | 39°32'52.4585"N | 80°51'19.0300"W | 1830.05 | 4.269 | 4.63 | 2.77 | |
| 7397.00 | 89.970 | 341.660 | 6654.21 | 1776.69 | 1914.50 | 104.47 | 1681179.26 | 14361550.09 | 39°32'53.3439"N | 80°51'19.4335"W | 1917.35 | 3.123 | -0.42 | 2.51 | |
| 7491.00 | 89.940 | 342.220 | 6654.28 | 1870.68 | 2003.87 | 75.33 | 1681150.13 | 14361639.42 | 39°32'54.2276"N | 80°51'19.8037"W | 2005.29 | 2.153 | -0.03 | 0.60 | |
| 7586.00 | 89.850 | 342.110 | 6654.46 | 1965.66 | 2094.31 | 46.23 | 1681121.04 | 14361729.82 | 39°32'55.1218"N | 80°51'20.1733"W | 2094.82 | 1.265 | -0.09 | -0.12 | |
| 7680.00 | 90.830 | 343.040 | 6653.90 | 2059.62 | 2183.99 | 18.08 | 1681092.91 | 14361819.47 | 39°32'56.0086"N | 80°51'20.5308"W | 2184.07 | 0.474 | 1.04 | 0.99 | |
| 7775.00 | 90.030 | 343.140 | 6653.19 | 2154.56 | 2274.88 | -9.55 | 1681065.29 | 14361910.32 | 39°32'56.9073"N | 80°51'20.8816"W | 2274.90 | 359.760 | -0.84 | 0.11 | |
| 7869.00 | 90.060 | 340.990 | 6653.11 | 2248.54 | 2364.31 | -38.49 | 1681036.35 | 14361999.71 | 39°32'57.7916"N | 80°51'21.2493"W | 2364.62 | 359.067 | 0.03 | -2.29 | |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

WELLPATH DATA (251 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 [°] | Build Rate ["/100ft] | Turn Rate ["/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|-----------------|-----------------|-------------------|-----------------|----------------------|---------------------|----------|
| 7964.00 | 90.740 | 344.150 | 6652.45 | 2343.49 | 2454.93 | -66.94 | 1681007.91 | 14362090.30 | 39°32'58.6877"N | 80°51'21.6107"W | 2455.84 | 358.438 | 0.72 | 3.33 | |
| 8058.00 | 90.310 | 343.210 | 6651.59 | 2437.39 | 2545.14 | -93.36 | 1680981.51 | 14362180.47 | 39°32'59.5797"N | 80°51'21.9460"W | 2546.85 | 357.899 | -0.46 | -1.00 | |
| 8153.00 | 90.150 | 342.390 | 6651.21 | 2532.34 | 2635.89 | -121.45 | 1680953.43 | 14362271.18 | 39°33'0.4770"N | 80°51'22.3028"W | 2638.68 | 357.362 | -0.17 | -0.86 | |
| 8248.00 | 90.490 | 343.130 | 6650.68 | 2627.29 | 2726.62 | -149.60 | 1680925.29 | 14362361.88 | 39°33'1.3742"N | 80°51'22.6603"W | 2730.72 | 356.859 | 0.36 | 0.78 | |
| 8342.00 | 90.770 | 343.300 | 6649.64 | 2721.22 | 2816.61 | -176.75 | 1680898.15 | 14362451.83 | 39°33'2.2640"N | 80°51'23.0050"W | 2822.15 | 356.409 | 0.30 | 0.18 | |
| 8437.00 | 90.890 | 345.970 | 6648.27 | 2816.01 | 2908.19 | -201.91 | 1680873.00 | 14362543.38 | 39°33'3.1696"N | 80°51'23.3244"W | 2915.19 | 356.028 | 0.13 | 2.81 | |
| 8532.00 | 91.350 | 342.160 | 6646.41 | 2910.85 | 2999.51 | -227.99 | 1680846.94 | 14362634.66 | 39°33'4.0725"N | 80°51'23.6554"W | 3008.16 | 355.653 | 0.48 | -4.01 | |
| 8626.00 | 90.460 | 341.830 | 6644.92 | 3004.82 | 3088.89 | -257.04 | 1680817.90 | 14362724.01 | 39°33'4.9564"N | 80°51'24.0245"W | 3099.57 | 355.243 | -0.95 | -0.35 | |
| 8721.00 | 89.570 | 338.960 | 6644.90 | 3099.80 | 3178.38 | -288.91 | 1680786.04 | 14362813.45 | 39°33'5.8412"N | 80°51'24.4295"W | 3191.48 | 354.806 | -0.94 | -3.02 | |
| 8816.00 | 90.180 | 340.330 | 6645.11 | 3194.77 | 3267.44 | -321.95 | 1680753.01 | 14362902.48 | 39°33'6.7220"N | 80°51'24.8496"W | 3283.26 | 354.373 | 0.64 | 1.44 | |
| 8910.00 | 90.000 | 339.750 | 6644.96 | 3288.76 | 3355.79 | -354.04 | 1680720.93 | 14362990.80 | 39°33'7.5957"N | 80°51'25.2574"W | 3374.42 | 353.977 | -0.19 | -0.62 | |
| 9005.00 | 91.020 | 343.420 | 6644.11 | 3383.73 | 3445.91 | -384.04 | 1680690.94 | 14363080.88 | 39°33'8.4868"N | 80°51'25.6386"W | 3467.24 | 353.641 | 1.07 | 3.86 | |
| 9104.00 | 91.260 | 342.570 | 6642.14 | 3482.65 | 3540.56 | -412.99 | 1680662.00 | 14363175.49 | 39°33'9.4228"N | 80°51'26.0063"W | 3564.57 | 353.347 | 0.24 | -0.86 | |
| 9198.00 | 89.660 | 341.460 | 6641.39 | 3576.63 | 3629.96 | -442.01 | 1680632.99 | 14363264.86 | 39°33'10.3068"N | 80°51'26.3749"W | 3656.77 | 353.057 | -1.70 | -1.18 | |
| 9293.00 | 89.320 | 341.540 | 6642.23 | 3671.63 | 3720.05 | -472.16 | 1680602.86 | 14363354.91 | 39°33'11.1976"N | 80°51'26.7579"W | 3749.89 | 352.767 | -0.36 | 0.08 | |
| 9387.00 | 90.990 | 341.030 | 6641.98 | 3765.62 | 3809.07 | -502.32 | 1680572.71 | 14363443.90 | 39°33'12.0779"N | 80°51'27.1412"W | 3842.05 | 352.488 | 1.78 | -0.54 | |
| 9482.00 | 89.320 | 337.490 | 6641.72 | 3860.56 | 3897.90 | -535.95 | 1680539.09 | 14363532.69 | 39°33'12.9563"N | 80°51'27.5688"W | 3934.57 | 352.171 | -1.76 | -3.73 | |
| 9576.00 | 89.970 | 338.800 | 6642.31 | 3954.43 | 3985.14 | -570.94 | 1680504.12 | 14363619.89 | 39°33'13.8191"N | 80°51'28.0137"W | 4025.83 | 351.847 | 0.89 | 1.39 | |
| 9671.00 | 90.120 | 339.240 | 6642.23 | 4049.37 | 4073.84 | -604.96 | 1680470.12 | 14363708.56 | 39°33'14.6963"N | 80°51'28.4462"W | 4118.51 | 351.553 | 0.16 | 0.46 | |
| 9766.00 | 89.720 | 339.580 | 6642.36 | 4144.33 | 4162.77 | -638.37 | 1680436.72 | 14363797.46 | 39°33'15.5758"N | 80°51'28.8709"W | 4211.43 | 351.282 | -0.42 | 0.36 | |
| 9860.00 | 88.520 | 338.690 | 6643.81 | 4238.27 | 4250.60 | -671.84 | 1680403.26 | 14363885.24 | 39°33'16.4443"N | 80°51'29.2965"W | 4303.36 | 351.018 | -1.28 | -0.95 | |
| 9955.00 | 90.950 | 340.150 | 6644.25 | 4333.22 | 4339.52 | -705.23 | 1680369.88 | 14363974.14 | 39°33'17.3237"N | 80°51'29.7210"W | 4396.45 | 350.769 | 2.56 | 1.54 | |
| 10050.00 | 89.570 | 336.980 | 6643.81 | 4428.12 | 4427.94 | -739.94 | 1680335.18 | 14364062.52 | 39°33'18.1980"N | 80°51'30.1624"W | 4489.34 | 350.513 | -1.45 | -3.34 | |
| 10144.00 | 89.540 | 340.780 | 6644.55 | 4522.03 | 4515.60 | -773.81 | 1680301.33 | 14364150.15 | 39°33'19.0650"N | 80°51'30.5930"W | 4581.43 | 350.276 | -0.03 | 4.04 | |
| 10239.00 | 89.350 | 337.250 | 6645.47 | 4616.95 | 4604.29 | -807.82 | 1680267.33 | 14364238.79 | 39°33'19.9420"N | 80°51'31.0254"W | 4674.61 | 350.049 | -0.20 | -3.72 | |
| 10334.00 | 90.280 | 340.490 | 6645.77 | 4711.87 | 4692.88 | -842.06 | 1680233.11 | 14364327.36 | 39°33'20.8182"N | 80°51'31.4608"W | 4767.83 | 349.827 | 0.98 | 3.41 | |
| 10428.00 | 89.570 | 337.150 | 6645.90 | 4805.78 | 4780.52 | -876.02 | 1680199.16 | 14364414.96 | 39°33'21.6848"N | 80°51'31.8926"W | 4860.12 | 349.616 | -0.76 | -3.55 | |
| 10523.00 | 89.720 | 339.500 | 6646.48 | 4900.67 | 4868.80 | -911.10 | 1680164.09 | 14364503.20 | 39°33'22.5578"N | 80°51'32.3387"W | 4953.31 | 349.401 | 0.16 | 2.47 | |
| 10618.00 | 89.110 | 339.010 | 6647.45 | 4995.62 | 4957.63 | -944.75 | 1680130.46 | 14364592.00 | 39°33'23.4363"N | 80°51'32.7665"W | 5046.85 | 349.211 | -0.64 | -0.52 | |
| 10712.00 | 89.170 | 340.080 | 6648.87 | 5089.57 | 5045.69 | -977.60 | 1680097.62 | 14364680.03 | 39°33'24.3072"N | 80°51'33.1841"W | 5139.53 | 349.035 | 0.06 | 1.14 | |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

| WELLPATH DATA (251 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 [°] | Build Rate ["/100ft] | Turn Rate ["/100ft] | Comments |
| 10807.00 | 90.000 | 340.310 | 6649.55 | 5184.56 | 5135.07 | -1009.78 | 1680065.45 | 14364769.37 | 39°33'25.1910"N | 80°51'33.5933"W | 5233.41 | 348.875 | 0.87 | 0.24 | |
| 10902.00 | 89.200 | 340.890 | 6650.22 | 5279.55 | 5224.67 | -1041.34 | 1680033.91 | 14364858.93 | 39°33'26.0771"N | 80°51'33.9943"W | 5327.44 | 348.728 | -0.84 | 0.61 | |
| 10996.00 | 90.980 | 344.010 | 6650.07 | 5373.51 | 5314.28 | -1069.68 | 1680005.58 | 14364948.51 | 39°33'26.9631"N | 80°51'34.3544"W | 5420.87 | 348.619 | 1.89 | 3.32 | |
| 11091.00 | 90.830 | 339.920 | 6648.57 | 5468.46 | 5404.59 | -1099.08 | 1679976.19 | 14365038.77 | 39°33'27.8561"N | 80°51'34.7280"W | 5515.21 | 348.505 | -0.16 | -4.31 | |
| 11186.00 | 90.310 | 341.010 | 6647.62 | 5563.45 | 5494.11 | -1130.84 | 1679944.44 | 14365128.26 | 39°33'28.7414"N | 80°51'35.1317"W | 5609.28 | 348.369 | -0.55 | 1.15 | |
| 11280.00 | 90.150 | 341.280 | 6647.25 | 5657.45 | 5583.07 | -1161.22 | 1679914.07 | 14365217.18 | 39°33'29.6210"N | 80°51'35.5178"W | 5702.55 | 348.251 | -0.17 | 0.29 | |
| 11375.00 | 89.540 | 341.130 | 6647.50 | 5752.45 | 5673.00 | -1191.83 | 1679883.48 | 14365307.08 | 39°33'30.5103"N | 80°51'35.9068"W | 5796.84 | 348.135 | -0.64 | -0.16 | |
| 11470.00 | 89.480 | 340.430 | 6648.31 | 5847.45 | 5762.70 | -1223.10 | 1679852.22 | 14365396.75 | 39°33'31.3973"N | 80°51'36.3043"W | 5891.07 | 348.017 | -0.06 | -0.74 | |
| 11564.00 | 89.940 | 341.560 | 6648.79 | 5941.44 | 5851.57 | -1253.71 | 1679821.62 | 14365485.58 | 39°33'32.2761"N | 80°51'36.6933"W | 5984.37 | 347.907 | 0.49 | 1.20 | |
| 11659.00 | 89.420 | 340.490 | 6649.32 | 6036.44 | 5941.41 | -1284.60 | 1679790.74 | 14365575.38 | 39°33'33.1645"N | 80°51'37.0859"W | 6078.70 | 347.800 | -0.55 | -1.13 | |
| 11754.00 | 89.350 | 340.230 | 6650.34 | 6131.43 | 6030.88 | -1316.53 | 1679758.83 | 14365664.81 | 39°33'34.0492"N | 80°51'37.4918"W | 6172.90 | 347.686 | -0.07 | -0.27 | |
| 11849.00 | 90.890 | 343.270 | 6650.14 | 6226.41 | 6121.09 | -1346.27 | 1679729.09 | 14365754.99 | 39°33'34.9412"N | 80°51'37.8698"W | 6267.39 | 347.596 | 1.62 | 3.20 | |
| 11943.00 | 89.140 | 339.730 | 6650.12 | 6320.38 | 6210.21 | -1376.09 | 1679699.29 | 14365844.08 | 39°33'35.8225"N | 80°51'38.2488"W | 6360.84 | 347.506 | -1.86 | -3.77 | |
| 12038.00 | 90.120 | 341.100 | 6650.73 | 6415.37 | 6299.71 | -1407.94 | 1679667.46 | 14365933.54 | 39°33'36.7075"N | 80°51'38.6536"W | 6455.12 | 347.402 | 1.03 | 1.44 | |
| 12133.00 | 90.430 | 341.110 | 6650.27 | 6510.37 | 6389.59 | -1438.70 | 1679636.70 | 14366023.38 | 39°33'37.5963"N | 80°51'39.0446"W | 6549.56 | 347.311 | 0.33 | 0.01 | |
| 12228.00 | 90.620 | 341.310 | 6649.40 | 6605.37 | 6479.52 | -1469.30 | 1679606.12 | 14366113.28 | 39°33'38.4856"N | 80°51'39.4335"W | 6644.02 | 347.224 | 0.20 | 0.21 | |
| 12322.00 | 90.550 | 342.040 | 6648.44 | 6699.36 | 6568.75 | -1498.85 | 1679576.58 | 14366202.47 | 39°33'39.3679"N | 80°51'39.8090"W | 6737.58 | 347.146 | -0.07 | 0.78 | |
| 12417.00 | 90.250 | 341.420 | 6647.78 | 6794.35 | 6658.96 | -1528.63 | 1679546.81 | 14366292.64 | 39°33'40.2599"N | 80°51'40.1875"W | 6832.16 | 347.071 | -0.32 | -0.69 | |
| 12512.00 | 90.180 | 341.240 | 6647.42 | 6889.34 | 6748.96 | -1559.04 | 1679516.41 | 14366382.61 | 39°33'41.1499"N | 80°51'40.5740"W | 6926.69 | 346.993 | -0.07 | -0.19 | |
| 12606.00 | 90.060 | 340.910 | 6647.23 | 6983.34 | 6837.88 | -1589.53 | 1679485.93 | 14366471.49 | 39°33'42.0291"N | 80°51'40.9615"W | 7020.20 | 346.913 | -0.13 | -0.36 | |
| 12700.00 | 90.280 | 340.510 | 6646.95 | 7077.34 | 6926.60 | -1620.58 | 1679454.89 | 14366560.18 | 39°33'42.9065"N | 80°51'41.3563"W | 7113.65 | 346.832 | 0.23 | -0.43 | |
| 12795.00 | 90.370 | 340.390 | 6646.41 | 7172.33 | 7016.12 | -1652.37 | 1679423.12 | 14366649.66 | 39°33'43.7917"N | 80°51'41.7604"W | 7208.07 | 346.748 | 0.09 | -0.13 | |
| 12890.00 | 90.220 | 341.460 | 6645.92 | 7267.33 | 7105.90 | -1683.42 | 1679392.08 | 14366739.41 | 39°33'44.6795"N | 80°51'42.1550"W | 7302.58 | 346.672 | -0.16 | 1.13 | |
| 12984.00 | 90.580 | 341.560 | 6645.26 | 7361.33 | 7195.05 | -1713.23 | 1679362.29 | 14366828.52 | 39°33'45.5610"N | 80°51'42.5339"W | 7396.21 | 346.607 | 0.38 | 0.11 | |
| 13079.00 | 91.350 | 340.660 | 6643.66 | 7456.31 | 7284.92 | -1743.98 | 1679331.55 | 14366918.35 | 39°33'46.4497"N | 80°51'42.9248"W | 7490.76 | 346.537 | 0.81 | -0.95 | |
| 13173.00 | 89.140 | 338.230 | 6643.26 | 7550.26 | 7372.92 | -1776.98 | 1679298.56 | 14367006.32 | 39°33'47.3199"N | 80°51'43.3444"W | 7584.04 | 346.449 | -2.35 | -2.59 | |
| 13267.00 | 90.680 | 341.290 | 6643.41 | 7644.22 | 7461.10 | -1809.49 | 1679266.06 | 14367094.47 | 39°33'48.1920"N | 80°51'43.7578"W | 7677.39 | 346.368 | 1.64 | 3.26 | |
| 13362.00 | 90.520 | 341.260 | 6642.42 | 7739.22 | 7551.07 | -1839.99 | 1679235.58 | 14367184.40 | 39°33'49.0816"N | 80°51'44.1455"W | 7772.01 | 346.305 | -0.17 | -0.03 | |
| 13456.00 | 90.370 | 341.080 | 6641.69 | 7833.21 | 7640.03 | -1870.33 | 1679205.25 | 14367273.33 | 39°33'49.9613"N | 80°51'44.5311"W | 7865.64 | 346.244 | -0.16 | -0.19 | |
| 13551.00 | 90.770 | 340.680 | 6640.74 | 7928.21 | 7729.79 | -1901.44 | 1679174.15 | 14367363.05 | 39°33'50.8489"N | 80°51'44.9266"W | 7960.22 | 346.180 | 0.42 | -0.42 | |



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

WELLPATH DATA (251 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 [°] | Build Rate [°/100ft] | Turn Rate [°/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|-----------------|-----------------|-------------------|-----------------|----------------------|---------------------|----------|
| 13646.00 | 90.680 | 341.070 | 6639.54 | 8023.20 | 7819.54 | -1932.57 | 1679143.04 | 14367452.76 | 39°33'51.7363"N | 80°51'45.3223"W | 8054.81 | 346.118 | -0.09 | 0.41 | |
| 13740.00 | 90.340 | 341.610 | 6638.70 | 8117.19 | 7908.59 | -1962.64 | 1679112.97 | 14367541.78 | 39°33'52.6169"N | 80°51'45.7045"W | 8148.48 | 346.063 | -0.36 | 0.57 | |
| 13835.00 | 90.340 | 340.700 | 6638.14 | 8212.19 | 7998.50 | -1993.33 | 1679082.30 | 14367631.65 | 39°33'53.5060"N | 80°51'46.0946"W | 8243.14 | 346.006 | 0.00 | -0.96 | |
| 13929.00 | 91.450 | 342.280 | 6636.67 | 8306.17 | 8087.62 | -2023.16 | 1679052.48 | 14367720.73 | 39°33'54.3872"N | 80°51'46.4738"W | 8336.83 | 345.955 | 1.18 | 1.68 | |
| 14024.00 | 89.140 | 340.680 | 6636.18 | 8401.16 | 8177.69 | -2053.34 | 1679022.32 | 14367810.77 | 39°33'55.2779"N | 80°51'46.8573"W | 8431.54 | 345.905 | -2.43 | -1.68 | |
| 14119.00 | 91.020 | 340.570 | 6636.05 | 8496.15 | 8267.31 | -2084.85 | 1678990.81 | 14367900.35 | 39°33'56.1640"N | 80°51'47.2580"W | 8526.13 | 345.846 | 1.98 | -0.12 | |
| 14213.00 | 91.600 | 340.600 | 6633.90 | 8590.12 | 8355.94 | -2116.09 | 1678959.59 | 14367988.94 | 39°33'57.0405"N | 80°51'47.6551"W | 8619.72 | 345.789 | 0.62 | 0.03 | |
| 14308.00 | 89.480 | 341.260 | 6633.00 | 8685.11 | 8445.71 | -2147.12 | 1678928.57 | 14368078.68 | 39°33'57.9282"N | 80°51'48.0497"W | 8714.37 | 345.736 | -2.23 | 0.69 | |
| 14403.00 | 90.220 | 341.150 | 6633.25 | 8780.11 | 8535.65 | -2177.73 | 1678897.97 | 14368168.58 | 39°33'58.8175"N | 80°51'48.4388"W | 8809.07 | 345.687 | 0.78 | -0.12 | |
| 14498.00 | 90.150 | 341.190 | 6632.95 | 8875.11 | 8625.56 | -2208.39 | 1678867.32 | 14368258.46 | 39°33'59.7066"N | 80°51'48.8285"W | 8903.78 | 345.639 | -0.07 | 0.04 | |
| 14592.00 | 90.000 | 341.230 | 6632.82 | 8969.11 | 8714.55 | -2238.67 | 1678837.06 | 14368347.42 | 39°34'0.5866"N | 80°51'49.2134"W | 8997.50 | 345.593 | -0.16 | 0.04 | |
| 14687.00 | 90.060 | 340.620 | 6632.77 | 9064.11 | 8804.34 | -2269.72 | 1678806.02 | 14368437.16 | 39°34'1.4744"N | 80°51'49.6081"W | 9092.19 | 345.544 | 0.06 | -0.64 | |
| 14782.00 | 90.370 | 341.490 | 6632.42 | 9159.11 | 8894.19 | -2300.56 | 1678775.19 | 14368526.98 | 39°34'2.3629"N | 80°51'50.0002"W | 9186.90 | 345.498 | 0.33 | 0.92 | |
| 14876.00 | 90.090 | 341.160 | 6632.04 | 9253.11 | 8983.24 | -2330.66 | 1678745.11 | 14368615.99 | 39°34'3.2434"N | 80°51'50.3828"W | 9280.65 | 345.456 | -0.30 | -0.35 | |
| 14971.00 | 90.580 | 341.760 | 6631.48 | 9348.10 | 9073.31 | -2360.86 | 1678714.91 | 14368706.03 | 39°34'4.1340"N | 80°51'50.7668"W | 9375.42 | 345.415 | 0.52 | 0.63 | |
| 15065.00 | 89.970 | 341.410 | 6631.03 | 9442.10 | 9162.49 | -2390.56 | 1678685.23 | 14368795.17 | 39°34'5.0159"N | 80°51'51.1442"W | 9469.21 | 345.377 | -0.65 | -0.37 | |
| 15160.00 | 90.460 | 340.800 | 6630.68 | 9537.09 | 9252.37 | -2421.32 | 1678654.48 | 14368885.02 | 39°34'5.9047"N | 80°51'51.5353"W | 9563.95 | 345.335 | 0.52 | -0.64 | |
| 15255.00 | 91.200 | 342.630 | 6629.30 | 9632.07 | 9342.56 | -2451.12 | 1678624.69 | 14368975.17 | 39°34'6.7965"N | 80°51'51.9141"W | 9658.75 | 345.299 | 0.78 | 1.93 | |
| 15350.00 | 89.510 | 339.080 | 6628.71 | 9727.05 | 9432.29 | -2482.27 | 1678593.55 | 14369064.86 | 39°34'7.6837"N | 80°51'52.3102"W | 9753.44 | 345.256 | -1.78 | -3.74 | |
| 15444.00 | 90.060 | 341.840 | 6629.06 | 9821.04 | 9520.86 | -2513.71 | 1678562.13 | 14369153.40 | 39°34'8.5596"N | 80°51'52.7099"W | 9847.11 | 345.210 | 0.59 | 2.94 | |
| 15539.00 | 90.030 | 341.970 | 6628.99 | 9916.03 | 9611.16 | -2543.21 | 1678532.63 | 14369243.67 | 39°34'9.4525"N | 80°51'53.0849"W | 9941.95 | 345.179 | -0.03 | 0.14 | |
| 15634.00 | 89.720 | 340.050 | 6629.20 | 10011.02 | 9700.99 | -2574.13 | 1678501.73 | 14369333.46 | 39°34'10.3408"N | 80°51'53.4779"W | 10036.70 | 345.139 | -0.33 | -2.02 | |
| 15728.00 | 90.490 | 341.300 | 6629.02 | 10105.02 | 9789.69 | -2605.23 | 1678470.64 | 14369422.12 | 39°34'11.2179"N | 80°51'53.8734"W | 10130.41 | 345.098 | 0.82 | 1.33 | |
| 15823.00 | 91.660 | 341.450 | 6627.24 | 10200.00 | 9879.70 | -2635.57 | 1678440.32 | 14369512.09 | 39°34'12.1079"N | 80°51'54.2591"W | 10225.20 | 345.063 | 1.23 | 0.16 | |
| 15918.00 | 89.970 | 341.020 | 6625.89 | 10294.98 | 9969.64 | -2666.12 | 1678409.77 | 14369602.00 | 39°34'12.9972"N | 80°51'54.6475"W | 10319.97 | 345.028 | -1.78 | -0.45 | |
| 16013.00 | 90.180 | 341.320 | 6625.77 | 10389.98 | 10059.55 | -2696.79 | 1678379.12 | 14369691.88 | 39°34'13.8863"N | 80°51'55.0374"W | 10414.76 | 344.993 | 0.22 | 0.32 | |
| 16107.00 | 89.690 | 342.000 | 6625.87 | 10483.98 | 10148.78 | -2726.36 | 1678349.56 | 14369781.06 | 39°34'14.7686"N | 80°51'55.4134"W | 10508.60 | 344.963 | -0.52 | 0.72 | |
| 16202.00 | 89.910 | 341.290 | 6626.20 | 10578.97 | 10238.94 | -2756.28 | 1678319.65 | 14369871.19 | 39°34'15.6602"N | 80°51'55.7936"W | 10603.44 | 344.933 | 0.23 | -0.75 | |
| 16296.00 | 89.820 | 340.810 | 6626.43 | 10672.97 | 10327.85 | -2786.80 | 1678289.14 | 14369960.06 | 39°34'16.5393"N | 80°51'56.1818"W | 10697.23 | 344.899 | -0.10 | -0.51 | |
| 16391.00 | 89.660 | 340.610 | 6626.86 | 10767.97 | 10417.51 | -2818.19 | 1678257.77 | 14370049.69 | 39°34'17.4259"N | 80°51'56.5808"W | 10791.97 | 344.862 | -0.17 | -0.21 | |

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Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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| REFERENCE WELLPATH IDENTIFICATION | | | | |
|-----------------------------------|------------------------------|--|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | | Well | Mamba Unit 2H |
| Field | Tyler | | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | | |

| WELLPATH DATA (251 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 [°] | Build Rate [°/100ft] | Turn Rate [°/100ft] | Comments |
| 16486.00 | 89.750 | 340.790 | 6627.35 | 10862.96 | 10507.17 | -2849.58 | 1678226.39 | 14370139.32 | 39°34'18.3125"N | 80°51'56.9800"W | 10886.72 | 344.826 | 0.09 | 0.19 | |
| 16580.00 | 90.220 | 341.430 | 6627.37 | 10956.96 | 10596.11 | -2880.02 | 1678195.97 | 14370228.22 | 39°34'19.1920"N | 80°51'57.3670"W | 10980.53 | 344.794 | 0.50 | 0.68 | |
| 16675.00 | 90.430 | 341.570 | 6626.83 | 11051.96 | 10686.20 | -2910.16 | 1678165.83 | 14370318.27 | 39°34'20.0828"N | 80°51'57.7502"W | 11075.37 | 344.766 | 0.22 | 0.15 | |
| 16769.00 | 90.060 | 341.120 | 6626.43 | 11145.96 | 10775.26 | -2940.23 | 1678135.78 | 14370407.30 | 39°34'20.9634"N | 80°51'58.1324"W | 11169.20 | 344.737 | -0.39 | -0.48 | |
| 16864.00 | 90.550 | 339.400 | 6625.92 | 11240.94 | 10864.67 | -2972.31 | 1678103.71 | 14370496.67 | 39°34'21.8476"N | 80°51'58.5405"W | 11263.91 | 344.700 | 0.52 | -1.81 | |
| 16958.00 | 90.580 | 341.930 | 6625.00 | 11334.93 | 10953.36 | -3003.43 | 1678072.60 | 14370585.32 | 39°34'22.7245"N | 80°51'58.9362"W | 11357.67 | 344.666 | 0.03 | 2.69 | |
| 17053.00 | 89.910 | 341.650 | 6624.59 | 11429.92 | 11043.60 | -3033.12 | 1678042.93 | 14370675.53 | 39°34'23.6168"N | 80°51'59.3136"W | 11452.55 | 344.642 | -0.71 | -0.29 | |
| 17147.00 | 89.940 | 338.880 | 6624.71 | 11523.90 | 11132.07 | -3064.86 | 1678011.20 | 14370763.96 | 39°34'24.4917"N | 80°51'59.7172"W | 11546.27 | 344.607 | 0.03 | -2.95 | |
| 17241.00 | 90.860 | 341.650 | 6624.06 | 11617.88 | 11220.53 | -3096.59 | 1677979.48 | 14370852.39 | 39°34'25.3665"N | 80°52'0.1208"W | 11639.99 | 344.572 | 0.98 | 2.95 | |
| 17336.00 | 88.710 | 340.030 | 6624.41 | 11712.87 | 11310.26 | -3127.77 | 1677948.31 | 14370942.09 | 39°34'26.2538"N | 80°52'0.5172"W | 11734.78 | 344.542 | -2.26 | -1.71 | |
| 17430.00 | 89.480 | 339.560 | 6625.90 | 11806.83 | 11398.47 | -3160.23 | 1677916.86 | 14371030.26 | 39°34'27.1260"N | 80°52'0.9301"W | 11828.44 | 344.504 | 0.82 | -0.50 | |
| 17525.00 | 90.830 | 342.360 | 6625.64 | 11901.82 | 11488.26 | -3191.22 | 1677884.89 | 14371120.01 | 39°34'28.0138"N | 80°52'1.3241"W | 11923.25 | 344.476 | 1.42 | 2.95 | |
| 17619.00 | 91.080 | 343.290 | 6624.07 | 11995.76 | 11578.05 | -3218.97 | 1677857.15 | 14371209.77 | 39°34'28.9017"N | 80°52'1.6769"W | 12017.20 | 344.463 | 0.27 | 0.99 | |
| 17714.00 | 89.080 | 340.130 | 6623.94 | 12090.74 | 11668.24 | -3248.78 | 1677827.35 | 14371299.92 | 39°34'29.7935"N | 80°52'2.0558"W | 12112.07 | 344.441 | -2.11 | -3.33 | |
| 17808.00 | 89.750 | 339.160 | 6624.90 | 12184.70 | 11756.36 | -3281.47 | 1677794.67 | 14371388.01 | 39°34'30.6649"N | 80°52'2.4717"W | 12205.74 | 344.404 | 0.71 | -1.03 | |
| 17903.00 | 90.430 | 340.320 | 6624.75 | 12279.68 | 11845.48 | -3314.37 | 1677761.79 | 14371477.09 | 39°34'31.5462"N | 80°52'2.8901"W | 12300.43 | 344.368 | 0.72 | 1.22 | |
| 17997.00 | 90.150 | 340.370 | 6624.28 | 12373.67 | 11934.00 | -3345.99 | 1677730.18 | 14371565.58 | 39°34'32.4215"N | 80°52'3.2922"W | 12394.19 | 344.338 | -0.30 | 0.05 | |
| 18091.00 | 90.310 | 340.880 | 6623.90 | 12467.67 | 12022.68 | -3377.17 | 1677699.01 | 14371654.22 | 39°34'33.2984"N | 80°52'3.6888"W | 12488.00 | 344.310 | 0.17 | 0.54 | |
| 18186.00 | 90.250 | 341.230 | 6623.44 | 12562.66 | 12112.53 | -3408.01 | 1677668.18 | 14371744.04 | 39°34'34.1868"N | 80°52'4.0810"W | 12582.84 | 344.285 | -0.06 | 0.37 | |
| 18280.00 | 90.430 | 340.520 | 6622.88 | 12656.66 | 12201.34 | -3438.81 | 1677637.40 | 14371832.81 | 39°34'35.0650"N | 80°52'4.4726"W | 12676.68 | 344.260 | 0.19 | -0.76 | |
| 18375.00 | 90.310 | 340.650 | 6622.26 | 12751.66 | 12290.94 | -3470.39 | 1677605.83 | 14371922.37 | 39°34'35.9510"N | 80°52'4.8742"W | 12771.48 | 344.233 | -0.13 | 0.14 | |
| 18469.00 | 90.400 | 340.440 | 6621.68 | 12845.65 | 12379.57 | -3501.70 | 1677574.53 | 14372010.97 | 39°34'36.8274"N | 80°52'5.2724"W | 12865.29 | 344.206 | 0.10 | -0.22 | |
| 18564.00 | 90.890 | 340.860 | 6620.61 | 12940.64 | 12469.20 | -3533.17 | 1677543.07 | 14372100.56 | 39°34'37.7136"N | 80°52'5.6726"W | 12960.10 | 344.180 | 0.52 | 0.44 | |
| 18658.00 | 90.650 | 341.250 | 6619.35 | 13034.63 | 12558.10 | -3563.69 | 1677512.57 | 14372189.42 | 39°34'38.5927"N | 80°52'6.0607"W | 13053.95 | 344.157 | -0.26 | 0.41 | |
| 18753.00 | 90.310 | 340.750 | 6618.55 | 13129.63 | 12647.92 | -3594.61 | 1677481.65 | 14372279.21 | 39°34'39.4809"N | 80°52'6.4540"W | 13148.80 | 344.135 | -0.36 | -0.53 | |
| 18847.00 | 89.820 | 341.100 | 6618.45 | 13223.63 | 12736.75 | -3625.33 | 1677450.95 | 14372368.01 | 39°34'40.3593"N | 80°52'6.8447"W | 13242.66 | 344.112 | -0.52 | 0.37 | |
| 18942.00 | 89.970 | 341.080 | 6618.62 | 13318.63 | 12826.63 | -3656.12 | 1677420.17 | 14372457.84 | 39°34'41.2480"N | 80°52'7.2362"W | 13337.53 | 344.090 | 0.16 | -0.02 | |
| 19036.00 | 90.150 | 341.080 | 6618.52 | 13412.63 | 12915.55 | -3686.60 | 1677389.70 | 14372546.73 | 39°34'42.1273"N | 80°52'7.6238"W | 13431.40 | 344.069 | 0.19 | 0.00 | |
| 19131.00 | 90.180 | 341.380 | 6618.25 | 13507.63 | 13005.50 | -3717.17 | 1677359.15 | 14372636.64 | 39°34'43.0167"N | 80°52'8.0125"W | 13526.28 | 344.049 | 0.03 | 0.32 | |
| 19225.00 | 89.750 | 341.280 | 6618.31 | 13601.63 | 13094.55 | -3747.26 | 1677329.07 | 14372725.66 | 39°34'43.8972"N | 80°52'8.3951"W | 13620.17 | 344.030 | -0.46 | -0.11 | |



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

WELLPATH DATA (251 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 [°] | Build Rate [°/100ft] | Turn Rate [°/100ft] | Comments |
|----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|-----------------|-----------------|-------------------|-----------------|----------------------|---------------------|----------|
| 19319.00 | 89.660 | 340.760 | 6618.79 | 13695.63 | 13183.44 | -3777.83 | 1677298.51 | 14372814.51 | 39°34'44.7762"N | 80°52'8.7839"W | 13714.04 | 344.010 | -0.10 | -0.55 | |
| 19414.00 | 90.980 | 340.990 | 6618.26 | 13790.62 | 13273.19 | -3808.96 | 1677267.40 | 14372904.23 | 39°34'45.6637"N | 80°52'9.1797"W | 13808.90 | 343.988 | 1.39 | 0.24 | |
| 19508.00 | 90.000 | 341.170 | 6617.46 | 13884.62 | 13362.11 | -3839.43 | 1677236.93 | 14372993.11 | 39°34'46.5429"N | 80°52'9.5673"W | 13902.77 | 343.969 | -1.04 | 0.19 | |
| 19603.00 | 90.060 | 341.350 | 6617.41 | 13979.62 | 13452.07 | -3869.95 | 1677206.42 | 14373083.04 | 39°34'47.4325"N | 80°52'9.9554"W | 13997.67 | 343.950 | 0.06 | 0.19 | |
| 19697.00 | 89.970 | 341.230 | 6617.38 | 14073.61 | 13541.10 | -3900.11 | 1677176.28 | 14373172.04 | 39°34'48.3128"N | 80°52'10.3389"W | 14091.57 | 343.933 | -0.10 | -0.13 | |
| 19792.00 | 90.310 | 341.100 | 6617.15 | 14168.61 | 13631.02 | -3930.78 | 1677145.63 | 14373261.91 | 39°34'49.2019"N | 80°52'10.7289"W | 14186.46 | 343.914 | 0.36 | -0.14 | |
| 19886.00 | 89.600 | 340.460 | 6617.22 | 14262.61 | 13719.78 | -3961.72 | 1677114.69 | 14373350.64 | 39°34'50.0796"N | 80°52'11.1225"W | 14280.32 | 343.893 | -0.76 | -0.68 | |
| 19981.00 | 90.120 | 340.600 | 6617.46 | 14357.61 | 13809.34 | -3993.39 | 1677083.04 | 14373440.17 | 39°34'50.9652"N | 80°52'11.5252"W | 14375.15 | 343.871 | 0.55 | 0.15 | |
| 20076.00 | 90.150 | 340.790 | 6617.23 | 14452.61 | 13899.00 | -4024.79 | 1677051.65 | 14373529.79 | 39°34'51.8518"N | 80°52'11.9247"W | 14470.01 | 343.850 | 0.03 | 0.20 | |
| 20171.00 | 89.780 | 341.040 | 6617.29 | 14547.61 | 13988.78 | -4055.85 | 1677020.60 | 14373619.53 | 39°34'52.7395"N | 80°52'12.3197"W | 14564.88 | 343.831 | -0.39 | 0.26 | |
| 20265.00 | 89.970 | 341.000 | 6617.49 | 14641.60 | 14077.67 | -4086.43 | 1676990.04 | 14373708.38 | 39°34'53.6185"N | 80°52'12.7086"W | 14658.77 | 343.813 | 0.20 | -0.04 | |
| 20359.00 | 90.090 | 340.710 | 6617.45 | 14735.60 | 14166.47 | -4117.25 | 1676959.22 | 14373797.15 | 39°34'54.4965"N | 80°52'13.1006"W | 14752.65 | 343.794 | 0.13 | -0.31 | |
| 20454.00 | 89.380 | 340.370 | 6617.88 | 14830.60 | 14256.04 | -4148.90 | 1676927.59 | 14373886.69 | 39°34'55.3823"N | 80°52'13.5032"W | 14847.49 | 343.774 | -0.75 | -0.36 | |
| 20548.00 | 89.820 | 340.400 | 6618.54 | 14924.59 | 14344.58 | -4180.46 | 1676896.04 | 14373975.19 | 39°34'56.2578"N | 80°52'13.9046"W | 14941.33 | 343.752 | 0.47 | 0.03 | |
| 20643.00 | 90.180 | 340.610 | 6618.54 | 15019.59 | 14434.14 | -4212.16 | 1676864.35 | 14374064.71 | 39°34'57.1433"N | 80°52'14.3079"W | 15036.18 | 343.732 | 0.38 | 0.22 | |
| 20738.00 | 90.060 | 340.930 | 6618.34 | 15114.58 | 14523.83 | -4243.45 | 1676833.08 | 14374154.37 | 39°34'58.0303"N | 80°52'14.7058"W | 15131.05 | 343.713 | -0.13 | 0.34 | |
| 20832.00 | 90.250 | 340.850 | 6618.09 | 15208.58 | 14612.65 | -4274.23 | 1676802.32 | 14374243.16 | 39°34'58.9085"N | 80°52'15.0972"W | 15224.94 | 343.696 | 0.20 | -0.09 | |
| 20926.00 | 90.030 | 340.560 | 6617.86 | 15302.58 | 14701.37 | -4305.29 | 1676771.27 | 14374331.84 | 39°34'59.7858"N | 80°52'15.4923"W | 15318.81 | 343.677 | -0.23 | -0.31 | |
| 21021.00 | 89.880 | 340.950 | 6617.93 | 15397.58 | 14791.06 | -4336.60 | 1676739.97 | 14374421.50 | 39°35'0.6727"N | 80°52'15.8906"W | 15413.68 | 343.659 | -0.16 | 0.41 | |
| 21116.00 | 89.510 | 340.730 | 6618.44 | 15492.58 | 14880.80 | -4367.78 | 1676708.80 | 14374511.20 | 39°35'1.5600"N | 80°52'16.2872"W | 15508.57 | 343.642 | -0.39 | -0.23 | |
| 21210.00 | 89.320 | 340.560 | 6619.40 | 15586.57 | 14969.48 | -4398.93 | 1676677.66 | 14374599.84 | 39°35'2.4369"N | 80°52'16.6834"W | 15602.44 | 343.624 | -0.20 | -0.18 | |
| 21305.00 | 89.940 | 341.000 | 6620.01 | 15681.57 | 15059.19 | -4430.20 | 1676646.40 | 14374689.51 | 39°35'3.3239"N | 80°52'17.0812"W | 15697.32 | 343.607 | 0.65 | 0.46 | |
| 21399.00 | 89.480 | 340.380 | 6620.49 | 15775.56 | 15147.90 | -4461.29 | 1676615.33 | 14374778.19 | 39°35'4.2011"N | 80°52'17.4766"W | 15791.19 | 343.589 | -0.49 | -0.66 | |
| 21494.00 | 89.380 | 340.380 | 6621.43 | 15870.55 | 15237.38 | -4493.18 | 1676583.44 | 14374867.63 | 39°35'5.0859"N | 80°52'17.8824"W | 15886.04 | 343.570 | -0.11 | 0.00 | |
| 21589.00 | 89.690 | 340.790 | 6622.20 | 15965.55 | 15326.97 | -4524.76 | 1676551.88 | 14374957.19 | 39°35'5.9718"N | 80°52'18.2841"W | 15980.91 | 343.553 | 0.33 | 0.43 | |
| 21683.00 | 90.310 | 342.130 | 6622.20 | 16059.54 | 15416.09 | -4554.65 | 1676522.00 | 14375046.27 | 39°35'6.8530"N | 80°52'18.6642"W | 16074.85 | 343.540 | 0.66 | 1.43 | |
| 21778.00 | 89.850 | 341.770 | 6622.07 | 16154.53 | 15506.41 | -4584.08 | 1676492.58 | 14375136.56 | 39°35'7.7461"N | 80°52'19.0385"W | 16169.81 | 343.531 | -0.48 | -0.38 | |
| 21873.00 | 89.290 | 341.590 | 6622.78 | 16249.52 | 15596.60 | -4613.94 | 1676462.73 | 14375226.71 | 39°35'8.6378"N | 80°52'19.4182"W | 16264.76 | 343.520 | -0.59 | -0.19 | |
| 21967.00 | 90.400 | 341.850 | 6623.04 | 16343.51 | 15685.85 | -4643.43 | 1676433.26 | 14375315.92 | 39°35'9.5204"N | 80°52'19.7932"W | 16358.71 | 343.510 | 1.18 | 0.28 | |
| 22062.00 | 89.910 | 341.410 | 6622.78 | 16438.51 | 15776.01 | -4673.37 | 1676403.33 | 14375406.05 | 39°35'10.4118"N | 80°52'20.1739"W | 16453.66 | 343.499 | -0.52 | -0.46 | |

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WV Department of
Environmental Protection



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

WELLPATH DATA (251 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 [°] | Build Rate ["/100ft] | Turn Rate ["/100ft] | Comments |
|-----------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|-----------------|-----------------|-------------------|-----------------|----------------------|---------------------|----------------------------|
| 22156.00 | 90.180 | 341.710 | 6622.71 | 16532.50 | 15865.18 | -4703.10 | 1676373.61 | 14375495.18 | 39°35'11.2936"N | 80°52'20.5521"W | 16547.60 | 343.488 | 0.29 | 0.32 | |
| 22251.00 | 89.690 | 341.740 | 6622.81 | 16627.49 | 15955.39 | -4732.89 | 1676343.83 | 14375585.36 | 39°35'12.1855"N | 80°52'20.9310"W | 16642.56 | 343.478 | -0.52 | 0.03 | |
| 22345.00 | 90.280 | 342.230 | 6622.84 | 16721.48 | 16044.78 | -4761.96 | 1676314.78 | 14375674.71 | 39°35'13.0694"N | 80°52'21.3006"W | 16736.52 | 343.470 | 0.63 | 0.52 | |
| 22440.00 | 90.250 | 341.550 | 6622.40 | 16816.47 | 16135.07 | -4791.49 | 1676285.26 | 14375764.97 | 39°35'13.9622"N | 80°52'21.6762"W | 16831.49 | 343.461 | -0.03 | -0.72 | |
| 22534.00 | 90.060 | 341.400 | 6622.15 | 16910.47 | 16224.20 | -4821.35 | 1676255.40 | 14375854.06 | 39°35'14.8435"N | 80°52'22.0560"W | 16925.43 | 343.450 | -0.20 | -0.16 | |
| 22629.00 | 90.000 | 341.820 | 6622.10 | 17005.46 | 16314.35 | -4851.33 | 1676225.45 | 14375944.17 | 39°35'15.7349"N | 80°52'22.4372"W | 17020.38 | 343.439 | -0.06 | 0.44 | |
| 22723.00 | 89.660 | 341.540 | 6622.37 | 17099.45 | 16403.59 | -4880.87 | 1676195.91 | 14376033.37 | 39°35'16.6172"N | 80°52'22.8130"W | 17114.34 | 343.430 | -0.36 | -0.30 | |
| 22818.00 | 90.340 | 341.750 | 6622.37 | 17194.45 | 16493.75 | -4910.79 | 1676166.01 | 14376123.50 | 39°35'17.5088"N | 80°52'23.1935"W | 17209.29 | 343.420 | 0.72 | 0.22 | |
| 22912.00 | 89.970 | 341.690 | 6622.12 | 17288.44 | 16583.01 | -4940.27 | 1676136.53 | 14376212.72 | 39°35'18.3913"N | 80°52'23.5685"W | 17303.25 | 343.411 | -0.39 | -0.06 | |
| 22992.00 | 90.030 | 341.460 | 6622.12 | 17368.44 | 16658.91 | -4965.56 | 1676111.26 | 14376288.59 | 39°35'19.1418"N | 80°52'23.8901"W | 17383.21 | 343.402 | 0.08 | -0.29 | |
| 23017.00‡ | 90.030 | 341.460 | 6622.11 | 17393.44 | 16682.61 | -4973.51 | 1676103.31 | 14376312.28 | 39°35'19.3762"N | 80°52'23.9912"W | 17408.19 | 343.399 | 0.00 | 0.00 | Projected MD at TD: 23017' |

HOLE & CASING SECTIONS - Ref Wellbore: Mamba Unit 2H AWB Ref Wellpath: Mamba Unit 2H AWP Proj: 23017'

| String/Diameter | Start MD [ft] | End MD [ft] | Interval [ft] | Start TVD [ft] | End TVD [ft] | Start N/S [ft] | Start E/W [ft] | End N/S [ft] | End E/W [ft] |
|-----------------------------|---------------|-------------|---------------|----------------|--------------|----------------|----------------|--------------|--------------|
| 20in Conductor | 30.00 | 130.00 | 100.00 | 30.00 | 130.00 | 0.00 | 0.00 | 0.21 | -0.19 |
| 17.5in Open Hole | 130.00 | 580.00 | 450.00 | 130.00 | 580.00 | 0.21 | -0.19 | -0.71 | -0.58 |
| 13.375in Casing Surface | 30.00 | 560.00 | 530.00 | 30.00 | 560.00 | 0.00 | 0.00 | -0.75 | -0.55 |
| 12.25in Open Hole | 580.00 | 3440.00 | 2860.00 | 580.00 | 3390.40 | -0.71 | -0.58 | 443.00 | 202.48 |
| 9.625in Casing Intermediate | 30.00 | 3410.00 | 3380.00 | 30.00 | 3361.13 | 0.00 | 0.00 | 437.13 | 199.49 |
| 8.75in Open Hole | 3440.00 | 6137.00 | 2697.00 | 3390.40 | 6011.48 | 443.00 | 202.48 | 1037.98 | 416.30 |
| 8.5in Open Hole | 6137.00 | 23017.00 | 16880.00 | 6011.48 | 6622.11 | 1037.98 | 416.30 | 16682.61 | -4973.51 |
| 5.5in Casing Production | 30.00 | 22997.00 | 22967.00 | 30.00 | 6622.12 | 0.00 | 0.00 | 16663.65 | -4967.15 |



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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REFERENCE WELLPATH IDENTIFICATION

| | | | |
|----------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

TARGETS

| Name | TVD [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Shape |
|---------------------------------------|----------|------------|-----------|-------------------|--------------------|-----------------|-----------------|-----------|
| Mamba Unit 2H BHL Rev-2 | 6566.81 | 16752.53 | -4994.87 | 1676081.96 | 14376382.18 | 39°35'20.0675"N | 80°52'24.2628"W | point |
| Mamba Unit 2H BHL Rev-3 | 6567.09 | 16700.05 | -4976.84 | 1676099.98 | 14376329.72 | 39°35'19.5486"N | 80°52'24.0335"W | point |
| Mamba Unit 2H POE Rev-2 | 6618.00 | 1537.45 | 278.62 | 1681353.34 | 14361173.18 | 39°32'49.6145"N | 80°51'17.2181"W | point |
| Mamba Unit 2H AZI Rev-2 | 6648.68 | 1962.81 | 84.90 | 1681159.70 | 14361598.37 | 39°32'53.8216"N | 80°51'19.6823"W | point |
| Mamba Unit 2H LP Rev-2 | 6650.00 | 1730.23 | 182.39 | 1681257.15 | 14361365.89 | 39°32'51.5214"N | 80°51'18.4426"W | point |
| Mamba Unit 2H 50' L/R Hard Line Rev-2 | 7000.00 | 9331.43 | -2445.97 | 1678629.84 | 14368964.05 | 39°34'6.6864"N | 80°51'51.8486"W | rectangle |
| 2D Rectangle 15582.3 x 100. | | | | | | | | |

WELLPATH COMPOSITION - Ref Wellbore: Mamba Unit 2H AWB Ref Wellpath: Mamba Unit 2H AWP Proj: 23017'

| Start MD [ft] | End MD [ft] | Positional Uncertainty Model | Log Name/Comment | Wellbore | Survey Date |
|---------------|-------------|--|---|-------------------|-------------|
| 30.00 | 470.00 | Gyrodata 2015 - GC+WIR+DPIPE | 01_Gyrodata MS Gyro <17-1/2"> (100'-470') | Mamba Unit 2H AWB | 12/4/2022 |
| 470.00 | 3367.00 | BH NaviTrak (2019) (Axial Corr+HRGM) | 02_APS EM <12-1/4"> (470')(596'-3367') | Mamba Unit 2H AWB | 12/4/2022 |
| 3367.00 | 6059.00 | BH NaviTrak (2019) (Axial Corr+HRGM) | 03_APS EM <8-3/4"> (3367')(3503'-6059') | Mamba Unit 2H AWB | 1/9/2023 |
| 6059.00 | 23017.00 | BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing) | 04_BH AT Curve <8-1/2"> (6059')(6167'-22992') | Mamba Unit 2H AWB | 1/9/2023 |



Actual Wellpath Report

Mamba Unit 2H AWP Proj: 23017'

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| REFERENCE WELLPATH IDENTIFICATION | | | |
|-----------------------------------|------------------------------|----------|-------------------|
| Operator | ANTERO RESOURCES CORPORATION | Well | Mamba Unit 2H |
| Field | Tyler | API | 47-095-02821-0000 |
| Facility | Heintzman Pad | Wellbore | Mamba Unit 2H AWB |
| Slot | Slot D | | |

| COMMENTS |
|---|
| <p>Wellpath general comments API: 47-095-02821-0000 BH Job #: 111601039 Rig: H&P 519 Duration: 1/11/2023-1/16/2023 Gyrodatta MS Gyro <17-1/2"> (100'-470') APS EM <12-1/4"> (470')(596'-3367') APS EM <8-3/4"> (3367')(3503'-6059') BH AT Curve <8-1/2"> (6059')(6167'-22992') Sycamore: 6520' MD Middlesex: 6667' MD Burkett: 6827' MD Tully: 6867' MD Marcellus POE: 7052' MD Projected MD at TD: 23017'</p> |